

July 1st, 2019

Shane McCoy
Program Manager
US Army Corps of Engineers
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Anchorage, AK 99501



RE: Release of the Pebble Project Draft Environmental Impact Statement

Dear Mr. McCoy,

The Environmental Investigation Agency (EIA) is submitting this letter in response to the US Army Corps of Engineers (USACE) Draft Environmental Impact Study (draft EIS) for the proposed development of the Pebble copper-gold-molybdenum porphyry deposit as an open pit mine (Pebble Mine) by Pebble Limited Partnership (PLP). We have serious concerns that the activities associated with Pebble Mine under any Proposed Alternative other than no action will have a major impact on the Bristol Bay population of beluga whales (*Delphinapterus leucas*) as well as the endangered Cook Inlet population of beluga whales. The mitigation measures that are proposed under the Applicant's Proposed Alternative are wholly insufficient to prevent devastating harm and a decision to proceed with the project under any of the proposed scenarios, aside from the no action scenario, would be reckless. Moreover, the EIS is incomplete and inadequate in its analysis of impacts to belugas.

EIA is also concerned that the decision-making process is being unnecessarily rushed without adequate analysis and consultation. Even if all baseline environmental studies were up to date and completed by the applicant, which as noted by commenters during the scoping period is not the case, the two-year timeline for a decision by USACE is faster than any other large-scale mine in recent permitting history. Commenters on the draft EIS have been asked to review a technical document that is over 1,400 pages, not including appendices or supporting documents, in just 120 days. Moreover, during the comment period USACE has continued to upload, amend, and post new information that requires analysis. This includes at least 15 requests for information by the Corps and responses from PLP that either clarify or change aspects of the draft EIS. To date PLP's incomplete application has been reviewed with undue haste, risking irreparable harm in an ecologically and commercially valuable area with implications for Cook Inlet and Bristol Bay.

EIA urges the Corps to reject PLP's application and revise the EIS to include missing or incomplete information and analysis.

The Draft EIS does not adequately evaluate potential impacts on the critically endangered CI beluga whale

The Cook Inlet population of beluga whales has declined from an estimated population of 1,300 in 1979 to just 328 individuals in 2016.¹ The population is listed as Endangered under the Endangered Species Act, and has continued to decline at an annual rate of 0.4 percent from 2004-2014. The belugas are an icon of

¹ Shelden, K. E. W., R. C. Hobbs, C. L. Sims, L. Vate Brattström, J. A. Mocklin, C. Boyd, and B. A. Mahoney . 2017. Aerial survey s, abundance, and distribution of beluga whales (*Delphinapterus leucas*) in Cook Inlet, Alaska, June 2016. AFSC Processed Rep. 2017-09, 62 p. Alaska Fish. Sci. Cent., NOAA, Natl. Mar . Fish. Serv., 7600 Sand Point Way NE, Seattle WA 98115

Cook Inlet, and feature prominently as a part of the NOAA Fisheries Species in the Spotlight program.² While the Corps is well aware of the precarious state of the population and frequently cites the 2016 Recovery Plan for the Cook Inlet beluga whale, it does not adequately evaluate Pebble Mine's contributions to three of the 10 main threats assessed by the recovery plan: noise, cumulative effects including noise and pollution.³

Acute and chronic Underwater Noise is not properly analyzed or mitigated in the Draft EIS.

Within the Recovery Plan, anthropogenic noise is classified as a threat of high relative concern. Underwater noise is also considered one of several cumulative effects or high stressors that constitute a separate threat to the Cook Inlet belugas.⁴ It is worth reemphasizing that, "there is a general underestimation of the importance of the acoustic environment to CI belugas and other odontocetes in general. There may also be an underestimation of the impacts of anthropogenic noise to CI belugas."⁵ While some degree of habituation may have occurred, it is premature to assume additional noise sources are unlikely to impact the population. Sound from vessels or piling can cause temporary or permanent threshold shifts in beluga hearing, mask hearing and vocalizations, and lead to altered behavior or displacement from habitat.⁶ Notably the draft EIS proposes activity in an acoustic area that has been comparably natural to date, a significant shift in designated critical habitat for the population.

While the draft EIS correctly identifies most sources of underwater noise associated with the Applicant's Proposed Alternative, it downplays their potential impact. The draft EIS correctly notes that most belugas are found in the Upper Inlet during the summer when construction is anticipated, though sightings in the Lower Inlet are not unknown.⁷ During previous pile driving activity near Knik Arm in Cook Inlet beluga sightings remained consistent but sighting time decreased, as did foraging behavior. Group composition also shifted dramatically. During active pile driving belugas were more likely to travel through the affected areas, and juvenile sightings also decreased suggesting displacement and avoidance.⁸ Pile driving can also induce startle or avoidance responses from prey, or injury or death if the fish is closer to the noise source, affecting potential prey availability.⁹

The USACE anticipates development of mitigation measures, "including those detailed in the NMFS Biological Assessment (BA) in Appendix H," but the present list is insufficient to mitigate the impact of the project's acute underwater noise sources.¹⁰ The only measure fully detailed by PLP in their Application is the use of Protected Species Observers (PSOs) near the construction site, along with two unelaborated suggestions to use soft ramp up and noise mitigation devices like bubble curtains "as required".¹¹ At a minimum USACE must anticipate development of a full suite of mitigation measures in consultation with NOAA Fisheries, which must include noise mitigation technology.

Moreover, the draft EIS notes the increase in chronic noise, but no mitigation steps are envisioned and not all sources of noise are identified. This is especially problematic because while beluga habitat use in the summer is well documented, use in fall and winter is less understood, and the draft EIS does recognize the

² NOAA Fisheries. (2018). Species in the Spotlight: the Cook Inlet Beluga Whale. Available at: <https://www.fisheries.noaa.gov/video/species-spotlight-cook-inlet-beluga-whale>

³ National Marine Fisheries Service. (2016). Recovery Plan for the Cook Inlet Beluga Whale (*Delphinapterus leucas*). National Marine Fisheries Service, Alaska Region, Protected Resources Division, Juneau, AK.

⁴ Ibid.

⁵ Ibid.

⁶ Ibid.

⁷ Goetz, K. T., Rugh, D. J., Read, A. J., & Hobbs, R. C. (2007). Habitat use in a marine ecosystem: beluga whales *Delphinapterus leucas* in Cook Inlet, Alaska. *Marine Ecology Progress Series*, 330, 247-256.

⁸ Kendall, L. S., & Cornick, L. A. (2015). Behavior and distribution of Cook Inlet Beluga Whales, *Delphinapterus leucas*, before and during pile driving activity. *Marine Fisheries Review*, 77(2), 106-115.

⁹ NMFS 2016

¹⁰ United States Army Corps of Engineers (2019). Pebble Project Draft Environmental Impact Statement. Section 4.25

¹¹ Ibid. Appendix H

greater potential for impact on belugas during this period.¹² For belugas, chronic noise can result in habitat displacement or affect their ability to communicate or hunt for prey.¹³ Within Cook Inlet, without citation USACE states, “Decibel levels associated with transportation vessels during operations are expected to be below NMFS Level A harassment and Level B harassment noise criteria.”¹⁴ However, McKenna et al. 2012 records other vessels, comparably sized to the 483-foot tug-barges in the draft EIS, as reaching sounds as loud as 124 dB, qualifying as level B harassment for continuous sources.¹⁵ Moreover, chronic noise from shipping is already the predominant anthropogenic sound within Cook Inlet and already exceeds level B harassment at times. USACE must prove any new vessels fall below these levels.¹⁶

Castellote et al. 2019 also note that, in over 79 percent of their samples over a five-year period, ship noise levels are comparable to the St. Lawrence Estuary, and “are sufficient to highlight the potential for the acute masking of beluga communication over a wide temporal and spatial scale within their critical habitat”.¹⁷ The use of 27 handysize ships and two ice-breaking tugs to haul material to lightering locations will further contribute to an already unacceptable level of anthropogenic noise for the duration of the project.

The draft EIS also omits or does not fully consider several sources of underwater noise. One source of potential underwater noise omitted from the draft EIS is the use of trucks on the causeway in the Applicant’s Proposed Alternative. Truck vibrations are a potential contributor to underwater noise, and their effect on belugas has been previously documented through the use of Traditional Ecological Knowledge (TEK).¹⁸ A second source omitted from the draft EIS is noise from underwater dredging, associated with both port and pipeline construction.¹⁹ While dredging is identified as a source of underwater noise for humpback whales, it is not assessed for belugas. A precautionary approach to new and, based on the Reasonably Foreseeable Future Actions (RFFA) for this project, permanent sources of chronic underwater noise is warranted. The draft EIS is inadequate and incomplete because it fails to identify and analyze all of the impacts of noise associated with the project on critically endangered Cook Inlet belugas.

The Draft EIS does not fully assess cumulative impacts on Cook Inlet beluga whales.

In considering its impact on the Cook Inlet beluga whales, the draft EIS totally fails to address the proposed project’s contribution to the cumulative noise effect on the species. While the draft EIS notes the possible impact of increased ship traffic on underwater noise in the region, and correctly identifies all known future projects among the RFFAs for Cook Inlet, no mitigation efforts are envisioned.

EIA notes this development as USACE correctly identifies several projects with overlapping impacts on the population. For instance, the Alaska Gasline Development Corporation (AGDC) requested an Incidental Take Authorization (ITA) for up to 32 belugas each year from 2019-2024 incidental to the construction of a natural gas pipeline and export terminal crossing the Middle Cook Inlet northeast of Tyonek south to Nikiski.²⁰ Similarly, Hilcorp has requested a second ITA for 30 belugas per year from 2019-2024 due to

¹² Ibid. Section 3.25

¹³ NMFS 2016

¹⁴ USACE 2019, section 4.25

¹⁵ McKenna, M. F., Ross, D., Wiggins, S. M., & Hildebrand, J. A. (2012). Underwater radiated noise from modern commercial ships. *The Journal of the Acoustical Society of America*, 131(1), 92-103.

¹⁶ Castellote, Manuel & Thayre, Bruce & Mahoney, Michael & Mondragon, Jeffrey & Lammers, Marc & J. Small, Robert. (2019). Anthropogenic Noise and the Endangered Cook Inlet Beluga Whale, *Delphinapterus leucas*: Acoustic Considerations for Management. *Marine Fisheries Review*. 80. 63. 10.7755/MFR.80.3.3.

¹⁷ Ibid.

¹⁸ Carter, B. T., & Nielsen, E. A. (2011). Exploring ecological changes in Cook Inlet beluga whale habitat through traditional and local ecological knowledge of contributing factors for population decline. *Marine Policy*, 35(3), 299-308.

¹⁹ Castellote et al. 2018

²⁰ Alaska LNG (2018). Petition for Incidental Take Regulations for Construction of the Alaska LNG Project in Cook Inlet, Alaska. Available at: <https://www.fisheries.noaa.gov/action/incidental-take-authorization-alaska-gasline-development-corporation-liquefied-natural-gas>

underwater noise from activities associated with oil and natural gas activities.²¹ While AGDC's planned activities are focused in the Upper Inlet, Hilcorp envisions activities in the Lower and Upper Inlet, overlapping with PLP's planned natural gas pipeline. In the Draft Proposed Outer Continental Shelf (OCS) Oil and Natural Gas Leasing Program released by the Bureau of Ocean Energy Management (BOEM) for 2019-2024, two additional lease sales in Cook Inlet are also envisioned.

These activities, including PLP's proposed port and pile driving, constitute an increasing contribution of new anthropogenic sources of noise pollution to Cook Inlet, compounding existing sources and other impacts on the Cook Inlet belugas. Many experts have hypothesized that the reason the population is not recovering is due to a "death by a thousand cuts".²² Consequently, recommendation 62 of the Recovery Plan calls for a comprehensive approach for the allocation of takes, including a cumulative cap based on a percentage of the current abundance. While NOAA Fisheries has accepted this recommendation and previously declared its intention to prepare a cumulative Environmental Impact Statement (EIS) for oil and gas activities for Cook Inlet covering multiple years, this has been postponed. Granting any one of these ITAs, including the one envisioned for activities associated with PLP, risks further harm to the Cook Inlet belugas and should be deferred at least until the reasons for the population's decline are understood and effective recovery has been demonstrated. The Marine Mammal Commission (MMC) has also repeatedly made this recommendation.²³ The draft EIS is inadequate and incomplete because it totally fails to consider cumulative noise impacts of the proposed project on critically endangered Cook Inlet beluga whales.

Potential impacts from pollution are not fully addressed.

Finally, USACE does not fully account for impacts of pollution on belugas in the draft EIS. While USACE and PLP account for oil spills near Amakdedori Port or the lightering locations, and anticipate placing response gear and crew to handle a major event, the draft EIS overlooks potential pollution from daily operations or dredging associated with the natural gas pipeline and port facilities.

While the draft EIS anticipates treating any wastewater from further upstream and plans to implement best practices including methods to unload containers of concentrate to minimize dust, it does not fully consider the potential impacts of pollution on belugas. Instead, in the event of an accidental discharge of concentrate USACE simply notes a potential increase for "turbidity" in the area around the port. Regarding the belugas themselves USACE cites the Recovery Plan and considers pollution a "low" threat to the population. Although the Cook Inlet population has lower contaminant levels than those found in the St. Lawrence Estuary, pollution is still considered a potential threat to the species. In addition to its potential direct effects on beluga health, contamination can also have a cumulative or synergistic effect on individuals, interacting with other threats like noise or disease to exacerbate a condition.²⁴

Existing contaminant levels in Cook Inlet belugas are also not universally below safe levels. Levels of copper in the livers of Cook Inlet beluga whales (160 mg/kg) were above levels that cause kidney damage in bottlenose dolphins (29 mg/kg).²⁵ In their 2010 literature review, URS also found that some chemicals including PCBs were present at levels that might cause endocrine disruption, potentially impacting individual and population level reproductive health.²⁶ There are also concerns for the level of polycyclic aromatic hydrocarbons (PAH), which is present in Cook Inlet belugas at higher levels than other American

²¹ NOAA Fisheries (2019). Incidental Take Authorization: Hilcorp Alaska LLC Oil and Gas Activities in Cook Inlet, Alaska

²² Ibid.

²³ Marine Mammal Commission (2017). Response to notice of intent to prepare an environmental assessment for the issuance of annual incidental take authorizations.

²⁴ NMFS 2016

²⁵ Ibid.

²⁶ URS Corp., 2010. Chemical exposures for Cook Inlet beluga whales: a literature review and evaluation. Report prepared for NOAA Fisheries, National Marine Fisheries Service, Anchorage, Alaska. Available at:

<https://alaskafisheries.noaa.gov/protectedresources/whales/beluga/reports/cibtoxicology0310.pdf>

populations.²⁷ Given that the draft EIS projects a daily transport of 2,400 tons of copper-gold concentrate alone, the draft EIS is inadequate and incomplete for failing to fully assess the impacts of pollution on the Cook Inlet beluga whales.

Bristol Bay Belugas

Pebble Mine will have potentially negative impacts on the Bristol Bay beluga whale population, an important source of food for Alaskan Native subsistence hunters, but these impacts were not analyzed in the draft EIS. The beluga population in Bristol Bay is recovering from historic exploitation and has grown at the unusually high rate of 4.8 percent per year to an estimated abundance of 1,926 individuals.²⁸ While it is unclear why the population has rebounded, an increase in salmon is thought to have played a significant role.²⁹

As other commenters have pointed out, Pebble Mine would destroy approximately 30 miles of salmon-supporting streams and another 75 miles of tributaries in Bristol Bay area watersheds.³⁰ It is commonly known that salmon are a primary source of food for Bristol Bay belugas:

The prey species of belugas in Bristol Bay during the late spring and summer are relatively well known... In May and early June they feed mostly on smelt (*Osmerus mordax*) and red salmon smolt migrating out of the rivers. From mid-June through mid-August they feed primarily on salmon, with red salmon dominant but other species (chum, *Oncorhynchus keta*; pink, *O. gorbuscha*; and silver *O. kisutch*) becoming more important later in the season.³¹

It is reasonable to assume that the proposed project could negatively impact Bristol Bay beluga whales due to its likely impacts in salmon and other prey species, but USACE failed to consider impacts to Bristol Bay belugas at all.

For all of the aforementioned reasons, EIA urges USACE to reject PLP's application and to revise the EIS in order to include the inadequate or missing analyses and information.

Thank you for your consideration of our comments.

Sincerely,



Allan Thornton
President
Environmental Investigation Agency (EIA)
P.O. Box 53343

²⁷ Wetzel, D. L., & Reynolds III, J. E. (2014). Assessment of the prey availability and oil-related contaminants in winter habitat of Cook Inlet Beluga Whales. Final report: Trawl surveys and laboratory analyses (2012-2013). Mote Marine Laboratory, Sarasota, FL..

²⁸ Muto, M. M., V. T. Helker, R. P. Angliss, P. L. Boveng, J.M. Breiwick, M. F. Cameron, P. J. Clapham, S. P. Dahle, M.E. Dahlheim, B. S. Fadely, M. C. Ferguson, L. W. Fritz, R. C. Hobbs, Y.V. Ivashchenko, A. S. Kennedy, J. M. London, S. A. Mizroch, R. R. Ream, E. L. Richmond, K. E. W. Sheldon, K. L. Sweeney, R. G. Towell, P. R. Wade, J. M. Waite, and A. N. Zerbini. 2019. Alaskamarine mammal stock assessments, 2018. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-393, 390 p.

²⁹ LOWRY, L. F., FROST, K. J., ZERBINI, A., DEMASTER, D., & REEVES, R. R. (2008). 201 Trend in aerial counts of beluga or white whales (*Delphinapterus leucas*) in Bristol Bay, Alaska, 1993-2005. *J. Cetacean Res. Manage*, 10(3), 201-207.

³⁰ Comments submitted by Trustees for Alaska, et al, July 1, 2019.

³¹ Ibid.

Washington, DC 20009