

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

Reviewer: NARF Technical Team
Date: December 21, 2018
Chapter: Chapter 4: Environmental Consequences
Section: Section 4.9 Subsistence
Document: 11_09_2018_Sec4.9_Subsistence_reviewdraft

Comments

Section 4.9 Subsistence. In the opening sentence of Section 4.9, the U.S. Army Corps of Engineers (USACE) states, *"This section describes potential impacts of the Pebble Project on subsistence in communities near Iliamna Lake, in the Kvichak and Nushagak river drainages, and on the southwest coast of Kenai Peninsula."* This section does not mention any Kenai Peninsula communities. If this sentence describes the "geographic extent" of this analysis, it is different than the vague "closest to" reasoning in Section 3.9.

In Section 3.9, USACE states, *"For indigenous people, subsistence activities are rooted in traditional cultural values, spirituality, and a sense of community."* Section 4.9 does not address impacts to "values, spirituality, and a sense of community." This section solely examines economic variables (i.e., resource availability, access to resources, competition for resources, and sociocultural conditions). Foretelling USACE's limited analysis of subsistence for this project, Dr. Doug Duer, Karen Evanoff, and Jamie Herbert described Nondalton resident's frustrations with this approach in their 2018 report, *"Respect the Land – It's Like Part of Us" A Traditional Use Study of Inland Dena'ina Ties to the Chulitna River and Sixmile Lake Basins, Lake Clark National Park and Preserve*. The following paragraph is from Page 95 of this report:

when outsiders document hunting and other subsistence tasks, they too often forget "the deeper meaning... how to take care of the animal. Like the spirit of the animal and stuff like that" (KE). These beliefs are said to be guided by ecological knowledge and understandings of patterns of cause and effect in game populations and the landscapes that they inhabit—all ensuring long-term stability and survival in this place.

In addition to economic variables, USACE needs to broaden their impact analysis to include "values, spirituality, a sense of community," and social sharing networks (see our comments for Section 3.9). Dr. Alan Boraas and Dr. Catherine Knott further describe values and spirituality of subsistence this way in the EPA's 2013 Bristol Bay watershed assessment appendix *Traditional Ecological Knowledge and Characterization of the Indigenous Cultures of the Nushagak and*

Kvichak Watersheds, Alaska. Subsistence in the Pebble Project area are discussed on Pages 2 and 3 of this document:

The Yup'ik and Dena'ina consider the land and waters to be their sacred homeland. They have traditionally considered the salmon as kin in the sacred web of life. The populations of both Yup'ik and Dena'ina have shown themselves to be spiritually tenacious, combining elements of traditional practices with those of Russian Orthodox and other Christian churches to create a rich syncretic religious heritage for their families providing mechanisms to contextualize modern subsistence life. They continue to practice a first salmon ceremony paying homage to the first salmon caught in the spring and the renewal of their cycle of life. The rivers are blessed by priests annually in the Great Blessing of the Water at Theophany, celebrating the baptism of Christ and symbolically purifying the water of contamination preparing it for the return of the salmon. This ceremony, for Orthodox Yup'ik and Dena'ina, is the pure element of God expressed as sanctified nature. The holy water of the rivers derived from this ceremony is used to bless the homes, churches, and people and is believed to have curative powers.

Dr. Duer, Evanoff, and Herbert (2018) also address the importance of sharing for the Inland Dena'ina this way:

Dena'ina people have a broad range of reciprocal obligations - between households and between generations—that are interwoven, and serve to sustain both Dena'ina lands and Dena'ina society. It is widely reported that hunters must always “give some meat away” to family, to elderly or ill people in the community and others in need. (Page 101)

Sharing occurs not only between households within a village, but also between villages, such as between residents of Nondalton and Lime Village. It is important to recognize that these obligations traditionally extend to the ancestors, including dead ancestors. In a ritual tradition distantly connected to other “offerings” mentioned here, food offerings are also sometimes made to ancestors in campfires and other open flame. These are typically traditional foods, including such items as salmon or meat obtained in the course of subsistence harvests that sustain living members of the community. This practice continues in some settings today. (Page 102)

Section 4.9.1 No Action Alternative. This section erroneously described a loss of income to fund subsistence activities and an increase in labor and time available for such activities. By definition, the no action alternative represents no change from existing conditions and cannot identify impacts differing from the current situation. This language (here and in other sections) betrays a bias toward the proposed project alternative, as if it were the baseline against which

other alternatives should be measured. Aside from this inappropriate language, there is no evidence that those who might have less income if the project were not permitted would be the same individuals who would otherwise use that income to fund subsistence activities, especially since their time would be employed in the cash economy.

Section 4.9.2 Alternative 1 – Applicant’s Proposed Alternative. 4.9.2.1 Changes in Resource Availability. According to Section 3.9, additional resources of importance include other (non-salmon) fish, marine mammals, marine invertebrates, ducks and eggs, upland birds, and other (non-berry) plants and mushrooms. For Alternative 1, it is important to include coastal resources that may be impacted by the Amakdedori Port. This issue is not whether the lost areas would represent a small percentage of the resource’s overall habitat, since this section is not focused on impacts to the resources themselves. The question is whether the areas lost to subsistence harvesting due to mining or avoidance of transportation corridors represent a large percentage of the traditional subsistence use areas of one or more communities. Given the large avoidance buffers that many wildlife species have around roads and areas such as mines, a substantial part of previously used subsistence hunting area could be lost. A more specific discussion of the degree of impact to each community is warranted, particularly with respect to the resources most used by each community. Quantitative estimates should be based on recent subsistence gathering, hunting, and fishing information, rather than studies that are more than 10 years out of date.

In the third paragraph of Section 4.9.2.1, the description is too vague to be useful. Which resources, specifically, are expected to be sufficiently displaced that subsistence users would need to change areas they would normally go to, and how much further would they have to go?

In the fourth paragraph of Section 4.9.2.1, the discussion of the chemistry of the pit lake and its lack of potential effects on birds seems optimistic at best. Mining ponds and lakes are well-known for causing significant bird mortalities. If the lake is projected to exceed water quality criteria, potential for adverse impacts to birds (at a minimum) must be assumed and mitigation measures must be designed accordingly.

In the ninth paragraph of Section 4.9.2.1, USACE states, *“While the mine site is within subsistence harvest areas used by five communities, it provides relatively poor fish and wildlife habitat and is not within the area of highest intensity overlapping subsistence users.”* This statement contradicts information depicted in Figure 3.9-1 in RFI-097, which plainly shows the mine site in the deep red (most used) area. USACE will need to explain why this area is “relatively poor fish and wildlife habitat” and yet highly valued and used.

In the tenth paragraph of Section 4.9.2.1, USACE states, *“Many project features would be removed or reclaimed, or both, during closure. Once restoration activities have been completed, impacts on the availability of subsistence resources would be reduced as these areas become revegetated and return to a more natural state than their condition during operations.”* This assumption fails to

consider the likelihood residents will not harvest fish and animals from the areas of removed and reclaimed project features because of they view these places as being polluted or contaminated. Whether these threats of pollution and contamination are real or perceived makes no difference if the resulting avoidance of the area is the same.

In the last paragraph of Section 4.9.2.1, the important question is not what percentage of the available habitat the affected area comprises, but what portion of the subsistence use area it comprises. Please provide specific information on alternative subsistence areas that could be used by the affected communities and their ability to provide the same subsistence resources, distance from the community, and access.

If the proposed project is permitted, constructed, and operated, impacts would never cease, because project restoration will never be complete. The areas affected by the mine and pit lake cannot be fully restored to their original condition. Some project components, such as the roads and port, are proposed to remain in what were previously roadless and undeveloped areas. These conditions will prevent full restoration of the habitat and use by subsistence resource users and local communities.

Section 4.9.2.2 Changes in Access to Resources. The statement that the areas around the project components would represent a relatively small portion of a community's harvest area needs to be supported by maps and studies. Given that some resources would avoid roads, mine facilities, and human activities, the affected area could be quite large for communities in the vicinity of these project components.

Referring to the third paragraph of Section 4.9.2.2, the assertions seem like pure conjecture—nothing in the project description supports the likelihood of access to local individuals, much less in the time and manner that may be needed to conduct subsistence activities. Given the avoidance of roads and other transportation components by subsistence use resources, it is unclear how access to these transportation corridors would necessarily be helpful in accessing resources. The next paragraph regarding crossing Iliamna Lake contains similar conjectural statements.

The term "EIS Analysis Area" is first used in the sixth paragraph of Section 4.9.2.2. This is also the only time it appears in this section. It is not defined in this instance or in Section 3.9. Please define the EIS Analysis Area for subsistence and justify its use.

In the seventh paragraph of Section 4.9.2.2, USACE states it is evaluating project impacts "*based on reported and historical use of these areas as described by SRB&A (2011b), Fall et al. (2006), and Krieg et al. (2009) and presented in Section 3.9, Subsistence.*" As we noted in our comments for Section 3.9, subsistence data older than 10 years are not current for the proposed Pebble Project; it is historical according to the Pebble Project Environmental Baseline Document

(SRB&A 2011). Based on the data described in Section 3.9, USACE has little current subsistence data to make decisions based on contemporary use.

In describing impacts to Nondalton in Section 4.9.2.2, USACE states, “*Construction and operations of the mine access roads (including a bridge over the Newhalen River) and ferry terminals under Alternative 1 and variants may impact access to the use areas near the Upper and Lower Talarik creeks, which are used by a low to moderate number of Nondalton subsistence users.*” This statement contradicts information depicted in Figure 3.9-9 in RFI-097, which plainly shows these areas as being moderately to highly used.

Iliamna. Newhalen. Pedro Bay. Nondalton. Igiugig. Kokhanok. The impacts to these communities should be described in more specific terms. How much of their traditional subsistence use areas will communities lose access to? Where could they go instead, and how far away is that? Will they be competing with nearby communities for resources when all communities are facing access restrictions? Not just transportation corridors, but construction and operation of the mine itself, will impede access to communities such as Nondalton that are closest to the mine site.

Section 4.9.2.4 Changes in Sociocultural Dimensions of Subsistence. The likelihood that mine work schedules will be established to accommodate subsistence practices seems greatly overstated here, since such work schedules would necessarily decrease mine productivity. There is no requirement or commitment by Pebble Limited Partnership to accommodate schedules for subsistence activities, nor is it clear that any such attempt would be successful. Given the time and specialized knowledge needed to be successful in subsistence activities, anything approaching a full-time job would likely be impossible to combine with subsistence practices. More likely, the mine jobs would splinter the communities into different socioeconomic and cultural groups, reducing traditional practices and sharing that increase community resilience. Many communities in this area are successful because of their high degree of participation in subsistence harvesting and sharing. If this level of participation drops below a certain level, the subsistence lifestyle may not be sustainable for the community. This impact may be compounded if alternative sources of cash income are accompanied by reduced subsistence resource availability and reduced access to subsistence resources.

Once the mine closes, even if mine employment and income ends, the impacts of several decades of reduced subsistence participation will not cease. A community may be damaged by permanent changes in culture, subsistence economy, population levels, etc. in ways that cannot easily be recovered. This effect would be compounded if some of the RFFAs come to pass and loss of subsistence activities persists over more than one generation.

4.9.5 Summary of Key Issues. Table 4.9-1. Under impacts to sociocultural dimensions of subsistence, the loss of cultural knowledge related to subsistence over one or more generations should be included. Under impacts to access, mitigating measures are not guaranteed at this time and do not belong in the discussion of impacts. These measures can be described in the mitigation plan if this alternative is selected.