

Pebble EIS Draft Wetlands/Special Aquatic Sites Sections
EPA Comments
12/21/18

The EPA appreciates the opportunity, as a cooperating agency, to provide you with these comments on the preliminary draft Wetlands/Special Aquatic Sites Sections 3.22 and 4.22 (11/21/2018 review draft) of the Pebble EIS. Our comments are provided in table format below. Our public comments on the Draft EIS may include additional concerns or recommendations. These interagency comments or portions thereof may be protected by the deliberative process privilege.

Page	Section	Existing text (if applicable)	Recommendation
General	3.22		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.) 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.
3.22-1	3.22	First paragraph	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.
3.22-1	3.22.1	Second paragraph related to PJD report	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.
3.22-2	3.22.1	Riffle and Pool Complexes paragraph	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.
3.22-2 & 3	3.22.1	Waterbodies paragraph	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 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.
3.22-3	3.22.2	Wetland Mapping and Classification section	<p>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.</p> <p>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 utilized in the analysis. This information could provide useful context for an evaluation of aquatic resource functions in characterizing the affected environment.</p>
3.22-3 to 3.22-4	3.22.2	Wetland Data Gaps	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.
3.22-4	3.22.3	Wetland Function and Values	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.
3.22-4	3.22.3.1	NWI Classes	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.
3.22-5	3.22.3.2	High Quality Wetlands	<p>We recommend that the DEIS clarify how the groups of “High Quality Wetlands” were determined in Section 3.22.3.2.</p> <p>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 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>

3.22-5	3.22.3.2	Therefore, riparian wetlands with forest or shrub vegetation classes are considered high quality wetlands...	We recommend that the DEIS explain how the term “riparian wetland,” used in Section 3.22.3.2, is being defined.
3.22-5	3.22.4	Waterbody Functions and Values	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 baseline conditions.
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.
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	Mine Site	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 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.

General	4.22		<p>We recommend that the DEIS include a description of the methodology for how the extent and type of the direct and indirect impacts to wetlands, streams, lakes, ponds and marine waters was estimated (e.g., how figure 4.22.02 was generated).</p> <p>We also recommend including an analysis of impacts resulting from the project on a more localized level, rather than as a percentage of impacts within a large-scale watershed.</p> <p>In addition, we recommend adding an analysis describing how the baseline conditions for each of the functions performed by the aquatic resources impacted by the project are expected to change with each project alternative. This is a critical component of analysis for this section of the DEIS in order to adequately characterize the likely impacts of each alternative.</p>
General	4.22	General – when describing unmapped portions of watersheds and disturbance threshold approach.	<p>It is difficult to follow the various mapping capabilities, datasets, scale, and degree of field verification that are used to come to the conclusions in this section, especially without seeing the maps during this review period.</p> <p>The approach seems to be that the areas that have better mapping (such as the mine site footprint) are used to represent the approximation of the entire HUC 10 watershed and are compared to the disturbance threshold. For example, on page 4.22-7, the document identifies riverine wetlands as high-value; however, it states that the extent of such high-value wetlands is not known in the 171,000-acre watershed. As these wetlands comprise approx. 3% of the mine site, the same ratio in the entire watershed is X number of wetlands and the resulting percent of impacts is a similar percent as on the mine site. It is unclear whether the footprint of the mine site is actually representative of the entire HUC 10 watershed. Applying this logic to determine the described threshold approach appears problematic without additional information in the DEIS to verify the assertions presented.</p>

4.22-1	4.22	Indirect impacts from...	We recommend adding habitat degradation downstream of the mine site to the list of indirect impacts.
4.22-1	4.22	Impacts to Waters of the United States (WOUS) are assessed here from a NEPA perspective, which may differ from how they are treated under the Clean Water Act (CWA) Section 404(b)(1) guidelines. The USACE Section 404(b)(1) Analysis, included in Appendix F, accounts for impacts from the CWA perspective.	<p>We recommend that the DEIS clarify that the impacts described in Section 4.22 are evaluated differently in Appendix F (404(b)(1) Analysis) and explain why this is the case.</p> <p>In addition, we understand that the Corps will share the draft 404(b)(1) analysis with EPA for review before it is included in the Final EIS. We appreciate the opportunity to provide early input.</p>
4.22-1	4.22	<p>“The magnitude of impacts to wetlands and waterbodies was assessed relative to their perceived importance and extent within a watershed. The disturbance area thresholds used here are similar to those used for other recent Environmental Impact Statements (EISs) in Alaska (Donlin Gold Project EIS 2018 [USACE 2018], Point Thomson Project EIS 2012 [USACE 2012]). Impacts to high value wetlands, such as riverine wetlands, were deemed to be of greater magnitude even when a relatively small proportion (greater than 5 percent) of these wetlands would be disturbed within a particular watershed. Impacts to less than 1 percent of high-value wetlands would be considered minimal magnitude, and impacts to 1 to 5 percent would be considered intermediate. Conversely, a higher proportion (greater than 25 percent) of non-high value wetlands, such as most deciduous shrub wetlands, would need to be disturbed within a watershed to be considered a greater magnitude impact. Impacts to these wetlands are considered to be of lesser magnitude when they represent less than 5 percent of the watershed, and of an intermediate magnitude when they represent 5 to 25 percent</p>	<p>We recommend that, instead of the threshold approach, the EIS describe the amount of different types of wetlands impacted across the alternatives without comparison to an arbitrary threshold. Please see the white paper that EPA sent to the AK District in July 2018 that outlines scientific concerns regarding this kind of threshold approach.</p> <p>If the Corps continues with use of these thresholds, we recommend that the DEIS identify the scientific basis for the thresholds proposed in this paragraph and clarify how these thresholds are being used in the impacts analysis. We also recommend that the DEIS clarify how the approach proposed in this paragraph is similar to the approaches used in the Point Thompson and Donlin Mine EISs. We recommend that this clarification include the history of the approach, the exact approach used in the referenced documents, supporting scientific literature, how the geographic location of each project lends the ability for similar analysis, and adequacy of information available to make these comparisons.</p> <p>We also recommend that the DEIS clarify what is meant by “within a particular watershed.” We note that later sections refer to a 10-digit HUC. We recommend that the DEIS explain throughout what scale is used and why.</p>

		of the watershed.”	
4.22-1	4.22	The duration of impacts is considered temporary when wetland or aquatic functions would be reduced during the construction phase only and the area would be restored to pre-construction contours.	<p>We recommend that the DEIS clarify if and where the temporary impacts are mapped. If the temporary impacts were not mapped, then please explain how the numeric estimates of temporary impacts in section 4.22.2 were determined.</p> <p>We also recommend identifying any evidence that exists that supports whether restoring these sites to “pre-construction contours” would ensure that functions would be restored to pre-construction levels.</p>
4.22-1	4.22	[Note: It is expected that a detailed reclamation and closure plan would be developed for the project after the publication of the draft EIS with details on reclamation location, type, and success metrics; at this time the duration (temporary or permanent) of disturbance would be further assessed].	<p>We recommend that the detailed reclamation and closure plan referred to in the text be <u>provided in advance</u> of the DEIS. Our previously submitted comments on PDEIS Chapter 2 recommended providing additional details related to reclamation and closure that would typically be provided in a reclamation and closure plan. The information on reclamation and closure is necessary to support the analysis of impacts and consideration of mitigation measures in the EIS, pursuant to NEPA.</p> <p>We note that temporary impacts are discussed throughout Section 4.22. It is not currently clear for agency decision makers and the public to understand how it was determined which impacts would be temporary without a detailed reclamation and closure plan.</p>
4.22-2	4.22	The extent of impacts would be limited to areas of the project area where wetlands or waterbodies would be removed or disturbed, or would affect wetlands outside of the project area in one or more HUC 10 watersheds (Figure 4.22-1).	We recommend that the DEIS elaborate and offer examples here, as this sentence is confusing. It is unclear how many potential watersheds are used to determine the impact threshold approach.
4.22-2	4.22	Because of this, the acreages and percentages of wetland types for each watershed should be considered an approximation for comparison purposes only.	It is not clear how this disclaimer speaks to the validity of the document to present the information to the reader to support the conclusions of the ‘disturbance area thresholds’ concept for the watersheds. We

			recommend providing additional information to support the approach used. Also, please describe the level of certainty associated with the approximations and describe why the approximations are adequate for the impact analysis.
4.22-5	4.22.2.1		Section 4.22 estimates that the proposed project would impact 24.1 miles of stream. We recommend that the DEIS clarify the methodology for how this estimate was derived, including explaining which impacts are included in this estimate and which impacts are not included.
4.22-7	4.22	See for example Table 4.22-1	We recommend clarifying why Section 4.22 lumps the North Fork Kaktuli and South Fork Kaktuli into one assessment area while Section 4.24 evaluates impacts separately to the North Fork Kaktuli and South Fork Kaktuli.
4.22-29	4.22.6.1	Present activities include mining exploration and non-mining related projects, such as transportation, oil and gas development, or community development actions. These actions have resulted in a loss of some wetlands.	We recommend that this section describe the current wetlands losses that have resulted from exploration at the mine site. We recommend including an estimate of the amount, type, and location of current wetlands losses so that the baseline affected environment and impacts prior to mining operations in the area are understood.
4.22-29	4.22.6.2	General Comment on Pebble Mine Expanded Development Scenario	<p>Section 4.22.6.2 looks at the cumulative effects of a 78-year mine plan at the Pebble deposit. We have the following recommendations related to this section.</p> <p>(1) It appears that rather than considering wetland losses at the 10-digit HUC scale (as was done earlier in this section) wetland losses are now being considered across a combined nine 10-digit HUCs. We recommend that the DEIS clarify why the analysis shifts to a larger watershed scale to evaluate wetland losses in this sub-section as compared to earlier portions of 4.22 and recommend using a consistent approach to evaluating wetlands losses if possible.</p> <p>(2) We also recommend that this section evaluate how the cumulative impacts to wetlands, streams, and other aquatic resources would impact the functions performed by these aquatic resources.</p>

			<p>(3) Please quantify and characterize the cumulative impacts to streams, lakes, and ponds under the 78-year mine plan. These are currently omitted.</p> <p>(4) In addition, we recommend additional discussion regarding the potential expansion discussed in this section. This could include an analysis of how the mine site footprint may or may not be designed to anticipate the expansion and how the mine site footprint would be redesigned or reduced if the current design was limited to a single and complete project.</p>
4.22-30	4.22.6.3	Section 4.22.6.3 concludes with the following: "Overall, the cumulative impacts on wetlands from the project and the past, present and RFFAs are expected to be measurable, but geographically limited."	We recommend clarifying what is meant by "geographically limited." Specifically, please clarify if this is referring to the project footprint area, a 10-digit HUC, nine 10-digit HUCs, a 6-digit HUC, the Nushagak River, or the Bristol Bay watershed, and disclose what information or analysis this conclusion is based upon.
	4.22	Figures	When you compare Figure 4.22-2 to 4.24-1, it appears that impacts to streams in figure 4.24-1 are underrepresented. We recommend that the DEIS clarify whether there is a discrepancy between streams in the two maps and if so explain why.