Friends of Admiralty Island Scoping Comments to
Hecla's Proposed Tailing Expansion
11/23/2020

Friends of Admiralty Island (FOA)[1], incorporated in 1997 as a public interest advocacy non-profit (501(c)(3) corporation to promote the educational, scientific and recreational values of Admiralty Island, Admiralty Island National Monument and Kootsnoowoo Wilderness, as proclaimed in the 1978 President Carter Monument Proclamation and the 1980 Congressional Alaska National Interest Lands Act (ANILCA).

<u>FOA have long advocated for a replication of the 1981 Greens Creek Pre-Mining Baseline, as was the original intent in the mine's development.</u>

Our position is that:

1. There are multiple paths that heavy metals from mine operation are entering the food chain and degrading the Hawk Inlet marine, freshwater and upland ecosystems, resulting in serious degradation of the health of these systems.
2. Current permitting and monitoring have failed to accurately quantify and describe the mine's damage to these ecosystems.
3. Our public funded scientific work in Hawk Inlet, since 2015 has made a compelling case that the mine operation is most likely causing irreparable harm to these ecosystems, hence to National Monument values.
4. We contend that a replication of the 1981 Pre-mining Baseline, is feasible and is the best scientific method of quantifying the mine's impacts on the health of the impacted ecosystems. This is an essential step prior to permitting any tailing's expansion.
5. The Tlingit Cultural resources are, in our estimation the most fragile and "at risk" values on Admiralty Island. The Greens Creek mine operation has severely impacted the spiritual and subsistence use in Hawk Inlet and 35 miles of coastline, south to Angoon. We see this as a "taking" of a valuable resource that requires restorative resolution on a US Government to Tribal Government negotiation.
6. Forest Service has responsibilities in marine receiving waters when they have permitted a use that is damaging to those marine waters. If the State of

[1] Aka as Defenders and Friends of Admiralty Island and Tongass Wildlands Watch

Alaska has failed to adequately monitor their permitted discharge then the Forest Service must take some remedial or restorative action.

The State of Alaska, Department of Environmental Conservation has stated that they do not have sufficient data to determine the health of Hawk Inlet.

7. The term, "not to cause Irreparable Harm" is a standard that has significant implications in the monitoring, reporting and mitigation in the operation and ultimately in post operation of Greens Creek mine. The Forest Service must describe the dimensions of the term, that is what metrics will be used to determine if irreparable harm has occurred. That has to be an important part of public disclosure in describing the consequences of alternatives; short term and long term.

We have been in consultation and collaboration with the Southeast Alaska Conservation Council. Pease consider their scientific and management comments to this Tailing's Expansion Proposal Scoping process (and references) as representing our comments, as well.

Following are additional comments for the record.

The 2013 Record of Decision, signed by Tongass Forest Supervisor Forrest Cole described information required in order for him, or subsequent decision makers to make a long-term (30-50 year) tailings expansion decision. [2] He stated,

> "Therefore, it is essential that the Responsible Official for the next decision not be in the position I am in today. To avoid that dilemma, the Tongass National Forest will work with other appropriate parties on two items. The first is to develop a supplement to the Forest Service Directives to clarify how to apply the complex set of legal requirements that are specific to Admiralty Island National Monument and Misty Fiords National MonumentThe second step is for Hecla to provide feasibility analyses regarding the construction and use of alternative tailings disposal facilities.

[2] 2013 ROD Summary appendix A

> The Tongass National Forest will work with other stakeholders to identify the information that must be incorporated into the feasibility analyses, using the definition of feasibility as stated above.
> As these analyses will be used to support any additional expansion of the Greens Creek Mine tailings disposal facility, they must be completed in a timeframe that enables the information to be included in any subsequent NEPA analysis."

We applaud this conservative approach and look forward to revieing this information.

In the ROD, Supervisor Cole made a decision that we believe is far-reaching and has a profound impact on how the current and future decisions will be considered. Supervisor Cole stated,

> "Based on my review of the project record, including previous NEPA documents, it appears that the primary focus of the public since enactment of ANILCA in 1980 has been on the language in clause (B) about avoiding irreparable harm to the Monument. It also appears that many people have assumed that Section 503(i)(1) applies only to activities within the Monument. After studying the language carefully, I have reached a different conclusion: that the provisions apply on any National Forest System land, including land within the Monument and land outside its boundary."

FOA Citizen's Funded Research

The 1981 Pre-Mining Baseline, that used species diversity and population numbers to determine the health of Hawk Inlet's ecosystems was designed to be replicated every 5, 10 or at a maximum of 15 years to scientifically determine changes in the ecosystems and make a determination if those were mine related.[3]

[3] Statement by K.J. Metcalf first Admiralty Monument Manager 1978-1982.

The scientists, doing the baseline determined that the Inlet's waters were "pristine and unpolluted."

For the initial study Youngs Bay (current ferry landing and submarine power corridor) was used as a control area.

Why this 1981 baseline was never used is unclear. It was lost in the Forest Service and State of Alaska files for some years. It was found around 2012 and FOA repeatedly requested it be used as initially intended. State of Alaska (DEC and ADF@G) stated that there was no need to replicate it since the mine was having little impact on the health of the Hawk Inlet's ecosystems and the sample stations, used in the baseline could not be re-located.

In response to the 2013 ROD, for additional information and the belief that the current monitoring was flawed FOA contracted with Oceanus Alaska, Michele Ridgway Marine Ecologist to design and manage an overview study to determine if it was feasible to replicate the 1981 Baseline. Field work for this effort was done in 205-2016.
Tragically Michele Ridgway died in a auto accident in January of 2018. A final report of our initial study was not completed. Her field notes and raw data is archived and double tissue samples preserved.

Included were a number of sample sites to be tested, as in the 1981 baseline (including in the Youngs Bay control area). Marine sediment and tissue were collected and tested for the same 11 metals as the original baseline. Additional samples were collected, as opportunity presented to add insight into the ecosystem health.

Our overview made a compelling case that for most metals there was a dramatic increase compared to the 1981 Baseline. We concluded that it was feasible to replicate the 1981 baseline and significant "red flags" in the sample analysis warrant a replication of the baseline.

Summary from published Legacy Cove Project Note No 5, Trace Metals and Organic Compounds in Seabed Sediment 1978-2016. Hawk Inlet & Young's Bay,

Admiralty Island, Alaska – Friends of Admiralty

"SUMMARY: We sampled trace metals and organic compounds in marine sediment in Hawk Inlet and Young's Bay in 2015-2016. Analytical results are contrasted with monitoring data and original (1978-1981) baseline sediment values.

•METALS CONCENTRATION CHANGE OVER TIME: Eleven heavy metals have been analyzed from seabed sediments collected by researchers from Hawk Inlet from 1978 to 2016: Arsenic, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel, Selenium, Silver and Zinc. Concentrations of all eleven metals increased substantially during the industrial mining period, from 1.2 (manganese) to 646 (lead) times the original baseline level. The highest reported mercury concentration during the mining period was 77 times the maximum original baseline level, and 287 times the mean inlet-wide baseline level. The average increase for eleven metals was 73 times original baseline maximum levels, and 183 times the inlet-wide mean original baseline levels. Whereas measured metal levels in sediment have 'fluctuated' over time and by area, peaks (or maxima), are compared to baseline levels here because heavy metals persist in the environment once released. Biota, pore water and habitats are affected by the cumulative effects of metals added over time and compounding impacts of multiple metals.

•ORGANIC SUBSTANCES: Sediments in Hawk Inlet have detectable levels of diesel and motor oil; the head of Hawk Inlet sediments contain a broad range of aromatic hydrocarbons (eg naphthalene, benzo-x). A biologically harmful level of the banned bottom paint compound, Tributyltin, was detected in the ore dock vicinity subtidal sediment.

•CHANGE COMPARED TO YOUNG'S BAY CONTROL SITE: The designated control site in Young's Bay shows relatively little to no change in most of the eleven trace metals analyzed since 1981.

- GEOGRAPHY OF METAL LOADING: Highest levels of metals are concentrated near the ore dock; all Hawk Inlet sites tested have increases in heavy metals relative to original baseline studies reported in the 1983 EIS.

- CONCENTRATIONS OF METALS RELATIVE TO ENVIRONMENTAL HARM SCREENING VALUES: Hawk Inlet metal concentration maxima exceed every ADEC-referenced NOAA trace metal benchmark for protecting marine life.

This Legacy Cove Note provides an overview of the marine sediment component of FOA research to date." See full report attached.

Cultural (Archaeological) Resources

The Hawk Inlet to Young Bay area is an important human corridor for the Tlingit clans that have use(d) this land since "time immemorial" or "ancient times." The Hawk Inlet/Young Bay is well represented with Tlingit place names that document their presence on the landscape for millennia and illustrate the geological changes to the landscape since the end of the Pleistocene. Hawk Inlet known in Lingit as *Weineidei* (Akali Trail), *Weineidei Goon*, meaing Akali Deposit Trail Portage, and *Weineidei Aan* meaning Alkili Deposit Trail Village, in Young Bay (Thornton 1998:76 &114). Tlingit clan histories place them in this area and utilizing this corridor back to the "time before the flood" [which most likely coincides with the end of the Pleistocene and the beginning of the Holocene]. The Hawk Inlet to Young Bay area speaks to ancient histories and connections between the Raven clans: the Ganax̲.adi, Deisheetaan and L'eeneidi. The Wooshkeetaan use(d) this corridor during their migrations before and after the flood stories (Monteith 1998, Monteith et al 2007).

The geological history of the Hawk Inlet area is complex. With changes in sea level at the end of the Pleistocene and the beginning of the Holocene and isostatic and eustatic rebound to due glaciation around and on Admiralty Island this is a very dynamic landscape. At different points in the geological history of Admiralty Island the Island was comprised several smaller islands and then developed into the present day landscape of Admiralty Island. The highest sampled ancient raised marine beach on Admiralty Island is 212 meters (695 feet) above present day sea level (Penrose 2019; Baichtal 2008). Baichtal (2008) estimates that with raised marine beaches found at 212 meters and if you assume an approximate date of 13,000 years ago for these deposits and consider that sea level was approximately 100 meters lower at that time, there was approximately 312 meter of isostactic uplift. The corridor between Hawk Inlet and Young Bay was at one time a saltwater passage from Chatham Strait allowing for passage from the west side to the east side of Admiralty Islaand to Douglas Island; where at Outer Point on Douglas Island there was a village named *Deishu Aak'w*, meaning Little Lagoon at the end of trail (Thornton 2012:76). As the land uplifted, during the Holocene, as a result of glacial rebound the area became a well-known portage from one side of the island to the other thus *Weineidei Goon,* Alkili Trail Portage. Then during the neoglacial and the advance of a glacier a name for the Young Bay area was *Kaanak̲'aa Siti*, meaning place in front of the skinny glacier (Thornton

1998:76). The Tlingit clans referred to the river that flowed into Young Bay at the time as *Tsaa T'ei Heen*, meaning Behind Seals Creek (Thornton 1998:76).

Keeping in mind the geological history of this area the tailings facility and proposed expansion are in a high probability archaeological area for cultural resources, as well geo-archaeological raised marine beach data. With all expansion and development activities Hecla and the Forest Service should collaborate. If any archaeological resources are found during mining activities, activities should cease until Helca has consulted with Forest Service Cultural Resource Management staff and the State Historic Preservation Office. Hecla and USFS should follow Section 106 of NHPA and the archaeological protocols as written. While this might not include geo-archaeological information, such as samples from raised marine beach sites it is recommended that this be a new practice be implemented in order to adhere to the philosophy and intent of ANILCA (Public Law 98-487). Section 812, entitled RESEARCH.

Friends of Admiralty collected 12 shell samples from raised marine, ancient beaches in the Hawk Inlet area. Previously collected and archived shell from the Forest Service from the Greens Creek site #2 (JUN 00090), Test Pit #2, level 5 yielded a radiocarbon date of 650-871 cal AD and 1300-1079 cal BP (Beta 554736, March 10, 2020). From this preliminary research and data collected from raised marine beaches, ancient beaches in Hawk Inlet there is an increase in concentrations metals tested when comparing modern samples with geological samples.

Subsistence

It is well documented in Federal testimonies that the clans of Angoon, particularly the Deisheetaan and Wooshkeetaan utilized the area on the west side of Admiralty north of Angoon, around Hawk Inlet for a variety of resources (Goldschmidt and Haas 1998:114). The Thunder House of the Wooshkeetaan and all the clans of Angoon harvest(ed) a wide variety of resources some of the key resources including (but not limited to): deer, seal, halibut, salmon, shellfish, and seaweed (Goldschmidt and Haas 1998:114; Moss 2006).

In the past twenty years there has been growing concerns about the health and safety of foods gathered from the Hawk Inlet area by the community of Angoon. This is a food security issue for a rural community and the federally recognized Tlingit tribe, Angoon Community Association. Angoon is the only Alaska Native community on Admiralty Island. Hawk Inlet is enough via boat that many Angoon residents use the area (Moss 2006). A seal taken from Hawk Inlet in recent years for a Tlingit gathering was tested. That seal had concentrations of heavy metals much higher than most seals tested to date. Shellfish collected and tested by Ridgeway also indicates unhealthy levels of several metals. Radiocarbon dates from a cultural midden verify this is an area that has been harvested for over a thousand years. This compromised eco-system is an area used by the Tlingit for much longer than the radiocarbon dates but is now compromised most likely due to mining activities.

At this point the Forest Service lacks sufficient data to determine the long-term impacts of mining activities on the marine and forest ecology of the Hawk Inlet area. As such the Forest Service is not in compliance with the provisions established in Section 813 of ANILCA. The Office on Subsistence Management estimates an average consumption of wild foods by rural

Alaskans at approximately 285 lbs, 450 lbs. per household per year for Angoon (ADF&G 1988). Given the significant levels of various metals found in Ridgeway's sampling there should be concerns regarding the health of subsistence foods taken from Hawk Inlet.

For the safety of the Angoon community and other subsistence users in the area the public requests for replication of the 1981 baseline study we believe is in keeping with Section 812, 813 of ANILCA (Public Law 98-487). Section 812, entitled RESEARCH states:

> The Secretary, in cooperation with the State and other appropriate Federal agencies, shall undertake research on fish and wildlife and subsistence uses on the public lands; seek data from, consult with and make use of, the special knowledge of local residents engaged in subsistence uses; and make the results of such research available to the State, the local and regional councils established by the Secretary of State pursuant to section 805, and other appropriate persons and organizations.

Douglas Indian Tribe Statement

The Federally recognized Douglas Indian Association published this statement in support of the Angoon Indian Association and their concerns regarding subsistence resources in Hawk Inlet and Young Bay:

"Douglas Indian Association's (DIA) traditional and historical territory encompasses the City and Borough of Juneau, as well as some areas to the east and north on Admiralty Island and the Chilkat Peninsula, to the south including Endicott Arm, and to the east into Canada in the areas of the Taku River and Atlin, B.C. Tribal members of the DIA include the L'eeneidi, Wooshkeetaan, Ganaxadi, Sitkweidi, and Yanyeidi.

Hawk Inlet is recognized by the Douglas Indian Association and the Angoon Community Association (Federally Recognized Tribes) as traditional tribal lands that is especially important for current subsistence, recreational and commercial food gathering. Hawk Inlet is not only an essential place for harvesting resources it is also an essential place to pass down cultural knowledge from one generation to the next, and to learn respectful ways of harvesting and processing traditional foods.

Historical and current mining operations in the Hawk Inlet area have released contaminants of concern into the environment. DIA and tribal members expressed great concern about contamination of subsistence resources and have begun to test subsistence resources for potential contaminants of concern. Angoon Community Association has advised their tribal members not to harvest food from or near Hawk Inlet. Unfortunately, this warning came as the result of a (220/ppm) mercury level test found in the liver of a seal.

Metals pollution and its effects on marine ecosystems and humans can be very extensive. Aquatic organisms absorb the pollutants directly from water and indirectly from food chains. An environmental priority for Douglas Indian Association and Angoon Community Association is to

determine whether heavy metals pose a potential risk to tribal members through direct contact or through consumption of seafood."

References Cited

Baichtal, J.F., 2008, Paleogeography of Late Pleistocene and Quaternary Coastlines and their potential for early maritime occupation, Paths Across the Pacific VI, July 23-27, 2008, Sitka, AK

Goldschmidt, Walter R. & Theodore H. Haas. 1998. Edited by Thomas F. Thornton. Haa Aani: Our Land Tlingit and Haida Land Rights and Use. University of Washington Press.

Monteith, D., C. Connor, G. Streveler, and W. Howell., 2007, Geology and oral history: complementary views of a former Glacier Bay landscape. in J. F. Piatt and S. M. Gende, editors. Proceedings of the Fourth Glacier Bay Science Symposium, 2004. U.S. Geological Survey, Information and Technology Report USGS/BRD/ITR-2007-5047, Washington, D.C. http://pubs.usgs.gov/sir/2007/5047

Monteith, Daniel. 1998. Tongass, The Prolific Name, the Forgotten Tribe: An Ethnohistory of the Taantakwaan Tongass People. PhD. Dissertation Submitted to Michigan State University.

Moss, Madonna. 2006. Moss, Madonna: *Haa Atxaayi Haa Kusteeyix Sitee; Our Food is Our Tlingit Way of Life: Excerpts of Oral Interviews* (third edition; Juneau: U.S. Dept. of Agriculture, Forest Service, Alaska Region, 2006), also by Richard G. Newton

Perone. 2019. Exploring Juneau from Ice to Estuary: Climatic and Tectonic Controls on South-eastern Alaskan Landscapes A field guide prepared for the Geological Society of America Penrose Conference on *Climatic controls on continental erosion and sediment transport—CLAST2019* 4-10 August 2019

Schroeder, Robert F. and Matthew Kookesh. 1998. Subsistence Harvest and Use of Fish and Wildlife Resources and the Effects of Forest Management in Hoonah Alaska. Alaska Department of Fish and Game.

Thornton, Thomas edited by. 2012. Haa Leelk'w Has Aaani Saax'u: Our Grandparents Names on the Land. University of Washington Press.

Attached:

- Wildfoods FOA Publication
- Sediment FOA publication
- Seal FOA Publication

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