

EPA Comments – Pebble Project Preliminary Draft EIS, Section 3.22 - Wetlands and Other Waters/Special Aquatic Sites

Agency	Comment No.	Section, Paragraph, and Page #	Cooperating Agency Comment (and Purpose of Comment)	Proposed Resolution (Additions or Deletion of Text)	Response
EPA	1	General	<p>We recommend that the DEIS include a discussion that explains the connection between the wetlands, streams and other waterbodies found across the Bristol Bay watershed, including those documented within the project area, and the world-class fishery resources described in Section 3.24. This is important context for the reader and has been well documented in numerous scientific sources, which we recommend be summarized and referenced in the EIS. (EPA can provide a list of relevant references if it would be helpful to the Corps in developing this discussion.)</p> <p>Section 3.22 seems like the logical place for that discussion. This would also be the logical place for a discussion of the portfolio effect (Schindler et al. 2010), which we recommend be analyzed in the DEIS.</p>	See Response.	<p>Added text to discussion in Section 3.22.4 and 4.22.5.1.</p> <p>Note that the term “wetlands and other waters” has been applied in Chapter 3 and Chapter 4 to refer to wetlands and other aquatic resources such as streams, ponds, lakes, or other waterbodies.</p> <p>Also note that repeating descriptive or analytic text that has been included in other sections is minimized in this EIS, in accordance with improved NEPA guidance for streamlining documents. Cross references are provided, where appropriate.</p> <p>Discussion of connections between wetlands and other waters and fisheries has been included in Section 3.22.4.</p>

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					<p>Importance of headwater position of wetlands to streams is included in Section 4.22.5.1.</p> <p>Please provide a list of relevant references that can be incorporated into the Final EIS.</p> <p>The reference provided on the portfolio effect (Schindler et al. 2010) was reviewed by wetlands and fisheries subject matter experts.</p> <p>Direct reference in Section 3.22 (subsection 3.22.4.) includes the following text: Rivers/Streams – Functions and values of these habitats vary greatly in the EIS analysis area depending on hydrologic regimes, bed and bank structure, floodplain interactions, and other fluvial processes. The relatively undisturbed nature</p>

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					<p>of the watersheds means that floodplain processes, sediment and woody debris dynamics, and surface and groundwater exchanges are unencumbered, which has resulted in a large diversity of aquatic and riparian habitats in the EIS analysis area. This habitat diversity is responsible for the corresponding large population and genetic diversity of salmonids in the wider Bristol Bay basin (Rinella et al. 2018). This in turn has been recognized as contributing to the high productivity and stability of these systems for salmonids (Schindler et al. 2010).</p> <p>Note that discussion of fish genetic and population diversity is more appropriate for Section 3.24 and</p>

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					Section 4.24, the fish values sections.
EPA	2	3.22 3.22-1	The EIS analysis area includes specific buffer distances around project elements. We recommend that the DEIS explain why different buffers (300-foot, 100-foot, and 30-foot) are used for different project components in the analysis area. Please also explain whether and why these buffers encompass the limits of the analysis of potential direct and indirect impacts resulting from this project, including changes to hydrology.	See Response.	Added descriptions for the EIS analysis areas. Detail was added explaining the reason for each buffer/zone in the indirect impacts in Section 4.22.
EPA	3	3.22-1 3.22.1	We appreciate inclusion of the signed PJD in Appendix J. We recommend that Section 3.22.1, which refers to the PJD report, disclose whether the PJD will be refined to reflect the recent summer 2018 wetlands field work.	See Response.	The current PJD is included in Appendix J. Delineations are performed on a property in order to delineate which waters are waters of the US and therefore subject to Clean Water Act Section 404 regulation. The PJD included in Appendix J was submitted to the USACE by the applicant, which the USACE has verified.

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					The applicant would then decide whether they would like a final approved delineation, or to proceed with a permit application with only a verified preliminary delineation.
EPA	4	3.22-2 3.22.1	We recommend that the DEIS disclose the extent to which streams were field verified for accuracy of resource characterization. The riffle and pool paragraph in 3.22.1 refers to a study from 2011 and then states that the baseline mapping did not identify riffle and pool complexes in the project area. This leaves the reader to assume that the full extent of potential impacts may not be known. We recommend clarifying this information and including additional information as necessary.	See Response.	Comment acknowledged. Data gaps are acknowledged in Section 3.1. Text edited in Section 4.22.7.2 regarding accuracy of field verifications and field work planned for 2019. Riffle and pool special aquatic sites characterization is clarified in Section 3.22.1. Data gaps are disclosed in Section 3.1 and Section 3.22.2.
EPA	5	3.22-2 and 3 3.22.1	We recommend that “waterbodies,” which is currently a broad general category, be divided into more specific categories. For example, we recommend that any discussion of streams or rivers be separate	See Response.	Text edited. The USACE has directed that wetlands and other aquatic resources be referred to as “wetlands and other

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			from other “waterbodies.” Lumping these dynamic systems with all non-wetland waters, including marine waters and regulatory navigable waters, could be confusing for agency decision makers and the public and may lead to the inaccurate assumption that all of these waterbodies are comparable when discussing the resources and potential impacts from the project to each of these resources.		waters” in Chapter 3 and Chapter 4. Broke out calculations and discussions in most places as streams/lakes and ponds/estuaries/marine waters. Added description of navigable waters in Section 3.22.1.
EPA	6	3.22-3 3.22.2	Section 3.22.2 refers to the 2018 summer field program. We recommend that the DEIS include additional discussion of the information collected during this program and the methodology used. Including this information in the DEIS analysis will improve the analysis of impacts and ability to develop appropriate resource protection measures. We recommend that the DEIS also identify the data that was collected in the different aquatic resources to inform the evaluation of aquatic resource functions. In addition, we recommend that the hydrogeomorphic mapping that was completed for wetlands for all of the mine site (and most of the rest of the project area) be	See Response.	HGM descriptions added at Section 3.22.2.2 and Section 3.22.3.2. HGM pie chart added in Section 3.22.5.1 for the mine site. HGM pie charts were not produced for the other three components, since HGM classification is not available for portions of Alternatives 2 and 3. Attempting to include incomplete HGM information in the form of pie charts for other components would not provide additional

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			utilized in the analysis. This information could provide useful context for an evaluation of aquatic resource functions in characterizing the affected environment.		information for readers and decision makers to compare differences between alternatives, or to make a reasoned choice between alternatives. Data gaps, with information on planned field work in 2019, are acknowledged in Section 3.1, Introduction to Affected Environment. Data collection in 2018 followed the same methodology as described in Section 3.22.2. Data included wetland and other waters mapping for additional 766 acres at the mine site, and approximately 111 acres in the Alternative 1 transportation corridor. See the other EIS sections on fish values, TES, Wildlife, and Surface

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					Water for other data collected on aquatic resources, which are cited in the wetlands sections. See note in comment #1 on streamlined NEPA and not repeating information in various places in the EIS.
EPA	7	3.22-3 to 4 3.22.2	Section 3.22.2 discusses the Wetland Data Gaps for Alt 2 and 3, including areas which are lacking project-specific wetland mapping. It is not clear how the impacts disclosed in Section 4.22 for Alt 2 & 3 were determined without this additional information. Please describe the adequacy of the existing information and how the gaps allow for such specific impact quantification in Section 4.22 when discussing impacts from Alt 2 & 3. In addition, we recommend discussing where/when additional information will be collected to supplement the analysis if needed.	See Response.	As discussed in Section 3.22.2, NWI mapping was used where field-verified (project) mapping was not available. NWI mapping was not available for the Kokhanok variant, so the ALOS PALSAR data was used. Impacts were assessed using best available information; field collected data is not a requirement for assessment by the reader and decision maker to understand differences between alternatives or to make a reasoned choice between alternatives. Data

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					gaps are disclosed in relevant sections and in Section 3.1, Introduction to Affected Environment. See also response to comment #4 above.
EPA	8	3.22-4 3.22.3	We recommend that the DEIS characterize the functions provided by the wetlands in the project area and include the findings regarding baseline conditions of these functions. Section 3.22.3 "Wetland Functions and Values" does not currently include a meaningful evaluation of aquatic resource functions performed by the different types of wetlands found in the project area.		Added qualitative description of wetland and water functions in Section 3.22.3 and Section 3.22.4. There is no existing functional assessment tool or methodology that covers the analysis area. The wetlands in the analysis area are considered to be functioning at maximum capacity given the lack of human disturbance in the analysis area. Section 3.22.3 and Section 3.22.4 provide qualitative discussion of which wetland and water types are expected to provide which functions. Wetlands of regional importance are

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					described in Section 3.22.3.3. Impacts to these wetlands are assessed differently from other wetlands and waters in Chapter 4.
EPA	9	3.22-4, 3.22.3.1	We recommend that the DEIS clarify whether Section 3.22.3.1 includes the complete list of functions for these NWI wetland classes. Please also include citations for the statements made in this section.	See Response.	Added citations to Section 3.22.3 and Section 3.22.4. The discussion in Section 3.22.3.1 is related to primary wetland functions and is not intended to be exhaustive.
EPA	10	3.22-5 3.22.3.2	We recommend that the DEIS clarify how the groups of “High Quality Wetlands” were determined in Section 3.22.3.2. We recommend that the DEIS cite the source of the definitions used to identify the four types of high quality wetlands and indicate whether these are the only types of wetlands found in the project site with the potential to be considered high quality or high-functioning. We also recommend that the DEIS analyze the position of the wetlands and the context of the position of the wetlands within the watershed as well as the relative functions provided. We also recommend indicating the	See Response.	Added clarification on how these were determined. “High quality wetlands” renamed to “regionally important wetlands” in Section 3.22.3.3 to signify that other wetlands not listed are not thereby considered “low quality”. The regionally important wetlands discussion incorporates the HGM approach by designating riverine wetlands as having especially important

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			<p>amount of each of the four types found within the project area. Without the additional information and context, the reader is left to assume that the scale of mapping analysis, and available information, is the primary driver for identifying what is labeled as high quality in the document.</p> <p>We also recommend that the DEIS explain the relationship between the NWI classes in Section 3.22.3.1 and the information presented in Section 3.22.3.2.</p>		<p>functions with respect to fish and wildlife habitat. Relative proportion of each type is provided in the section for the impact area and the watershed.</p> <p>Position in the landscape and relationship to wetland functions is described with respect to headwaters wetlands (most slope wetlands), and for the general HGM classes.</p>
EPA	11	3.22-5 3.22.3.2	We recommend that the DEIS explain how the term “riparian wetland,” used in Section 3.22.3.2, is being defined.	See Response.	Added clarification to Section 3.22.2.2.
EPA	12	3.22-5 3.22.4	Section 3.22.4 indicates that “detailed assessments” of other non-wetland aquatic resources can be found in various other documents and sections. We recommend providing specific references to where this information can be found. We also recommend that this section of the DEIS characterize these aquatic resources, including the functions they perform and their	See Response.	<p>Changed “detailed assessments” to “habitat characterizations”.</p> <p>Added citations and descriptions of habitat functions.</p>

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			baseline conditions.		
EPA	13	General 3.22.5, 3.22.6, 3.22.7	The discussion of the presence of various types of wetland resources throughout the project area is provided in percentages. We recommend that the DEIS also disclose the <u>number</u> of acres in the analysis for all project components and alternatives, which would provide additional context for analyzing the magnitude of impacts. This information could be provided in tables for each project component.		Added acreages in addition to percentages in relevant places.
EPA	14	General 3.22.5.1, 3.22.6.1, 3.22.7.1, 4.22.2.1 4.22.3.1 4.22.4.1	We note that the mine site analysis area disclosed in Section 3.22 is the same for each of the three action alternatives considered in the EIS. In addition, the wetland impacts disclosed in Section 4.22 are nearly identical for each alternative, with only a brief statement regarding 60 acres of additional impacts under Alternative 2 associated with the bulk tailings storage cells, embankment, and haul road. We recommend that the DEIS include additional information supporting each mine site component, the rationale for the positioning within the footprint, and how this relates to potential impacts to wetland resources. Without further supporting	See Response.	The mine site analysis area encompasses a greater area than the footprint of any of the three action alternatives. Therefore, there is no difference in the wetlands and other waters described in any of the area of the three action alternatives in Chapter 3, Affected Environment. In Chapter 4, the mine site footprint is similar for all three action alternatives, with the exception of

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			information, it will be difficult to support avoidance and minimization analysis and the identification of the least environmentally damaging practicable alternative (LEDPA) for Clean Water Act Section 404 permitting purposes.		the Alternative 2 and the TSF design. The magnitude and extent of the impacts under Alternative 2 are disclosed. Analyzing the location of each mine facility does not contribute to a comparison of alternatives, nor detract from the reader or decision make being able to make a reasoned choice between alternatives. Avoidance and minimization measures would be considered during a later permitting phase.