

Nondalton – Pebble Project Preliminary Draft EIS, Section 3.26 - Vegetation

Agency	Comment Number	Section, Paragraph, and Page #	Relevant Text/Subject	Comment	Response
Nondalton	1	Section 3.26	General	Just like Sections 3.23, 4.23, 3.24, and 4.24 for Wildlife Values and Fish Values, this section is solely based on Western science and fails to consider Indigenous knowledge, values, and spirituality. This is unfortunate and the USACE must correct this biased, one-sided analysis.	Traditional ecological knowledge (TEK) is incorporated in Sections 3.9, K3.9, and 4.9, Subsistence. See also Appendix K3.1 for a summary of TEK discussion in the document.
Nondalton	2	Section 3.26	General	The implementing regulations for NEPA (40 CFR 1508.14) address the “human environment,” which the regulations define as the “natural and physical environment and the relationship of people with that environment.”	The values and concepts are addressed under Sections 3.9 and 4.9, Subsistence and Sections 3.7 and 4.7, Cultural Resources as those sections more accurately reflect the values that vegetation has to native indigenous communities. See also Appendix K3.1 for a summary of TEK discussion in the document.
Nondalton	3	Section 3.26	General	<p>In her 1991 book Dena’ina Plantlore, Priscilla Russell Kari describes Dena’ina beliefs and their relationship with plants this way:</p> <p><i>The Dena’ina emphasize the importance of addressing a plant in a respectful way. This means a person should say the correct words to a plant, particularly when he wishes to use it. If he does not know the appropriate words, it is acceptable for him to talk sincerely to the plant, but if he is disrespectful, the non-human elements of the plant’s environment may cause him trouble. Some people say that only a shaman knows the correct words for addressing plants.</i></p> <p><i>Plants should also be treated respectfully. A person should avoid wasting plants. Parts that he cannot use he should gather in one place so that they will not be stepped on or abused in any other way . . . Treating plants with respect is especially necessary in the mountains where the most powerful plants grow. (page 19)</i></p> <p>Certainly, the reverence and treatment of plants by</p>	Comment noted. Traditional ecological knowledge is incorporated in Sections 3.9, K3.9, and 4.9, Subsistence. See also Appendix K3.1 for a summary of TEK discussion in the document.

Nondalton – Pebble Project Preliminary Draft EIS, Section 3.26 - Vegetation

Agency	Comment Number	Section, Paragraph, and Page #	Relevant Text/Subject	Comment	Response
				the Dena'ina qualify as relationships with the natural and physical environment. USACE must address these relationships in this EIS.	
Nondalton	4	Section 3.26	General	Another data gap in this section for characterizing the human environment is USACE's failure to include Alutiiq, Dena'ina, and Yup'ik names and uses for the plants in the EIS Analysis Area. USACE needs to correct this omission.	Comment noted. While vegetation species have different names in different languages (and sometimes multiple names in the same language), the English and Latin names are the most commonly used names in the scientific literature and included as identifiers for each species.
Nondalton	5	Section 3.26	General	The Wetlands, Wildlife, Fish, and Vegetation sections provide an incomplete, inadequate, and narrow discussion for a project of this size that spans a large landscape encompassing several watersheds and will have impacts to multiple aquatic and terrestrial species in Bristol Bay and Cook Inlet. Additionally, the use of "Values" in the titles is odd. It would be more appropriate to just use "Terrestrial Resources" to include a discussion of habitat and wildlife and instead of "Fish Values", it would be more appropriate to use "Aquatic Resources" to include a discussion of habitat and fish and other aquatic species.	The description of baseline conditions is limited to the EIS analysis area where potential impacts from the project are likely to occur. Resources outside this analysis area are not discussed in detail. Comment noted; the term "Values" was direction received from USACE per their public interest review factor terminology. See Section 3.1, Introduction to Affected Environment, for a complete list of PIR topic location in the DEIS.
Nondalton	6	Section 3.26	General	The proposed project will require intact streams, tributaries, wetlands, and ponds to be removed, altered, discharged into, dredged, and filled in a mostly pristine, wild, and functioning watershed for over 25 years, resulting in removal of an interconnected ecosystem and loss of the biodiversity and functional habitat and services provided to the watersheds that aquatic and terrestrial resource rely on. Mitigation or restoration on this scale has never been attempted. Re-creating a functioning watershed is virtually impossible. Humans cannot improve intact ecosystems. Removing streams, tributaries, wetlands, and ponds from a watershed for over 25 years will result in loss of natural process and	Comment noted. Please refer to the following sections in the DEIS for information on the concerns raised: Sections 3.22 and 4.22, Wetlands and Other Waters/Special Aquatic Sites, Sections 3.23 and 4.23, Wildlife Values, Sections 3.24 and 4.24, Fish Values, Sections 3.16 and 4.16, Surface Water Hydrology and Sections 3.17 and 4.17, Groundwater Hydrology.

Nondalton – Pebble Project Preliminary Draft EIS, Section 3.26 - Vegetation

Agency	Comment Number	Section, Paragraph, and Page #	Relevant Text/Subject	Comment	Response
				<p>function and will adversely impact inputs to downstream areas, such as sediment transport, loss of interstitial spaces due to lack sediment transport, compaction of substrates, detritus, nutrients, water chemistry, macroinvertebrates, prey, high and low flow regimes, groundwater upwelling, aquifer recharge, hyporheic function, hydrological and geomorphological processes and function, temperature regimes, physical and biological processes, riparian and terrestrial habitat, soil ecology, etc.</p> <p>In addition, constructing and operating a mine of this size with its associated infrastructure, combined with altering, filling, dredging, disposal of wastewater, and discharging into streams, tributaries, wetlands, and ponds in watersheds for over 25 years will impact, irrevocably damage, and will probably 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 they 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's vitally important to aquatic and terrestrial species (salmon in particular) and other anadromous and resident fish.</p> <p>The EIS must evaluate direct, indirect, and cumulative impacts to all aquatic and terrestrial 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</p>	

Nondalton – Pebble Project Preliminary Draft EIS, Section 3.26 - Vegetation

Agency	Comment Number	Section, Paragraph, and Page #	Relevant Text/Subject	Comment	Response
				(TEKW) of Alaska Native communities.	
Nondalton	7	Section 3.26	General	Without figures and maps it is not possible to do an in-depth and specific review of these sections. Suffice it to say, aside from the proposed mine itself having a massive footprint across several watersheds, the infrastructure required to support the mine will stamp a large destructive footprint across a large mostly pristine and wild geographic areas including close to 70 miles of roads and additional spur roads with 97 river and stream crossings, 11 bridges, and 88 culverts. The roads will cross through and over several watersheds and large fish bearing rivers, streams, tributaries and through a mosaic of wetlands, lakes, ponds, bogs, marshes, riparian and upland areas.	Figures and maps have been included in the DEIS.
Nondalton	8	Section 3.26	General	An 18-mile ice breaking ferry route will require ferry terminals and a port with associated offices, storage facilities, power plants and extensive road causeways built over and into the marine environment. A 187-mile gas pipeline with associated fiber optics going overland and under Cook Inlet and Iliamna Lake. The project will require extraction of major quantities of water from rivers, streams, lakes, and ponds.	Comment acknowledged.
Nondalton	9	Section 3.26	General	The EIS Analysis Area must include not just the areas of actual ground disturbance but all adjacent and connected areas. The EIS Analysis Area must include all areas of the four major projects (mine, roads, gas pipeline/utilities, port/ferry terminals) and their components in the Bristol Bay and Cook Inlet Watersheds as well as those areas bordering these watersheds including nearby national parks and refuges (particularly Katmai bears and McNeil River bears) that will be impacted by impaired migratory routes, reduced populations of fish and wildlife, etc. The EIS Analysis Area must be expanded to include aquatic and terrestrial migratory corridors for all aquatic and terrestrial species in fresh, estuarine and marine waters.	<p>The EIS analysis area for vegetation is where potential impacts from the project are likely to occur. Resources outside this analysis area are not discussed in detail.</p> <p>Please refer to Sections 3.23 and 4.23, Wildlife Values for a discussion of potential impacts to wildlife in the analysis area.</p>

Nondalton – Pebble Project Preliminary Draft EIS, Section 3.26 - Vegetation

Agency	Comment Number	Section, Paragraph, and Page #	Relevant Text/Subject	Comment	Response
Nondalton	10	Section 3.26	General	Bristol Bay and Cook Inlet support important 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, 2014a). Other important fish species that are used by local people 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.	Comment acknowledged. Please refer to Sections 3.23 and 4.23, Fish Values, for a description of the aquatic resources affected environment and impacts analysis.
Nondalton	11	Section 3.26	General	The baseline information in these sections is inadequate and at times contradicts itself (as in the case of caribou populations). The documents state that caribou are not in the area so won't be impacted, but then it goes on to say that ADFG culls wolves to protect the caribou herds and that the tribes are concerned with caribou populations and have seen a reduction in numbers.	Comment noted. Please refer to Sections 3.23 and 4.23, Wildlife Values, for a description of wildlife resources potentially impacted by the project.
Nondalton	12	Section 3.26	General	The EIS must provide sufficient baseline data and existing conditions information. Relying on the insufficient baseline data collected by the project proponent and presented in the 2004-2008 environmental baseline report and the 2009-2013 supplemental baseline data reports does not provide sufficient information for the aquatic and terrestrial species that rely on this large landscape. These reports alone do not provide adequate information to establish baseline conditions for the area to evaluate direct, indirect and cumulative	Comment acknowledged. Sampling data from the EBD studies occurred several years ago, and sampling was intensive and conducted over a multi-year period and it is sufficient to represent pre-mine conditions, and to assess the reasonably foreseeable significant impacts of the proposed project. Additionally, the requested information would not be essential to make a reasoned choice among alternatives.

Nondalton – Pebble Project Preliminary Draft EIS, Section 3.26 - Vegetation

Agency	Comment Number	Section, Paragraph, and Page #	Relevant Text/Subject	Comment	Response
				impacts to natural resources.	
Nondalton	13	Section 3.26	General	Baseline studies conducted for this project in 2004-2008, including the methods used to collect and analyze data for fish use and presence more than likely differ greatly from the methods that are being used now in 2018. The EIS must use up-to-date methods to adequately evaluate aquatic and terrestrial resources. Extensive habitat models exist to evaluate the presence and habitat use of aquatic 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. Additionally, it is unclear what fish tissue criteria were used. This information should be provided so that the reviewer can determine if the appropriate criteria were used.	Field sampling methods applied to gather environmental baseline data are considered scientifically valid. Please refer to Sections 3.24 and 4.24, Fish Values for information on fish sampling methodology.
Nondalton	14	Section 3.26	General	These watersheds and geographic regions and their aquatic and terrestrial species have been and continue to be studied by local, private, and nonprofit entities, and resource agencies at the state and federal level including tribes. The EIS must incorporate information from these other sources and studies, new data collected as part of the EIS evaluations and from models that evaluate species, habitat, biological and physical watershed processes. The EIS must also incorporate Traditional Ecological Knowledge and Wisdom (TEKW) in all evaluations and when developing the information for baseline and existing conditions. Additionally, extensive habitat models exist from the Kenai Peninsula using resource selection functions to evaluate the effect of development on brown bears. The EIS must use these methods to further evaluate the direct, indirect and cumulative impacts of the proposed project to wildlife and terrestrial resources.	Comment noted. Habitat modeling was applied to the impacts analysis for fish and wildlife in the DEIS. Please refer to Sections 3.23 and 4.23, Wildlife Values and Sections 3.24 and 4.24, Fish Values, for a description of baseline conditions and impacts analysis.
Nondalton	15	Section 3.26	General	The climate change discussion in these sections is	Comment noted. The climate change

Nondalton – Pebble Project Preliminary Draft EIS, Section 3.26 - Vegetation

Agency	Comment Number	Section, Paragraph, and Page #	Relevant Text/Subject	Comment	Response
				far too general for a project of this size and timeframe. The discussion should be far more specific and include information from the new Intergovernmental Panel on Climate Change (IPCC) report that was recently issued. Information on the impacts of sea level rise should be included. Catastrophic events such as landslide, flood, avalanche, major weather should be discussed. Loss of carbon sequestration due to major removal of vegetation and how this impacts greenhouse gas (GHG) emissions should be included. Loss of habitats and shifting migration patterns should be discussed for both aquatic and terrestrial species.	section has been revised in the DEIS for biological resources.
Nondalton	16	Section 3.26	General	It seems that the whole affects analyses for both aquatic and terrestrial species and habitats is aimed at trivializing the impacts a project of this size will have. Most information is reduced to a paragraph or two. It is misleading to say this is a 20-year project when the buildout will occur over 78 years. And several other mining projects would use the proposed Pebble Project infrastructure. Based on probable ultimate size of the proposed project and other projects that intend to use the Pebble infrastructure, this project will be there forever.	Comment noted. The DEIS is a scientific analysis based on the best available information.