



# TRUSTEES FOR ALASKA

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July 21, 2021

*Via Email*

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**Re: Science Supports EPA Action under Section 404(c) of the Clean Water Act to Restrict the Headwaters of Bristol Bay as a Disposal Site**

Dear Acting Regional Administrator Pirzadeh:

Trustees for Alaska submits this letter on behalf of the Alaska Center, Alaska Community Action on Toxics, Alaska Wilderness League, Audubon Alaska, Cook Inletkeeper, Defenders of Wildlife, Eyak Preservation Council, Friends of Alaska National Wildlife Refuges, Friends of McNeil River, McNeil River Alliance, National Parks Conservation Association, National Wildlife Federation, Natural Resources Defense Council, SalmonState, Sierra Club, and Wild Salmon Center. This letter supports the United Tribes of Bristol Bay's February 18, 2021 request that the U.S. Environmental Protection Agency (EPA) protect Bristol Bay from the threat of the proposed Pebble Mine by exercising its authority under Section 404(c) of the Clean Water Act (CWA). If developed, the proposed Pebble Mine would industrialize the headwaters of the world's largest remaining sockeye salmon fishery. The watershed supports more than 190 species of birds, 40 species of animals, 29 species of fish, and a thriving subsistence culture. If approved, the proposed Pebble Mine would be one of the most damaging, if not the most damaging, project ever permitted under the CWA.<sup>1</sup> Bristol Bay is one of the most productive marine ecosystems in the world; its headwaters are simply not the place for large-scale, industrial mining.

For years, scientists have evaluated the potential impacts of developing a mine in the headwaters of Bristol Bay, and repeatedly reached the same conclusion: large-scale mining would irreparably impact the area's wetlands, waters, and the fish that depend on them. EPA should rely on the extensive scientific work that has been completed to date to put an end to the

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<sup>1</sup> Matthew Schweisberg, *Compliance with Section 230.10(c) of the 404(b)(1) Guidelines* at 1 (June 11, 2019) (Ex. 44).

threat to Bristol Bay. This includes the Bristol Bay Watershed Assessment (BBWA)<sup>2</sup> and expert reports submitted throughout the National Environmental Policy Act (NEPA) process conducted by the U.S. Army Corps of Engineers (Corps).<sup>3</sup>

## **I. The Bristol Bay Watershed Assessment Remains the Source of the Best Science Regarding the Ecological Values of Bristol Bay and the Potential Threats of Mining the Pebble Deposit.**

EPA designed the BBWA as a rigorous ecological risk assessment to scientifically document “the significance of Bristol Bay’s ecological resources and evaluate the potential impacts of large-scale mining on th[ose] resources.”<sup>4</sup> EPA produced the BBWA after “three years of study, two rounds of public comment, and independent, external peer review.”<sup>5</sup> This extensive and rigorous review remains the best analysis of the ecological values of Bristol Bay and the threat of large-scale mining.

### **A. The BBWA thoroughly considered potential impacts from a range of mine scenarios, designed to reflect impacts from any realistic mine development.**

EPA designed the BBWA to examine impacts from a range of potential mining scenarios within the watershed, not to assess any one specific mine proposal.<sup>6</sup> To do so, EPA identified three scenarios that “reflect[ed] the general characteristics of mineral deposits in the watershed, modern conventional mining technologies and practices, the scale of mining activity required for economic development of the resources, and the infrastructure needed to support large-scale mining.”<sup>7</sup> EPA based the three scenarios on the amount of ore processed: Pebble 0.25 (approximately .25 billion tons over 25 years), Pebble 2.0 (approximately 2.0 billion tons over 25 years), and Pebble 6.5 (approximately 6.5 billion tons over 78 years).<sup>8</sup>

The BBWA assessed how “mining-related stressors . . . would affect ecological resources in the watershed.”<sup>9</sup> These stressors included: removal of streams and wetlands, filling of streams and wetlands, reduced flow, changes in water temperature, copper and other metals entering wetlands and streams, acidification of receiving waters, spillage of processing chemicals, sedimentation impacts to streams and wetlands, diesel fuel spills, natural gas leaks, inhibition of fish passages, and downstream siltation, among other things.<sup>10</sup> When evaluating these stressors,

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<sup>2</sup> Environmental Protection Agency, *An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay Alaska*, EPA 910-R-14-001ES (2014) (BBWA).

<sup>3</sup> This letter does not lay out the full history of this issue or cover all the reasons why EPA should exercise its 404(c) authority. Rather, it focuses on the sufficiency of the available science and argues that EPA has all the information it needs to take action pursuant to Section 404(c) without further study. For additional discussion, please refer to the memo submitted by the Natural Resources Defense Council on May 3, 2021.

<sup>4</sup> BBWA at ES-1.

<sup>5</sup> Environmental Protection Agency, *Proposed Determination of the U.S. Environmental Protection Agency Region 10 Pursuant to Section 404(c) of the Clean Water Act: Pebble Deposit Area, Southwest Alaska*, 79 Fed. Reg. 42314 at ES-3 (July 21, 2014) (Proposed Determination or PD).

<sup>6</sup> BBWA at ES-5 (“This is not an in-depth assessment of a specific mine, but rather an examination of potential impacts of reasonably foreseeable mining activities in the Bristol Bay region, given the nature of the watershed’s mineral deposits and the requirements for successful mine development.”).

<sup>7</sup> BBWA at ES-10–11.

<sup>8</sup> BBWA at ES-11.

<sup>9</sup> BBWA at ES-10.

<sup>10</sup> BBWA at 6-37.

the BBWA considered both impacts from routine mining operations as well as several failure scenarios.<sup>11</sup>

The results of this analysis included a quantification of impacts to streams and wetlands under each scenario.<sup>12</sup> EPA found that mining under the smallest scenario would:

- Eliminate, block, or dewater 38 kilometers of streams;
- Eliminate, block, or dewater 8 kilometers of anadromous streams;
- Alter 20% or more of streamflow in 15 kilometers of stream;
- Result in direct toxicity to invertebrates in 21 kilometers of stream;
- Result in the loss of 4.9 square kilometers of wetlands, lakes, and ponds from the mine footprint;
- Result in an unquantifiable loss of streams from reduced streamflow below the mine footprint; and
- Impact 4.7 square kilometers of wetlands, lakes, and ponds from the access road.<sup>13</sup>

The results of the analysis also included a quantification of the risk and potential consequences from failure scenarios.<sup>14</sup> The consequences include:

- A tailings dam failure would destroy or degrade more than 29 kilometers of salmonid streams for decades;
- Concentrated spills, return water pipeline spills, and diesel pipeline spills into streams or wetlands would result in acute and chronic exposure to fish and invertebrates;
- Tailings storage facility spillway releases are known to occur and are sufficiently frequent to justify routine spillway construction; spilled supernatant from the tailings storage facility could result in toxicity to invertebrates and fish avoidance for the duration of the event; and
- Post-closure collection and treatment failures are very likely to result in release of untreated or incompletely treated leachates for days to months, but the water would be less toxic due to elimination of potentially acid-generating waste rock.<sup>15</sup>

These extensive impacts from even the smallest scenario were underestimates: The BBWA did not consider all potential impacts associated with large-scale mining in the headwaters of Bristol Bay, such as port development and operation.<sup>16</sup>

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<sup>11</sup> BBWA at ES-12.

<sup>12</sup> BBWA at ES-15.

<sup>13</sup> BBWA at ES-15.

<sup>14</sup> BBWA at ES-17.

<sup>15</sup> BBWA at ES-17.

<sup>16</sup> BBWA at ES-6.

**B. EPA relied on the BBWA findings to issue a set of proposed restrictions to protect Bristol Bay's headwaters.**

EPA relied on the findings of the BBWA when issuing its 2014 Proposed Determination (2014 PD) to protect Bristol Bay using its authority under Section 404(c) of the CWA.<sup>17</sup> The 2014 PD concluded that mining on even the smallest logistically-practicable scale would have unacceptable adverse effects on the watershed. This was despite only considering “the footprint impacts associated with the mine pit, [tailings storage facilities], and waste rock piles” and not the additional support facilities necessary for mining in the region or impacts “from potential accidents and failures as a basis for its findings,” despite the high likelihood that failures would occur.<sup>18</sup> Nevertheless, based on these underestimated impacts, the 2014 PD concluded that “mining of the Pebble deposit at any of [the three mining scenarios identified,] even the smallest, could result in significant and unacceptable adverse effects on ecologically important streams, wetlands, lakes, and ponds and the fishery areas they support.”<sup>19</sup>

Accordingly, EPA proposed restricting “the discharge of dredged or fill material related to mining the Pebble deposit into waters of the United States within the potential disposal site that would, individually or collectively, result in any of the following:”

1. Loss of streams
  - a. The loss of 5 or more linear miles of streams with documented anadromous fish occurrence; or
  - b. The loss of 19 or more linear miles of streams where anadromous fish are not currently documented, but that are tributaries of streams with documented anadromous fish occurrence; or
2. Loss of wetlands, lakes, and ponds. The loss of 1,100 or more acres of wetlands, lakes, and ponds contiguous with either streams with documented anadromous fish occurrence or tributaries of those streams; or
3. Streamflow alterations. Streamflow alterations greater than 20% of daily flow in 9 or more linear miles of streams with documented anadromous fish occurrence.<sup>20</sup>

EPA based these restrictions on Pebble 0.25, the smallest mine scenario considered.<sup>21</sup> Even this smallest scenario could have unacceptable adverse impacts. A mine at this scale

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<sup>17</sup> Environmental Protection Agency, *Proposed Determination of the U.S. Environmental Protection Agency Region 10 Pursuant to Section 404(c) of the Clean Water Act: Pebble Deposit Area, Southwest Alaska*, 79 Fed. Reg. 42314 (July 21, 2014) (Proposed Determination or PD).

<sup>18</sup> PD at 2-17, 4-62. While EPA conservatively limited the basis of its decision in the 2014 PD to the mine footprint, the BBWA recognized that the transportation corridor would also have significant impacts to fish habitats and populations. BBWA at ES-16-19 & Chapter 10; see also Chris Frissell, Ph.D., and Sarah O’Neal, *Direct and cumulative impacts of road system fugitive dust in the Pebble Project draft EIS* at 6 (May 9, 2019) (Ex. 27) (“Fugitive dust originating from disturbed soils, waste piles, and unvegetated surfaces at mine sites, construction sites, quarries, and roads is a significant vector for transport of pollutants into the surrounding environment.”); Sarah O’Neal, *Pebble Mine Final Environmental Impact Statement (FEIS): Anticipated adverse impacts from the transportation corridor* at 2 (Aug. 20, 2020) (Ex. 11) (“roads have a legacy of long lasting and far reaching impacts on aquatic ecosystems worldwide.”).

<sup>19</sup> PD at 5-1.

<sup>20</sup> PD at 5-1.

<sup>21</sup> PD at 5-1.

“would eliminate or dewater nearly 5 miles of streams with documented occurrence of anadromous fish.”<sup>22</sup> EPA found that “[t]he greatest impacts would be at the [tailings storage facility] location in the North Fork Koktuli watershed. Coho salmon spawn or rear in nearly 50% of the stream length within the [tailings storage facility] footprint.”<sup>23</sup> Moreover, because the loss of these streams would be at the headwaters of the North Fork Koktuli, EPA emphasized that the impacts would be far-reaching: “Thus, the coho salmon streams that the Pebble 0.25 stage mine would eliminate or dewater likely play an important role in the life cycle of that species in all three watersheds.”<sup>24</sup>

According to EPA, the Pebble 0.25 mine scenario would result in the largest destruction of anadromous waters in the history of Corps 404 permitting in Alaska.<sup>25</sup> EPA highlighted that the elimination or dewatering of at least 4.7 miles of salmon-bearing streams would be “unprecedented in the context of the Clean Water Act Section 404 regulatory program in Alaska.”<sup>26</sup> The Pebble 0.25 mine would also have long-term impacts on salmon, and “reduce the overall capacity and productivity” of Chinook and Coho salmon in the South and North Fork Koktuli and Upper Talarik Creek watersheds.<sup>27</sup> EPA concluded that “the discharge of dredged or fill material associated with the Pebble 0.25 stage mine could have unacceptable adverse effects on fishery areas in the [South Fork Koktuli], [North Fork Koktuli], and [Upper Talarik Creek] watersheds, as well as downstream fishery areas.”<sup>28</sup> Further, EPA found that while “it cannot be certain of the full extent of the implications of these losses, it is apparent that impacts of this magnitude could *compromise the sustainability of fish populations within the [South Fork Koktuli], [North Fork Koktuli], and [Upper Talarik Creek] watersheds, as well as downstream fishery areas.*”<sup>29</sup> Due to the outright loss of nearly 5 miles of habitat; the importance of that habitat to juvenile salmon; the degradation of downstream rearing and spawning habitat; loss of genetic diversity, which is key to the Bristol Bay salmon stocks; and the strong connection between an intact headwaters and the thriving, healthy salmon stocks of Bristol Bay, EPA found such impacts unacceptable.<sup>30</sup>

EPA also found that the 0.25 mine scenario would result in the elimination, dewatering, or fragmenting of approximately 19 miles of tributaries to anadromous fish streams.<sup>31</sup> This too would be “an unprecedented impact in Alaska” and while the loss of tributaries may be nearly 3% of mapped streams in the three watersheds, the “effects of their loss would reverberate to

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<sup>22</sup> PD at 4-4.

<sup>23</sup> PD at 4-4.

<sup>24</sup> PD at 4-6.

<sup>25</sup> PD at 4-61 (“Based on EPA’s records, there do not appear to be any examples of past projects, in the Bristol Bay watershed or the rest of Alaska, where [the Corps] authorized losses to documented anadromous waters of the nature and magnitude associated with the Pebble 0.25 stage mine.”); PD at 4-19 (“By itself, the elimination, dewatering, or fragmenting of approximately 19 miles (30 km) of tributaries of anadromous fish streams as the result of a CWA Section 404 permit would be an unprecedented impact in Alaska . . . The loss of these subsidies could degrade downstream salmon habitat, local salmon populations, and fisheries well beyond the Pebble 0.25 stage mine footprint, compromising the overall diversity and productivity of the [South Fork Koktuli], [North Fork Koktuli], and [Upper Talarik Creek] watershed (section 4.2.1)”).

<sup>26</sup> PD at 4-6.

<sup>27</sup> PD at 4-7.

<sup>28</sup> PD at 4-13.

<sup>29</sup> PD at 4-13 (emphasis added).

<sup>30</sup> PD at 4-13.

<sup>31</sup> PD at 4-19.

downstream habitats and affect species such as coho, Chinook, sockeye, and chum salmon.”<sup>32</sup> EPA went on to note that the “magnification of impacts would arise from the vital role headwater streams play in maintaining diverse, abundant fish populations, via the provision of surface and groundwater inputs and food sources critical to the survival, growth, and spawning success of downstream fishes.”<sup>33</sup> EPA concluded that this loss “could degrade downstream salmon habitat, local salmon populations, and fisheries well beyond the Pebble 0.25 stage mine footprint, compromising the overall diversity and productivity of the [South Fork Koktuli, North Fork Koktuli, and Upper Talarik Creek] watersheds.”<sup>34</sup>

In addition to the devastating impacts to salmon bearing streams and their tributary headwaters, the 0.25 mine scenario would eliminate, dewater or fragment more than 1,200 acres of wetlands, lakes, and ponds, of which approximately 1,100 acres are contiguous with anadromous streams or their tributaries.<sup>35</sup> The loss of these wetlands, lakes, and ponds would be “a very large and unprecedented impact under the Clean Water Act Section 404 regulatory program in Alaska.”<sup>36</sup> In addition to the direct loss of these waters, the 0.25 mine would consume large volumes of water drawn from surface and groundwater sources.<sup>37</sup> The BBWA calculated that the 0.25 mine would reduce flow in more than 45 miles of streams.<sup>38</sup> The adverse impacts from streamflow alteration “could jeopardize the long-term sustainability of these fisheries.”<sup>39</sup> EPA found that drawdown would alter streamflows by more than 20% in approximately 9 miles of stream and that such a change could pose unacceptable adverse impacts to the salmon fisheries of both the South Fork Koktuli and North Fork Koktuli.<sup>40</sup>

### **C. EPA subsequently withdrew the proposed restrictions but only for procedural reasons that no longer support inaction.**

EPA withdrew the 2014 PD for procedural reasons: to focus on participating as a cooperating agency in the Corps’ permitting process and associated environmental review under NEPA.<sup>41</sup> Notably, EPA did not withdraw the 2014 PD because any of the BBWA’s analysis was unsound. Rather, EPA stated that it would “continue to consider the relevant science and technical information underlying its 2014 Proposed Determination, as part of the ongoing permitting process.”<sup>42</sup> EPA also recognized that it could initiate a new 404(c) process at any

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<sup>32</sup> PD at 4–19.

<sup>33</sup> PD at 4–19.

<sup>34</sup> PD at 4–19.

<sup>35</sup> PD at 4–20.

<sup>36</sup> PD at 4–21.

<sup>37</sup> PD at 4–22.

<sup>38</sup> PD at 4–23.

<sup>39</sup> PD at 4–27.

<sup>40</sup> PD at 4–28.

<sup>41</sup> The Ninth Circuit recently held that EPA may only withdraw a Proposed Determination if the agency determines unacceptable adverse effects are no longer likely. *Trout Unlimited v. Pirzadeh et al.*, No. 20-35504 at 6 (9th Cir. June 17, 2021). The Ninth Circuit remanded to the District Court of Alaska for consideration of whether EPA unlawfully withdrew the 2014 Proposed Determination. *Id.* EPA expressly did not base its decision to withdraw the 2014 Proposed Determination on the likelihood of unacceptable adverse effects, and the decision to withdraw the 2014 Proposed Determination is likely to be vacated with the 2014 PD put back in place. However, the court process could take many more months, at least. EPA should take action pursuant to Section 404(c) immediately, to secure protections for Bristol Bay as soon as possible.

<sup>42</sup> Environmental Protection Agency, *Notification of Decision to Withdraw Proposed Determination To Restrict the Use of an Area as a Disposal Site; Pebble Deposit Area, Southwest Alaska*, 84 Fed. Reg. 45749 at

time, and would consider “the entirety of the facts and the Corps’ decision-making known to [EPA] at the time.”<sup>43</sup> As discussed below, EPA’s two reasons for withdrawing the 2014 PD no longer support continued inaction by EPA under Section 404(c).

***1. The project-specific information developed during the NEPA process underscores the importance of EPA acting under 404(c) to protect Bristol Bay.***

EPA withdrew the 2014 PD partially because of “developments in the record.”<sup>44</sup> Specifically, EPA expressed concern that the 2014 PD did not account for “significant project-specific information,” especially given that the Corps’ preliminary conclusions about the project differed from those of the 2014 PD.<sup>45</sup> But the project-specific details that came to light as part of the NEPA process highlight the need for EPA to act pursuant to 404(c).

As an initial matter, the BBWA’s rigorous analysis was not dependent on such project-specific details.<sup>46</sup> EPA designed the BBWA to support agency review of any specific mine proposal.<sup>47</sup> Such analysis was possible in absence of a permit application “given the nature of the watershed’s mineral deposits and the requirements for successful mine development.”<sup>48</sup> And, in fact, the EPA-reviewed Pebble 0.25 mine scenario included the same locations for the mine pit, waste rock, and tailings facility as PLP included in its permit application.<sup>49</sup> EPA noted when withdrawing the 2014 PD that many aspects of the scenarios evaluated in the BBWA were similar to PLP’s 20-year mining proposal, but that PLP’s 20-year mining proposal:

- moved most mine component facilities out of the Upper Talarik Creek watershed;
- eliminated cyanide leaching as part of the ore processing;
- included placement of a liner under the pyritic tailings and potentially acid generating waste rock;
- reduced anticipated waste rock;
- separated pyritic tailings from bulk tailings; and

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45755 (Aug. 30, 2019) (“EPA is not basing its decision-making [to withdraw the 2014 PD] on technical consideration or judgments about whether the mine proposal will ultimately be found to meet the requirements of the 404(b)(1) Guidelines or results in ‘unacceptable adverse effects’ under CWA section 404(c). The technical information is continuing to evolve through the ongoing section 404 and NEPA processes, and determinations under section 404 will be made in conjunction with and based on the record when it is fully developed.”).

<sup>43</sup> 84 Fed. Reg. at 45755.

<sup>44</sup> 84 Fed. Reg. at 45749, 45752–53.

<sup>45</sup> 84 Fed. Reg. at 45749, 45752–53. The Corps reversed course and came into alignment with the 2014 PD, finding that the proposed mine would fail to comply with the 404(b)(1) Guidelines and is not in the public interest. U.S. Army Corps, *Record of Decision for Application Submitted by Pebble Limited Partnership to: The United States Army Corps of Engineers (Department of the Army Permit # POA-2017-00271)* (Nov. 20, 2020) (Record of Decision). The Corps reached these conclusions despite preparing a final Environmental Impact Statement (FEIS) that numerous scientific experts criticized as significantly underestimating potential impacts.

<sup>46</sup> BBWA at ES-5.

<sup>47</sup> BBWA at ES-1–ES-2 (“Should specific mine projects reach the permitting stage, the [BBWA] will enable state and federal permitting authorities to make informed decisions to grant, deny, or condition permits and/or conduct additional research or assessment as a basis for such decisions.”).

<sup>48</sup> BBWA at ES-4.

<sup>49</sup> See Tom Collier, CEO, *PLP Presentation to the Alaska Resource Development Council*, Oct. 5, 2017, at 33 (EPA 0.25 Mine Scenario) and 35 (PLP Current Plan).

- relocated treated water discharge locations.<sup>50</sup>

Notably, none of these differences keep the proposed mine under the threshold restrictions set forth in the 2014 PD. Rather, PLP’s proposed 20-year mine would be far more destructive than the smallest scenario considered in the BBWA, with far more impacts than those found unacceptable by the 2014 PD.<sup>51</sup> The 20-year mine analyzed in the FEIS would result in the direct and permanent loss of 105.4 miles of streams and 2,231 acres of wetlands.<sup>52</sup> The indirect impacts would lead to the loss of another 79.5 miles of streams and 1,609 acres of wetlands.<sup>53</sup> The temporary losses include 773 acres of wetlands and 6.2 miles of streams.<sup>54</sup> The total impact from the 20-year mine plan amounts to a direct, indirect, and temporary loss of 4,613 acres of wetlands and 191.1 miles of streams.<sup>55</sup> And these numbers are underestimates.<sup>56</sup>

The dire nature of destroying critical headwaters grows with the larger version of the mine considered in the FEIS, which would be in production for an estimated 78 years, with a 20-year closure plan.<sup>57</sup> This mine would extract approximately 55% of the deposit, such that there could be another mine expansion aimed at the remaining 45%. The FEIS predicts that the 78-year mine would destroy an additional 347.5 miles of streams and 10,585 acres of wetlands.<sup>58</sup> Again, these are underestimates.<sup>59</sup> And even this scenario does not reflect the impacts from the mine PLP actually intends to build: PLP has repeatedly touted plans for a much larger mine — in operation for 180-200 years — to potential investors.<sup>60</sup>

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<sup>50</sup> 84 Fed. Reg. at 45754.

<sup>51</sup> See David M. Albert, *Direct loss of salmon streams, tributaries, and wetlands under the proposed Pebble Mine compared with thresholds of unacceptable adverse effects in the EPA Proposed Determination pursuant to Section 404(c) of the Clean Water Act* at 8, table 1 (June 21, 2019) (Ex. 48) (comparing the 20-year and 78-year mines analyzed in the DEIS to the 2014 PD thresholds).

<sup>52</sup> FEIS at 4.22-111, Table 4.22-40.

<sup>53</sup> FEIS at 4.22-111, Table 4.22-40.

<sup>54</sup> FEIS at 4.22-111, Table 4.22-40.

<sup>55</sup> FEIS at 4.22-111, Table 4.22-40.

<sup>56</sup> See Thomas G. Yocom, *The Alaska District of the Corps of Engineers’ Revised Preliminary Jurisdictional Determinations for POA-2017-271 Inappropriately Reduces Estimates of the Direct Impacts of the Pebble Mine Project to Wetland and Aquatic Areas by Over 1200 Acres* (Aug. 19, 2020) (Exhibit 20).

<sup>57</sup> See, e.g., David M. Chambers, Ph.D., *Significant Omissions in the Pebble Project EIS Final Environmental Impact Statement* at 2 (Aug. 19, 2020) (Ex. 2) (mine expansion “will have significantly greater impact than impacts predicted for the proposed mine development. For example, the massive waste rock piles required for mine expansion will greatly increase water treatment requirements; and the expanded pit diverts groundwater from the Talarik Creek drainage, potentially affecting fish habitat. . . . [It is an u]nreasonable and misleading assumption that the mine will close after 20 years. The proposed mine, which conveniently halts mining at the Talarik Creek watershed boundary, and backfills pyritic waste into the pit at closure, is not the mine that will ultimately/foreseeably be developed.”); Cameron Wobus, Ph.D., *Comments on Pebble Project Draft EIS* at 2 (May 30, 2019) (Ex. 37) (“[T]he mine is apparently not financially viable as currently proposed, and [] PLP clearly intends to use its permit as phase one for a much larger project”).

<sup>58</sup> FEIS at 4.22-111, Table 4.22-40.

<sup>59</sup> See Thomas G. Yocom, *The Alaska District of the Corps of Engineers’ Revised Preliminary Jurisdictional Determinations for POA-2017-271 Inappropriately Reduces Estimates of the Direct Impacts of the Pebble Mine Project to Wetland and Aquatic Areas by Over 1200 Acres* (Aug. 19, 2020) (Exhibit 20).

<sup>60</sup> See, e.g., Environmental Investigation Agency, *Pebble Mine Tape Reveal Plans to Build massive 180-Year Mine at the Headwaters of Bristol Bay in Alaska*, Sept. 21, 2020, <https://eia-global.org/press-releases/20200921-pebble-mine-tapes>; see also Environmental Investigation Agency, *The Pebble Tapes*, Sept. 21, 2020, <https://eia-global.org/reports/20200921-the-pebble-tapes>; Environmental Investigation Agency, *Newly Released Recordings Pull Back the Curtain on the Canadian Company Behind Pebble Mine*, Oct. 29, 2020, <https://eia-global.org/press-releases/20201029-curtain-pulled-back-on-canadian-company-behind-pebble-mine>.

The project-specific details from the application do not change the fact that these impacts are vast, and unacceptable. As EPA found in the 2014 PD, mitigation measures or design changes might reduce impacts, but not enough to make mining in the headwaters of Bristol Bay anything other than an ecological disaster.

**2. *The FEIS generated by the Corps' NEPA process failed to address concerns by cooperating agencies like EPA and was roundly criticized by scientific experts.***

EPA also withdrew the 2014 PD to avail itself the opportunity to address its concerns through the NEPA process. Notably, many of the issues identified by the EPA throughout the NEPA process were inadequately resolved, if at all, in the FEIS.<sup>61</sup> Similarly, numerous scientific reports faulted the DEIS and FEIS for underestimating impacts, failing to consider applicable science, and presenting a flawed analysis unsupported by data.<sup>62</sup> While the Corps ultimately reached the only defensible decision when denying the permit, the sweeping conclusions of the FEIS that there would be no detectable impact to fisheries are simply unsupportable.<sup>63</sup>

In sum, the NEPA process has concluded, and the technological and scientific findings of the BBWA remain unrefuted.<sup>64</sup> The Corps rejected the permit application because the proposed Pebble Mine would not comply with the 404(b)(1) Guidelines and would be contrary to the public interest. PLP has appealed that decision, is continuing to lobby state and federal decision-makers, and has indicated it would submit a new permit application if its appeal is denied.<sup>65</sup> EPA should put the matter to rest, and protect Bristol Bay by exercising its authority under Section 404(c) without further delay.

## **II. Numerous Scientific Reports Support the BBWA's Conclusion that Large-Scale Mining in the Headwaters of Bristol Bay Would Significantly and Irreparably Degrade the Aquatic Ecosystem.**

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<sup>61</sup> See Trustees for Alaska, *Examples of Comments from Cooperating Agencies on the Preliminary Final Environmental Impact Statement for the Proposed Pebble Mine that the Final Environmental Impact Statement Disregarded or Failed to Adequately Assess* (July 2021) (Ex. 1).

<sup>62</sup> See Exs. 2–77.

<sup>63</sup> See, e.g., Ex. 2 at 17–20 (discussing different conclusions of BBWA and FEIS, and collecting expert agency critiques of the FEIS with regard to fish); see also Gordon H. Reeves, Ph.D., *Review of Effects of the Proposed Pebble Mine on Fish Values in the FEIS: The Portfolio Effect* (Aug. 20, 2020) (Ex. 5); Gordon H. Reeves, Ph.D., *Review of the Assessment of Water Temperatures* (Aug. 20, 2020) (Ex. 6); Susan C. Lubetkin, Ph.D., & Gordon H. Reeves, Ph.D., *A review of Pebble Project Final EIS Section 4.24, Fish Values: PHABSIM/HABSYN model estimates of salmonid usable habitat areas in the presence of Pebble Mine are baseless* (Aug. 19, 2020) (Ex. 8).

<sup>64</sup> Remarkably, the FEIS ignored “a significant amount of peer reviewed geotechnical information on tailings dams and spills” that was included in the BBWA, and “directly correlates to the risk posed to fisheries impacted by the proposed mine.” Ex. 2 at 17; see also Cameron Wobus, *A Model Analysis of Flow and Deposition from a Tailings Dam Failure at the Proposed Pebble Mine* at b (Mar. 12, 2019) (Ex. 23) (“[T]he impacts of [a large-scale failure of the proposed tailings storage facility] could be catastrophic to salmon habitat in the Nushagak watershed and should not be ignored in the EIS process.”).

<sup>65</sup> Northern Dynasty Minerals Ltd., *Northern Dynasty: Pebble Partnership plans summer program at southwest Alaska's Pebble Project*, June 15, 2021, <https://www.northerndynastyminerals.com/site/assets/files/4922/2021-06-15-nr-ndm-11ity8fgrrt.pdf> (indicating that PLP is continuing to conduct studies “to inform both internal and external understandings of how the project can be developed safely and profitably in the future.”).

Technical scientific experts participated in the Corps' NEPA process and closely reviewed PLP's application materials. Trustees for Alaska has shared many of these reports previously with EPA.<sup>66</sup> For convenience, those reports are also available for download.<sup>67</sup> All of the experts criticized the analysis contained in the EIS, and many concluded that the proposed mine would cause significant and unacceptable impacts to the aquatic ecosystem.

For example, Matthew Schweisberg, a wetlands ecologist and wildlife biologist who worked for EPA for nearly 33 years before retiring, found that "the project would clearly cause or contribute to significant degradation of the affected aquatic resources, in violation of Section 230.10(c) of the [404(b)(1)] Guidelines."<sup>68</sup> Like many of the experts reviewing the FEIS, he thought it severely underestimated impacts but found that even "the underestimated numbers of impacted wetlands and streams provided in the FEIS" demonstrated that the proposed mine "would have an immense, unprecedented, and uncompensable [sic] impact on the Bristol Bay watershed."<sup>69</sup> He found this despite changes made to the project during the NEPA process.<sup>70</sup>

Similarly, Siobhan Fennessy, Ph.D., an expert in wetland ecosystems who was on the Science Advisory Board for the EPA Water Body Connectivity Report,<sup>71</sup> emphasized that the proposed mine would "lead to irreparable and significant degradation of wetlands and other waters in the Bristol Bay watershed."<sup>72</sup> Her report concluded that "[t]he damage to the wildlife dependent on these waters, the overall biological diversity of the aquatic habitats, and the loss of critical functions from these headwater wetlands will lead to significant adverse effects."<sup>73</sup> These impacts would flow from "the direct, indirect, and temporary impacts to 4,614 wetland acres and

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<sup>66</sup> Trustees for Alaska to EPA, *EPA Reconsideration of Proposal to Withdraw Proposed Determination to Restrict the Use of an Area as a Disposal Site; Pebble Deposit Area, Southwest Alaska* — Reference docket number EPA-R10-OW-2017-0369 (July 17, 2019) (sharing links to expert reports evaluating the draft EIS; the Pebble Project website has been taken down, such that those links no longer work); Trustees for Alaska to U.S. Army Corps of Engineers, *Comments on Final Environmental Impact Statement and Public Notice of Application for Permit Reference Number POA-2017-00271 for the Proposed Pebble Project* (Aug. 23, 2020) (cc'ing EPA and including 22 expert reports analyzing the FEIS).

<sup>67</sup> Each of the exhibits are available for download via this link: <https://www.dropbox.com/sh/oojldifltk6olwy/AAAdIyX7obZ7ziTyviBFO8V-a?dl=0>.

<sup>68</sup> Matthew Schweisberg, *Pebble Mine Final Environmental Impact Statement (FEIS): Anticipated Adverse Impacts to Wetlands* at 3 (Aug. 22, 2020) (Ex. 13); see also Michael Gracz, Ph.D., *Is a Finding of Significant Degradation in a 404(b)(1) Analysis of the Pebble Project Scientifically Supportable?* at 7 (May 24, 2019) ("Given the high level of unavoidable impacts to this important fishery area that were found using a conservative analysis [a decision that the Pebble Project would not cause] significant degradation appears to be unsupported.") (Ex. 34).

<sup>69</sup> *Id.* at 2.

<sup>70</sup> *Id.* ("Despite revisions and additional information included in the FEIS — which now includes the preferred alternative of the Northern Transportation Corridor — the project still would cause devastating adverse impacts to wetlands and other water resources within the Bristol Bay watershed.").

<sup>71</sup> U.S. Environmental Protection Agency, *Science Advisory Board Panel for the Review of the EPA Water Body Connectivity Report*, [https://yosemite.epa.gov/SAB/SABPRODUCT.NSF/0E9300686C0E79C185257D09005F2338/\\$File/Panel+Roster.pdf](https://yosemite.epa.gov/SAB/SABPRODUCT.NSF/0E9300686C0E79C185257D09005F2338/$File/Panel+Roster.pdf); see also E&E News, *Trump's WOTUS: Clear as mud, scientists say*, <https://www.eenews.net/stories/1060121251> ("Brooks, Rains, Fennessy and Tank all sat on the EPA Science Advisory Board panel that reviewed a 300-page 'connectivity report' published by the Obama administration describing how different wetlands and waterways affect larger waters downstream.").

<sup>72</sup> Siobhan Fennessy, Ph.D., *Comments on the Final Environmental Impact Statement on the Impacts to Wetlands and Other Waters* at 4 (Aug. 21, 2020) (Ex. 4).

<sup>73</sup> *Id.* ("The proposed Pebble Mine will significantly degrade critical functions, ecosystem services, and biodiversity of the wetlands and waters in the Bristol Bay Watershed and in the Nushagak and Kivichak River watersheds.").

191 stream miles.”<sup>74</sup> Dr. Fennessy concluded that “the loss of thousands of acres of wetlands and hundreds of stream miles represents significant degradation to the aquatic environment and will result in the disastrous, permanent loss of diverse, high quality habitat, with substantial negative effects on salmon and other biota.”<sup>75</sup>

Other experts found the proposed mine would significantly impact fish and other aquatic life. Sarah O’Neal, a Ph.D. candidate with over 20 years of experience in freshwater ecology in salmon ecosystems (including over 10 years of experience in Bristol Bay), concluded that “water quality will nearly inevitably suffer significant degradation during the course of mine construction and operation, which will ultimately impact fish and other aquatic life.”<sup>76</sup> Gordon Reeves, Ph.D., a former research fish biologist for the U.S. Forest Service, and Susan Lubetkin, Ph.D., an environmental statistician, wrote a joint report, in which they found that “approving a permit for the proposed mine based on the results and conclusions in the FEIS is likely to result in large and irreparable harm to the fish populations in the affected streams and have potential ecological, economic, and social consequences to the affected streams and throughout the Bristol Bay area.”<sup>77</sup> Similarly, Daniel E. Schindler, Ph.D., a professor in the School of Aquatic and Fishery Sciences at the University of Washington in Seattle and scientist who has done extensive field work in Bristol Bay for decades, faulted the draft EIS for concluding that the proposed Pebble Mine would have “no long-term substantial risks . . . to Bristol Bay ecosystems” as unsupported by science. Rather, Dr. Schindler found it “undeniable, based on the data and information available, that the long-term risks of the Pebble project to the Nushagak and Kvichak watersheds” would be “substantially higher.”<sup>78</sup>

These reports, and others, all support the conclusions of the BBWA that any large-scale industrial mining in the headwaters of Bristol Bay — including the mine proposed by PLP — would have unacceptable adverse effects on the aquatic ecosystem. The headwaters of Bristol Bay are simply no place for large scale mineral development. EPA should act now, grounding its decision in the ample scientific evidence generated throughout the BBWA and the NEPA process, and protect Bristol Bay using its 404(c) authority.

Sincerely,

*K.Strong*

Katherine Strong  
Senior Staff Attorney  
Trustees for Alaska

CC: Michael Regan, EPA Administrator  
[Regan.Michael@epa.gov](mailto:Regan.Michael@epa.gov)

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<sup>74</sup> *Id.* at 2.

<sup>75</sup> *Id.*; *see also id.* at 5 (same, and adding that “[a]ny conclusion to the contrary is not rooted in science and cannot be supported.”).

<sup>76</sup> Sarah O’Neal, *Toxicological shortcomings of the Pebble Project Final Environmental Impact Statement (FEIS)* at 3 (Aug. 22, 2020) (Ex. 10).

<sup>77</sup> Gordon H. Reeves, Ph.D., & Susan Lubetkin, Ph.D., *Uncertainties of the Analyses of Altered Flows as discussed in FEIS* at 1 (Aug. 20, 2020) (Ex. 12).

<sup>78</sup> Dr. Daniel E. Schindler, *Scientific Concerns about the Draft EIS for the Proposed Pebble Mine* at 1 (June 17, 2019) (Ex. 46).

## Exhibit List<sup>79</sup>

Exhibit	Title
1	Trustees for Alaska, <i>Examples of Comments from Cooperating Agencies on the Preliminary Final Environmental Impact Statement for the Proposed Pebble Mine that the Final Environmental Impact Statement Disregarded or Failed to Adequately Assess</i> (July 2021)
2	David M. Chambers, Ph.D., <i>Significant Omissions in the Pebble Project EIS Final Environmental Impact Statement</i> (Aug. 19, 2020)
3	Siobhan Fennessy, Ph.D., <i>Comments on the Pebble Mine Final EIS on selenium and impacts to waterbirds</i> (Aug. 17, 2020)
4	Siobhan Fennessy, Ph.D., <i>Comments on the Final Environmental Impact Statement on the Impacts to Wetlands and Other Waters</i> (Aug. 21, 2020)
5	Gordon H. Reeves, Ph.D., <i>Review of Effects of the Proposed Pebble Mine on Fish Values in the FEIS: The Portfolio Effect</i> (Aug. 20, 2020)
6	Gordon H. Reeves, Ph.D., <i>Review of the Assessment of Water Temperatures</i> (Aug. 20, 2020)
7	Dr. Bretwood Higman to U.S. Army Corps of Engineers re: Final EIS (Aug. 18, 2020)
8	Susan C. Lubetkin, Ph.D., & Gordon H. Reeves, Ph.D., <i>A review of Pebble Project Final EIS Section 4.24, Fish Values: PHABSIM/HABSYN model estimates of salmonid usable habitat areas in the presence of Pebble Mine are baseless</i> (Aug. 19, 2020)
9	Susan C. Lubetkin, Ph.D., <i>A review of Pebble Project Final EIS Section 4.27, Spill Risk: current data compilations and consequences of probability analyses</i> (Aug. 19, 2020)
10	Sarah O’Neal, <i>Toxicological shortcomings of the Pebble Project Final Environmental Impact Statement (FEIS)</i> (Aug. 22, 2020)
11	Sarah O’Neal, <i>Pebble Mine Final Environmental Impact Statement (FEIS): Anticipated adverse impacts from the transportation corridor</i> (Aug. 20, 2020)
12	Gordon H. Reeves, Ph.D., & Susan Lubetkin, Ph.D., <i>Uncertainties of the Analyses of Altered Flows as discussed in FEIS</i> (Aug. 20, 2020)
13	Matthew Schweisberg, <i>Pebble Mine Final Environmental Impact Statement (FEIS): Anticipated Adverse Impacts to Wetlands</i> (Aug. 22, 2020)
14	Andr� Sobolewski, <i>Review of water treatment plants proposed in FEIS for Pebble Project</i> (Aug. 23, 2020)
15	Lowell H. Suring, <i>Brown Bears and the Pebble Project in Southwest Alaska</i> (Aug. 2020)
16	Adam Wlostowski, Ph.D., <i>Comments on Pebble Project Final EIS</i> (Aug. 7, 2020)
17	Cameron Wobus, Ph.D., <i>Comments on Pebble Project Final EIS</i> (Aug. 19, 2020)
18	Thomas G. Yocom, <i>Review of Pebble Project FEIS, Appendix B: Alternatives Development Process, How the Alaska District of the Corps biased its analysis to favor the applicant</i> (Aug. 19, 2020)
19	Thomas G. Yocom, <i>The Pebble Project Draft Compensatory Mitigation Plan (January 2020) provides no habitat replacement or preservation to offset thousands</i>

<sup>79</sup> To download these exhibits, please visit:

<https://www.dropbox.com/sh/oojldif1tk6olwy/AAAdIyX7obZ7ziTyyiBFO8V-a?dl=0>.

	<i>of acres of wetland and aquatic habitats that the Pebble Mine Project would destroy, degrade, or fragment (Aug. 19, 2020)</i>
20	<i>Thomas G. Yocom, The Alaska District of the Corps of Engineers' Revised Preliminary Jurisdictional Determinations for POA-2017-271 Inappropriately Reduces Estimates of the Direct Impacts of the Pebble Mine Project to Wetland Areas by Over 1200 Acres (Aug. 19, 2020)</i>
21	<i>Kendra Zamzow, Ph.D., Pebble FEIS on discharge of selenium (Aug. 15, 2020)</i>
22	<i>Kendra Zamzow, Ph.D., Pebble FEIS, comments on ore concentrate pipeline (Aug. 16, 2020)</i>
23	<i>Cameron Wobus, A Model Analysis of Flow and Deposition from a Tailings Dam Failure at the Proposed Pebble Mine (Mar. 12, 2019)</i>
24	<i>Lowell H. Suring, The Pebble Project and McNeil River Brown Bears (Apr. 2019)</i>
25	<i>Kendra Zamzow, Ph.D., Selenium issues in the Pebble Project draft EIS (Apr. 12, 2019)</i>
26	<i>Bonnie Gestring, U.S. Operating Copper Mines: Failure to Capture &amp; Treat Wastewater (May 2019)</i>
27	<i>Chris Frissell, Ph.D., &amp; Sarah O'Neal, Direct and cumulative impacts of road system fugitive dust in the Pebble Project draft EIS (May 9, 2019)</i>
28	<i>Richard K. Borden, Pebble Mine Draft EIS Comments on Geotechnical and Spill Risks (May 13, 2019)</i>
29	<i>Matthew Schweisberg, Pebble Mine: Anticipated Adverse Impacts to Wetlands (May 14, 2019)</i>
30	<i>David M. Chambers, Ph.D., Comments on the Pebble Draft Environmental Impact Statement (May 20, 2019)</i>
31	<i>Susan C. Lubetkin, Ph.D., A critique of the transportation corridor spill risk estimates of diesel, ore concentrate, and chemical reagents in the Pebble Project draft environmental impact statement (May 20, 2019)</i>
32	<i>Nuka Research and Planning Group, LLC, Comments on Draft EIS for Proposed Pebble Mine (May 20, 2019)</i>
33	<i>Andr� Sobolewski, Review of water treatment plants proposed for Pebble Project (May 20, 2019)</i>
34	<i>Michael Gracz, Ph.D., Is a Finding of Significant Degradation in a 404(b)(1) Analysis of the Pebble Project Scientifically Supportable? (May 24, 2019)</i>
35	<i>Gordon Reeves, Ph.D., &amp; Sue Mauger, Review of Water Temperature Impacts in the Proposed Pebble Mine Draft Environmental Impact Statement (May 24, 2019)</i>
36	<i>Rachel A. Hovel, Ph.D., Assessment of Pebble Mine Draft EIS: Salmonid life history diversity and impacts to Illiamna Lake (May 2019)</i>
37	<i>Cameron Wobus, Ph.D., Comments on Pebble Project Draft EIS (May 30, 2019)</i>
38	<i>Kendra Zamzow, Ph.D., Ann Maest, Ph.D., Chris Frissell, Ph.D., &amp; Sarah O'Neal, Fugitive Dust issues in the Pebble Project draft EIS (May 30, 2019)</i>
39	<i>Robert H. Prucha, Ph.D., Review of Groundwater Impacts in the Proposed Pebble Mine Draft EIS (February 2019) and Evaluation of Potential Impacts on the Coupled Hydrologic System (June 6, 2019)</i>
40	<i>Thomas G. Yocom, The Corps Determination of Basic and Overall Project Purposes Improperly Eliminates Consideration of Potentially Less Environmentally Damaging Practicable Alternatives (June 6, 2019)</i>
41	<i>Thomas G. Yocom, The Pebble Project DEIS provides no substantive proposals of compensatory mitigation for losses of wetlands and aquatic areas (June 6, 2019)</i>

42	Thomas G. Yocom, <i>Determining the least damaging practicable alternative for the proposed Pebble Project: Potentially less damaging practicable alternatives are improperly dismissed in the DEIS</i> (June 6, 2019)
43	Thomas Power, Ph.D., & Donovan Power, M.S., <i>Public Comments on the U.S. Army Corps of Engineers Pebble Project EIS Draft Environmental Impact Statement</i> (June 11, 2019)
44	Matthew Schweisberg, <i>Compliance with Section 230.10(c) of the 404(b)(1) Guidelines</i> (June 11, 2019)
45	Christopher A. Frissell, Ph.D., <i>Failure to Address Cumulative and Long-Term Effects of Bioaccumulation and Biomagnification of Contaminants, including Trace Metals and Hydrocarbons, in the Pebble Project DEIS (February 2019)</i> (June 15, 2019)
46	Dr. Daniel E. Schindler, <i>Scientific Concerns about the Draft EIS for the Proposed Pebble Mine</i> (June 17, 2019)
47	Ryan M. Utz, Ph.D., <i>Misapplication of an environmental threshold in an ecosystem with exceptionally rich fisheries resources</i> (June 19, 2019)
48	David M. Albert, <i>Direct loss of salmon streams, tributaries, and wetlands under the proposed Pebble Mine compared with thresholds of unacceptable adverse effects in the EPA Proposed Determination pursuant to Section 404(c) of the Clean Water Act</i> (June 21, 2019)
49	Ann Maest, Ph.D., & Cameron Wobus, Ph.D., <i>Water Quality and Failure Mode Issues Associated with the Pebble Project Pit Lake</i> (June 24, 2019)
50	Ann Maest, Ph.D., <i>Pebble Project Mine Water Quality Predictions and Implications for Environmental Risk: Comments on the Pebble Project Draft Environmental Impact Statement</i> (June 24, 2019)
51	Gordon Reeves, Ph.D., Sarah O'Neal, & Molly Welker, <i>Limitations of the PHABSIM Model to Evaluate Impacts to Fish Habitat near the Pebble Mine</i> (June 24, 2019)
52	Molly Welker, <i>Mercury Pollution Originating from the Pebble Mine has not been Comprehensively Addressed in the DEIS</i> (June 28, 2019)
53	Jack A. Stanford, <i>Efficacy of the draft Environmental Impact Statement (dEIS) for the Pebble Mine, Alaska</i> (June 29, 2019)
54	Cameron Wobus, Ph.D., Bill Szafranski, MS, & Ryan Spies, MS, <i>Pyritic TSF Failure Modeling Results</i> (June 30, 2019)
55	Sarah O'Neal, <i>Technical comments regarding fish and aquatic habitat in the Pebble Project Draft Environmental Impact Statement</i> (July 1, 2019)
56	Bruno A. Ridolfi, P.E., & Chris Smith, M.S., <i>Summary of Technical Review of the Preliminary Final Environmental Impact Statement</i> (Mar. 18, 2020)
57	Bill Beckley, <i>PFEIS Response to Technical Memorandum No. 1 (July 1, 2019) Incomplete and Inadequate Development and Analysis of Alternatives</i> (Mar. 18, 2020)
58	Monty Rogers, M.A., <i>PFEIS Response to Technical Memorandum No. 2 (July 1, 2019) Failure to take a "hard look" at cultural, historic, and subsistence resources in the PFEIS for the Proposed Pebble Project</i> (Mar. 18, 2020)
59	Teresa Michelsen, Ph.D., <i>PFEIS Response to Technical Memorandum No. 3 (July 1, 2019) Incomplete and Inadequate Evaluation of Cumulative Impacts Proposed Pebble Project</i> (Mar. 18, 2020)

60	Teresa Michelsen, Ph.D., <i>PFEIS Response to Technical Memorandum No. 3 (July 1, 2019) Technical Review of the Preliminary Final Environmental Impact Statement (PFEIS) for the Proposed Pebble Project</i> (Mar. 16, 2020)
61	James R. Kuipers, P.E., & Bruno A. Ridolfi, P.E., <i>PFEIS Response to Technical Memorandum No. 4 (July 1, 2019) Incomplete and Inadequate Evaluation of Potential Catastrophic Failures for Tailings Storage and other Facilities for the Proposed Pebble Project</i> (Mar. 20, 2020)
62	James R. Kuipers, P.E., & Bruno A. Ridolfi, P.E., <i>PFEIS Response to Technical Memorandum No. 5 (July 1, 2019) Inaccurate and misleading statements of Purpose and Need in the Pebble DEIS</i> (Mar. 16, 2020)
63	James R. Kuipers, P.E., & Bruno A. Ridolfi, P.E., <i>PFEIS Response to Technical Memorandum No. 6 (July 1, 2019) Reclamation and Closure Plan and Preliminary Financial Assurance Cost Estimate for the Proposed Pebble Project</i> (Mar. 16, 2020)
64	Sherrie Duncan, <i>PFEIS Response to Technical Memorandum No. 7 (July 1, 2019) Preliminary Final Environmental Impact Statement: Incomplete and Inadequate Evaluation of Watershed Health and Function and Aquatic and Terrestrial Resources</i> (Mar. 18, 2020)
65	Richard K. Borden, <i>Review of the Preliminary Final Environmental Impact Statement (Section 404 Permit Application POA-2017-00271)</i> (Mar. 5, 2020)
66	Richard K. Borden, <i>Review of the January 2020 Pebble Project Compensatory Mitigation Plan (Section 404 Permit Application POA-2017-00271)</i> (Feb. 20, 2020)
67	Bill Beckley, <i>Incomplete and Inadequate Development and Analysis of Alternatives</i> (July 1, 2019)
68	Monty Rogers, M.A., <i>Failure to take a “Hard Look” at Cultural, Historic, and Subsistence Resources in the DEIS for the Proposed Pebble Project</i> (July 1, 2019)
69	Teresa Michelsen, Ph.D., <i>Incomplete and Inadequate Evaluation of Cumulative Impacts Proposed Pebble Project DEIS</i> (July 1, 2019)
70	James R. Kuipers, P.E., & Bruno A. Ridolfi, P.E., <i>Incomplete and Inadequate Evaluation of Potential Catastrophic Failures for Tailings Storage and other Facilities for the Proposed Pebble Project</i> (June 1, 2019)
71	James R. Kuipers, P.E., & Bruno A. Ridolfi, P.E., <i>Inaccurate and misleading statements of Purpose and Need in the Proposed Pebble Project DEIS</i> (July 1, 2019)
72	James R. Kuipers, P.E., & Bruno A. Ridolfi, P.E., <i>Reclamation and Closure Plan and Preliminary Financial Assurance Cost Estimate for the Proposed Pebble Project</i> (July 1, 2019)
73	Sherrie Duncan, <i>Incomplete and Inadequate Evaluation of Watershed Health and Function and Aquatic and Terrestrial Resources</i> (July 1, 2019)
74	Richard Borden, <i>Pebble Mine Draft EIS comments on Alternatives Analyses, Cumulative Effects, Water Management, Wetlands Mitigation and Air Quality</i> (June 17, 2019)
75	Richard Borden, <i>Pebble Mine Draft EIS comments on Reclamation and Closure</i> (May 31, 2019)
76	Richard Borden, <i>Review of the Pebble Final Environmental Impact Statement (Section 404 Permit Application POA-2017-271)</i> (Aug. 19, 2020)
77	Richard Borden, <i>Pebble Mine Project Economics</i> (Mar. 28, 2019)