

**Proposed Pebble Project  
Preliminary Draft Environmental Impact Statement  
Review Comments**

**Reviewer:** NARF Technical Team  
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**Chapter:** Chapter 4: Environmental Consequences  
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**Comments**

The Threatened and Endangered Species (TES) section of this environmental impact statement (EIS) provides an incomplete and narrow discussion for a project of this size that spans several watersheds and will have impacts to multiple aquatic and terrestrial species on which TES and State of Alaska Special Status Species in Bristol Bay and Cook Inlet rely for survival.

Constructing and operating a mine of this size with its associated infrastructure, combined with altering, filling, dredging, disposing of wastewater, and discharging into streams, tributaries, wetlands, and ponds in watersheds for over 25 years, and most likely longer, will adversely impact, irrevocably damage, and will most likely eradicate distinct anadromous and resident fish populations found in the smaller tributaries. These smaller and unique stocks are important to the overall health of fisheries because these stocks provide genetic diversity that improves resiliency throughout the watershed. The proposed project would cover and otherwise adversely impact large areas of the upper watersheds, resulting in severe fragmentation of habitat that is vitally important to salmon and other anadromous and resident fish. The EIS must evaluate direct, indirect, and cumulative impacts to all aquatic species. The EIS must also evaluate direct, indirect, and cumulative impacts to the prey resources that fish rely on during all life history phases. A robust evaluation of this type needs to be based on statistically sound scientific baseline data and existing conditions information as well as the Traditional Ecological Knowledge and Wisdom (TEKW) of Alaska Native communities.

Related to TES are the prey resources that TES species rely on. The EIS must include a robust habitat assessment to assess existing conditions, including conditions related to climate change and sea level rise. Extensive aquatic habitat modeling tools exist to conduct watershed assessments. These methods must be used to evaluate the direct, indirect, and cumulative impacts of the proposed project. The EIS must use up-to-date methods to adequately evaluate aquatic and terrestrial resources. These methods must be used to further evaluate the direct,

indirect, and cumulative impacts of the proposed project to aquatic resources and fish and fish productivity in the watersheds. Of particular concern is how wildlife species will be impacted as a result of project-induced changes to fish numbers (especially salmon) and fish habitat.

At a *minimum*, the EIS must include and present all the waters documented in the Alaska Department of Fish and Game (ADF&G) Anadromous Waters Catalog (AWC); however, it should be recognized that the AWC under represents waters that support anadromous fish by 20 to 40 percent. Information must be provided discussing when, where, and how additional locations will be chosen to conduct additional fish surveys in the areas to provide more robust data on areas not in the AWC. To further evaluate direct, indirect, and cumulative impacts to habitat, fish, and fish productivity, the EIS must provide information on whether instream flow reservations or other water rights exist in these watersheds. Impacts to the entire watershed of Bristol Bay as well as Cook Inlet and outside waters that provide critical and migratory habitat for aquatic and terrestrial species must be assessed in the EIS.

Bristol Bay and Cook Inlet support world-class salmonid species that will be irrevocably impacted by the proposed project including: Chinook salmon, coho salmon, chum salmon, pink salmon, sockeye salmon, and steelhead trout (Chambers et al., 2012; USEPA, 2014). Other important fish species that are used by people in the region include: rainbow trout, arctic char, Dolly Varden, grayling, and whitefish. Important non-salmonid species, like pike and suckers, are also used by local people. These fisheries are an integral part of the aquatic food web and provide an abundant biomass and prey resource for several aquatic and terrestrial species in the freshwater and marine areas of Bristol Bay and Cook Inlet watersheds as well as in the other waters including the Pacific Ocean. The EIS must quantify and evaluate the impacts related to the loss of this large prey resource that sustains aquatic and terrestrial species within the project area and across all areas of their adult migratory routes.

Under Alaska State law, the Commissioners of the ADF&G and the Department of Natural Resources must take measures to preserve the natural habitat of fish and wildlife species that are recognized as threatened with extinction (ADF&G, 2018). State of Alaska Special Status Species in Bristol Bay and Cook Inlet include the following species listed as endangered by ADF&G: blue whale, humpback whale and right whale (ADF&G, 2018). The Alaska Special Status Species also includes Fish Stocks of Concern.

Along with the discussion of critical habitat, it is unclear why Essential Fish Habitat (EFH) for freshwater, estuarine, and marine species, which are important prey resources for several of the listed species, is not discussed in this section. The Magnuson-Stevens Fishery Conservation and

Management Act of 1996, as amended in 2007, mandates the identification of EFH for federally managed species and the consideration of recommendations to conserve and enhance the habitat necessary for these species to carry out their life cycles. According to National Oceanic Atmospheric Administration (NOAA) Fisheries, EFH includes those waters and substrates necessary to fish for spawning, breeding, feeding or growing to maturity. "Waters" include aquatic areas and their associated physical, chemical, and biological properties. "Substrate" includes sediment underlying the waters. "Necessary" means the habitat required to support a sustainable fishery and the contributions of "managed species" to a healthy ecosystem. "Spawning, breeding, feeding, or growing to maturity" includes all habitat types utilized by a species throughout its lifecycle (NOAA Fisheries, 2018).

According to NOAA Fisheries, a consultation with NOAA Fisheries is required whenever a federal agency, including the military, works in an area that will affect EFH. A consultation is also triggered when a federal agency, or its designee, determines that an action to be authorized, funded, or undertaken by the agency may adversely affect EFH. According to NOAA Fisheries, an "adverse effect" is any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from actions occurring within or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. Through the consultation process, the agency and NOAA determine how best to conduct coastal development while supporting fish habitat and minimizing or avoiding environmental damage. (NOAA Fisheries, 2018).

The EIS must include an EFH assessment and consultation for both the Bristol Bay Watershed and Cook Inlet for freshwater salmonid habitat and estuarine and marine habitat for salmonids, groundfish, forage fish, and other resident and migratory fish species as well as scallops and crabs. Habitat Areas of Particular Concern, which are subsets of EFH, must also be identified.

Although bald eagle is no longer listed under the Endangered Species Act, and Alaska's populations are healthy, continued stewardship and conservation of nesting and foraging habitat around salmon spawning streams and estuarine and marine waters near their nest sites are necessary to protect them from potential harm caused by human disturbances and human development. Because of this, a discussion of the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act should be included in the TES section.

## Specific Comments

- For beluga whale, the TES section includes the following statement which seems to trivialize the impacts from the proposed project: *Moore et al. (2000) concluded that beluga whales appear to have become habituated to offshore oil and gas activities in central Cook Inlet.* Yet beluga whale is still listed under the ESA. At some point there may be a threshold of no return for them to recover, particularly if their prey is heavily impacted.
- For beluga whale, the TES section includes the following statement: *There are no records of lethal vessel strikes involving Cook Inlet beluga whales; therefore, impacts to the Cook Inlet beluga whale as a result of injury or mortality from vessel collisions would not be expected.* The extent and duration for which injury or mortality would occur is therefore not included in this analysis. Because there will be an increase in shipping/vessel traffic injury and mortality of vessel strikes must not be written off. This potential impact must be recognized and evaluated in the EIS.
- State of Alaska Special Status Species including Fish Stocks of Concern should be discussed.
- State and federal parks and refuges should be discussed, since these areas provide habitat for listed and Special Status Species.
- EFH should be discussed and included on the maps.
- Because of the extensive amount of information that is needed to assess the impacts of this project, Biological Assessments, geared solely towards permitting are not adequate. Specialist reports for aquatic and terrestrial species and their habitats must be included in the EIS.
- Salmon is a prey resource for Steller sea lion and should be included in the discussion for Steller sea lion. If permitted, the proposed project would result in reduced production of several salmon runs. As a result, there will be less salmon available for Steller sea lion.
- Not just loss of foraging habitat, but also loss of the prey resources must be quantified and evaluated. Reduced prey production due to habitat loss could be an issue for all prey resources. These impacts must be recognized and analyzed in the EIS.
- The TES states the analyses is based on a "few" Steller sea lion surveys. Most of the surveys of Steller sea lion and other listed species appear to be based on incidental

sightings observed during beluga whale aerial surveys. The beluga surveys are conducted in a very short span of time – June and August. Specific surveys of all listed species should be conducted throughout all seasons.

- Primary constituent elements (PCEs) are only discussed for northern sea otters. Available PCEs should be presented and discussed for all listed species.
- The discussion for the presence of Steller's eider in the mine site is inadequate and appears to contradict itself. Information on the location and timing of the surveys should be included. Based on the small amount of information provided, Steller's eider should be assumed to be in the area if they are known to fly through, and potential impacts should be assessed. In the TES discussion for Steller's eider, the migration section includes the following statements: *Steller's eiders may occasionally fly through the mine site and terrestrial portions of the transportation corridor and natural gas pipeline corridor while moving between Cook Inlet, the Alaska Peninsula, and the western coast of Alaska. No Steller's eiders were documented during any biological surveys in the mine site, therefore the species is considered absent from the mine site. However, Steller's eiders' bird strikes on towers and power lines at Togiak, Naknek, and King Salmon (including inland sites) indicate that there may be some overland pathway that includes Iliamna Lake.*

#### **Figure 4.25-1**

- EFH should be included on the figure.
- Areas supporting State of Alaska Special Status Species including Fish Stocks of Concern should be shown on figure.
- State and federal parks and refuges should be shown on figure, since these areas provide habitat for listed and Special Status Species.
- The footprint of port/ferry terminals should be shown on the figure to show the relation of these facilities to critical habitat and EFH.
- AWC should be included on the figure.

#### **Figure 4.25-2**

- Flyways for Steller's eider should be shown on the figure.

## References

Alaska Department of Fish and Game (AD&FG). 2018. "State of Alaska Special Status Species: Fish Stocks of Concern". Accessed on May 16, 2018. Available at:  
<http://www.adfg.alaska.gov/index.cfm?adfg=specialstatus.akfishstocks>

Chambers, Dave, Robert Moran, and Lance Trasky (Chambers et al.). 2012. *Bristol Bay's Wild Salmon Ecosystems and the Pebble Mine, Key Considerations for a Large-Scale Mine Proposal*. In partnership with Wild Salmon Center and Trout Unlimited, Stone Grossard, and The Tiffany & Co. Foundation. Edited by Mark Trenholm. January.

National Oceanic Atmospheric Administration Fisheries (NOAA Fisheries). 2018. "NOAA Fisheries Essential Fish Habitat". Accessed on November 27, 2018. Available at:  
<https://www.fisheries.noaa.gov/national/habitat-conservation/essential-fish-habitat>

U.S. Environmental Protection Agency (USEPA). 2014. *An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska*. Final Report. EPA 910-R-14-001A-C, ES. January.