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September 6, 2022

***Via regulations.gov to:***

Michael S. Regan  
Administrator  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue NW  
Washington, D.C. 20004

Casey Sixkiller  
Regional Administrator, Region 10  
U.S. Environmental Protection Agency  
1200 Sixth Avenue, Suite 155  
Seattle, WA 98101

**Re: Comments on Proposed Determination to Prohibit and Restrict the Use of Certain Waters within Defined Areas as Disposal Sites: Pebble Deposit Area, Southwest AK; Docket ID No. EPA-R10-OW-2022-0418**

Dear Administrator Regan and Regional Administrator Sixkiller,

Bristol Bay Native Corporation (BBNC) urges the Environmental Protection Agency (EPA) to permanently protect Bristol Bay from the proposed Pebble mine by finalizing strong and durable Clean Water Act Section 404(c) protections.

The Bristol Bay watershed is home to one of the largest wild sockeye salmon runs in the world and is the lifeline for the people of Bristol Bay and all those who depend on it. Bristol Bay's wild salmon have been the foundation of the region's Alaska Native cultures and traditions for thousands of years. Bristol Bay is a national treasure, producing half of the world's commercial supply of wild sockeye salmon, sustaining 15,000 annual jobs, and generating roughly \$2.2 billion in annual economic activity. The robustness of this unparalleled fishery was showcased this year when a record 78 million sockeye salmon returned to Bristol Bay waters.

BBNC has opposed the proposed Pebble mine project since 2009 and, in 2010, was among the first organizations to petition EPA to use its 404(c) authority against the project. In the ensuing years, we have pursued multiple efforts to ensure the cultural, economic, and environmental health of the region, including final action under Section 404(c) of the Clean Water Act. It is work we continue today and will continue well into the future.


More than a decade of scientific study and review from EPA and a robust administrative record—including a Section 404 permitting process and analysis of impacts under the National Environmental Policy Act (NEPA)—support EPA protecting Bristol Bay's headwaters. The proposed Pebble mine project poses unacceptable risks to Bristol Bay's salmon fisheries and the economic and subsistence benefits those fisheries provide. As the Army Corps correctly decided in the culmination of its permitting process in 2020, Pebble mine cannot be permitted under the Clean Water Act. Because of its location, size, and type, the project poses unacceptable risks to Bristol Bay's pristine waters, salmon fishery, and way of life. For example, as proposed by the Pebble Limited Partnership (PLP) in its permit application to the Army Corps, the proposed 20-year mine would destroy more than 100 miles of streams and 2,100 acres of wetlands, completely

decimating the headwaters critical to sustaining Bristol Bay's salmon fishery. Such impacts, proposed to occur in the state's most valuable and robust salmon ecosystem, are unprecedented in the history of resource development projects in Alaska.

EPA's proposed prohibition and restrictions are appropriate responses to the threat to Bristol Bay from the proposed Pebble mine. Indeed, it is hard to envision a project more suited for 404(c) action than Pebble. BBNC therefore supports EPA's proposal, and in the attached comments offers recommendations in line with EPA's intent as expressed in the 2022 Proposed Determination and which would add strength to EPA's proposed prohibition and restrictions.

The vast majority of BBNC shareholders and Bristol Bay residents support EPA action and want to see Bristol Bay protected for good from the threat of the proposed Pebble mine. The project has loomed over Bristol Bay for far too long. We thank EPA for restarting the Clean Water Act Section 404(c) process and request that EPA finalize protections before the end of this year.

Sincerely,

  
\_\_\_\_\_  
Daniel L. Cheyette  
Sr. Vice President, Lands and Natural Resources

**Enclosures**



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# Comments of Bristol Bay Native Corporation on EPA Region 10’s Proposed Determination to Prohibit and Restrict the Use of Certain Waters within Defined Areas as Disposal Sites: Pebble Deposit Area, Southwest AK; Docket ID No. EPA–R10–OW–2022–0418

Submitted to the U.S. Environmental Protection Agency  
September 6, 2022

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- Appendix C**            Relevant Record Documents from Army Corps Administrative Record (file no. POA-2017-00271) and Associated Environmental Impact Statement for the Proposed Pebble Mine Project
- Appendix D**            Scientific and Technical Reports Related to Army Corps Administrative Record (file no. POA-2017-00271) and Associated Environmental Impact Statement for the Proposed Pebble Mine Project

## **I. EXECUTIVE SUMMARY**

The Environmental Protection Agency (“EPA”) Region 10’s Proposed Determination to Prohibit and Restrict the Use of Certain Waters within Defined Areas as Disposal Sites: Pebble Deposit Area, Southwest AK (“Proposed Determination” or “PD”) is a testament to the agency’s decade-long scientific review of the impacts of porphyry-copper mining on the pristine waters and salmon ecosystem of Bristol Bay. EPA’s long-awaited proposal is solidly grounded in science and fact, widely supported by the people of Bristol Bay, and is being completed in the proper course of the agency’s procedural and substantive legal requirements. As detailed herein, Bristol Bay Native Corporation (“BBNC”) supports the agency’s efforts to use its Clean Water Act (“CWA”) Section 404(c) authority to protect one of the world’s last remaining wild salmon strongholds and the way of life of thousands of people who depend on this magnificent resource and presents some recommendations to strengthen EPA action to protect Bristol Bay from the threat posed by the Pebble Mine Project (“Pebble Mine” or “Project”).

As described in Section III, the people of Bristol Bay have waited more than a decade for EPA to finalize strong and durable Clean Water Act Section 404(c) protections from the threat posed by the proposed Pebble Mine. As proposed by the Pebble Limited Partnership (“PLP”) in its Section 404 permit application to the U.S. Army Corps of Engineers (“Army Corps”) and analyzed by the Army Corps in its Final Environmental Impact Statement (“Final EIS”), the 20-year mine would destroy approximately 100 miles of streams and more than 2,100 acres of wetlands. These impacts—proposed to occur in the state’s most valuable and robust salmon ecosystem—are unprecedented in the history of resource development projects in Alaska and risk completely decimating headwaters critical to sustaining Bristol Bay’s salmon fishery. Moreover, there are no corrective actions that could be taken by PLP to reduce adverse impacts on Bristol Bay’s waters or salmon fishery. The company has had ample opportunity over multiple decades to develop methods to reduce adverse impacts, including during the Section 404 permit process with the Army Corps, and it has failed to do so.

As described in Section V, the lengthy factual record compiled by the Army Corps confirms EPA’s finding that the proposed Pebble Mine Project would have an unacceptable adverse effect on fishery areas. More than a decade of scientific study and review from EPA and a robust administrative record—including a Section 404 permitting process and analysis of impacts under NEPA—support EPA protecting Bristol Bay’s headwaters. Because of its location, size, and type, the Pebble Mine, if built, is likely to cause unacceptable adverse effects to Bristol Bay’s pristine waters, salmon fishery, and the economic and subsistence benefits those fisheries provide. Moreover, the Project would also directly and unacceptably effect important wildlife, recreational uses, drinking water supplies, and water quality throughout Bristol Bay.

As described in Section VI, EPA has solid legal authority and a robust factual record to undertake 404(c) action to protect Bristol Bay. EPA’s action is based on years of EPA work, a Section 404 permit application submitted by PLP itself and a robust permitting process headed by PLP and the Army Corps. The factual record developed during the permitting process reconfirms that the Pebble Mine would have unprecedented impacts to salmon-bearing waters at levels never previously contemplated in any other proposed Alaska project. Additionally, the record shows that mitigation cannot successfully reduce impacts on aquatic resources from mining the Pebble deposit

and PLP has failed to show that mining the Pebble deposit will not result in unacceptable adverse effects on aquatic resources and fishery areas. Indeed, as the Army Corps correctly decided in the culmination of its permitting process in 2020, the proposed Pebble Mine project cannot be permitted under the Clean Water Act.

In moving forward with its Recommended Determination, BBNC is recommending, in Section VII, that EPA Region 10 clarify and strengthen the prohibition and restrictions to protect Bristol Bay from the threat posed by mining the Pebble deposit. BBNC’s recommendations are supported by the robust record before the agency, are responsive to the Pebble permitting process and PLP’s 2020 Mine Plan, would not expand the geographic scope of the agency’s action beyond its current proposal, and are well within the agency’s statutory authority. BBNC’s recommendations, if incorporated into the final determination, will provide more certainty to the people of Bristol Bay by crafting more effective and durable 404(c) protections and will provide more clarity to any company proposing to mine the Pebble deposit.

To summarize, BBNC’s recommendations are as follows:

<b>PROHIBITION RECOMMENDATIONS</b>	
<b>Recommendation</b>	<b>Justification</b>
<p><b><i>Definition of the Pebble Deposit</i></b>                      Redefine and specify that the “Pebble deposit” is broader than “an area of at least 1.9 by 2.8 miles” or delineated as a 2.5 mile- by 3.5-mile box and instead base the definition of the Pebble deposit on the best available information and science of ecological effects from mining pyritic ore. In the alternative, when defining the Pebble deposit ore body that, when mined, would be subject to the prohibition, use PLP’s definition of the Pebble deposit as seen in its filings with the U.S. and Canadian Securities agencies.</p>	<p>The prohibition as drafted – with a qualification that it applies only to the 2020 Mine Plan – is vulnerable to future evasive permit application proposals from PLP that would have the same effect as the 2020 Mine Plan but are not identical.</p> <p>This threat is very real. For example, after the Army Corps denied PLP’s permit application the CEO of PLP’s parent company publicly stated that the company was looking for ways to amend its mine plan to maneuver around permit denial. Changes to PLP’s proposed transportation corridor, port site, or compensatory mitigation projects would similarly result in modifications to the 2020 Mine Plan, rendering the prohibition a dead letter even though impacts to the mine site would remain unchanged.</p>
<p><b><i>Prohibit Alternative Mine Facility Locations Proposed by PLP in the Permitting Process</i></b>                      In specifying waters that cannot be used as a disposal area, do not limit the area to the 2020 Mine Plan footprint, but rather prohibit discharges into designated rectangular survey system township, range, and sections that encompass: (1) areas PLP proposed to use in the 2020 Mine Plan as well as (2) areas PLP proposed as other options for mine site tailings storage facilities and the water treatment ponds as analyzed and rejected by the Army Corps in the EIS process.</p>	



<p><b><i>Remove limitation to PLP’s 2020 Mine Plan</i></b>  Focus the prohibition on a broader set of mining activities that target the Pebble deposit, e.g., prohibit discharges within the prohibited disposal area (see #1 above). For example:</p> <ul style="list-style-type: none"> <li>• “prohibit . . . the discharge of dredged or fill material for the construction and routine operation of a large-scale porphyry mine at the Pebble deposit.”</li> <p style="text-align: center;">or</p> <li>• “prohibit . . . the discharge of dredged or fill material for the construction and routine operation of the 2020 Mine Plan (PLP 2020b, USACE 2020a: Appendix J) and substantially similar mine plans.”</li> </ul>	
<b>RESTRICTIONS RECOMMENDATIONS</b>	
<b>Recommendation</b>	<b>Justification</b>
<p><b><i>Elaborate on “similar or greater in nature and magnitude”</i></b>  Provide more detail on what constitutes adverse effects “similar or greater in nature and magnitude” with a focus on ecological effects supported by sound science that would restrict a mine similar to that analyzed in the 2014 PD and Watershed Assessment.</p>	<p>The restrictions as drafted – with an emphasis on numerical standards for the restrictions and use of “similar or greater” – is vulnerable to future proposals from PLP that would be unacceptable based on the science.</p> <p>This threat is also very real and was seen in PLP’s marketing of its 2017 permit application, namely that its mine proposal was “a near match for the scenario” analyzed by EPA in 2014.</p>
<p><b><i>Definition of the Pebble Deposit</i></b>  Redefine and specify that the “Pebble deposit” is broader than “an area of at least 1.9 by 2.8 miles” or delineated as a 2.5 mile- by 3.5-mile box and instead base the definition of the Pebble deposit on the best available information and science of ecological effects from mining pyritic ore. In the alternative, when defining the Pebble deposit ore body that, when mined, would be subject to the prohibition, use PLP’s definition of the Pebble deposit as seen in its filings with the U.S. and Canadian Securities agencies.</p>	

Again, BBNC’s suggested changes merely clarify what we see as EPA’s intent and these suggestions are well-supported by the existing administrative record, including previous EPA and Army Corps Pebble-related administrative processes. As such, no new analysis nor additional time to comment would be required should the agency look favorably on these recommendations.

The majority of BBNC shareholders and Bristol Bay residents support EPA action to end the threat of the proposed Pebble Mine once and for all. This threat has loomed over Bristol Bay for far too long. We thank EPA for restarting the Clean Water Act Section 404(c) process to protect Bristol Bay from unacceptable adverse impacts associated with Pebble and request that EPA finalize protections before the end of this year.

## II. INTERESTS OF BRISTOL BAY NATIVE CORPORATION

BBNC is an Alaska Native Regional Corporation created by Congress in 1971 to manage the lands and resources under our ownership and to represent the economic, social, and cultural interests of Alaska Native people from the Bristol Bay region.<sup>1</sup> BBNC takes seriously our responsibilities to protect the assets entrusted to our care and the interests of our more than 10,000 shareholders.<sup>2</sup> BBNC is committed to responsible land and resource management as well as protection of Alaska Native culture, the subsistence way of life, and the region's sustainable commercial and sport fishing industries, all of which depend on the region's pristine waters and healthy salmon populations.<sup>3</sup>

BBNC's mission is "Enriching our Native way of life."<sup>4</sup> BBNC's vision is "To responsibly steward the land and waters in the Bristol Bay region, celebrate the legacy of its people, and enhance the lives of BBNC shareholders."<sup>5</sup> BBNC's values include "respect[ing] the people, land, and natural resources that are the basis for our culture and way of life" and "responsibly manag[ing] natural resources, prioritizing the cultural and economic value of the Bristol Bay fishery."<sup>6</sup> BBNC's Board of Directors has approved multiple resolutions that evidence the corporation's land management philosophy. These Resolutions include:

- BBNC Resolution 09-41, "Resource Protection Policy" describing the cultural and economic importance of Bristol Bay's sockeye salmon runs and providing notice of BBNC's opposition to the Pebble mine;<sup>7</sup>
- BBNC Resolution 11-28, "In Support of Responsible Resource Development" specifying that BBNC's policy of resource development in the region "is sensitive to fiscal, environmental, and social sustainability concerns including the protection of subsistence culture, practices, clean water, and healthy fish;"<sup>8</sup>
- BBNC Resolution 13-11, "Fish First Priority" acknowledging that "sustainable fisheries continue to be the cultural, subsistence and economic cornerstones of the Bristol Bay region," and affirming that BBNC's input on land management decisions in the Bristol Bay

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<sup>1</sup> See 43 U.S.C. § 1606.

<sup>2</sup> See BBNC Website, <https://www.bbnc.net/our-corporation/about/>.

<sup>3</sup> See BBNC, Values & Goals, available at <https://www.bbnc.net/our-corporation/about/values-goals/>.

<sup>4</sup> See *id.*, <https://www.bbnc.net/our-corporation/about/values-goals/>.

<sup>5</sup> See *id.*

<sup>6</sup> See *id.*

<sup>7</sup> BBNC Resolution 09-41, "Resource Protection Policy" (Dec. 11, 2009).

<sup>8</sup> BBNC Resolution 11-28, "In Support of Responsible Resource Development" (Dec. 7, 2011).

region on lands not owned by BBNC will be “guided by a priority protection for fish and fish habitat.”<sup>9</sup>

- BBNC Resolution 18-10, “BBNC Opposition to Proposed Pebble Mine” reaffirming BBNC’s “opposition to the proposed project as it is contrary to the Corporation's Fish First priority, and would pose too great a risk to our Native Way of life and the cultural, subsistence, economic, and ecological resources of the Bristol Bay region.”<sup>10</sup>

In furtherance of our Responsible Resource Development policy, BBNC seeks out values-driven investments in the Bristol Bay region and its sustainable economies. BBNC defines investment in the traditional sense, placing top value on the returns generated by our businesses throughout Alaska and across the continent. Guided by traditions, we know that investing in the culture, education, and sustainable future of Bristol Bay communities pays off for everyone. In particular, BBNC seeks out economic opportunities that promote Bristol Bay’s pristine ecosystems and world-class fishery. Across the Bristol Bay region wildlife flourishes across stunningly varied terrain and vivid strands of our Native traditions run throughout the culture. Built on the shores of Lake Aleknagik and steeped in a blend of both Native and western history, BBNC’s Mission Lodge draws travelers from all corners of the globe to experience fishing in Bristol Bay. Our Katmailand Lodges – Kulik Lodge, Brooks Lodge, and Grosvenor Lodge – offer a variety of sport fishing and wildlife viewing experiences within Katmai National Park. Such developments are consistent with our Fish First policy.

As a corporation, we seek out opportunities for growth across the globe. We convert our profits into benefits for our shareholders in the form of dividends, economic development, employment, and educational opportunities.<sup>11</sup> BBNC’s long-term priorities include developing prudent economic opportunities in the Bristol Bay region through strategic partnerships and leveraging of BBNC resources.<sup>12</sup> To that end, as of July 2022, BBNC employs 124 shareholders across its operations, of which 114 employee-shareholders are based in Alaska with 14 either living in or commuting to work from Bristol Bay. For fiscal year to date, BBNC shareholders have earned \$5,161,379 in wages.

Another long-term priority for BBNC is to enhance shareholder workforce readiness through support of education, training, and workforce development initiatives.<sup>13</sup> As such, over the past 5 years, BBNC has assisted over 600 shareholders to gain employment. BBNC also arranges and manages training opportunities, including hosting 16 interns in the past year,<sup>14</sup> hosting 14 youth at Culture Camp last year,<sup>15</sup> enrolling 19 shareholders in our Training Without Walls Leadership Development program,<sup>16</sup> and funding more than \$623,000 training opportunities that led to

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<sup>9</sup> BBNC Resolution 13-11, “Fish First Policy” (May 17, 2013).

<sup>10</sup> BBNC Resolution 18-10, “BBNC Opposition to Proposed Pebble Mine” (March 2, 2018).

<sup>11</sup> <https://www.bbnc.net/our-corporation/about/>.

<sup>12</sup> <https://www.bbnc.net/our-corporation/about/values-goals/>.

<sup>13</sup> <https://www.bbnc.net/our-corporation/about/values-goals/>.

<sup>14</sup> <https://www.bbnc.net/for-shareholders/shareholder-development/internships/>.

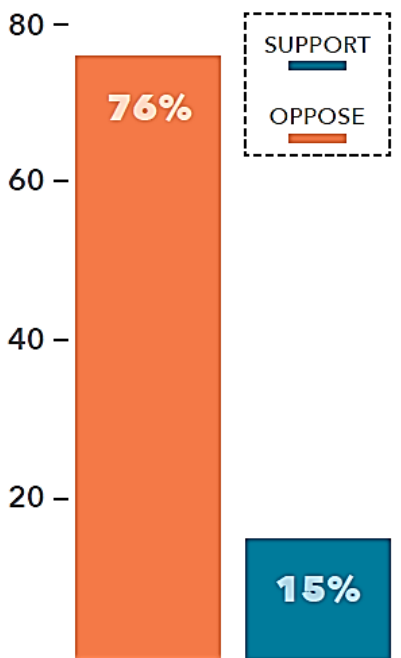
<sup>15</sup> <https://www.bbnc.net/for-shareholders/bbncculturecamp/>.

<sup>16</sup> <https://www.bbnc.net/for-shareholders/shareholder-development/leadership-development/training-without-walls/>.

shareholder jobs in the areas of CDL, construction, IT, security, and culinary arts. Finally, BBNC invests over \$100K a year in youth, culture and education/training programs such as the Bristol Bay Regional Career & Technical Education program, the Bristol Bay Fly Fish & Guide Academy, the Bristol Bay Ciulistet Young Leaders Program, the ANSEP Middle School Academy, the BBNA Youth Workforce Programs, and the Student Conservation Association.

**BBNC SHAREHOLDERS  
ARE FIRMLY OPPOSED  
TO THE PROJECT**

Do you generally support or oppose the proposed Pebble Mine?



Protecting Bristol Bay’s water and salmon resources is of fundamental importance to the social, cultural, and economic interests of our shareholders. They recognize that the salmon resource cannot be put at risk or sacrificed in order to facilitate the extraction of minerals, as it simply is too important to the people, culture, and economy of the Bristol Bay region.

BBNC has polled its shareholders’ opinions of the proposed Pebble Mine Project. This polling has shown that over the years, BBNC’s shareholders are steadfast in their opposition to the proposed Pebble Mine Project.

In the most recent shareholder poll, conducted in April-May 2019, of the responses from 4,073 adult shareholders 65% strongly oppose Pebble Mine, 6% somewhat oppose, and 5% lean opposed for overall opposition of 76%.<sup>17</sup> Only 6% of BBNC’s shareholders strongly support the proposed Pebble Mine.

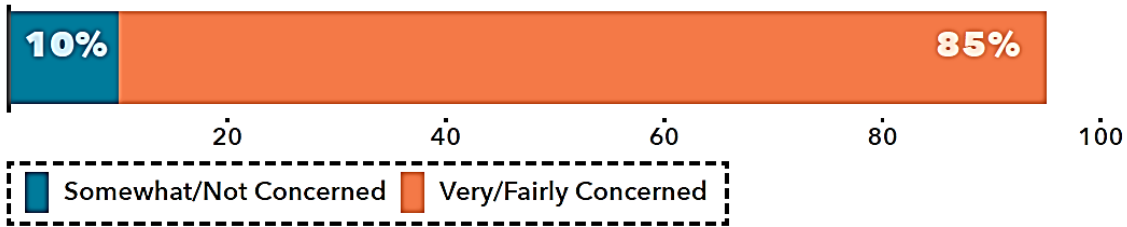
In addition, 85% of BBNC’s shareholders are concerned about the risks Pebble Mine poses to Bristol Bay.

<sup>17</sup> <https://www.bbnc.net/bbnc-shareholders-voice-strong-opposition-to-pebble-mine-in-recent-survey/>.

## BBNC SHAREHOLDERS

### ARE VERY CONCERNED ABOUT THE POTENTIAL RISKS POSED BY PEBBLE MINE, ARE SKEPTICAL OF THE POTENTIAL ECONOMIC BENEFITS, AND DO NOT HAVE CONFIDENCE THAT PLP WILL PROTECT THE BRISTOL BAY FISHERY

How concerned are you about potential risks posed by Pebble Mine to Bristol Bay and its salmon runs?



Taking guidance from our shareholders and corporate values, BBNC has opposed the proposed Pebble Mine Project since 2009. BBNC was one of the original petitioners to EPA asking it to exercise its authority under CWA Section 404(c) to protect Bristol Bay salmon resources. Following PLP’s application for a 404 permit in 2017, BBNC closely reviewed the plans and permit application. Our review confirmed for us that PLP’s plans presented an unacceptable risk to Bristol Bay, and in 2018, the Board reaffirmed its opposition to the Pebble Mine. The Board further resolved that Pebble is contrary to BBNC’s Fish First priority and “would pose too great a risk to our Native way of life and the cultural, subsistence, economic, and ecological resources of the Bristol Bay region.”<sup>18</sup>

From 2017 to the Record of Decision in 2020, BBNC extensively reviewed PLP’s Section 404 Permit Applications and evolving mine plans, the Pebble Draft EIS and Final EIS, appendices, and supporting documents available on the Army Corps’ Pebble EIS website, as well as attended scoping and Draft EIS public meetings and participated in the National Historic Preservation Act process as a consulting party. BBNC maintains its long-standing position that the proposed Pebble Mine Project, in any iteration of the proposed alternatives discussed in the Section 404 permitting process, is the wrong mine for the wrong place. As stated by our President & CEO Jason Metrokin:

“BBNC does not otherwise oppose mining development. Pebble Mine is simply different. In any configuration, the mine is too big and will be located in too important of a location. It poses unacceptable risks to the salmon resource and consequently, the subsistence lifestyle and economic interests of our shareholders.”<sup>19</sup>

<sup>18</sup> BBNC Resolution 18-10, “BBNC Opposition to Proposed Pebble Mine” (March 2, 2018).

<sup>19</sup> <https://www.bbnc.net/our-corporation/pebble-mine/> (emphasis original).

### III. OVERVIEW OF THE BRISTOL BAY REGION AND THE PEBBLE MINE PROJECT

The history of PLP’s attempts to build the Pebble mine project, local opposition to that project, and EPA’s involvement to protect Bristol Bay is decades long. Appendix A to this comment letter explains this lengthy history, while here we summarize some key points relevant to EPA’s proposal.

#### A. Bristol Bay’s Pristine Waters and World-Class Fishery

The Bristol Bay region is vast, containing approximately 40 million acres of land and water.<sup>20</sup> It contains myriad mountains, rivers, lakes, wetlands, and marine waters.<sup>21</sup> Much of the region lies within the Bristol Bay watershed—a unique sprawling, permeable, and porous network of creeks and streams that produce large numbers of salmon.<sup>22</sup> The waters of Bristol Bay contain locally-adapted and genetically distinct populations of salmon that help ensure the long-term health and stability of salmon stocks across the watershed.<sup>23</sup> For generations upon generations, tens of millions of salmon reliably return to Bristol Bay.<sup>24</sup>

The Alaska Native people of Bristol Bay come from three different cultural traditions— Aleut, Yup’ik, and Dena’ina Athabascan. Salmon are a revered renewable resource that has been harvested sustainably in the region for millennia, and salmon harvesting is central to the cultural traditions of these diverse Alaska Native peoples. Indeed, subsistence activities play a major role in defining Alaska Native families and communities through the passing on of knowledge and traditions from one generation to the next and the reinforcement of Native values, such as generosity, respect for elders, self-esteem, and cultural respect.<sup>25</sup>

Bristol Bay communities are also geographically isolated from the rest of Alaska and, in most

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<sup>20</sup> See BBNC, <http://www.bbnc.net/our-corporation/land/maps/>.

<sup>21</sup> See *id.*

<sup>22</sup> See Pebble Science, Moran R., Water-Related Impacts at the Pebble mine (2007), available at <http://www.pebblescience.org/Pebble-Mine/water-impact.html> (“The extensive glacial gravel deposits are highly permeable; a characteristic that contributes to salmon productivity but also provides pathways for water and potentially for mine wastes to move between surface and groundwater and between river basins.”).

<sup>23</sup> EPA, 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, (July 2014), at 3-49 to 3-52, available at [https://www.epa.gov/sites/production/files/2014-07/documents/pebble\\_pd\\_071714\\_final.pdf](https://www.epa.gov/sites/production/files/2014-07/documents/pebble_pd_071714_final.pdf) [hereinafter “2014 Proposed Determination” or “2014 PD”] and EPA, 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 (May 2022), available at: <https://www.epa.gov/bristolbay/2022-proposed-determination-pebble-deposit-area> [hereinafter “2022 PD”]. See also Schindler, Daniel E., et al., Population Diversity and the Portfolio Effect in an Exploited Species, 465 NATURE 609 (June 3, 2010), available at <http://www.nature.com/nature/journal/v465/n7298/full/nature09060.html>.

<sup>24</sup> See *id.*

<sup>25</sup> See Fall, James A., et al., An Overview of the Subsistence Fisheries of the Bristol Bay Management Area, at 2-3, ADF&G Special Public. No. BOF 2009-07 (Nov. 2009), available at [www.adfg.alaska.gov/specialpubs/SP2\\_SP2009-007.pdf](http://www.adfg.alaska.gov/specialpubs/SP2_SP2009-007.pdf).

cases, from one another.<sup>26</sup> These communities are self-reliant, operating without the benefit of interconnected road and utility systems, and subsistence use of wild resources is the most consistent and reliable component of the local economy.<sup>27</sup> As a consequence, studies have shown that the vast majority of households in the region rely on subsistence fishing, hunting, and gathering for a large percentage of their food.<sup>28</sup> Given the extremely high cost of groceries in rural Alaska, replacing the salmon harvest with store-bought meat would cost approximately \$7,500 for the average Alaska Native family, representing nearly 20% of the average Alaska Native household income.<sup>29</sup> Commercial fishing is also the major economic engine for Bristol Bay and other Alaskan coastal communities.<sup>30</sup> Any damage to salmon resources in Bristol Bay would lead to poorer nutrition, as well as economic, social, and cultural hardship.<sup>31</sup>

The importance of Bristol Bay's extraordinary salmon resource extends far beyond local communities. Bristol Bay is a sought-after destination for sport anglers around the world, who are drawn to the Kvichak River, Nushagak River, Upper Talarik Creek and other legendary Bristol Bay waterways by the world's largest sockeye salmon run and extraordinarily large and powerful rainbow trout.<sup>32</sup> The waters of Bristol Bay support the most valuable commercial sockeye salmon fishery in the world, supplying nearly half of the world's wild sockeye salmon catch.<sup>33</sup> Salmon is also by far the most valuable commercial fish managed by the State of Alaska, and Bristol Bay is Alaska's richest commercial fishery.<sup>34</sup>

Bristol Bay's commercial salmon fishery provides enormous economic benefits to both the Alaska and national economies.<sup>35</sup> Nearly one-third of all of Alaska's salmon harvest earnings come from

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<sup>26</sup> See *id.*; Duffield et al., *Revised Final Report, Economics of Wild Salmon Watersheds: Bristol Bay, Alaska*, at 23 (Feb. 2007) (prepared by University of Montana and Bioeconomics, Inc. for Trout Unlimited-Alaska), available at [http://www.bber.umt.edu/pubs/survey/Economics%20of%20Wild%20Salmon%20Ecosystems%20in%20Bristol%20Bay\\_2007.pdf](http://www.bber.umt.edu/pubs/survey/Economics%20of%20Wild%20Salmon%20Ecosystems%20in%20Bristol%20Bay_2007.pdf).

<sup>27</sup> See Fall, *supra* note 25, at 2.

<sup>28</sup> Between 1975 and 2007, subsistence salmon harvests have averaged about 152,000 fish per year. See *id.*, at 5. See also, enclosed Appx. D at pp. 2669 to 2719 (Callaway, Don, A Statistical Description of the Affected Environment as it Pertains to the Possible Development of the Pebble mine—17 Communities in Bristol Bay at 17 (2012) (a study funded by Bristol Bay Native Corporation)).

<sup>29</sup> See enclosed Appx. D at pp. 2696 to 2697 (Callaway, at pp. 27-28).

<sup>30</sup> See Alaska Commercial Fisheries Entry Comm'n, 2012 Annual Report, at 1 (2013), available at [http://www.cfec.state.ak.us/mnu\\_Annual\\_Reports.htm](http://www.cfec.state.ak.us/mnu_Annual_Reports.htm).

<sup>31</sup> See Knapp, Gunnar, et al., Institute of Social and Econ. Research, Univ. of Alaska Anchorage, The Economic Importance of the Bristol Bay Salmon Industry (April 2013), available at [http://www.iser.uaa.alaska.edu/Publications/2013\\_04-TheEconomicImportanceOfTheBristolBaySalmonIndustry.pdf](http://www.iser.uaa.alaska.edu/Publications/2013_04-TheEconomicImportanceOfTheBristolBaySalmonIndustry.pdf) [hereinafter "ISER Report"].

<sup>32</sup> See Save Bristol Bay, Trout Unlimited Website, <http://www.tu.org/tu-projects/save-bristol-bay>.

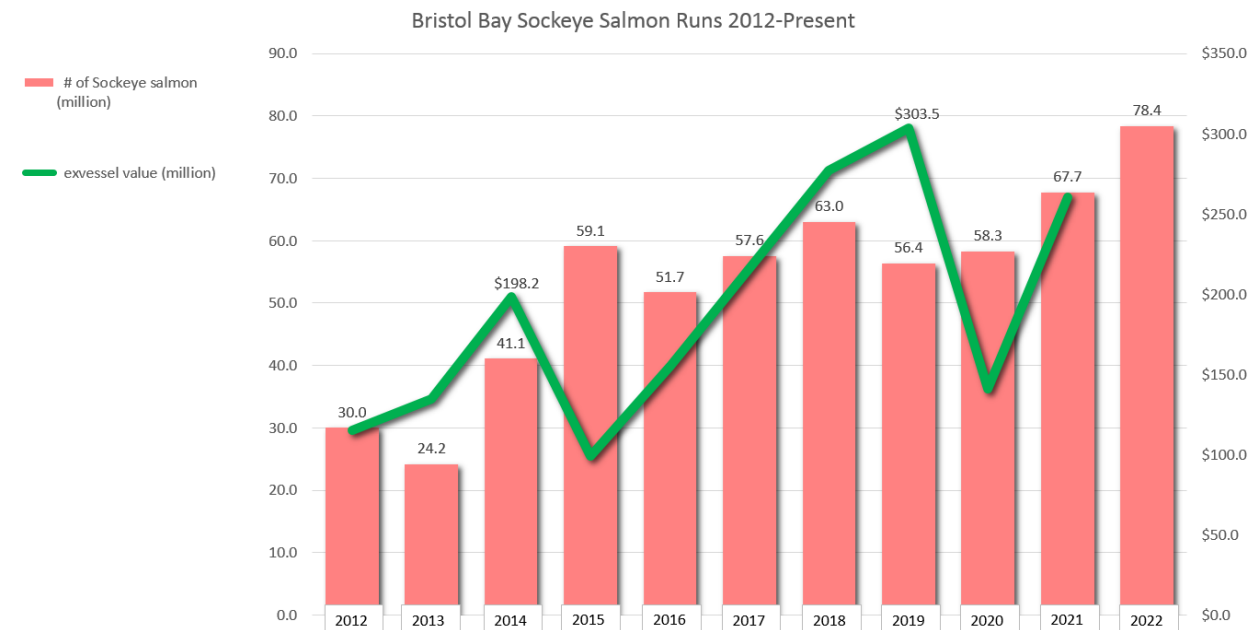
<sup>33</sup> See ISER Report, Executive Summary at 1. See also Dan, Tyler H., et al., Genetic Stock Composition of the Commercial Harvest of Sockeye Salmon in Bristol Bay, Alaska, 2009, at 1, ADF&G Fishery Data Series No. 11-21 (July 2011), available at <http://www.adfg.alaska.gov/FedAidpdfs/FDS11-21.pdf>.

<sup>34</sup> See ADF&G, Commercial Fisheries: Information by Fishery, available at <http://www.adfg.alaska.gov/index.cfm?adfg=fishingCommercialByFishery.main>.

<sup>35</sup> See ISER Report.

the Bristol Bay region<sup>36</sup> and the seafood industry contributes \$5.8 billion to the Alaska economy and 78,500 jobs.<sup>37</sup>

In the past five years, Bristol Bay sockeye salmon returns and commercial catches have set astounding records. The 2017 sockeye salmon catch in Bristol Bay had a direct harvest value of \$216.4 million and—owing to Bristol Bay processing and sustainable management—was almost double the 20-year average of \$108.9 million.<sup>38</sup> In 2018, 62.3 million sockeye salmon returned to Bristol Bay, the largest salmon season ever, based on records dating back to 1893, marking the fourth consecutive year that inshore sockeye salmon runs exceeded 50 million.<sup>39</sup> The 2018 season also ranked first in the history of the fishery’s exvessel value, with a preliminary estimate of \$281 million, or 242% above the 20-year average of \$116 million.<sup>40</sup> That is, until the 2021 sockeye salmon run became the largest total run on record with 66.1 million fish,<sup>41</sup> only to be surpassed by the 2022 sockeye salmon run of 78.3 million fish.<sup>42</sup>



<sup>36</sup> See Woodby, D., et al. Commercial Fisheries of Alaska, ADF&G Special Public. No. 05-09 (June 2005), available at <https://alaskafisheries.noaa.gov/sustainablefisheries/sslmc/may-06/adfg/05-adfg-report.pdf>.

<sup>37</sup> See Alaska Dept. Fish & Game (ADF&G), Commercial Fisheries, available at <http://www.adfg.alaska.gov/index.cfm?adfg=fishingCommercial.main>. See Alaska Commercial Fisheries Entry Comm’n, 2012 Annual Report, at 1 (2013), available at [http://www.cfec.state.ak.us/mnu\\_Annual\\_Reports.htm](http://www.cfec.state.ak.us/mnu_Annual_Reports.htm).

<sup>38</sup> See ADF&G, 2017 Bristol Bay Salmon Season Summary (Sept. 14, 2017), <http://www.adfg.alaska.gov/static-f/applications/dcfnewsrelease/865497019.pdf>.

<sup>39</sup> See ADF&G, 2018 Bristol Bay Salmon Season Summary (Sept. 18, 2018), <http://www.adfg.alaska.gov/static/applications/dcfnewsrelease/989536277.pdf>. The Nushagak and Kvichak River systems alone accounted for more than 50 million returning sockeye in 2018, or more than 80% of the entire Bristol Bay run.

<sup>40</sup> *Id.*

<sup>41</sup> Alaska Dept. of Fish and Game, 2021 Bristol Bay Salmon Season Summary (Sept. 29, 2021), <http://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1337414316.pdf>.

<sup>42</sup> <https://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareabristolbay.harvestsummary>.



The nationwide benefits of the Bristol Bay commercial fishery are also compelling. The nearly 14,000 seasonal fishing and processing jobs created by the Bristol Bay salmon fishery give rise to an additional 5,852 year-round jobs for United States residents, which generate an estimated \$411.7 million in earnings for these workers.<sup>43</sup> On an average year, Bristol Bay salmon fisheries thus create a total economic output value of roughly \$2.2 billion.<sup>44</sup>

## **B. Decades of Local Opposition to the Pebble Mine Project and Efforts Towards Section 404(c) Protections**

In light of the enormous importance of salmon to Bristol Bay communities, the numerous proposals for mining of the Pebble deposit<sup>45</sup> have been of great interest to the people of the region. The consensus is that the proposed Pebble mine would severely undercut the very foundation of Bristol Bay – its incredible salmon resource. This is a conviction that has only grown stronger with time. PLP continues to push the mine, despite its oft-repeated statements of deference to the people of Bristol Bay. PLP’s proposal has caused disruption, uncertainty, and fear throughout the region.

The unprecedented threat posed by the Pebble Mine, along with PLP’s failure to address the concerns of local people over the course of a decade, spurred BBNC along with several Alaska Native Tribes and others to file petitions in 2010 asking EPA to impose § 404(c) protections for Bristol Bay water and salmon resources.<sup>46</sup> The request from Bristol Bay was echoed around Alaska and the nation from multiple stakeholder groups dependent on the fishery, such as commercial and recreational fishers, seafood processors and marketers, chefs and restaurant and supermarket owners, and sport fishing and hunting lodge owners and guides, as well as by jewelry companies, conservation organizations, members of the faith community, and elected officials from Alaska and other states.

Public opposition to the Pebble Mine has only increased over time as EPA undertook its efforts to study the Bristol Bay watersheds and impacts from mining. With increased opposition came increased support for EPA 404(c) action. Nationally since 2012, more than 2.5 million public comments have been submitted to EPA supporting the agency’s efforts to protect Bristol Bay from

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<sup>43</sup> Enclosed Appx. D at pp. 2063 to 2133 (McKinley Research Group, *The Economic Benefit of Bristol Bay Salmon*, available at: <https://www.mcdowellgroup.net/wp-content/uploads/2021/03/economic-benefits-of-bristol-bay-salmon.pdf>).

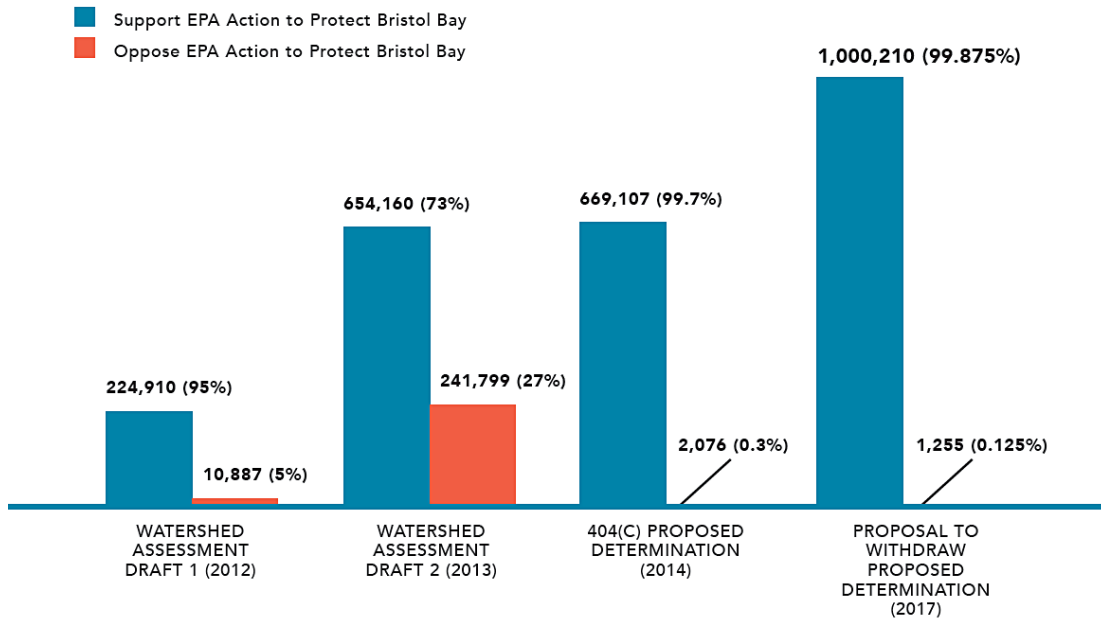
<sup>44</sup> *Id.* at ES-3.

<sup>45</sup> PLP has submitted mine plans to regulatory agencies for various purposes. See, e.g., Northern Dynasty Minerals Ltd., Securities Exchange Comm’n Filing (Feb. 24, 2011), available at <http://www.sec.gov/Archives/edgar/data/1164771/000106299311000722/0001062993-11-000722-index.htm>; Pebble Project—ADNR Water Rights Applications (2006), available at <http://dnr.alaska.gov/mlw/mining/largemine/pebble/water-right-apps/index.cfm>.

<sup>46</sup> See, e.g., Letter from Jason Metrokin, BBNC to EPA Region 10 (Aug. 12, 2010); Joint Letter from Six Tribes to EPA (May 2, 2010); Letter from Alaska Independent Fishermen’ Marketing Association to EPA (May 13, 2010); Letter from Bristol Bay Regional Seafood Devt. Ass’n to EPA (June 20, 2010); Bristol Bay Native Association, A Resolution Requesting the EPA to Invoke Section 404(c) of the Clean Water Act as Appropriate in the Kvichak and Nushagak Drainages of the Bristol Bay Watershed to Protect Habitat and Existing Uses, Res. 2010-32 (Sept. 17, 2010). EPA also received 404(c) requests and letters of support from Ekuk Village Council, Clarks Point Tribal Council, Twin Hills Village Council, Alaska Independent Fishermen’s Marketing Association, Bristol Bay Regional Seafood Development Association, National Council of Churches, and numerous other sporting and conservation groups.

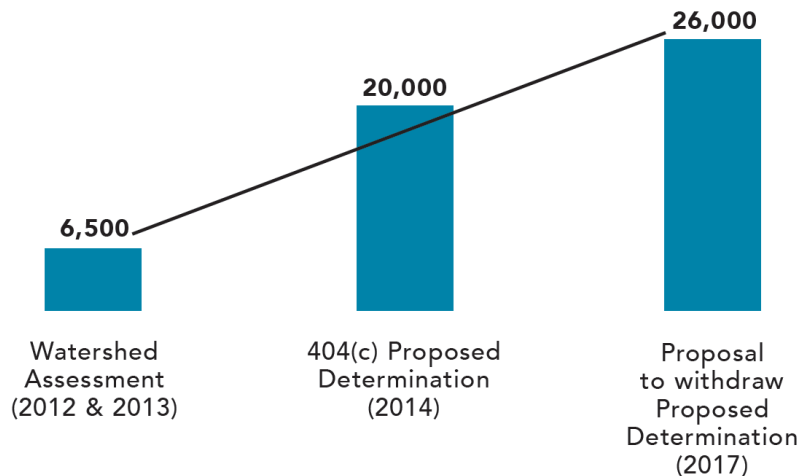
the proposed Pebble Mine Project. The vast majority of comments to EPA from Alaskans have been in opposition to the Project. The depth and breadth of this coalition is unprecedented for a major resource development project.

**SINCE 2012, MORE THAN 2.5 MILLION TOTAL COMMENTS SUPPORT EPA ACTION TO PROTECT BRISTOL BAY**



Numbers based on internal review of EPA dockets EPA-HQ-ORD-2012-0276, EPA-HQ-ORD-2013-0189, EPA-R10-OW-2014-0505, and EPA-R10-OW-2017-0369. Review of the 2017 docket is still ongoing, with 1,001,465 (98.2%) of the total 1,016,488 comments reviewed as of Dec. 1, 2017.

**Alaska Comments Supporting EPA Action to Protect Bristol Bay**

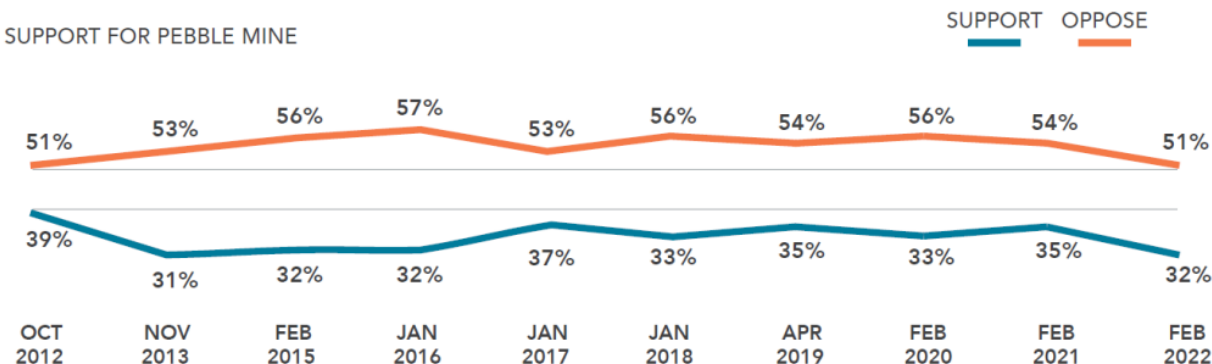


The public’s opposition remained steadfast during the Army Corps NEPA process, with more than 400,000 comments during NEPA scoping in summer 2018<sup>47</sup> and more than 700,000 comments on the Draft EIS in summer 2019 expressing opposition to Pebble Mine.<sup>48</sup>

Polling of Alaska residents over time also indicates steadfast opposition to the Project in the state. Most recently, a survey of likely November 2020 voters taken in June 2020 shows Alaskans oppose the mine by a 2-1 margin (62% to 31%).<sup>49</sup> BBNC’s own polling has shown similar results, with a majority of Alaskans opposing the mine dating back to at least 2012.<sup>50</sup>

## ALASKANS

### REMAIN OPPOSED TO THE DEVELOPMENT OF PEBBLE MINE\*



\*Movement from 2021 to 2022 is within the polls’ margins of error.

### C. Pebble Project’s Unprecedented Impacts Leading to Section 404 Permit Denial

The proposed Pebble Mine Project, as detailed in the 2020 Mine Plan and analyzed in the Pebble Project Final EIS completed in July 2020, would have a variety of impacts to the aquatic environment including direct fill of an unprecedented amount of essential fish habitat and connected wetlands, secondary impacts resulting in functional waters and wetlands degradation, and habitat conversion over a large geographic area. The Project’s size and impacts are immense for the untouched pristine Bristol Bay ecosystem. As the Final EIS determined, the mine footprint alone covers approximately 9,000 acres of the landscape and the project will result in the direct

<sup>47</sup> U.S. Army Corps of Engineers, Pebble Project Final Environmental Impact Statement (July 2020), *available at*: <https://cdxapps.epa.gov/cdx-enepa-II/public/action/eis/details?eisId=301934>, [hereinafter “Final EIS” or “Pebble Final ES”], at Appx. A (Scoping Report), p. 7 (describing 171,236 form letters and 295,721 petition signatures received).

<sup>48</sup> *Agency Comments Support People and Fish of Bristol Bay* (July 16, 2019), <https://www.savebristolbay.org/bloghost/2019/7/16/agency-comments-support-people-and-fish-of-bristol-bay> (“on July 1, we celebrated the nearly 700,000 submitted comments opposing the mine plan due to destructive impacts the project would have on the fishery.”).

<sup>49</sup> Memo from David Binder Research to Bristol Bay Defense Fund, *Alaska voters strongly oppose Pebble Mine and would support an EPA veto* (July 2020), *available at* [https://stoppebbleminenow.org/wp-content/uploads/2020/07/BBDF\\_PollingMemo.pdf](https://stoppebbleminenow.org/wp-content/uploads/2020/07/BBDF_PollingMemo.pdf).

<sup>50</sup> BBNC, *Pebble Mine Polling Update* (Feb. 2020), *available at*: <https://www.bbnc.net/wp-content/uploads/2020/01/BBNC-Pebble-Local-Opposition-2020.pdf>.

and permanent loss of more than 2,100 acres of wetlands, ponds, and marine waters and 105.4 miles of streams, including 8.5 miles of salmon streams and 21.2 miles of fish-bearing streams.

<b>Table 1. Pebble Mine Final EIS – Quantified Impacts to Waters and Fish Habitat</b>		
<b>Impact</b>	<b>20-year mine<sup>51</sup> (12.7% of deposit)</b>	<b>78-year mine (~55% of deposit<sup>52</sup>)</b>
<u>Wetlands and Other Waters</u>		
Direct & permanent impacts – loss of wetlands	2,232 acres of wetlands & other waters	10,987 acres of wetlands & other waters
Direct & permanent impacts – loss of streams	105.4 miles of streams	435.9 miles of streams
Direct & temporary impacts (construction access) – wetlands and other waters	773 acres of wetlands & other waters	773 acres of wetlands & other waters
Direct & temporary impacts (construction access) – streams	6.2 miles of streams	6.2 miles of streams
Indirect impacts – fugitive dust, dewatering, and fragmentation	1,609 acres of wetlands and other waters 79.5 miles of streams	3,438 acres of wetlands and other waters 96.5 miles of streams
<b>Total Impacts</b>	<b>4,614 acres of wetlands impacted</b> <b>191.1 miles of streams impacted</b>	<b>15,198 acres of wetlands impacted</b> <b>538.6 miles of streams impacted</b>
<u>Fish Habitat</u>		
Direct & permanent impacts – mine site – fish habitat loss	8.5 miles of anadromous fish habitat permanently lost  12.7 additional miles of resident fish stream habitat permanently lost  Total 21.2 miles of fish-bearing streams permanently lost (blocked or filled by mine components)	43.5 miles of anadromous fish habitat permanently lost (blocked or filled by mine components)
Direct & permanent impacts – transportation corridor – total stream crossings	205 stream crossings, including 17 bridges	205 stream crossings, including 17 bridges
Direct & permanent impacts – transportation corridor – fish passage stream crossings	54 fish stream crossings	54 fish stream crossings

<sup>51</sup> Final EIS Alternative #3.

<sup>52</sup> See, Final EIS Chapter 4, Table 4.1-1 (“Pebble Project expansion—develop 55% of delineated resources”).

Without question, the proposed Pebble Mine Project at the proposed 2020 Mine Plan size of 1.3 billion tons mined will be the largest and most damaging hardrock mine project in the history of Alaska. The proposed 2020 Mine Plan is also more damaging to anadromous waters and aquatic habitat than any other project we could find on record in Alaska.

<b>Table 2. Section 404 Permit Alaska Project Comparison Chart</b>			
	<b>Salmon &amp; Fish Streams</b>	<b>All Streams</b>	<b>Wetlands, Lakes, Ponds, &amp; Marine Waters</b>
Pebble Mine (Alt #3) 20-Year Proposal (targeting 12.7% of resource)	<ul style="list-style-type: none"> <li>– More than 8 miles anadromous-cataloged streams destroyed<sup>53</sup></li> <li>– More than 20 miles of fish-bearing streams destroyed.<sup>54</sup></li> </ul>	<ul style="list-style-type: none"> <li>– At least 105.4 miles destroyed.<sup>55</sup></li> <li>– Water flow and water quality impacts could affect 79.5 more miles.<sup>56</sup></li> </ul>	<ul style="list-style-type: none"> <li>– At least 2,232 acres direct and permanent loss (plus 773 acres temporary impact and 1,609 acres indirect impacts from dust, dewatering, and fragmentation)<sup>57</sup></li> </ul>
Pebble Mine 78-Year Expanded Development Scenario (targeting 55% of resource)	Over 43 miles anadromous-cataloged streams destroyed at the mine site <sup>58</sup>	435.9 miles permanently destroyed <sup>59</sup>	10,987 acres permanently destroyed <sup>60</sup>
Greens Creek Mine	0 linear miles <sup>61</sup>	Not quantified.	<ul style="list-style-type: none"> <li>– Impacts through 2003 not quantified.<sup>62</sup></li> <li>– 10.2 additional acres (2003 tailings)<sup>63</sup></li> <li>– 14.5 additional acres (2013 expansion)<sup>64</sup></li> </ul>
Fort Knox Mine	0 linear miles. Burbot and grayling habitat only. <sup>65</sup> No ADF&G anadromous waters catalog	Not quantified.	<ul style="list-style-type: none"> <li>– 480 acres (1995 tailings construction)<sup>67</sup></li> <li>– 57.6 additional acres (2007 heap leach facility)<sup>68</sup></li> </ul>

<sup>53</sup> Final EIS, page 4.24-3, Table 4.24-1.

<sup>54</sup> Final EIS, page 4.24-3, Table 4.24-1.

<sup>55</sup> Final EIS, Executive Summary, p.93, Table ES-1.

<sup>56</sup> Final EIS, Executive Summary, p.93, Table ES-1.

<sup>57</sup> Final EIS, page 4.22-111, Table 4.22-40.

<sup>58</sup> Final EIS, Chapter 4.24, Table 4.24-4: Summary of Cumulative Effects for Fish Values (“At the mine site, an additional 35 miles of anadromous stream habitat would be lost in the SFK and UTC watersheds.”).

<sup>59</sup> Final EIS, page 4.22-111, Table 4.22-40.

<sup>60</sup> Final EIS, page 4.22-111, Table 4.22-40.

<sup>61</sup> USDA Forest Service, Record of Decision Greens Creek Mine Tailings Disposal Facility Expansion (Sept. 5, 2013), p. 34, available at [http://dnr.alaska.gov/mlw/mining/largemine/greencreek/pdf/FEIS\\_ROD.pdf](http://dnr.alaska.gov/mlw/mining/largemine/greencreek/pdf/FEIS_ROD.pdf).

<sup>62</sup> *Id* at p. 3-114.

<sup>63</sup> USDA Forest Service, Record of Decision and Final EIS, Greens Creek Tailings Disposal (Nov. 2003), p. 4-37, available at <http://dnr.alaska.gov/mlw/mining/largemine/greencreek/pdf/feis1.pdf>.

<sup>64</sup> Army Corps of Engineers, signed authorization of work, Greens Creek Tailings Disposal (Feb. 11, 2015), available at <http://dnr.alaska.gov/mlw/mining/largemine/greencreek/pdf/poa1988-269m6.pdf>

<sup>65</sup> ADF&G Technical Report No. 14-08, Arctic Grayling and Burbot Studies at the Fort Knox Mine (Oct. 2014), available at [https://www.adfg.alaska.gov/static/home/library/pdfs/habitat/14\\_08.pdf](https://www.adfg.alaska.gov/static/home/library/pdfs/habitat/14_08.pdf)

<sup>67</sup> SRK Consulting, Fort Knox and True North Mines Environmental Audits, submitted to Alaska DNR, DEC, DF&G (May 2012), p. 53-54, available at <http://dnr.alaska.gov/mlw/mining/largemine/fortknox/pdf/fgmiaudit2012.pdf>.

<sup>68</sup> State of Alaska, DEC, Fish Creek FGMI Mining POA-1992-574-S, Section 401 Certificate of Reasonable Assurance (July 12, 2007), available at <http://dnr.alaska.gov/mlw/mining/largemine/fortknox/pdf2/401scert.pdf>.

<b>Table 2. Section 404 Permit Alaska Project Comparison Chart</b>			
	<b>Salmon &amp; Fish Streams</b>	<b>All Streams</b>	<b>Wetlands, Lakes, Ponds, &amp; Marine Waters</b>
	designations in or around mine site area. <sup>66</sup>		– 15.64 additional acres (2011 TSF dam raise); <sup>69</sup> 2 additional acres (2015 waste rock dump expansion); <sup>70</sup> 0.97 additional acres (2018 phase 10 pit expansion) <sup>71</sup>
Kensington Mine	No permanent loss and Slate Creek dam not located in designated anadromous waters. <sup>72</sup>	Not quantified.	– 83.4 acres permitted <sup>73</sup>
Pogo Mine	0 linear miles	Not quantified.	306 acres <sup>74</sup>
Red Dog Mine	Not quantified.	Not quantified.	– 1,402.6 acres (observed 1984-2009) <sup>75</sup> – 119 additional acres (2009 Aqaluk expansion) <sup>76</sup>
<b>Oil &amp; Gas Projects in Alaska</b>			
Nanushuk	0 linear miles	0 linear miles	288 acres <sup>77</sup>
Point Thompson Development Project	0 linear miles salmon streams. <sup>78</sup> Not quantified, but ROD discusses avoidance of work in anadromous fish habitat <sup>79</sup>	Not quantified in ROD, impacts not clear	267.1 acres <sup>80</sup>
Northstar Project	0 linear miles	0 linear miles	23.3 acres for Seal Island construction <sup>81</sup>

<sup>66</sup> <https://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?ADFG=main.interactive>

<sup>69</sup> Army Corps of Engineers, Public Notice of Application for Permit, Fish Creek POA-1992-574-M19 (Sept. 29, 2010), available at [http://dec.alaska.gov/Water/WPSdocs/POA-1992-574-M19\\_CERT.PDF](http://dec.alaska.gov/Water/WPSdocs/POA-1992-574-M19_CERT.PDF)

<sup>70</sup> Army Corps of Engineers, POA-1992-574-M24 (issued May 2, 2014).

<sup>71</sup> Fort Knox Mine Plan of Operations Amendment Request (Dec. 12, 2018), available at <http://204.89.222.126/mlw/mining/largemine/fortknox/pdf2018/f20149852poo-mod-request-15.pdf>

<sup>72</sup> Alaska Dept. of Fish and Game Fish Habitat Permit FH05-I-0050 (Aug. 28, 2009), p. 2, available at [https://www.adfg.alaska.gov/static/home/library/pdfs/habitat/11\\_08b.pdf](https://www.adfg.alaska.gov/static/home/library/pdfs/habitat/11_08b.pdf)

<sup>73</sup> Army Corps of Engineers, Public Notice of Application for Permit, Lynn Canal POA-1990-592-M6 (July 17, 2009), available at <http://dnr.alaska.gov/mlw/mining/largemine/kensington/pdf/kensusacepnjul09.pdf>

<sup>74</sup> Army Corps of Engineers, Public Notice of Application for Permit, Goodpaster River 1 (Sept. 19, 2003), p. 2, available at [http://dnr.alaska.gov/mlw/mining/largemine/pogo/pogo9-18/pogo\\_feis\\_vol\\_II.pdf](http://dnr.alaska.gov/mlw/mining/largemine/pogo/pogo9-18/pogo_feis_vol_II.pdf) (appendix B).

<sup>75</sup> Red Dog Mine Extension – Aqaluk Project Final SEIS, p. 3-100, available at <http://dnr.alaska.gov/mlw/mining/largemine/reddog/pdf/rdseis2009vol1.pdf>.

<sup>76</sup> Army Corps of Engineers, Public Notice of Application for Permit, Chukchi Sea POA-1984-12-M45 (Oct. 9, 2009), available at <http://dnr.alaska.gov/mlw/mining/largemine/reddog/pdf/rdseis2009vol2a.pdf>

<sup>77</sup> <http://www.nanushukeis.com/projectdescription.html>

<sup>78</sup> Army Corps of Engineers, Record of Decision, Point Thompson Development Project (Oct. 19, 2012), available at <https://www.poa.usace.army.mil/Portals/34/docs/regulatory/PtThomsonRODOct2012.pdf>

<sup>79</sup> *Id* at p. 58.

<sup>80</sup> *Id* at p. 2.

<sup>81</sup> Army Corps of Engineers, Record of Decision, Northstar (May 3, 1999), p. 22, available at [https://www.boem.gov/uploadedFiles/BOEM/About\\_BOEM/BOEM\\_Regions/Alaska\\_Region/Leasing\\_and\\_Plans/Plans/1999-5-3\\_US\\_Corp\\_of\\_Engineers\\_Alaska\\_District\\_Record\\_of\\_Decision.pdf](https://www.boem.gov/uploadedFiles/BOEM/About_BOEM/BOEM_Regions/Alaska_Region/Leasing_and_Plans/Plans/1999-5-3_US_Corp_of_Engineers_Alaska_District_Record_of_Decision.pdf)

	<b>Salmon &amp; Fish Streams</b>	<b>All Streams</b>	<b>Wetlands, Lakes, Ponds, &amp; Marine Waters</b>
Liberty (Hilcorp)	0 linear miles	0 linear miles	88.1 acres <sup>82</sup>

Moreover, no hardrock mine project in Alaska comes close to Pebble in terms of water treatment needs. For the 20-year mine plan, which targets less than 13% of the Pebble ore deposit, the Final EIS states that PLP will need to treat nearly 39 million gallons of water per day. For the 78-year plan, which targets 55% of the ore deposit, this number jumps to nearly 54 million gallons per day. Because of the composition of the polluted water created by the mining operations, this water treatment involves multiple complex processes and equipment, including chemical precipitation, filtration, high-pressure membrane filtration, and reverse osmosis.

<b>Mine</b>	<b>Gallons per Day</b>	<b>Process/Equipment</b>	<b>Pebble vs others</b>
Pebble Mine Water Treatment Plants (WTPs) (proposed), 20 year mine	38,779,012 (combined based on two proposed WTPs) <sup>83</sup>	chemical precipitation, filtration, high-pressure membranes filtration, and reverse osmosis	--
Pebble Mine WTPs (proposed), 78 year mine	53,902,829 (approximate) <sup>84</sup>	unknown	--
Kensington Mine WTP	2,160,000 <sup>85</sup>	Co-precipitation	Pebble 20 year mine requires water treatment 18 times that of Kensington; 78 year plan is 25 times
Greens Creek Mine WTP	3,600,000 <sup>86</sup>	Co-precipitation	Pebble 20 year mine requires water treatment 10.8 times that of Greens Creek; 78 year plan is 15 times
Red Dog Mine WTP	6,624,000 <sup>87</sup>	Chemical precipitation	Pebble 20 year mine requires water treatment 5.9 times that of Red Dog; 78 year plan is over 8 times
Donlin WTP (proposed)	6,840,000 (max. capacity) <sup>88</sup>	Oxidation, clarification, and filtration	Pebble 20 year mine requires water treatment 5.7 times that proposed for Donlin; 78 year plan is nearly 8 times

<sup>82</sup> Army Corps of Engineers, Public Notice of Application for Permit, Beaufort Sea POA-2015-16 (Aug. 21, 2017), available at <https://www.poa.usace.army.mil/LinkClick.aspx?fileticket=wDoo3enUTMk%3D&portalid=34>

<sup>83</sup> Final EIS, Executive Summary, at page 13 (two water treatment plans proposed to treat influent of 14 cfs and 46 cfs (60 cfs total) converts to 26,929.87 gallons per minute).

<sup>84</sup> Final EIS, Chapter 4.1, Table 4.1-2: Assumptions for Pebble Project Expansion (“For the purpose of this analysis, the increase in water required for production and treatment would increase by 39%, commensurate with the increase in production.”) (60 cfs increased by 39% results in 83.4 cfs, which converts to 37,432.52 gallons per minute).

<sup>85</sup> Water Engineering Technologies, Inc., White Paper on Water Treatment Process, prepared for Pebble Limited Partnership (July 24, 2012), p. 5 (Kensington Mine process rate of 1,500 gallons per minute).

<sup>86</sup> *Id* at p. 5 (Greens Creek Mine process rate of 2,500 gallons per minute)

<sup>87</sup> *Id* (Red Dog Mine process rate of 4,600 gallons per minute).

<sup>88</sup> Donlin APDES permit, available at [http://dec.alaska.gov/Water/WPSdocs/AK0055867\\_docs.pdf](http://dec.alaska.gov/Water/WPSdocs/AK0055867_docs.pdf) (based on 4,750 gallons per minute permitted capacity).

As the Final EIS notes, “no other wild salmon fishery in the world exists in conjunction with an active mine of this size.”<sup>89</sup>

The Final EIS clearly demonstrated that Pebble Mine would have extensive impacts on Bristol Bay’s wetlands and rivers.<sup>90</sup> As such, on August 24, 2020, the U.S. Army Corps announced publicly that PLP’s 2020 mine plan mine “could not be permitted”, among other things because of an inadequate compensatory mitigation plan.<sup>91</sup> On November 20, 2020, the Army Corps formally denied PLP’s permit application, finding that (1) Pebble would cause unavoidable adverse impacts to the region’s waters and (2) was contrary to the public interest.

#### **D. PLP’s Permit Denial Appeal and Future Plans**

On January 19, 2021, PLP filed a request for an appeal of the Army Corps permit denial with Pacific Ocean Division of the Army Corps. PLP’s reasons for appeal include: (i) the Army Corps’ finding of significant degradation is contrary to law and unsupported by the record; (ii) the Army Corps’ rejection of PLP’s compensatory mitigation plan is contrary to Army Corps regulations and guidance; and (iii) the Army Corps’ determination that the Pebble Project is not in the public interest is contrary to law and unsupported in the record.<sup>92</sup> The Army Corps accepted the appeal on February 25, 2021, and review of the appeal is ongoing. An appeals conference between the Army Corps and PLP was held in July 2022.<sup>93</sup>

Concurrent with the appeal process, PLP and its parent company Northern Dynasty Minerals (“NDM”) have made public pronouncements that the companies “have by no means given up on this project” and have publicly discussed potential amendments to the 2020 Mine Plan with the aim towards regulatory approval.<sup>94</sup>

Specifically, the companies have discussed moving the Project forward with new project design options such as dry stacking, underground mining at Pebble East, and chemical gold recovery and altering components of its 2020 Mine Plan such as water treatment:<sup>95</sup> These options, however, were dismissed in the Army Corps permitting process as not qualifying as the Least Environmentally Damaging Practicable Alternative (“LEDPA”) because the options either increased environmental impacts or were not financially viable. For example, the Army Corps

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<sup>89</sup> Final EIS, at p. 4.6-9.

<sup>90</sup> See e.g., BBNC’s review of the Final EIS, available at: <https://www.bbnc.net/wp-content/uploads/2020/07/FEIS-Inadequate-to-Support-Clean-Water-Act-Permit.pdf>.

<sup>91</sup> U.S. Army Public Affairs, *Army finds Pebble Mine project cannot be permitted as proposed* (Aug. 24, 2020), [https://www.army.mil/article/238426/army\\_finds\\_pebble\\_mine\\_project\\_cannot\\_be\\_permitted\\_as\\_proposed](https://www.army.mil/article/238426/army_finds_pebble_mine_project_cannot_be_permitted_as_proposed).

<sup>92</sup> NDM, Second Quarter Financial Report for the period ending June 30, 2022 (filed with the SEC Aug. 16, 2022), available at: [https://www.sec.gov/Archives/edgar/data/0001164771/000165495422011412/ndm\\_6k.htm](https://www.sec.gov/Archives/edgar/data/0001164771/000165495422011412/ndm_6k.htm).

<sup>93</sup> *Id.*

<sup>94</sup> SmithWeekly Research Discussion with Ron Thiessen, Northern Dynasty Minerals, Part 1 June 22, 2021, available at: <https://www.youtube.com/watch?v=i8JcFccI04A> and <https://www.smithweeklyinternational.com/discussions>.

<sup>95</sup> SmithWeekly Research Discussion with Ron Thiessen, Northern Dynasty Minerals, Part 1 (June 22, 2021), available at: <https://www.youtube.com/watch?v=i8JcFccI04A> and <https://smithweekly.podbean.com/e/discussion-with-ron-thiessen-part-1-northern-dynasty-minerals-nysenak/> (discussion of new gold recovery and water treatment plans at 13:26 to 15:16; discussion of dry-stacking plans at 20:57 to 22:02; and discussion of an underground mine at Pebble at 22:26 to 24:46).



found that developing an underground mine at Pebble East “would increase adverse environmental impacts,” specifically by increasing direct wetlands impacts by approximately 2,600 acres and impacting Upper Talarik Creek.<sup>96</sup>

In October 2021, NDM filed with the Securities and Exchange Commission (“SEC”) an updated Preliminary Economic Assessment (“2021 PEA”) that presents the projected economics of the 2020 Mine Plan and “explores potential expansion scenarios for the Project.”<sup>97</sup> Under the Expanded Mine Scenario, approximately 8.6 billion tons of ore would be mined over 58 years, with additional milling occurring over another 20 to 40 years, for a total of 78 to 98 years of additional activity at the mine site. This Expanded Mine Scenario, consisting of 55% of the delineated Pebble orebody, was also analyzed in the Final EIS as a reasonably foreseeable future action.<sup>98</sup>

That the companies continue to pursue a larger mine plan and alternative mine designs is unsurprising. Throughout the history of the companies, PLP and NDM have described mine plans differently depending on the audience, posing one plan to the regulatory community while promoting other plans to the investment community. As NDM CEO Ron Thiessen admitted to the investment community in summer 2021, the “purpose” of the 2020 Mine Plan was “to try and create something that people could get comfortable with, we could obtain, if you will, our social license.”<sup>99</sup>

Some of PLP’s options for alternative mine plan designs were discussed and rejected in the Army Corps permitting process, including 26 alternative locations for tailings storage facilities (see Figure 1 below) and 7 alternative water management pond locations (see Figure 2 below). Many of these options were dismissed by PLP as not practicable due to greater impacts to wetlands, greater impacts to anadromous fish waters, legal impossibility due to Mineral Closure Order 393 or lack of financial viability.<sup>100</sup>

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<sup>96</sup> Final EIS, Appx. B, p. B-9. *See also*, p. B-26 (dismissing secondary gold recovery by cyanide leaching alternative because of environmental impacts such as toxicity to aquatic organisms and increasing the project footprint) and pp. B-69 to 70 (dismissing the dry stacking alternative because the milling rate at Pebble is too large and “would greatly complicate the logistics of the milling operation to include frequent clogging of filters [and] the need for an emergency slurry TSF.”).

<sup>97</sup> Pebble Project Preliminary Economic Assessment NI 43-101 Technical Report, prepared for Northern Dynasty Minerals Ltd., prepared by Ausenco Engineering Canada (effective date: Sept. 9, 2021), on file with the SEC at: [https://www.sec.gov/Archives/edgar/data/1164771/000165495421011600/ndm\\_ex991.htm](https://www.sec.gov/Archives/edgar/data/1164771/000165495421011600/ndm_ex991.htm) [hereinafter “2021 PEA”].

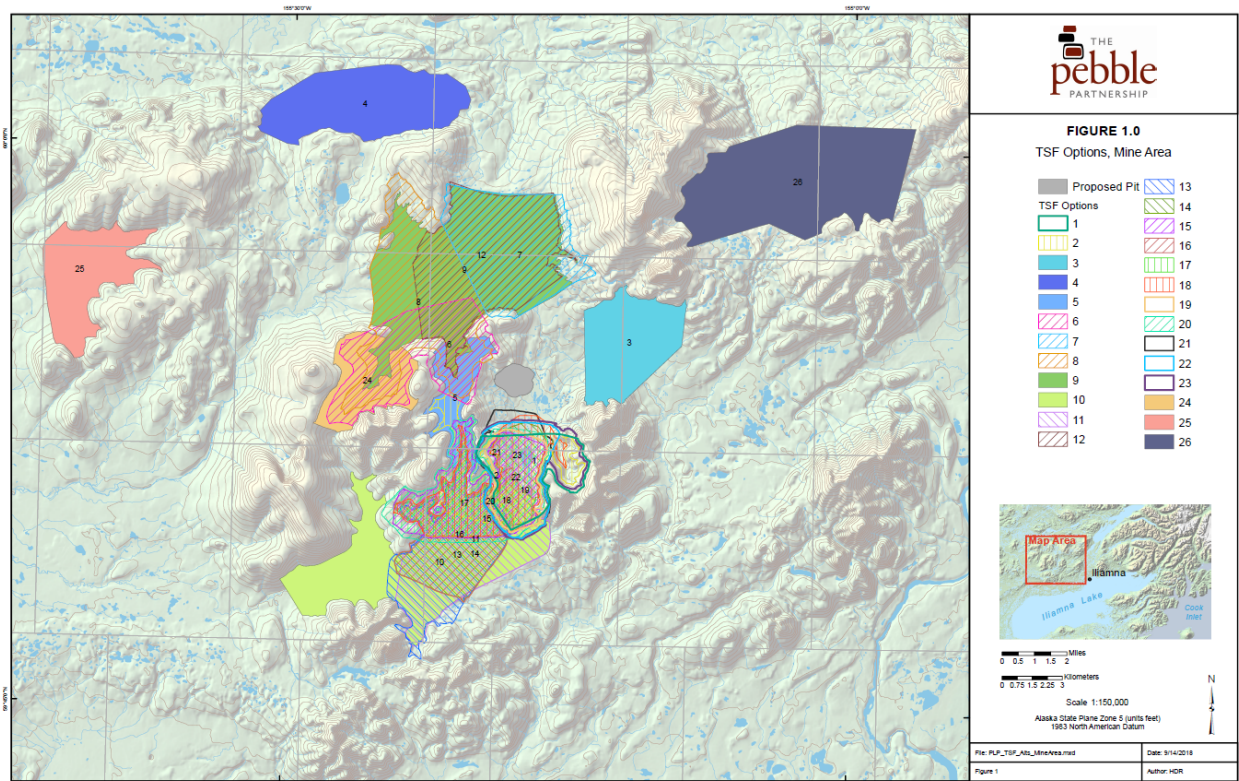
<sup>98</sup> Final EIS at Table 4.1-1.

<sup>99</sup> SmithWeekly Research Discussion with Ron Thiessen, Northern Dynasty Minerals, Part 1 (June 22, 2021), available at: <https://www.youtube.com/watch?v=i8JcFccI04A> and <https://smithweekly.podbean.com/e/discussion-with-ron-thiessen-part-1-northern-dynasty-minerals-nysenak/>.

<sup>100</sup> Table 4 impacts numbers and PLP’s analysis of TSF options available in RFI 98. *See* enclosed Appx. C, at p. 2280.

Table 4. Selected PLP TSF Options Impacts						
TSF Option	Impacted Watershed (HUC10)	Wetlands Filled	Total Stream Miles Filled	Fish-Bearing Stream Miles Filled	Anadromous Stream Miles Filled	Mineral Closure Order 393
TSF Option 1	SFK	856 acres	9.7 miles	17.1 miles	5.7 miles	Yes
TSF Option 2	SFK	1,000 acres	15.4 miles	25.3 miles	9.6 miles	Yes
TSF Option 3	UTC	2,599 acres	17.9 miles	31.5 miles	20.1 miles	Yes
TSF Option 4	Chulitna	2,000 acres	20.4 miles	5.7 miles	0.0 miles	No
TSF Option 5	SFK and NFK	859 acres	9.2 miles	8.6 miles	1.7 miles	No
TSF Option 17	SFK	544 acres	11.5 miles	11.5 miles	6.2 miles	No
TSF Option 19	SFK	794 acres	7.4 miles	17.4 miles	6.0 miles	Yes
TSF Option 21	SFK	1,387 acres	11.1 miles	17.5 miles	6.1 miles	Yes
TSF Option 22	SFK	1,113 acres	9.5 miles	17.5 miles	6.1 miles	Yes
TSF Option 23	SFK	1,347 acres	12.8 miles	17.6 miles	6.2 miles	Yes

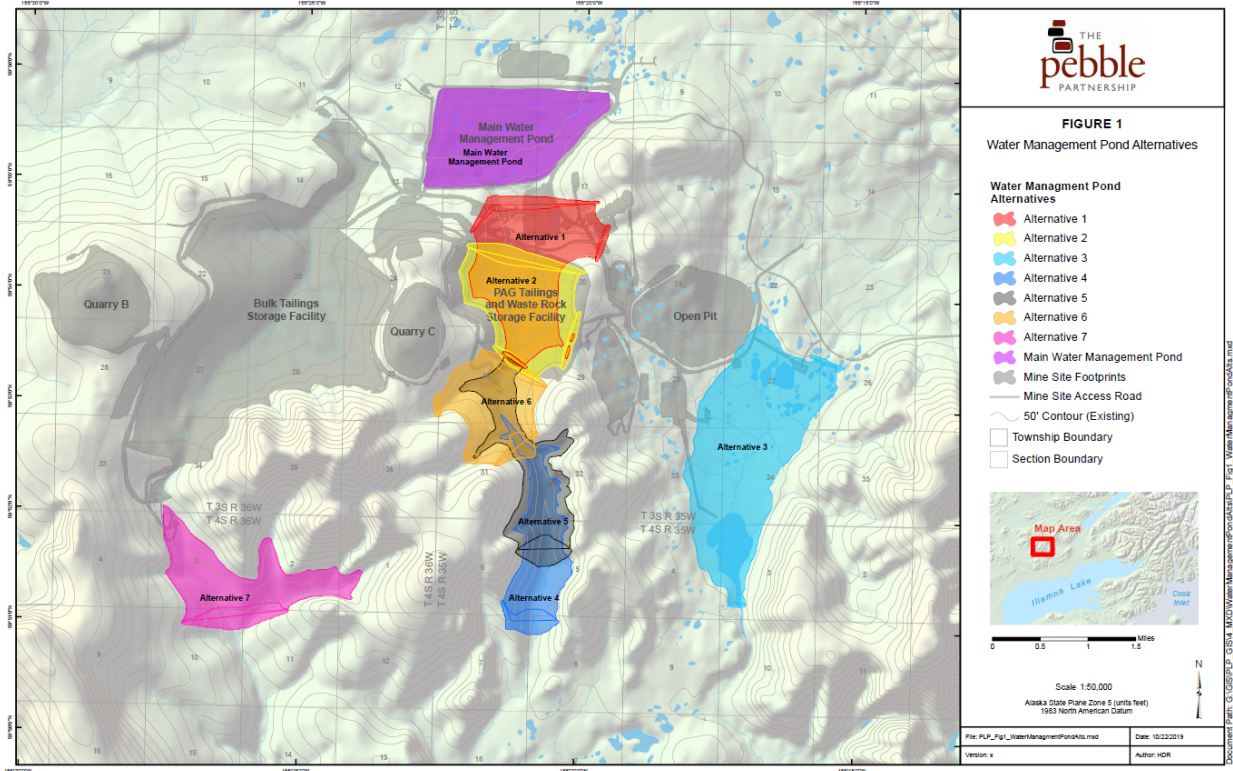
Despite these high levels of impacts and PLP’s own dismissal of these options, PLP may try and resurrect rejected options, or some combination thereof, plans, as the company’s options for siting facilities are limited by the region’s topography, climate, and other factors.<sup>101</sup>



**Figure 1.** PLP Tailings Storage Facility Options, response to Army Corps RFI 69 (Sept. 2018).

<sup>101</sup> For instance, as EPA noted in the 2014 BBWA, the topography in the region limits PLP’s options for siting its tailings storage and water management facilities. *See* EPA, An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska (2014), [hereinafter “Bristol Bay Watershed Assessment” or “BBWA”], at p. 6-2 and Appx. I at p. 7 (“The selection and design of a tailings disposal site is site specific and depend on factors such as climate, topography, geology, hydrology, seismicity, economics, and environmental and human safety.”).

Of particular significance, from the 26 TSF options analyzed by PLP, two options were elevated by the Army Corps as alternatives to analyze in the EIS—NFK North and NFK East—as were all 7 alternative water management ponds.<sup>102</sup>



**Figure 2.** PLP Water Management Pond Alternatives, response to Army Corps RFI 150 (Oct. 2019).

Finally, NDM and PLP frequently tout the undiscovered mineral potential of its claim block as a potential for future mining operations. PLP holds 1,840 mineral claims in a contiguous block covering approximately 274 square miles at the headwaters of Bristol Bay.<sup>103</sup> Within those claims, the companies describe a resource estimate at the Pebble deposit as 6.5 billion metric tons measured and indicated and 4.5 billion metric tons inferred.<sup>104</sup> In defining its 11.0 billion metric ton deposit, the companies refer only to the main delineated deposit itself, noting that the main delineated deposit may extend to the east and south into areas as yet undelineated and unexplored.<sup>105</sup> Indeed, NDM states that a borehole “drilled outside the current resource... demonstrates the high-grade potential to the east,” and that “[t]here also remains exciting exploration potential to add to the known resource ... to the east, at depth, and possibly, to the south.”<sup>106</sup>

<sup>102</sup> Final EIS, Appx. B Figures B-3 and B-4.

<sup>103</sup> NDM, Second Quarter Financial Report for the period ending June 30, 2022 (filed with the SEC Aug. 16, 2022), available at: [https://www.sec.gov/Archives/edgar/data/0001164771/00011647712022011412/ndm\\_6k.htm](https://www.sec.gov/Archives/edgar/data/0001164771/00011647712022011412/ndm_6k.htm).

<sup>104</sup> <https://www.northerndynastyminerals.com/pebble-project/project-overview/>

<sup>105</sup> <https://www.northerndynastyminerals.com/pebble-project/geology-and-exploration/>

<sup>106</sup> *Id.*

Illustrating the incomplete delineated nature of the Pebble deposit, maps and cross sections of the deposit area published by NDM show that the deposit delineation is “open” in the north, south, and east and to varying depths below -4,000 feet.

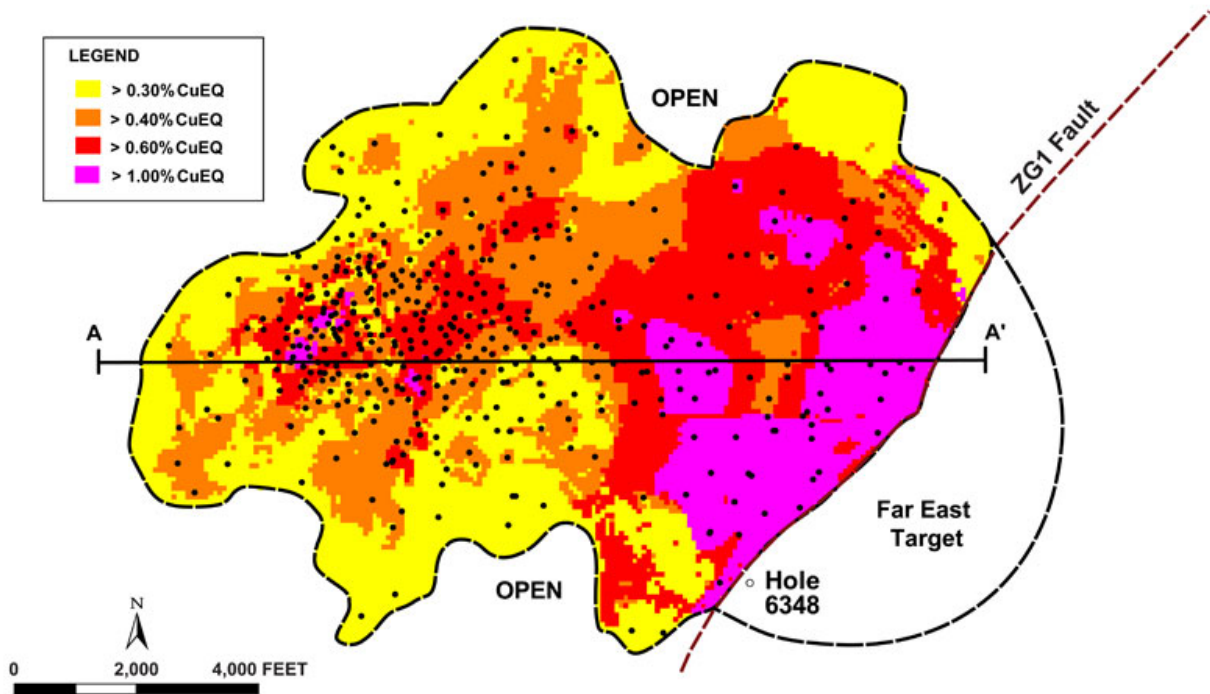


Figure 3. NDM, Pebble Plan View<sup>107</sup>

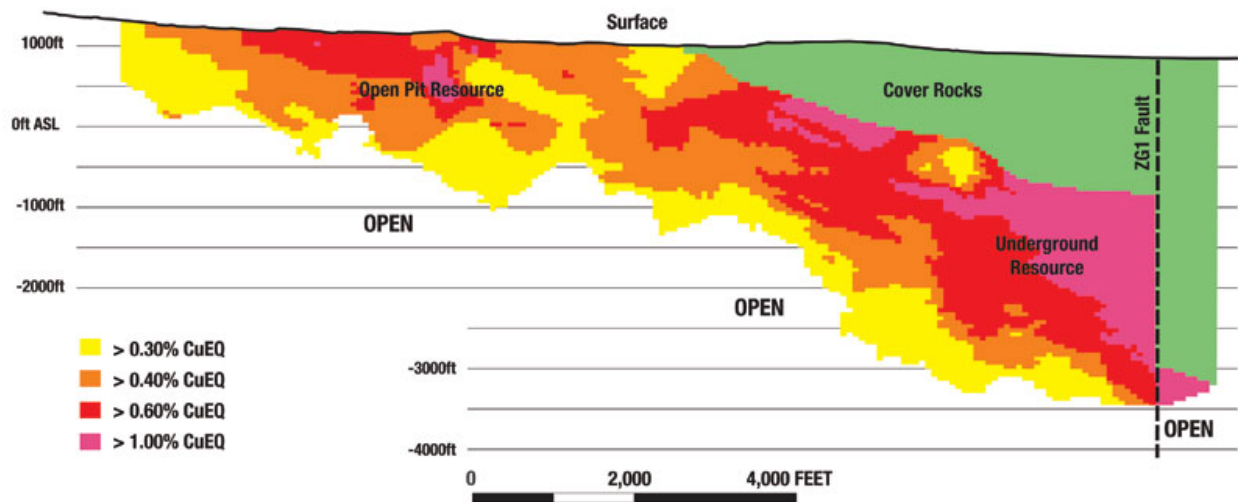


Figure 4. NDM, Pebble Deposit Cross Section<sup>108</sup>

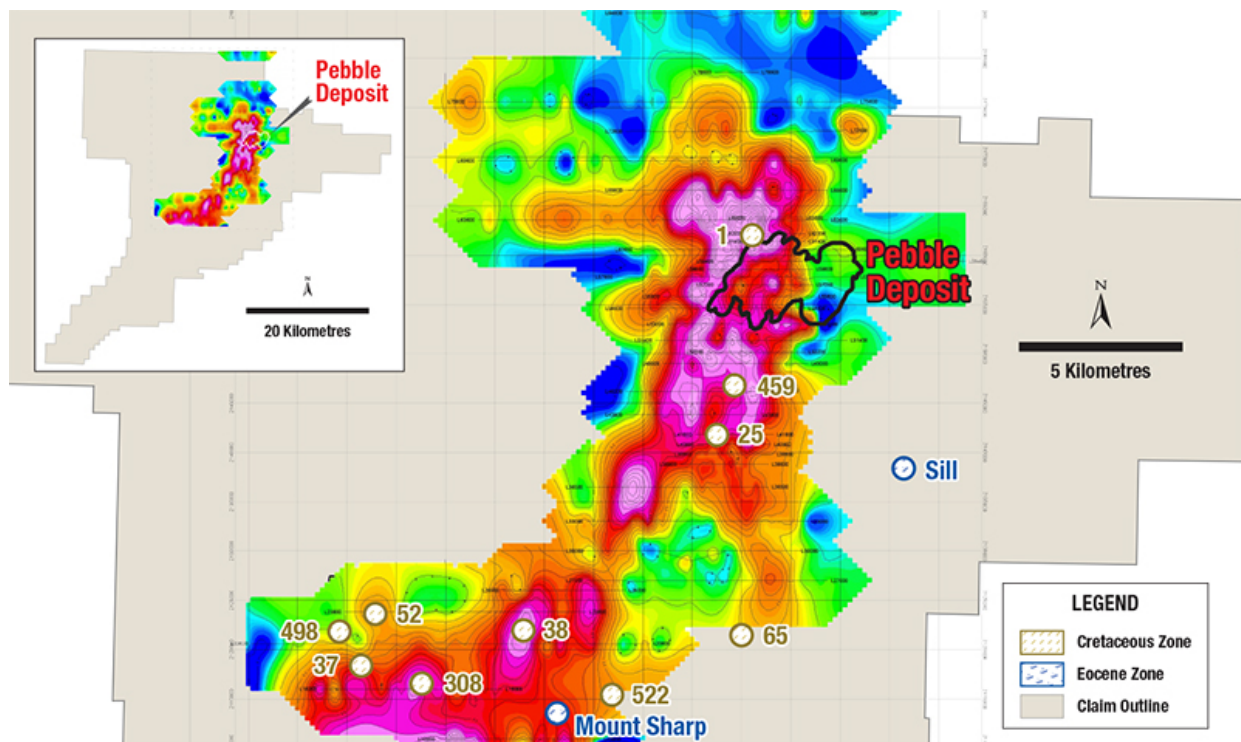
<sup>107</sup> See, <https://northerndynastyminerals.com/pebble-project/geology-and-exploration/> (with NDM noting that this figure “Shows copper equivalent grades, drill holes used in resource estimate (solid black) and expansion potential.”).

<sup>108</sup> See, <https://northerndynastyminerals.com/pebble-project/geology-and-exploration/> (with NDM noting that this figure is “the Pebble deposit (as currently known), mineralization extends to depths of up to 6,000 feet.”).

In addition to the Pebble deposit itself, NDM describes 12 additional mineralized areas within its mining claims that “warrants follow-up drilling in the years ahead,” as “[t]he potential to find and delineate satellite deposits elsewhere on the Pebble property is clear.”<sup>109</sup> NDM notes that:

10 zones of Cretaceous mineralization, comparable in age to the Pebble deposit have already been discovered in the area. These include several porphyry copper as well as gold and polymetallic vein prospects. ... In addition, two identified zones of precious-metals bearing, vein-style mineralization of Eocene age occur on the property.<sup>110</sup>

These 12 additional mineralized areas located on PLP property include: the Sill prospect (Eocene), Sharp Mountain Zone (Eocene), the 1 Gold Zone, the 25 Gold Zone, the 65 Porphyry Zone, the 37 Skarn Zone, the 38 Porphyry Zone, the 52 Porphyry Zone, the 308 Porphyry Zone, the 459 Zone, the 498 Zone, and the 522 Zone.<sup>111</sup>



**Figure 5.** Northern Dynasty Minerals, Pebble Deposit Geology and Exploration—12 mineralized areas

<sup>109</sup> *Id.*

<sup>110</sup> *Id.*

<sup>111</sup> Technical Report NI 43-101, NDM, 2018 Technical Report on the Pebble Project, Southwest Alaska, USA (issue date Feb. 22, 2018), p. 65-68, available at

<https://www.sedar.com/DisplayProfile.do?lang=EN&issuerType=03&issuerNo=00003151>. See also <https://www.northerndynastyminerals.com/pebble-project/maps-and-figures/>.

Details pertaining to these other mineralized areas—demonstrating the pyritic nature of these areas—are found in USGS publications,<sup>112</sup> PLP’s Environmental Baseline Document (EBD), the 2021 PEA, the 2011 PEA, and other technical reports NDM has filed with the Canadian Securities. To summarize these descriptions:

<b>Table 5. Mineralized Areas Identified in PLP Claim Block</b>		
<b>Mineralized Area</b>	<b># of holes drilled<sup>113</sup></b>	<b>Description</b>
<b>Sill Zone</b>	39	“A Tertiary, epithermal gold deposit lies in the Sill Zone, 5.6 kilometers southeast of the Pebble Deposit on the southeast side of Kuktuli Mountain. It is hosted by hypabyssal latite and comprises several narrow, discontinuous quartz veins and strongly silicified breccia zones with multi-gram grades in gold and silver.” <sup>114</sup>
<b>Sharp Mountain Zone</b>	0 (grab samples only) <sup>115</sup>	“The Sharp Mountain showing contains small, scattered quartz veins with epithermal textures and highly anomalous grades for gold and silver.” <sup>116</sup> “Gold was discovered in drusy veins of probable Tertiary age near the peak of Sharp Mountain. Grab samples of veins in talus ranged from 0.045 oz/ton Au to 9.32 oz/ton Au and 3.0 oz/ton Ag.” <sup>117</sup>
<b>001 Gold Zone</b>	1	“The 001 Gold showing is located immediately northwest of the ZF fault, adjacent to the Pebble West Zone. Gold grade of greater than 1 gram per metric ton related to pyrite veins hosted by intense quartz-sericite-pyrite alteration and lesser propylitic alteration comprise the mineralization in this zone.” <sup>118</sup> “Mineralization comprises gold grades to >1 g/t related to pyrite veins hosted by intense quartz-sericite-pyrite and less propylitic alteration.” <sup>119</sup>
<b>25 Gold Zone</b>	8	“The 25 Gold Zone contains high gold and copper concentrations over an area of approximately 0.5 square kilometers in the southcentral portion of an 8-square-kilometer pyroxenite body that was intruded strongly by irregular bodies of very fine-grained monzonite. [...] All are

<sup>112</sup> USGS, Alaska Resource Data File, <https://www.usgs.gov/centers/alaska-science-center/science/alaska-resource-data-file>.

<sup>113</sup> 2021 PEA Table 10-1. *See also*, Pebble Project Environmental Baseline Document 2004 through 2008 Chapter 3. Geology and Mineralization Bristol Bay Drainages, prepared by Knight Piésold Ltd. [hereinafter “EBD Ch. 3], at Figure 3-2b.

<sup>114</sup> EBD Ch. 3, at p. 3-10.

<sup>115</sup> 2021 PEA, at p. 77.

<sup>116</sup> EBD Ch. 3, at p. 3-10. *See also*, Technical Report on the 2009 Program and Update on Mineral Resources and Metallurgy Pebble Copper-Gold-Molybdenum Project, prepared for NDM Ltd. by Gaunt, J.D. et al., at p. 33 and Figure 9.2, available at: <https://www.sedar.com/DisplayCompanyDocuments.do?lang=EN&issuerNo=00003151> (filed March 18, 2010).

<sup>117</sup> 2021 PEA, at p. 77.

<sup>118</sup> EBD Ch. 3, at p. 3-10 to 11.

<sup>119</sup> Technical Report on the 2009 Program and Update on Mineral Resources and Metallurgy Pebble Copper-Gold-Molybdenum Project, prepared for NDM Ltd. by Gaunt, J.D. et al., at p. 33, available at: <https://www.sedar.com/DisplayCompanyDocuments.do?lang=EN&issuerNo=00003151> (filed March 18, 2010).

Table 5. Mineralized Areas Identified in PLP Claim Block		
Mineralized Area	# of holes drilled <sup>113</sup>	Description
		associated with widespread pyritic propylitic/skarn alteration.” <sup>120</sup>
<b>37 Skarn Zone</b>	7	“Strong skarn-type copper and gold mineralization in veins, associated with calc-silicate alteration...” <sup>121</sup>
<b>38 Porphyry Zone</b>	20	“The porphyry copper-gold-molybdenum 38 Porphyry Zone was discovered in 2002 [...] located at the southeast margin of the Kaskanak Batholith. The 38 Porphyry Zone is a substantial zone of copper- molybdenum-gold mineralization associated with quartz-sulfide veins and potassium-silicate, propylitic, and quartz-sericite-pyrite alteration.” <sup>122</sup>
<b>52 Porphyry Zone</b>	5	“The 52 Porphyry Zone is located in the southwestern part of the mine study area. This zone has anomalous values of copper and molybdenum in granodiorite of the Kaskanak Batholith. Bedrock in this area is weakly propylitic and has undergone potassium-silicate alteration.” <sup>123</sup>
<b>308 Porphyry Zone</b>	1	“The IP anomaly intersects porphyry-style alteration and copper-molybdenum-gold mineralization associated with potassium-silicate and quartz-sericite-pyrite alteration cut by quartz-sulfide veins similar to the 38 Porphyry Zone.” <sup>124</sup>

As evidenced by statements from NDM and PLP, the companies have long-term plans to continue to assess the mineral potential of these exploration prospects. In its most recent corporate presentation to investors, NDM notes the “good potential for a cluster of deposits to occur in the vicinity of Pebble.”<sup>125</sup> And as NDM’s President & CEO plainly stated to investors during the permitting process regarding these potential deposits, “when you build the infrastructure in there and you’ve got a concentrator you can feed it forever.”<sup>126</sup>

<sup>120</sup> EBD Ch. 3, at p. 3-11 to 12.

<sup>121</sup> EBD Ch. 3, at p. 3-11. *See also*, NDM, Pebble Porphyry Gold-Copper-Molybdenum Project 2004 Exploration Program (March 31, 2005), pp. 46-47, *available at*: <https://www.sedar.com/DisplayCompanyDocuments.do?lang=EN&issuerNo=00003151> (filed April 4, 2005).

<sup>122</sup> EBD Ch. 3, a p. 3-11. *See also*, NDM, 2003 Summary Report on the Pebble Porphyry Gold-Copper-Molybdenum Project (May 31, 2004), pp. 35-36, *available at*: <https://www.sedar.com/DisplayCompanyDocuments.do?lang=EN&issuerNo=00003151> (June 30, 2004).

<sup>123</sup> EBD Ch. 3, at p. 3-11.

<sup>124</sup> EBD Ch. 3, at p. 3-12.

<sup>125</sup> Northern Dynasty Minerals Ltd. Corporate Presentation (June 16, 2022), p. 22, *available at*: [https://northerndynastyminerals.com/site/assets/files/4617/ndm\\_presentation\\_june\\_16\\_2022-web.pdf](https://northerndynastyminerals.com/site/assets/files/4617/ndm_presentation_june_16_2022-web.pdf).

<sup>126</sup> *See* The Pebble Project, A Pathway to Permitting, Denver Gold Forum, Sept. 2017, The Pebble Partnership, Northern Dynasty Minerals, Ltd., Webcast at 4:36 min., *available at* <http://www.denvergoldforum.org/dgf17/company-webcast/NDM:CN/>. *See also*, Pebble Watch—Northern Dynasty CEO predicts Pebble permit within three years (Oct. 6, 2017), <https://pebblewatch.com/northern-dynasty-ceo-predicts-pebble-permit-within-three-years/> (summarizing 2017 Denver Gold Forum presentation).

## IV. LEGAL BACKGROUND

### A. Clean Water Act Section 404(c) and 404(b)(1) Guidelines

The purpose of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”<sup>127</sup> To that end, Congress made it “the national goal that the discharge of pollutants into the navigable waters be eliminated . . . .”<sup>128</sup> The statute also provides that “it is the national goal that wherever attainable, an interim goal of water which provides for the protection and propagation of fish, shell fish, and wildlife and provides for recreation in and on the water be achieved. . . .”<sup>129</sup>

Pursuant to Section 404(c) of the CWA, EPA is authorized to determine whether a discharge of dredged or fill material “will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas.”<sup>130</sup> In Section 404(c), Congress gave EPA broad authority to protect water resources from unacceptable adverse effects “whenever” the time is right.<sup>131</sup> This means the agency may use its Section 404(c) authority “at any time,” including before a permit application has been submitted, at any point during the permitting process, and after a permit has been issued.<sup>132</sup>

Congress enacted CWA Section 404(c) to provide EPA the ultimate authority, if it chooses on a case-by-case basis, to make decisions regarding specification of disposal sites for dredged and fill material discharges under CWA Section 404.<sup>133</sup> The CWA grants EPA the authority to specify a defined area as off-limits to the discharge of dredged or fill material when it determines that the discharge “will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas.”<sup>134</sup>

When undertaking a Section 404(c) action, EPA need only find a “reasonable likelihood” that unacceptable adverse effects will occur.<sup>135</sup> “Unacceptable adverse effect(s)” means any “impact on an aquatic or wetland ecosystem which is likely to result in significant degradation of municipal water supplies or significant loss of or damage to fisheries, shellfishing, or wildlife habitat or recreation areas.”<sup>136</sup> In making its determination of unacceptable adverse effects, EPA’s regulations provide that “consideration should be given to the relevant portions of the Section

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<sup>127</sup> 33 U.S.C. § 1251(a).

<sup>128</sup> *Id* § 1251(a)(1).

<sup>129</sup> *Id* § 1251(a)(2).

<sup>130</sup> 33 U.S.C. § 1344(c).

<sup>131</sup> 33 U.S.C. § 1344(c)

<sup>132</sup> 33 U.S.C. 1344(c); 40 CFR 231.1(a), (c); *Mingo Logan Coal Co. v. EPA*, 714 F.3d 608, 613 (D.C. Cir. 2013).

<sup>133</sup> *Mingo Logan Coal Co. v. EPA*, 714 F.3d 608, 612-13 (D.C. Cir. 2013).

<sup>134</sup> 33 U.S.C. § 1344(c).

<sup>135</sup> Denial or Restriction of Disposal Sites; Section 404(c) Procedures, 44 Fed. Reg. 58076, 58078 (Oct. 9, 1979) (“absolute certainty is *not* required. Because 404(c) determinations are by their nature based on predictions of future impacts, what is required is a *reasonable likelihood* that unacceptable adverse effects will occur — not absolute certainty but more than mere guesswork.”).

<sup>136</sup> *Id* § 231.2(e).



404(b)(1) Guidelines (40 CFR part 230).”<sup>137</sup> The Section 404(b)(1) Guidelines require that “dredged and fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern.”<sup>138</sup>

The Section 404(b)(1) Guidelines are expansive, with detailed standards relating to direct, secondary, and cumulative impacts to the environment, human health, wetlands, fish and wildlife, cultural and recreational values, water quality, and economics. In considering whether to issue a 404 permit, the Army Corps considers the Section 404(b)(1) Guidelines in their entirety. While EPA, in exercising its authority under Section 404(c), considers the portions of the 404(b)(1) Guidelines relevant to evaluating adverse effects, such as the requirements relating to significant degradation to waters of the United States (40 CFR § 230.10(c)), secondary effects (40 CFR § 230.11(h)), cumulative effects (40 CFR § 230.11(g)), and minimization of adverse impacts on aquatic ecosystems (40 CFR § 230.10(d)).

The Section 404(b)(1) Guidelines direct that no discharge or dredged or fill material shall be permitted if the discharge will cause or contribute to significant degradation of waters of the United States.<sup>139</sup> Likewise the Section 404(c) regulations direct that “unacceptable adverse effect(s)” means any “impact on an aquatic or wetland ecosystem which is likely to result in significant degradation ...”<sup>140</sup> For purposes of the Guidelines and 404(c) regulations, the effects contributing to significant degradation, considered individually or collectively, include:

- “Significantly adverse effects of the discharge of pollutants on human health or welfare, including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites.”<sup>141</sup>
- “Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and chemical processes.”<sup>142</sup>
- “Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability. Such effects may include, but are not limited to, loss of fish and wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy.”<sup>143</sup>
- “Significantly adverse effects of discharge of pollutants on recreational, aesthetic, and economic values.”<sup>144</sup>

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<sup>137</sup> *Id.*

<sup>138</sup> *Id.* § 230.1(c).

<sup>139</sup> 40 C.F.R. § 230.10(c).

<sup>140</sup> *Id.* § 231.2(e).

<sup>141</sup> *Id.* § 230.10(c)(1).

<sup>142</sup> *Id.* § 230.10(c)(2).

<sup>143</sup> *Id.* § 230.10(c)(3).

<sup>144</sup> *Id.* § 230.10(c)(4).

## B. EPA 404(c) Procedures and Past Agency Precedent

While the statute does not articulate the process by which the EPA is to undertake such designations, the implementing regulations at 40 C.F.R. Part 231 do.<sup>145</sup> When an EPA Regional Administrator has “reason to believe after evaluating the information available to him ... that an ‘unacceptable adverse effect’ could result from the specification or use for specification of a defined area for disposal of dredged or fill material,” the Regional Administrator may initiate a 404(c) action.<sup>146</sup>

To initiate a 404(c) action, the Regional Administrator must notify in writing the Army Corps, the property owner, and 404 permit applicant, if any, of the agency’s intention to issue a public notice of a Proposed Determination to prohibit or withdraw the specification of any defined area as a disposal site.<sup>147</sup> After initiating a 404(c) action, the EPA provides an opportunity to demonstrate “to the satisfaction of the Regional Administrator that no unacceptable adverse effect(s) will occur,” and to “take corrective action to prevent an unacceptable adverse effect” to the satisfaction of the Regional Administration.<sup>148</sup> If, within 15 days of its intent to issue a Proposed Determination, it has not been demonstrated to EPA that no unacceptable adverse effects will occur, then the Regional Administrator shall publish notice of a Proposed Determination.<sup>149</sup>

Following public notice of a Proposed Determination, the EPA must provide for a comment period of 30 to 60 days<sup>150</sup> and hold public hearings on the record.<sup>151</sup> The Regional Administrator must consider all comments in preparing a Recommended Determination.<sup>152</sup> The Regional Administrator then has 30 days from the close of the public hearing to either withdraw the Proposed Determination or prepare a Recommended Determination.<sup>153</sup>

Per the 404(c) regulations, any Recommended Determination must include: (1) a summary of the unacceptable adverse effects that could occur from use of the disposal site for the proposed discharge and (2) recommendations regarding a Final Determination to prohibit, deny, restrict, or withdraw, specifically confirming or modifying the Proposed Determination with a statement of reasons.<sup>154</sup> The regulations thus provide that the Regional Administrator must specifically “confirm or modify the proposed determination, with a statement of reasons”<sup>155</sup> and that such modification to a Proposed Determination will occur without the agency requiring an additional public comment period. In past 404(c) actions, EPA commonly modified its proposed 404(c) action between the Proposed Determination and Recommended Determination stages, without offering a renewed public comment period. Based on a review of the 13 final 404(c) actions

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<sup>145</sup> *Id* Part 231.

<sup>146</sup> *Id.* § 231.3(a).

<sup>147</sup> *Id* § 231.3(a)(1).

<sup>148</sup> *Id* § 231.3(a)(2).

<sup>149</sup> *Id* § 231.3(a)(2).

<sup>150</sup> *Id* § 231.4(a).

<sup>151</sup> *Id* § 231.4(b)-(g).

<sup>152</sup> *Id.*

<sup>153</sup> *Id* § 231.5(a). “The Administrator or the Regional Administrator may, upon a showing of good cause, extend the time requirements in these regulations.” *Id.* § 231.8.

<sup>154</sup> *Id* § 231.5(d)(1)-(2).

<sup>155</sup> *Id.*

completed by the EPA to date, 11 of those actions saw changes to the proposed 404(c) determination between the Proposed Determination and the Recommended Determination stages.<sup>156</sup> Notably, although the 404(c) regulations do not provide an additional public comment opportunity after the Proposed Determination stage, the regulations do require that EPA Headquarters notify and initiate consultation with the Army Corps, permit applicant, and State prior to issuing a Final Determination.<sup>157</sup>

## **V. THE ADMINISTRATIVE RECORD CONFIRMS THE PROPOSED PEBBLE MINE PROJECT WOULD HAVE AN UNACCEPTABLE ADVERSE EFFECT ON FISHERY AREAS**

EPA has firmly based the 2022 PD analysis of unacceptable adverse effects to PLP's 2020 Mine Plan and the associated administrative record from the Army Corps permitting process. The factual record, for which EPA assisted the Army Corps in compiling and analyzing during the permitting process, confirms EPA's finding of unacceptable adverse effects on fishery areas (including spawning and breeding areas) and alone is sufficient to support final 404(c) action. In addition, as described below, the Army Corps record supports findings of unacceptable adverse effects on wildlife, recreational areas, and drinking water supplies.<sup>158</sup> The Army Corps 404(b)(1) Guidelines analysis in its 2020 Record of Decision, confirmed by EPA's 404(b)(1) Guidelines analysis in the 2022 PD supports EPA's findings of unacceptable adverse effects. Finally, as determined by the Army Corps and confirmed by the EPA, the avoidance and minimization measures incorporated into PLP's 2020 Mine Plan "do not reduce the levels of impact to below significant"<sup>159</sup> while the compensatory mitigation measures were "inadequate to overcome the significant degradation identified in the 404(b)(1) analysis."<sup>160</sup> In short, the proposed Pebble Mine Project cannot meet the requirements of the CWA and thus EPA's 404(c) action is well-founded.

### **A. The Factual and Procedural Background that Supports Final 404(c) Action**

As the EPA and Army Corps records show, the proposed Pebble Mine Project would have unacceptable adverse effects on fishery areas, wildlife, and recreation areas. Impacts to any one of these important resources is sufficient to support final 404(c) action.

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<sup>156</sup> Changes between Proposed Determination and Recommended Determination in past 404(c) actions included changes to both geographic scope and type of 404(c) action (i.e., prohibition, restriction, or withdraw specification). Oftentimes, a Recommended Determination would merely prohibit the specification where a Proposed Determination had previously prohibited and restricted the specification. Changes in geographic scope between Proposed Determination and Recommended Determination occurred in 7 of the 13 final 404(c) actions and included additions and subtractions of waters and tributaries based on revised project details and analysis of impacts. The only final 404(c) actions without changes between the Proposed Determination and Recommended Determination were found in the Big River Water Supply Impoundment and Russo Development Corporation Site.

<sup>157</sup> 40 C.F.R. § 231.6.

<sup>158</sup> 33 USC 1344(c) ("The Administrator is authorized to prohibit the specification (including the withdrawal of specification) of any defined area as a disposal site, and he is authorized to deny or restrict the use of any defined area for specification (including the withdrawal of specification) as a disposal site, whenever he determines, after notice and opportunity for public hearings, that the discharge of such materials into such area *will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas.*").

<sup>159</sup> U.S. Army Corps of Engineers Record of Decision for Application Submitted by Pebble Limited Partnership (DA Permit # POA-2017-00271)(Nov. 20, 2020) [hereinafter "Pebble ROD"], attachment B2, p. 2.

<sup>160</sup> Pebble ROD, attachment B-6, Memorandum for the Record (Nov. 9, 2020).

***1. Unacceptable adverse effects on fishery areas (including spawning and breeding areas)***

Development of the 2020 Mine Plan would require the discharge of dredged or fill material into waters of the United States at the mine site, including massive direct and secondary effects of such discharges on fishery areas. Region 10's analysis utilizes the best available data and science developed during the NEPA process and PLP's permit application to document clearly unacceptable adverse effects on fishery areas including spawning and breeding areas.

The Pebble Final EIS notes a variety of impacts to salmon, the commercial fishery, and subsistence lifestyles directly from the destruction of anadromous habitat and Bristol Bay's headwaters and through reductions in water quality from spills and during normal operations:

- Direct Impacts to Fish and Fish Habitat at the Mine Site: "Potential impacts to fish values at the mine site include: direct loss of aquatic habitat in the NFK and SFK drainages; fish displacement, injury and mortality; changes in surface water and groundwater flows that could impact fish spawning, rearing, and off-channel habitat; increased sedimentation and turbidity in streams; impacts to fish migration; changes in surface water temperatures; and changes to surface water chemistry. In summary, development of the mine site would permanently remove approximately 99 miles of streambed habitat in the NFK and SFK drainages. Direct effects on fish, including displacement, injury, and mortality, would occur with the permanent removal of stream habitat in the NFK and SFK drainages due to mine site construction. Stream productivity in the NFK and SFK drainages would be reduced to some degree with the loss of physical and biological inputs. These impacts would be permanent, and certain to occur. The magnitude and extent of impacts from the change in streamflows would be to directly change the quantity and quality of instream spawning and rearing habitat for resident and anadromous fish. Changes in flows could also directly alter available habitat for benthic macroinvertebrate production, which is important for fish growth and survival."<sup>161</sup>
- Direct Impacts to Fish and Fish Habitat from Transportation Corridor: "The magnitude and extent of habitat loss from development of the transportation corridor and onshore portions of the natural gas pipeline under Alternative 3 would eliminate 5.7 miles of streambed habitat and 7.7 acres of riverine wetland habitat."<sup>162</sup>
- Impacts to Commercial and Recreational Fisheries: "Project construction and operations could have an impact on the commercial fishing community (e.g., crew members or processing), on the recreational sector via recreational fishing, and on revenue generated to state and local government. Potential impacts are influenced by project-related effects on fish population, habitat, and runs, as well as real and perceived effects on the quality of the fish, environment, and fishing experience."<sup>163</sup>
- Impacts to Special Aquatic Sites: "Special aquatic sites that would be directly and permanently impacted under Alternative 3 include mudflats, riffle and pool complexes, vegetated shallows, and wetlands. [...] The greatest magnitude of impact to special aquatic sites would be to wetlands (2,090 acres), including regionally important riparian wetlands (132 acres), fens (72 acres), forested wetlands (5 acres), estuarine wetlands (less than 1

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<sup>161</sup> Pebble Final EIS, Executive Summary, at page 81.

<sup>162</sup> Pebble Final EIS, Executive Summary, at page 84.

<sup>163</sup> Pebble Final EIS, Executive Summary, at page 86.

acre), followed by riffle and pool habitat (92 acres, including 88.5 miles of upper perennial stream), mudflats (57 acres), and vegetated shallows (4 acres).”<sup>164</sup>

- Cumulative Impacts to Wetlands and Other Waters: “Cumulative impacts to wetlands and other waters associated with the proposed Alternatives and the Pebble Project expansion scenario would transect 13 watersheds. [...] a maximum cumulative impact of 15,331 acres of wetlands and other waters (Alternative 1a), [...] would be lost or degraded with expansion of the mine.”<sup>165</sup>

Confirming these Final EIS findings, cooperating agencies, including the State of Alaska noted the following about the proposed Pebble Mine Project during the EIS process:

- Environmental Protection Agency: “this project as described [...] may have substantial and unacceptable adverse impacts on fisheries resources in the project area watersheds, which are aquatic resources of national importance.”<sup>166</sup>
- Department of Interior: “The DOI is concerned that developing an open pit mine and associated infrastructure at the headwaters of critical salmon habitat could cause permanent, adverse impacts to the ecologically and economically important Bristol Bay watershed, its world-class fisheries, and the commercial, recreational, and subsistence users who depend on them.”<sup>167</sup>
- U.S. Fish & Wildlife Service: “the proposed permanent placement of dredged or fill material [...] for the purpose of developing a surface mine and associated infrastructure in the Bristol Bay watershed, will have an unacceptable and substantial impact on aquatic resources of national importance.”<sup>168</sup>
- State of Alaska: “The proposed Pebble Project, specifically the mine pit, and associated ore processing and tailings storage areas straddle the headwaters of two drainages that support highly productive and valuable fishery resources. [...] the project has the potential to impact a biologically productive and sensitive part of Alaska”<sup>169</sup>

Subsequent to publication of the Final EIS, the Army Corps initially determined that—based on the direct impacts of the proposed Pebble Mine Project on wetlands and streams in the Bristol Bay region—the project as proposed “would cause unavoidable adverse impacts to aquatic resources and, preliminarily, that those adverse impacts would result in significant degradation to those aquatic resources.”<sup>170</sup> The Army Corps gave PLP the opportunity to rectify this initial determination, and when PLP failed to do so, the Army Corps Record of Decision confirmed that proposed project failed to comply with the CWA Section 404(b)(1) Guidelines because, even after consideration of proposed mitigation measures, “the proposed project would cause unavoidable

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<sup>164</sup> Pebble Final EIS, Executive Summary, at page 98.

<sup>165</sup> Pebble Final EIS, Executive Summary, at page 99.

<sup>166</sup> EPA, Comments on the U.S. Army Corps Draft Clean Water Action 404 Permit to Pebble Limited Partnership (July 1, 2019), at page 3, *available at* enclosed Appx. C, pp. 1012 to 1069.

<sup>167</sup> DOI, Comments on the Pebble Draft Environmental Impact Statement (July 1, 2019), at page 5, *available at*: enclosed Appx. C, pp. 1087 to 1095.

<sup>168</sup> USFWS letter to Col. Borders, USACE (July 25, 2019), *available at*: enclosed Appx. C, pp. 1235 to 1237.

<sup>169</sup> State of Alaska letter to USACE (June 29, 2018), *available at* enclosed Appx. C, pp. 1243 to 1265.

<sup>170</sup> Letter from David S. Hobbie, Regional Regulatory Division Chief, U.S. Army Corps of Eng’rs, to James Fueg, Pebble Limited Partnership (Aug. 20, 2020).

adverse impacts to aquatic resources which would result in Significant Degradation to aquatic resources.”<sup>171</sup>

The 2022 PD thus confirms the Army Corps’ findings of adverse impacts and significant degradation in particular to salmon spawning and breeding areas.

## ***2. Unacceptable adverse effects on wildlife***

The discharge of dredged or fill material associated with PLP’s proposed Project – under both the short-term 20-year project and cumulatively under the 78-year project – will directly result in unprecedented loss of fish and wildlife habitat in Alaska, loss of wildlife breeding, nesting, and foraging areas, loss of escape cover and travel corridors and landing areas, and loss of preferred food sources for both resident and transient wildlife. Indirectly, the cascading impacts of reduced salmon populations in Bristol Bay headwaters will lead to reduced nutrient availability for the complex food web and would risk far-reaching effects on many species. Cumulative effects to fish and wildlife over long time scales, even from the 20-year mine proposal, will be widespread across the entire Nushagak and Kvichak ecosystems and watersheds.<sup>172</sup> In turn, these impacts risk the culture and subsistence of the people of Bristol Bay, as well as the wildlife dependent economics of Bristol Bay.

The EPA and Department of Interior (DOI) have expressed a range of concerns about the proposed Pebble Mine Project’s impacts to wildlife, both from direct impacts to wildlife and indirect impacts to wildlife through cascading impacts on healthy salmon and resident fish populations. The best available science on this issue is contained in the EPA BBWA and its Appendix C—Wildlife Resources of the Nushagak and Kvichak River Watersheds, Alaska. Direct impacts to wildlife from mining the Pebble deposit were not assessed in EPA’s BBWA;<sup>173</sup> however, the BBWA Appendix C, also published separately as a USFWS publication,<sup>174</sup> contains a compilation of the best science and information related to brown bear (*Ursus arctos*), moose (*Alces alces gigas*), caribou (*Rangifer tarandus*), wolf (*Canis lupus*), waterfowl, bald eagle (*Haliaeetus leucocephalus*), shorebirds, and landbirds in the Bristol Bay region of Alaska, with a focus on the Nushagak and Kvichak watersheds. The report describes: habitat use, food habits, behavior, interspecies interactions, productivity and survival, populations, subpopulations, genetics, human use and interactions, and management for wildlife with a focus on the Nushagak and Kvichak watersheds. It describes the relationships of these wildlife species (brown bear, moose, caribou, wolf, and bald eagle) or species guilds (waterfowl, shorebirds and landbirds) with salmon.

DOI reiterated its concerns to EPA on September 12, 2014 that there is a “risk of harm to fish and wildlife resources, within and downstream of the Pebble Deposit Area, from direct impacts of mining and tailings disposal and from potential drainage of acid leachate and effluent from tailings

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<sup>171</sup> Letter from David S. Hobbie, Regional Regulatory Division Chief, U.S. Army Corps of Eng’rs, to James Fueg, Pebble Limited Partnership (Nov. 25, 2020).

<sup>172</sup> Enclosed Appx. D at pages 816 to 823, Schindler, Daniel E., *Scientific Concerns About the Draft EIS for the Proposed Pebble Mine* (June 17, 2019).

<sup>173</sup> BBWA at page ES-4 (“Direct effects of mining on Alaska Natives and wildlife are not assessed.”).

<sup>174</sup> Brna, P. J. and L. A. Verbrugge (eds). 2013. Wildlife resources of the Nushagak and Kvichak River watersheds, Alaska. Final Report. Anchorage Fish and Wildlife Field Office, U.S. Fish and Wildlife Service, Anchorage, AK. 177 pp., available at [https://ofmpub.epa.gov/eims/eimscomm.getfile?p\\_download\\_id=516966](https://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=516966).

deposits.”<sup>175</sup> In its letter, DOI notes that “the Bristol Bay watershed is an unparalleled area of globally-significant biological and ecological value ... provid[ing] intact, connected habitats that maintain the productivity of the entire ecosystem, including world-class salmon populations and numerous other fish and wildlife species.”<sup>176</sup> DOI agreed with EPA that “significant impacts described by the presented mine scenarios are reasonably likely to extend beyond the mined area and affect overall ecosystem health.”<sup>177</sup> DOI also explicitly agreed with the conclusions of EPA that “the potential range of available mitigation measures are not adequate to protect the watersheds from unacceptable risks associated with life-cycle operation of large-scale mining of the Pebble Deposit.”<sup>178</sup>

Regarding indirect impacts to wildlife, according to the EPA’s BBWA “Because wildlife in Bristol Bay are intimately connected to and dependent on these and other fishes, changes in these fisheries are expected to affect the abundance and health of wildlife populations.”<sup>179</sup> As EPA described in the BBWA:

Changes in the occurrence and abundance of salmon have the potential to change animal behavior and reduce wildlife population abundances. The mine footprints would be expected to have local effects on brown bears, wolves, bald eagles, and other wildlife that consume salmon, due to reduced salmon abundance from habitat loss and degradation in or immediately downstream of the mine footprint. Any of the accidents or failures evaluated would increase effects on salmon, which would further reduce the abundance of their predators. The abundance and production of wildlife also is enhanced by the marine-derived nutrients that salmon carry upstream on their spawning migration. These nutrients are released into streams when the salmon die, enhancing the production of other aquatic species that feed wildlife. Salmon predators deposit these nutrients on the landscape, thereby fertilizing terrestrial vegetation that, in turn, provides food for moose, caribou, and other wildlife. The loss of these nutrients due to a reduction in salmon would be expected to reduce the production of riparian and upland species.<sup>180</sup>

Throughout the EIS process, cooperating agencies with special expertise, such as U.S. Fish and Wildlife Service (“USFWS”) and Alaska Department of Fish and Game (“ADF&G”), expressed many concerns regarding impacts to wildlife from loss of habitat and habitat fragmentation; behavioral disturbance on large wildlife species such as caribou, moose, and bears; impacts to brown bear ecology and habitats; and potential disturbance impacts to the Mulchatna caribou herd and loss of habitat around the mine site.<sup>181</sup>

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<sup>175</sup> Letter from Pamela Bergmann, Regional Environmental Officer – Alaska, to U.U. Env’t Protection Agency (Sept 12, 2014), at p. 1.

<sup>176</sup> *Id.*, at p. 2.

<sup>177</sup> *Id.*

<sup>178</sup> *Id.*, at p. 4.

<sup>179</sup> BBWA at page ES-2.

<sup>180</sup> BBWA at page ES-25 to ES-26.

<sup>181</sup> Pebble ROD, attachment B3, p. 7. *See also*, enclosed Appx. C (cooperating agency comments to the Army Corps).

As the Army Corps concluded in its Record of Decision:

The project would result in the loss of large areas of wildlife habitat that are used seasonally, and year-round by a wide variety of resident and migratory species. Several of the avian species that would experience habitat loss are species of special concern due to population declines. Caribou in the Mulchatna Caribou Herd would experience direct habitat loss and secondary habitat avoidance around the mine site and along the transportation corridor. Brown bears would also experience direct loss of foraging and denning habitat. Travel corridors between Iliamna Lake and the surrounding landscape would be bisected by the port and mine access road along the north shore of Iliamna Lake. Other wildlife species would experience direct habitat loss and may be excluded from preferred food sources, especially if they are located in close proximity to project activities (i.e. brown bears may avoid feeding in salmon streams near stream crossings). Migratory birds. Loss of habitat for amphibians. Loss of habitat and fragmentation for bears, caribou, wolves. Displaced wildlife compete for new feeding, breeding, nesting habitat after loss of preferred habitat so there could be a cascading effect.<sup>182</sup>

**Caribou.** The Bristol Bay watershed supports a substantial and healthy caribou population. As explained by EPA in the 2014 Watershed Assessment:

Caribou feed in open tundra, mountain, and sparsely forested areas and can travel for long distances. The Nushagak and Kvichak River watersheds are primarily used by caribou from the Mulchatna herd, one of 31 caribou herds found in Alaska. The Mulchatna herd ranges widely through the Nushagak and Kvichak River watersheds, but also spends considerable time in other watersheds. It numbered roughly 200,000 in 1997 but had decreased to roughly 30,000 by 2008 (Valkenburg et al. 2003, Woolington 2009). Recent surveys reported only a few caribou near the Pebble deposit area and potential transportation corridor (PLP 2011). However, caribou populations and ranges in the Bristol Bay region fluctuate significantly over time, and in previous years the herd was much larger and there was higher density use of the Pebble deposit area (PLP 2011).<sup>183</sup>

As explained by ADF&G during the Army Corps permitting process, the proposed Pebble Mine Project presents a clear threat of impacts to caribou populations in the area, and any attempt in the EIS to conclude otherwise was not supported by scientific literature:

Caribou use in these areas does occur and caribou habitat exists in these areas; and more extensive use by caribou may have occurred in the past or occur in the future. The conclusion that “no behavioral disturbance impacts on the population (such as shifting migration routes or patterns) are expected to occur” is unsupported. Information in the EIS and literature clearly show that disturbance will occur at the

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<sup>182</sup> Pebble ROD, attachment B7, p. 68.

<sup>183</sup> BBWA at page 5-33.



mine site, transportation corridor and other project features should caribou try to use the area.<sup>184</sup>

Caribou is an important subsistence food for Bristol Bay residents, with upwards of 88% of residents consuming caribou meat.<sup>185</sup> During NEPA scoping, the Army Corps heard from many Bristol Bay residents concerned with impacts from Pebble Mine activities on the Mulchatna Caribou herd.<sup>186</sup> Indeed, as noted by EPA “some tribal Elders in the Nushagak and Kvichak River watersheds believe that mining exploration has contributed to avoidance of the Pebble deposit area (Brna and Verbrugge 2013).”<sup>187</sup> Caribou are also an important prey species for wolves and brown bears<sup>188</sup> and impacts to caribou populations would have cascading impacts on other predator wildlife populations.

Concerns over impacts to the Mulchatna Caribou Herd continued through the Final EIS and Army Corps Record of decision. As the Final EIS notes:

- “Caribou and moose would be expected to avoid areas impacted by dust deposition”<sup>189</sup>
- “the magnitude and extent of the impact would be caribou avoidance around the mine site and transportation corridor due to behavioral disturbance. [...] The duration would be long-term, and last for the life of the project, including during post-closure [...] Impacts would be likely to occur, because there is currently little anthropogenic activity in the area compared to the size of the project.”<sup>190</sup>

***Migratory Birds.*** The importance of the Pebble deposit area and downstream habitat for wildlife resources, including migratory birds, is summarized in Brna and Verbrugge (2013) and Woody ed (2018). In support of EPA’s use of 404(c) restrictions, DOI, in 2014, specifically cited the importance of protecting birds from the impacts of mining the Pebble deposit:

Many species of waterfowl nest and raise broods in waters of the upper Nushagak and Kvichak watersheds where the Pebble Deposit Area is located. These birds benefit from the enhanced food-web productivity provided by the import of marine nutrients by salmon. Several species of ducks also feed directly on salmon and their eggs within and downstream of the proposed mine during fish spawning seasons, as well as on juvenile salmon throughout the year. Additionally, more than 100,000 king eiders use the Kvichak shoals during migration, where salmon carcasses enrich food resources for this and other species of seaducks, shorebirds, and other migratory birds. The Proposed Determination would reduce risks to waterfowl populations by conserving their habitat and food resources.

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<sup>184</sup> See enclosed Appx. C at p. 1298 (Comment Response Matrix, State of Alaska Comments on Pebble Project Preliminary Draft EIS, Section 4.23, comment no. 18, page 10).

<sup>185</sup> BBWA at page 5-35 (citing Ballew et al. 2004).

<sup>186</sup> See, e.g., Draft EIS Appendix K, at page K3.1-6.

<sup>187</sup> BBWA at page 5-33.

<sup>188</sup> BBWA at page 12-5.

<sup>189</sup> Final EIS, page 4.4-12.

<sup>190</sup> Final EIS, pp. 4.23-30 to 31.

At least 30 species of shorebirds use the Bristol Bay watershed during their breeding and migration. Many nest in upland areas and along rivers, streams, wetlands, lakes, and ponds within and downstream of the Pebble Deposit Area. Hundreds of thousands of shorebirds that nest across Alaska gather and feed in the major estuaries of the Nushagak and Kvichak rivers during fall and spring migrations. The Proposed Determination would reduce risks to water quality, nutrient cycling, and sediment transport downstream of the mine and tailings storage areas and protect the estuarine habitat on which the shorebird populations rely.

Bald eagles nest and feed along the coast and along all of the major salmon spawning rivers in the Bristol Bay region. The Pebble Deposit Area also supports relatively high numbers of golden eagles. While no comprehensive surveys have been conducted for nesting golden eagles, surveys in portions of the Nushagak and Kvichak watersheds have documented high nesting densities of bald eagles. The relatively high bald eagle densities of the Bristol Bay region are supported primarily by salmon, particularly during the nesting season. The Proposed Determination would provide direct protection for eagles nesting in the proposed mining area and would help protect eagles that nest and feed downstream of the proposed mine project.

Concerns over impacts to birds continued through the Final EIS and Army Corps Record of Decision. As the Final EIS found: “The project has the potential to directly and indirectly impact breeding, wintering, migrating, and staging bird populations through behavioral disturbance, injury and mortality, and habitat changes.”<sup>191</sup> And, according to the Record of Decision, the Project would result in “loss of change of breeding and nesting areas, escape cover, travel corridors and preferred food sources for resident and transient” bird species.<sup>192</sup>

**Brown Bears.** Brown bears are important to salmon ecosystem function, have a direct link to salmon, and are important to Alaska Native and non-native residents, as well as generating significant tourism opportunities.<sup>193</sup> Brown bear estimates in Bristol Bay range from roughly 40 bears per 1,000 km<sup>2</sup> in the northern Bristol Bay region to 150 bears per 1,000 km<sup>2</sup> along the shore of Lake Clark.<sup>194</sup> A recent study of the economic benefits of Bristol Bay salmon documents the importance of bear viewing activities to the local economy, including noting roughly 90 lodges and camps in Bristol Bay catering to tourists with a primary focus on sportfishing and bear viewing.<sup>195</sup> Of particular significance, the report notes an estimated 20,000 people annually participate in bear viewing during trips to Katmai National Park and Lake Clark National Park and Preserve.<sup>196</sup>

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<sup>191</sup> Final EIS, page 4.23-15.

<sup>192</sup> Pebble ROD, attachment B7, p. 65.

<sup>193</sup> BBWA, p. 5-31.

<sup>194</sup> BBWA, p. 5-32.

<sup>195</sup> McKinley Research Group, The Economic Benefit of Bristol Bay Salmon, p. ES-3, *available at*: <https://www.mcdowellgroup.net/wp-content/uploads/2021/03/economic-benefits-of-bristol-bay-salmon.pdf>.

<sup>196</sup> *Id.*

USFWS and Alaska Department of Fish and Game (“ADF&G”), expressed many concerns about the Pebble Project’s impact to brown bears and brown bear habitat.<sup>197</sup> ADF&G specifically noted in the months leading to the Final EIS that “ADF&G believes impacts to bears, and bear related recreation (hunting and viewing) could be significant.”<sup>198</sup>

Concerns over impacts to bears continued through the Final EIS and Army Corps Record of Decision. As the Final EIS found: “Brown and black bears may experience a range of potential impacts from the project. This includes loss of habitat due to land conversion, altered feeding, denning, and travel routes, increased mortality (from vehicular collisions, defense of life and property, and interspecific competition from avoidance of preferred feeding areas), and behavioral changes based on avoidance of humans.”<sup>199</sup> And, according to the Record of Decision, these impacts specifically would impact the movement of bears between Lake Clark and Katmai National Parks.<sup>200</sup> Overall, the Army Corps concluded that potential project impacts to brown bears “could extend for several miles around project facilities”<sup>201</sup> specifically that brown bears would “experience direct loss of foraging and denning habitat.”<sup>202</sup>

### ***3. Unacceptable adverse effects on recreational areas***

The Bristol Bay watershed is home to a wide array of world-renowned historic, cultural, scenic, conservation, and recreational values. These attributes of the Bristol Bay watershed serve the public interest as the basis of a sustainable, diverse, and important economy and way of life. These values and their importance to the public are described at length in the Army Corps and EPA records. As these records show, the proposed Project would have unacceptable adverse effects on recreational areas.

EPA’s 2014 Watershed Assessment notes the unique and valuable recreational resources of the Bristol Bay region: “The uncrowded, pristine wilderness setting of the Bristol Bay watershed attracts recreational fishers, and aesthetic qualities are rated as most important in selecting fishing locations by Bristol Bay anglers.”<sup>203</sup> EPA determined that these recreational resources generate more than \$69 million annually for sport fishing and hunting and more than \$104 million annually in wildlife view/tourism (expressed in 2009 dollars).<sup>204</sup> A recent study of the economic benefits of Bristol Bay salmon documents tourism in the Bristol Bay region produced more than 2,300 seasonal jobs and \$67.9 million in labor income in 2019.<sup>205</sup> The Bristol Bay region is also home to Lake Clark and Katmai National Park and Preserves for the protection of natural resources like

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<sup>197</sup> Pebble ROD, attachment B3, p. 7.

<sup>198</sup> Enclosed Appx. C, at p. 1830.

<sup>199</sup> Final EIS, page 4.23-31.

<sup>200</sup> Pebble ROD, attachment B7, p. 88.

<sup>201</sup> Pebble ROD, attachment B3, p. 8.

<sup>202</sup> Pebble ROD, attachment B7, p. 68.

<sup>203</sup> BBWA, at p. 5-26. The 2022 PD notes that when adjusted for inflation, direct regional expenditures on recreational uses are estimated at more than \$210 million annually. *See also* 2022 PD at p. 6-3.

<sup>204</sup> BBWA, at p. 5-26.

<sup>205</sup> McKinley Research Group, *The Economic Benefit of Bristol Bay Salmon*, p. ES-3, available at: <https://www.mcdowellgroup.net/wp-content/uploads/2021/03/economic-benefits-of-bristol-bay-salmon.pdf>.

salmon, with detailed enabling language Congress charged these parks specifically with protecting wild salmon habitat and natural and cultural values associated with salmon.<sup>206</sup>

Many of the proposed project components are located on state-owned lands and waters designated under the state management plans for uses such as recreation, subsistence, and public recreations and tourism.<sup>207</sup> Moreover, the proposed Pebble mine would impact nearby Lake Clark and Katmai National Parks. Lake Clark National Park is downwind from the proposed mine. Air pollution and dust from the proposed mine will negatively impact use of the park. And any harm to the Kvichak watershed and its salmon run will negatively impact Lake Clark National Park. In 2014, concerned about impacts to Lake Clark and Katmai National Park and Preserves, DOI wrote to EPA in support of its 404(c) Proposed Determination to place reasonable restrictions necessary to protect salmon habitat. DOI concluded in 2014 that mining the Pebble deposit and its associated infrastructure and discharges would harm National Park Service-Managed Resources including “significant losses of streams, wetlands, lakes, and ponds” that would result in “potential impacts to NPS-managed resources, and in turn, [...] the legislated purposes of NPS-managed lands.”<sup>208</sup>

Potential impacts to recreation were confirmed in the Final EIS, including impacts specifically to Lake Clark National Park and Preserve, Katmai National Park and Preserve, and the Nushagak River.<sup>209</sup> According to the Final EIS, potential impacts include “[a]dverse effects to recreation opportunities and experiences for recreationists participating in hunting, fishing, wildlife viewing, boating, camping, backpacking [...] [d]isplacement of recreationists participating in hunting,

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<sup>206</sup> The purpose of Lake Clark National Park is to protect a portion of “the watershed necessary for the perpetuation of the red (sockeye) salmon fishery in Bristol Bay.” See ANILCA § 201(7)(a)). The purpose of Katmai national park is to “maintain unimpaired the water habitat for significant salmon populations” along with its role protecting “high concentrations of brown bears.” See ANILCA § 202(2).

<sup>207</sup> The southern transportation corridor within the Bristol Bay Area Plan lands is located mostly in management unit R09-07 Tommy Creek/Chigmit. See BBAP map, [http://dnr.alaska.gov/mlw/planning/areaplans/bristol/2013/pdf/bbap\\_amend2013\\_map3-09.pdf](http://dnr.alaska.gov/mlw/planning/areaplans/bristol/2013/pdf/bbap_amend2013_map3-09.pdf). Management intent of these lands is general use “to be managed for a variety of uses, including the protection of fish and wildlife resources and their associated habitat, and dispersed recreation. Development authorizations may be considered appropriate subject to the protection of these resources.” Unit R09-07 Tommy Creek/Chigmit, *available at* [http://dnr.alaska.gov/mlw/planning/areaplans/bristol/2013/pdf/bbap\\_amend2013\\_ch3\\_reg09.pdf](http://dnr.alaska.gov/mlw/planning/areaplans/bristol/2013/pdf/bbap_amend2013_ch3_reg09.pdf). The port is located on and the southern transportation corridor route crosses lands and waters managed under the Kenai Area Plan for habitat only, where management intent of these lands is for “Brown bear spring feeding. Harbor seal haulout areas along coast north from Contact Point; moose, general distribution; Dolly Varden/Arctic char, general distribution; seabird nesting colonies on southeast coast; ducks and geese, general distribution; herring spawning on shoreline of this tract.” See management unit 19 Bruin Bay uplands, [http://dnr.alaska.gov/mlw/planning/areaplans/kenai/pdfs/chap\\_3\\_region\\_12.pdf](http://dnr.alaska.gov/mlw/planning/areaplans/kenai/pdfs/chap_3_region_12.pdf) and map number 12E, <http://dnr.alaska.gov/mlw/planning/areaplans/kenai/pdfs/12e.pdf>. And the port is proposed in state waters designated and managed for Public Recreation and Tourism – Dispersed Use (see management unit 522A) Other resources and uses of these waters: “Beaches used by aircraft for landing. Herring spawning habitat, herring/salmon migration corridor, juvenile fish/shellfish rearing habitat, commercial fishing activity. Anadromous stream mouths. Beluga whale habitat. Cultural sites present. Herring spawn along coast, north of Unit 596, south of the mouth of Amakdedori Creek.” *Id.*

<sup>208</sup> Letter from Pamela Bergmann, Regional Environmental Officer – Alaska, to U.U. Env’t Protection Agency (Sept 12, 2014), at page 3.

<sup>209</sup> Final EIS, p. 4.5-1.

fishing, wildlife viewing, boating, camping, backpacking [...] [a]dverse effects to recreation experiences for visitors flying over [and] [c]hanges to recreational settings.”<sup>210</sup>

As the Army Corps Record of Decision went on to conclude, the project would impact Lake Clark and Katmai National Parks due to: reduction of movement of bears between the parks<sup>211</sup> and noise and day and night visual impacts to some parts of the Lake Clark National Park.<sup>212</sup> Moreover, the Army Corps found that the project mine facilities would lead to direct impacts to portions of the tributaries of the Koktuli watersheds which account for a small portion of recreational fishing effort as well as secondary and cumulative effects to the “suitability of recreational [] fishing grounds as habitat for populations of consumable aquatic organisms”<sup>213</sup> as well as secondary impacts to Upper Talarik Creek used for sport fish and recreation “based on flow regime changes.”<sup>214</sup> In particular, the Army Corps noted the Project would impact “important recreational species” such as rainbow trout in NFK, chinook in Nushagak, and sockeye in UTC.<sup>215</sup>

#### ***4. Unacceptable adverse effects on drinking water supplies***

The proposed Pebble Mine Project would impact Bristol Bay’s pristine surface waters currently used as drinking water sources and with great cultural significance. The Alaska Native people of Bristol Bay come from three different cultural traditions—Aleut, Yup’ik, and Dena’ina Athabascan. Salmon are a revered renewable resource that has been harvested sustainably in the region for millennia, and salmon harvesting is central to the cultural traditions of these diverse Alaska Native peoples. Indeed, subsistence activities play a major role in defining Alaska Native families and communities through the passing on of knowledge and traditions from one generation to the next and the reinforcement of Native values, such as generosity, respect for elders, self-esteem, and cultural respect.<sup>216</sup>

In addition to the important subsistence and sense of place and culture from Bristol Bay’s waters, residents throughout the Bristol Bay region rely on the clean, pristine waters for their drinking water and for religious significance. In the Environmental Protection Agency’s 2014 Bristol Bay watershed assessment appendix Traditional Ecological Knowledge and Characterization of the Indigenous Cultures of the Nushagak and Kvichak Watersheds, Alaska, Dr. Boraas and Dr. Knott note the religious significance of clean water for the Great Blessing of the Water at Nushagak River ice sites every winter.<sup>217</sup> They further explain the interconnected sacredness of salmon and water to the residents of Bristol Bay this way:

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<sup>210</sup> *Id.*

<sup>211</sup> Pebble ROD, attachment B7, at page 88.

<sup>212</sup> Pebble ROD, attachment B7, at page 157 and 164.

<sup>213</sup> Pebble ROD, attachment B7, page 141.

<sup>214</sup> *Id.* at 144.

<sup>215</sup> *Id.*

<sup>216</sup> See Fall, James A., et al., An Overview of the Subsistence Fisheries of the Bristol Bay Management Area, at 2-3, ADF&G Special Public. No. BOF 2009-07 (Nov. 2009), available at [www.adfg.alaska.gov/specialpubs/SP2\\_SP2009-007.pdf](http://www.adfg.alaska.gov/specialpubs/SP2_SP2009-007.pdf).

<sup>217</sup> BBWA, Appendix D.

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.<sup>218</sup>

As to drinking water, the Final EIS documents that many of the communities in the region obtain their drinking water from wells and surface water sources. As disclosed in the Final EIS, three community water systems in the Iliamna Lake area extract surface water for domestic use: Nondalton, Kokhanok, and Igiugig.<sup>219</sup> In addition, individuals use the surface water in Iliamna Lake and along the Nushagak River as a source of drinking water. While according to the Final EIS, “It is unknown/not documented if private users use surface water as a drinking water source”<sup>220</sup> it is documented in work from PLP’s contractor as well as in public hearing testimony to the Army Corps that people throughout the region use surface water as drinking water:

- “our water intake is from Lake Iliamna that provides drinking and cooking water.”<sup>221</sup>
- “Iliamna Lake is so pristine to where we drink it.”<sup>222</sup>
- “we’re able to take a drink right out of the lake as we’re traveling around.”<sup>223</sup>
- If you ever had a drink of Lake Iliamna water, you know the magnitude of how important this is [...] If this mine is permitted, I’m concerned we will no longer be able to drink this water, whether it’s from dust pollution, spills, or [...] from runoff and effluent near a new road or a tailings pond failure.”<sup>224</sup>
- “Our clean water is so pristine that we can go down to the beach and drink off of it.”<sup>225</sup>

The Army Corps and EPA records both include evidence of the use of surface waters in Bristol Bay as drinking waters and detail the negative impacts from mining the Pebble deposit on water quality. As disclosed in the Final EIS, the water contained in PLP’s proposed tailings storage facilities and water management ponds will exceed numeric water quality criteria for: aluminum, antimony, arsenic, beryllium, cadmium, cobalt, copper, lead, manganese, mercury, molybdenum, nickel, selenium, silver, and zinc.<sup>226</sup> Contact water and dust at the mine site would contain the

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<sup>218</sup> BBWA, Appendix D, pages 2-3.

<sup>219</sup> Pebble Final EIS, at page 3.16-61.

<sup>220</sup> Pebble Final EIS, at page 4.27-5.

<sup>221</sup> Pebble Project—Scoping Meeting, Kokhanok, Alaska (April 10, 2018) Volume I, page 12.

<sup>222</sup> Pebble Project—Scoping Meeting, Kokhanok, Alaska (April 10, 2018) Volume I, page 13.

<sup>223</sup> Pebble Project—Draft Environmental Impact Statement Public Hearing, Homer, Alaska (April 11, 2019), Volume I, page 9.

<sup>224</sup> Pebble Project—Draft Environmental Impact Statement Public Hearing, Igiugig, Alaska (March 28, 2019), Volume I, page 37.

<sup>225</sup> Pebble Project—Draft Environmental Impact Statement Public Hearing, New Stuyahok, Alaska (March 29, 2019), Volume I, page 20.

<sup>226</sup> Pebble Final EIS, Executive Summary, at pages 104 and 106.

same contaminants in levels that exceed water quality standards.<sup>227</sup> As also disclosed in the Final EIS, the project would require water treatment in perpetuity—during Closure Phases 3 and 4 the influent water into the water treatment plants will exceed the state’s numeric water quality criteria for: TDS, sulfate, aluminum, antimony, arsenic, beryllium, cadmium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, and zinc.<sup>228</sup> Moreover, the Final EIS discloses reductions of flow, increases of temperature, increases of total suspended solids and salts, increases of total dissolved solids, and changes to dissolved oxygen content from mine site operations and construction. The Final EIS discloses that the water associated with the project’s construction and operation will exceed water quality criteria for many contaminants many times over, for example:

**Table 6. Predicted Water Quality Exceedances (mg/L) (90<sup>th</sup> Percentile) during Pebble Mine Operations<sup>229</sup>**

Parameter and WQC	Open Pit WMP	Bulk TSF	Main Embankment Seepage Pond	Pyritic TSF	Main WMP
TDS (500 mg/L)	--	4,233	4,196	3,276	3,088
Sulfate (250 mg/L)	--	2,350	2,350	1,760	1,747
Aluminum (0.087 mg/L)	5.23	--	--	--	--
Antimony (0.006 mg/L)	0.00783	0.0576	0.200	0.0291	0.0645
Arsenic (0.01 mg/L)	0.0271	0.0780	0.260	0.0456	0.0869
Cadmium (0.00008 mg/L)	0.0141	0.0318	0.0100	0.0185	0.0179
Copper (0.00219 mg/L)	1.47	0.0100	0.0100	0.0100	0.0100
Lead (0.00039 mg/L)	0.00411	0.057	0.0500	0.0304	0.0372
Manganese (0.05 mg/L)	3.74	2.00	2.00	2.00	1.85
Mercury (0.000012 mg/L)	0.000220	0.000346	0.000500	0.000182	0.000262
Molybdenum (0.01 mg/L)	0.289	3.09	12.0	1.38	3.65
Selenium (0.005 mg/L)	0.0342	0.058	0.0550	0.0361	0.0397
Silver (0.0011 mg/L)	--	0.00271	0.0100	0.001236	0.00311
Nitrate (10 mg/L)	--	--	11.19	10.83	--

For TDS, sulfate, antimony, arsenic, cadmium, copper, lead, manganese, mercury, selenium, and silver, the predicted water quality during operations is between two to seventy times the most stringent water quality criteria. Treatment of such high levels of contaminants is very complex and subject to many different failure scenarios. The project’s ability to maintain compliance with state water quality standards is entirely dependent on the success of the water treatment systems.<sup>230</sup> Even then, the Final EIS acknowledges that the mine is likely to cause exceedances of water quality standards: “over the life of the mine, it is possible that APDES permit conditions may be exceeded for various reasons (e.g., treatment process upset, record-keeping errors) as has happened at other Alaska mines.”<sup>231</sup> Exceedances of water quality criteria pose a threat to human health in drinking water and to aquatic life.

<sup>227</sup> Pebble Final EIS, at page 4.18-4 and Executive Summary, at page 106

<sup>228</sup> Pebble Final EIS, at page K4.18-56 to 59.

<sup>229</sup> Predicted water quality parameters found in Pebble Final EIS, Appendix K4.18; WQC standards found in Pebble Final EIS, Appendix K3.18.

<sup>230</sup> Pebble Final EIS, at page 4.18–13 (“Assuming these protections are adopted, direct and indirect impacts of treated contact waters to off-site surface water are not expected to occur.”).

<sup>231</sup> Pebble Final EIS, at page 4.18–13.

## **B. The Pebble Final EIS, Army Corps Record of Decision, and 404(b)(1) Guidelines Analysis Support Final 404(c) Action**

EPA's Section 404(c) regulations provide that in evaluating the "unacceptability" of effects, consideration should be given to the "relevant portions of the Section 404(b)(1) Guidelines."<sup>232</sup> EPA was closely involved in the three-year long Army Corps permitting process as a cooperating agency in development of the Final EIS,<sup>233</sup> in development of the LEDPA,<sup>234</sup> and in weekly discussions with the Army Corps regarding compliance with the 404(b)(1) Guidelines that led to the Army Corps' Record of Decision.<sup>235</sup> As such, the 2022 PD analysis of compliance with the 404(b)(1) Guidelines is appropriately tailored to the Final EIS findings, EPA's intimate knowledge of the Army Corps' decisionmaking process and findings, and EPA's close evaluation during the permitting and NEPA processes of PLP's proposal.<sup>236</sup>

EPA's lengthy 404(b)(1) Guidelines analysis supports the agency's determination that direct and secondary impacts of the discharge of dredged or fill material from construction and routine operation from mining the Pebble deposit with effects similar or greater in nature and magnitude to the 2020 Mine Plan would result in significant degradation under the Guidelines. EPA's finding, based on PLP's permit application and associated NEPA process, confirms the Army Corps' similar finding that the 2020 Mine Plan would result in significant adverse effects.

## **C. Impacts from the Proposed Pebble Mine Cannot Be Avoided, Minimized, or Mitigated**

Throughout the permitting process, Army Corps closely involved EPA in the development and assessment of potential avoidance and minimization measures for PLP's 2020 Mine Plan.<sup>237</sup> Despite these efforts, as properly determined by the Army Corps, the avoidance and minimization measures incorporated into PLP's 2020 Mine Plan "do not reduce the levels of impact to below significant."<sup>238</sup> As the Army Corps explained in its Record of Decision:

After consideration of the proposed avoidance and minimization measures, as well as the remaining unavoidable impacts, and based upon the determination that the discharge of dredged or fill material would cause significant degradation to the aquatic ecosystem, specifically at the mine site, USACE determined that compensatory mitigation is required to offset the remaining unavoidable temporary and permanent impacts to the aquatic environment.<sup>239</sup>

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<sup>232</sup> 40 CFR 231.2(e)

<sup>233</sup> Pebble ROD, p. 1 -1

<sup>234</sup> *Id.*, attachment B2, pp. 1-3.

<sup>235</sup> *Id.*

<sup>236</sup> 2022 PD, Section 4.3.

<sup>237</sup> Pebble ROD, attachment B2, p. 3 ("USFWS and EPA were invited to recommend additional avoidance and minimization measures. These measures were considered by the applicant, and those that the applicant agreed to adopt were considered [in the ROD]."). *See also*, EPA Memorandum to File, Subject: EPA's decision to termination Clean Water Act Section 404(q) dispute resolution process regarding proposed Pebble Mine, Bristol Bay watershed, Alaska (POA-2017-00271)(June 12, 2020), enclosed at Appx. C, at pp. 2686 to 2701.

<sup>238</sup> *Id.*, p. 2.

<sup>239</sup> *Id.*, p. 3.



As such, the Army Corps closely assessed PLP’s Final Compensatory Mitigation Plan and concluded that the plan was “inadequate to overcome the significant degradation identified in the 404(b)(1) analysis rendering the permit application noncompliant with the 404(b)(1) Guidelines.”<sup>240</sup> Specifically, according to the Army Corps, PLP’s Final Compensatory Mitigation Plan submitted to the agency in November 2020 failed to satisfy regulatory standards and criteria for nine separate reasons. PLP’s plan (1) lacked sufficient detail commensurate with the scale and scope of impacts; (2) failed to propose restoration or enhancement and failed to obtain a waiver using a preservation approach; (3) the amount of compensatory mitigation was insufficient to offset impacts; (4) failure to include a site protection instrument and baseline data necessary to utilize a preservation approach; (5) failure to submit a maintenance plan; (6) failure to submit ecological performance standards; (7) failure to submit sufficient monitoring plan; (8) failure to submit a detailed plan for long-term management; and (9) failure to provide financial assurances.<sup>241</sup>

In its 2022 PD, EPA codifies the Army Corps’ finding that PLP’s compensatory mitigation plan “is inadequate to overcome the significant degradation identified in the 404(b)(1) analysis rendering the permit application noncompliant with the 404(b)(1) Guidelines.”<sup>242</sup> As EPA correctly states, PLP’s plans “fail to adequately mitigate the adverse effects that are the subject of this proposed determination to an acceptable level.”<sup>243</sup> BBNC agrees with EPA’s analysis of PLP’s compensatory mitigation and the conclusion that Pebble’s impacts cannot be mitigated.<sup>244</sup>

Moreover, we agree with EPA’s conclusion, based on the permitting record and the 2014 Watershed Assessment, that additional potential compensatory mitigation measures are also unlikely to adequately mitigate the effects of mining the Pebble deposit to an acceptable level.<sup>245</sup> EPA correctly notes that “known compensation measures are unlikely to adequately mitigate effects . . . to an acceptable level.”<sup>246</sup> Adequate compensatory mitigation for unavoidable impacts of mining the Pebble deposit would be “most appropriate” within the South Fork Koktuli (SFK), North Fork Koktuli (NFK), and Upper Talarik Creek (UTC) watersheds “as these locations would offer the greatest likelihood that compensation measures would replace the ‘suite of functions typically provided by the affected aquatic resource.’”<sup>247</sup> But these watersheds are already pristine, such that, as EPA has noted in the 2014 Watershed Assessment, there is virtually no opportunity for mitigation. Instead, as EPA correctly concludes, compensatory mitigation in adjoining watersheds “would likely fail to ensure that wetland, stream, and associated fish losses in the SFK, NFK, and UTC watersheds would be addressed” and “would not address impacts to the subsistence

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<sup>240</sup> Pebble ROD, at p. 6-5.

<sup>241</sup> Pebble ROD, attachment B-6, Memorandum for the Record (Nov. 9, 2020).

<sup>242</sup> Pebble ROD, at p. 6-5.

<sup>243</sup> 2022 PD at p. 4-67.

<sup>244</sup> 2022 PD at pp. 4-67 to 4-73.

<sup>245</sup> 2022 PD at p. ES-16.

<sup>246</sup> 2022 PD at 4-68 & C-1.

<sup>247</sup> 2022 PD at C-7, (quoting 40 C.F.R. § 230.93(c)(2), citing Yocum and Bernard 2013).

fishery where users depend on a specific temporal and spatial distribution of fish to ensure nutritional needs and cultural values are maintained.”<sup>248</sup>

## **VI. PLP AND THE STATE OF ALASKA FAIL TO SHOW THE PROJECT WOULD NOT HAVE AN UNACCEPTABLE ADVERSE EFFECT ON FISHERY AREAS**

As described in Section IV above, EPA’s 404(c) regulatory process contemplates opportunities for the permit applicant and landowner to submit information for the record to demonstrate that no unacceptable adverse effects on aquatic resources would result from proposed discharges of dredged or fill material. Consistent with EPA’s Section 404(c) regulations, the agency requested PLP and the State of Alaska to respond to the agency’s initiation of 404(c) action for the discharges associated with mining the Pebble deposit. On March 28, 2022, PLP and the State of Alaska responded to EPA in separate correspondences.<sup>249</sup>

In its Proposed Determination, EPA states that responses from PLP and the State of Alaska to initiation of 404(c) action “did not demonstrate to the satisfaction of EPA Region 10 that no unacceptable adverse effects would occur...”<sup>250</sup> BBNC has reviewed responses from PLP and the State of Alaska and likewise agree with the agency that the responses fail to show the Pebble project would not have an unacceptable adverse effect on fishery areas. Specifically, as detailed in this section, contrary to assertions from PLP and the State, EPA’s 404(c) action is not preemptive and the agency has the legal authority and a robust factual record to undertake 404(c) action.

### **A. EPA has the Authority and Justification for Undertaking 404(c) Action**

PLP alleges that EPA’s 404(c) authority is “narrowly prescribed” to “only veto a specific disposal site if it can demonstrate unacceptable adverse effects to aquatic resources based on a specific permit application.”<sup>251</sup>

As an initial matter, PLP is wrong that EPA’s authority is narrowly prescribed. In fact, Congress afforded EPA the authority to act “whenever” the agency finds unacceptable adverse effects to aquatic resources.<sup>252</sup> And, as the D.C. Circuit court explained, Congress intended that “whenever” with respect to EPA’s 404(c) authority means “at any time.”<sup>253</sup> EPA’s use of Section 404(c) at this time is consistent with the plain reading of the CWA, Congressional intent in enacting the law, and sound public policy given the importance of the Bristol Bay fishery.

Equally important, EPA in issuing the 2022 PD, is doing precisely what PLP says the law requires, basing its 404(c) action on the effects to aquatic resources that would occur according the Army Corps’ analysis of PLP’s specific permit application. As EPA has rightly concluded, in light of the extensive record compiled in processing PLP’s 2017 permit application “it is not reasonable or

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<sup>248</sup> *Id.* at C-7, citing BBWA, Chapter 12.

<sup>249</sup> 2022 PD at p. 2-15. *See also*, <https://www.epa.gov/bristolbay/bristol-bay-404c-timeline>.

<sup>250</sup> 2022 PD at pp. ES-9 and 2-16.

<sup>251</sup> Letter from PLP to EPA (March 28, 2022), at p. 2, *available at*: <https://www.epa.gov/system/files/documents/2022-03/bristol-bay-404-response-letter-plp-3-28-2022.pdf> [hereinafter “PLP 15-day Response”].

<sup>252</sup> 33 U.S.C. § 1344(c).

<sup>253</sup> *Mingo Logan v. EPA*, 714 F.3d 608, 613 (D.C. Cir. 2013) (emphasis original).

necessary to engage in one or more additional multi-year NEPA and CWA Section 404 processes for future plans that propose to discharge dredged or fill material associated with mining the Pebble deposit that could result in effects that are similar or greater in nature and magnitude to the effects of the 2020 Mine Plan.”<sup>254</sup>

### **B. EPA’s Determination of Impacts to Fish is Well Supported**

PLP alleges that EPA’s determination of impacts to fish is unsupported because, as PLP claims, “[t]he EIS found no measurable impact to fish and concluded that salmon harvests would not be compromised as a result of the proposed Pebble Project.”<sup>255</sup> PLP goes on to say that “EPA has cited no new information that contradicts the EIS’s findings on fish or the fisheries.”<sup>256</sup> Both assertions are false. As demonstrated at length in Section V above, the Final EIS contained findings of extensive, irreversible damage to anadromous breeding and spawning grounds, including the destruction of more than 8 miles of documented anadromous fish habitat and more than 2,100 acres of contiguous wetlands. These direct impact levels of impact are unprecedented in the history of the 404 program in Alaska and, as the Final EIS disclosed, are multitudes greater when considering indirect and cumulative impacts from mining the Pebble deposit. In addition, by stating that EPA fails to cite new information post-dating the Final EIS, PLP ignores the Army Corps’ entire permitting decision, including its 404(b)(1) Guidelines analysis, Record of Decision, and permit denial.

PLP misleadingly says “there can be no justification for relying on the 2014 BBWA.”<sup>257</sup> The 2014 Watershed Assessment contains the best available science and information regarding the biological, ecological, and chemical factors underlying the effects from mining a porphyry-copper deposit at the headwaters of Bristol Bay and provides a cornerstone to the 2022 PD. It is also not the only foundation on which the 2022 PD rests. In this 2022 PD EPA has supplemented that best available science and information with 8 years of technical information related to PLP’s proposed 2020 Mine Plan. EPA was an important participant in the development of the Army Corps’ Final EIS and 404(b)(1) Guidelines analysis, meeting weekly with the Army Corps in the lead-up to publication of the Final EIS to discuss the project’s impacts.<sup>258</sup> Outside of the permitting process, the 2022 PD also incorporates new science that post-dates the Final EIS regarding the portfolio effect and genetic diversity of Bristol Bay’s headwaters.<sup>259</sup>

PLP has long-touted the NEPA process “as the Magna Carta of environmental protection.”<sup>260</sup> But now that the company has gone through the process and dislikes the result, they seem intent on ignoring the outcomes and findings of that process, namely that the proposed Pebble Mine Project cannot be permitted under the CWA.

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<sup>254</sup> 2022 PD at p. 2-19.

<sup>255</sup> PLP 15-day Response at p. 3.

<sup>256</sup> *Id* at p. 4.

<sup>257</sup> *Id*.

<sup>258</sup> *See* 2022 PD at p. 2-13.

<sup>259</sup> *See* 2022 PD at p. 3-41.

<sup>260</sup> Testimony of Mr. Tom Collier, CEO, Pebble Limited Partnership, Hearing before the Committee on Science, Space, and Technology, Examining EPA’s Predetermined Efforts to Block the Pebble Mine (Nov. 5, 2015), at p. 54, available at: <https://www.govinfo.gov/content/pkg/CHRG-114hhrg97767/pdf/CHRG-114hhrg97767.pdf>.

### **C. A Section 404(c) Action Would Not Violate the Alaska Statehood Act, ANILCA, or ANCSA**

PLP asserts that Section 404(c) veto would violate the Alaska Statehood Act, the Alaska National Interest Lands Conservation Act (ANILCA), and the Alaska Native Claims Settlement Act (ANCSA).<sup>261</sup> This is a claim that PLP has made before in litigation against EPA, and it is one that the agency has roundly and solidly refuted in federal court.

As EPA has properly explained in the 2022 PD and in previous litigation on this point, nothing in the Statehood Act, ANILCA, or ANCSA precludes the application of duly enacted federal legislation—the CWA—to lands and mineral deposits granted to the State.<sup>262</sup> Instead, the CWA applies in the same manner to waters on state lands in Alaska as it applies elsewhere. The Statehood Act, ANILCA, and ANCSA do not serve as barriers to EPA’s use of 404(c) action to prohibit or restrict discharges of dredged or fill material from mining the Pebble deposit into waters of the United States.

### **D. There is Not a Critical Need for the Pebble Project**

PLP asserts that “EPA must consider the need for the Pebble Project, and the environmental and societal costs of preventing the development of a US-based source of the minerals needed to support the clean energy market.”<sup>263</sup>

The Pebble Mine Project would do little to meet current and future demand for copper and other minerals. PLP’s 2020 Mine Plan would have resulted in production of approximately 320 million pounds of copper per year<sup>264</sup> and 7.4 billion pounds of copper overall.<sup>265</sup> At the present annual global consumption rate for refined copper (approximately 48 billion pounds in 2017)<sup>266</sup>, this project would supply the global market with a mere 56 days’ worth of copper demand.<sup>267</sup> Moreover, PLP’s plans, as disclosed in the Final EIS, are to ship all ore to Asia directly from its Cook Inlet port site.<sup>268</sup> PLP cannot claim that the proposed mine is intended to satisfy U.S. demand for ore. Even more importantly, destroying the headwaters of Bristol Bay’s pristine salmon fishery and forever placing the region at risk for 56 days of global copper supply, or for 2 and 3 years of

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<sup>261</sup> PLP 15-day Response at pp. 5-7.

<sup>262</sup> 2022 PD at p. 2-16. *See also*, *PLP v. EPA*, No. 3:14-cv-00097 (dkt# 188)(EPA opposition to preliminary injunction, filed Aug. 18, 2014).

<sup>263</sup> Letter from PLP to EPA (March 28, 2022), at p. 7, *available at*: <https://www.epa.gov/system/files/documents/2022-03/bristol-bay-404-response-letter-plp-3-28-2022.pdf>.

<sup>264</sup> *See*, Northern Dynasty Minerals Corporate Presentation (June 16, 2022), at p. 18, *available at* <https://northerndynastyminerals.com/investors/presentations/>.

<sup>265</sup> Final EIS, Appendix N (Project Description June 2020), Table 1-1, at page 13.

<sup>266</sup> *See* USGS National Minerals Information Center, Copper Statistics and Information Annual Publication for 2018, *available at*: <https://www.usgs.gov/centers/nmic/copper-statistics-and-information>. (“The International Copper Study Group projected that global refined copper consumption would be approximately 24 million tons [48 billion pounds] in 2017.”).

<sup>267</sup> 7.4 billion pounds from Pebble / 48 billion pounds global consumption annually = 0.1542 \* 365 days per year = 56.3 days.

<sup>268</sup> Final EIS, at p. 2-73 (citing PLP response to RFI 163). *See also*, Final EIS, Appx. K3.12 (shipping routes to Asia).

U.S. demand and production, respectively, cannot be considered reasonable or beneficial for the overall public interest.

#### **E. EPA Need Not Undertake a Cost Benefit Analysis for a 404(c) Action**

PLP asserts that EPA has made “no attempt to assess the economic impacts of this decision to the state of Alaska.”<sup>269</sup> This is false. EPA drafted a report describing Region 10’s consideration of potential costs regarding its use of Section 404(c) action in this instance, including accounting for the economic activity and impacts to the State of Alaska that may be associated with the construction and operation of a mine at the Pebble deposit measured against the environmental and cultural benefits that would result from avoiding the impacts associated with the development of PLP’s proposed 2020 Mine Plan.<sup>270</sup> But, as EPA correctly acknowledges in its Draft Costs Report, EPA is not required to “consider non-environmental costs, such as the economic benefits of a forgone project” when undertaking a Section 404(c) action.<sup>271</sup>

The plain text of the Clean Water Act, the congressional intent as evidenced by the Section 404(c) legislative history, and EPA’s own interpretation of the statutory factors the agency is permitted to consider when undertaking a 404(c) action notably do not include consideration of potential costs.

The text of Section 404(c) of the Clean Water Act makes no mention of economic impacts as a consideration for the agency when exercising its authority. The Act directs the agency to consider only whether “the discharge of [dredged or fill] materials into such area will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas.”<sup>272</sup>

Moreover, Section 404(c)’s legislative history confirms that Congress intended the section to serve as an environmental check on the Army Corps’ permitting authority under Section 404. An early House amendment to the bill would have given the Army Corps the power to administer the permitting of dredged or fill material without EPA oversight. Instead, the Army Corps would have been, by itself, “required to determine that the discharge would not unreasonably degrade or endanger human health, welfare, or amenities or the marine environment, ecological systems, or economic potentialities.”<sup>273</sup> That scheme for the Section 404 permit program did not survive the House and Senate conference committee; instead, economic potentialities was dropped from the statute and the EPA was given oversight authority to ensure administration of the 404 program fulfills the environmental and ecological priorities of the Clean Water Act.

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<sup>269</sup> <https://pebblepartnership.com/submit-july-2022> (accessed Aug. 29, 2022).

<sup>270</sup> EPA, *Consideration of Potential Costs Regarding the Clean Water Act Section 404(c) Proposed Determination for the Pebble Deposit Area, Southwest Alaska*, available at: <https://www.regulations.gov/document/EPA-R10-OW-2022-0418-0002> [hereinafter “Draft Costs Report”].

<sup>271</sup> Draft Costs Report, at p. 4.

<sup>272</sup> 33 USC § 1344(c).

<sup>273</sup> JOINT EXPLANATORY STATEMENT OF THE COMMITTEE OF CONFERENCE, Pub. L. No. 92-500 reprinted in 1 Legislative History of the Federal Water Pollution Control Act Amendments of 1972, at 324 (1973)(emphasis added).

In line with the statutory language, EPA itself has excluded economic factors from its Section 404(c) regulations. Instead, the agency in its rulemaking process noted:

[S]ection 404(c) does not require a balancing of environmental benefits against non-environmental costs such as the benefits of the foregone project. This view is based on the language of 404(c) which refers only to environmental factors. The term “unacceptable” in EPA’s view refers to the significance of the adverse effect—e.g. is it a large impact and is it one that the aquatic and wetland ecosystem cannot afford.

[...]

there is no requirement in 404(c) that a cost/benefit analysis be performed, and there is no suggestion in the legislative history that the word ‘unacceptable’ implies such a balancing.<sup>274</sup>

To conclude, while EPA’s Draft Costs Report is helpful for disclosing economic information to the public for its consideration and participation in the public comment process, EPA should not rely on costs analysis when making a final Section 404(c) determination. Indeed, the agency should be mindful of not relying on statutory factors that have not been enumerated by congress.<sup>275</sup> To the extent the agency would like to know about costs for other purposes, BBNC is providing in Appendix B additional information for the agency’s consideration. As this additional information shows, the ongoing, positive economic role of the ecosystem services provided by Bristol Bay’s pristine waters far outweighs the potential loss of speculative revenues from the proposed Pebble Mine.

## **VII. BBNC SUPPORTS FINAL 404(C) ACTION AND REQUESTS EPA ISSUE A RECOMMENDED DETERMINATION WITH A STRENGTHENED PROHIBITION AND STRONGER RESTRICTIONS**

BBNC supports final 404(c) action and asks that EPA Region 10 consider clarifying the prohibition and restrictions to protect Bristol Bay from the threat posed by mining the Pebble deposit. BBNC’s recommendations are in line with the agency’s intent in releasing the 2022 PD, are supported by the robust record before the agency, are responsive to the Pebble permitting process and PLP’s 2020 Mine Plan, would not expand the geographic scope of the agency’s action beyond its current proposal, and are well within the agency’s statutory authority. BBNC’s recommendations, if incorporated into the final determination, will provide more certainty to the people of Bristol Bay by crafting more effective and durable 404(c) protections and will also provide more clarity to any company proposing to mine the Pebble deposit.

Looking ahead to a Recommended Determination, the Regional Administrator must specifically “confirm or modify the proposed determination, with a statement of reasons.”<sup>276</sup> The Recommended Determination must include: (1) a summary of the unacceptable adverse effects that could occur from use of the disposal site for the proposed discharge and (2) recommendations

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<sup>274</sup> 44 Fed. Reg. 58,076, 58,078 (Oct. 9, 1979).

<sup>275</sup> *State Farm*, 463 U.S. at 43 (agency action arbitrary and capricious for relying on a factor which Congress had not intended for it to consider). *See also, Alliance to Save the Mattaponi v. EPA*, 606 F. Supp. 2d 121, 140 (D.D.C. 2009) (relying on any factors outside those statutorily mandated by Congress is arbitrary and capricious).

<sup>276</sup> 40 C.F.R. § 231.5(d)(2).

regarding a Final Determination to prohibit, deny, restrict, or withdraw, specifically confirming or modifying the Proposed Determination with a statement of reasons.<sup>277</sup> Here we provide Region 10 with specific modifications to the Proposed Determination and the justifications for each modification.

### **A. Geographic Scope**

As an initial matter, BBNC is providing EPA feedback on the geographic delineations of three important components of the 2022 PD—the definition of the Pebble deposit orebody, the Defined Area for the Prohibition, and the Defined Area for the Restriction. As detailed here, the 2022 PD definition of the Pebble deposit should be amended and clarified throughout a Recommended Determination in order to more closely align with how PLP itself describes the deposit and to provide more certainty to mine developers and the people of Bristol Bay regarding the applicability of the 404(c) action. In addition, while EPA has appropriately delineated the Defined Area for the Restriction, EPA should re-delineate and clarify the Defined Area for the Prohibition. Importantly, none of BBNC’s recommendations would expand the geographic scope of any aspect of the proposed 404(c) action beyond the mine claim holders currently identified by EPA as holding claims impacted by the 2022 PD.

#### ***1. Region 10 Should Clarify the Definition of the Pebble Deposit Orebody***

In crafting the 2022 PD prohibition and restrictions, Region 10 references the “Pebble deposit” as defined by its surficial boundary.<sup>278</sup> When clarifying the Pebble deposit definition as recommended in this section, the Recommended Determination should ensure a uniform definition of the Pebble deposit as it applies to both the prohibition and restrictions.<sup>279</sup>

The Army Corps and EPA have identified certain levels of impact that, on their face, are unacceptable in the North Fork Koktuli, South Fork Koktuli, and Upper Talarik Creek watersheds. That conclusion is well-founded in the administrative record. Region 10’s intent in the 2022 PD is to prevent these levels of impacts of mining pyritic ore from occurring in these watersheds. This intent is advanced by applying those prohibitions and restrictions to any hardrock mining efforts that would have those levels of impacts in the area of the prohibition and restrictions.

Thus, in the Recommended Determination, Region 10 should base the definition of the Pebble deposit on the best available information and science of ecological effects from mining pyritic ore. Region 10 may accomplish this in one of two ways. The following two alternative recommendations will help Region 10 clarify that its definition of the Pebble deposit includes the

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<sup>277</sup> 40 C.F.R. § 231.5(d)(1)-(2).

<sup>278</sup> 2022 PD at p. 5-1. We also note that the 2022 PD varies in how it describes this surficial boundary, in one place defining the deposit as covering “an area of at least 1.9 by 2.8 miles” and in another place defining the deposit as delineated by a 2.5 mile- by 3.5-mile box. *Compare* 2022 PD at p. 2-1 *with* 2022 PD at p. 5-1. EPA should rectify these discrepancies in the Recommended Determination.

<sup>279</sup> *See* 2022 PD at p. 5-1 (noting that the prohibition and restriction both reference the same definition of the Pebble deposit). It is important that Region 10 define and delineate the Pebble deposit for purposes of the prohibition because, as discussed in section B(2) below, one of BBNC’s recommendations for clarifying the prohibition is to include a reference to the Pebble deposit in the prohibition itself.

entire 11.0 billion metric tons currently delineated<sup>280</sup> and confirmed in PLP’s 404 permit application.<sup>281</sup>

First, Region 10 should redefine the Pebble deposit by removing the reference to a specific border for the Pebble deposit and instead focusing the prohibition and restrictions on the character of the orebody and the resulting ecological effects from mining this ore type. By using this approach, the Recommended Determination’s definition of the “Pebble deposit” would account for the ever-expanding delineation of the Pebble deposit resource, as well as account for other exploration and development prospects within PLP’s claim block. EPA acknowledges that the full extent of the Pebble deposit is an estimate based on PLP’s exploration efforts and “is not yet defined.”<sup>282</sup> Indeed, in defining its 11.0 billion metric ton deposit, PLP refers only to the main delineated deposit itself, noting that the main delineated deposit may extend to the east and south into areas as yet undelineated and unexplored.<sup>283</sup> Moreover, as discussed in section III(D) above, PLP also describes additional mineralized areas—specifically areas of-pyrite alteration—within its mining claims (identified as “Mineral Prospect” in Figure 6 below) that “warrants follow-up drilling in the years ahead,” as “[t]he potential to find and delineate satellite deposits elsewhere on the Pebble property is clear.”<sup>284</sup>

Because the extent of the Pebble deposit may expand over time and may include other mineral prospects on PLP’s mining claims, the Recommended Determination’s prohibition and restrictions should reference the ore type as it is the ecological effect of mining this ore type that EPA uses to support its restrictions. The robust record from the Final EIS and ROD as well as EPA’s 2014 Watershed Assessment supports a 404(c) action that focuses on the effects of the mining pyritic ore within the boundaries of the 2022 PD’s Defined Area for Restriction, regardless of the source of that pyritic ore.

In the alternative, Region 10 should redefine the Pebble deposit by relying on NDM’s definition of the “Pebble Deposit Area” in its financial filings with the U.S. Securities and Exchange Commission (“SEC”) and Canadian Securities agencies.<sup>285</sup> NDM defines this as the area, 4.5 miles by 3.5 miles, where the most advanced geotechnical drilling of the Pebble deposit has occurred. To help Region 10 understand the differences between the 2022 PD and NDM’s SEC delineation of the “Pebble Deposit Area,” BBNC has mapped the following comparison:

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<sup>280</sup> <https://www.northerndynastyminerals.com/pebble-project/project-overview/> (describing a resource estimate at the Pebble deposit as 6.5 billion metric tons measured and indicated and 4.5 billion metric tons inferred).

<sup>281</sup> Final EIS, Appx. N. Project Description.

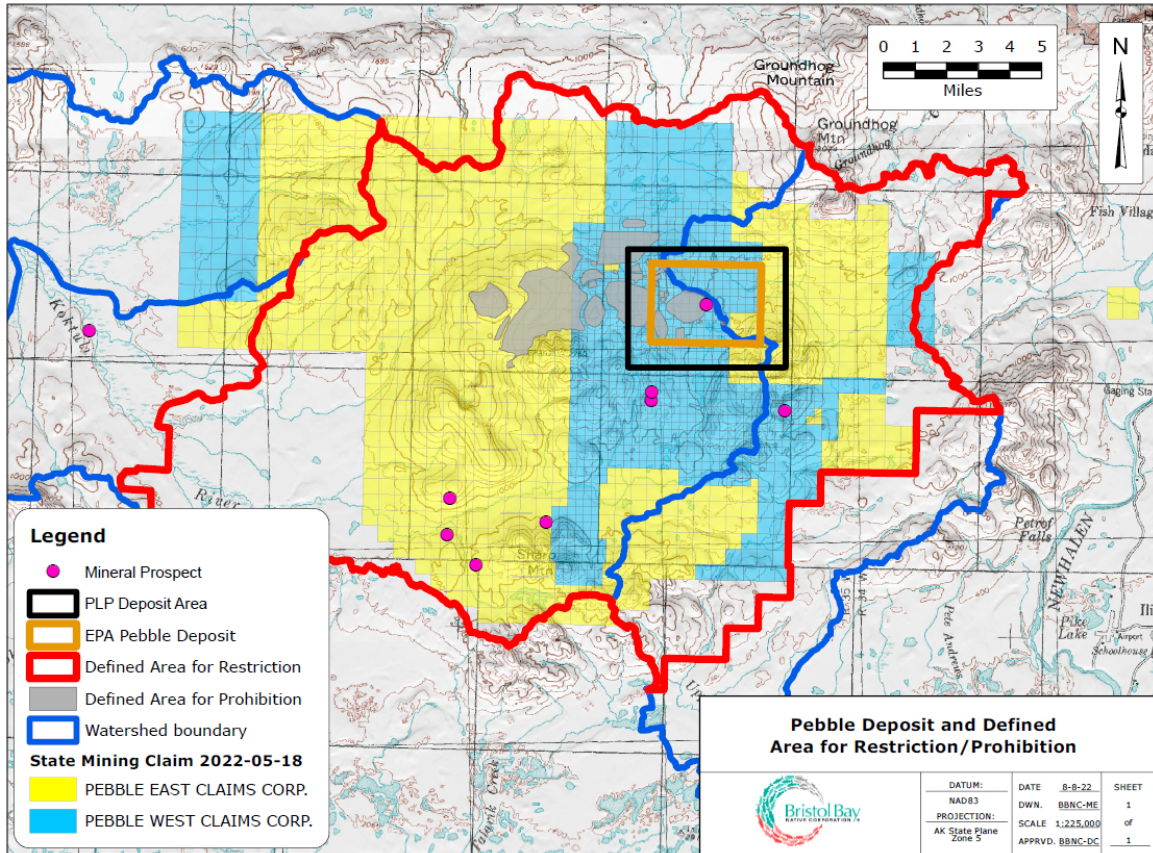
<sup>282</sup> 2022 PD at p. 2-1.

<sup>283</sup> <https://www.northerndynastyminerals.com/pebble-project/geology-and-exploration/>

<sup>284</sup> *Id.*

<sup>285</sup> *See*, Pebble Project Preliminary Economic Assessment NI 43-101 Technical Report, Prepared for Northern Dynasty Minerals Ltd., Prepared by Ausenco Engineering Canada (effective date: Sept. 9, 2021), Figure 10-2, at p. 109, on file with the Securities and Exchange Commission at: [https://www.sec.gov/Archives/edgar/data/1164771/000165495421011600/ndm\\_ex991.htm](https://www.sec.gov/Archives/edgar/data/1164771/000165495421011600/ndm_ex991.htm).





**Figure 6.** Pebble Deposit Area as defined by EPA and NDM//PLP.<sup>286</sup>

Region 10’s adoption of either alternative would result in a stronger Recommended Determination and more durable and transparent prohibition and restrictions. This recommendation is supported by the robust record before the agency, is responsive to the Pebble permitting process and PLP’s 2020 Mine Plan, would not expand the geographic scope of the agency’s action beyond its current proposal, and is well within the agency’s statutory authority.

## ***2. Region 10 Should Re-Delineate the Defined Area for Prohibition***

The 2022 PD Defined Area for Prohibition encompasses only the 2020 Mine Plan footprint at the mine site within the South Fork Kaktuli and North Fork Kaktuli watersheds.<sup>287</sup> The discharges prohibited within the Defined Area for Prohibition are dredged and fill material for the construction and routine operation of the 2020 Mine Plan. But, as described in section VII(B) below, the combination of a limited geographic scope for the Defined Area for Prohibition, in conjunction with the limitation to “the construction and routine operation of the 2020 Mine Plan,” is vulnerable to future creative permit application proposals from PLP that are in effect the same as that mine plan but not identical in geographic configuration.

<sup>286</sup> GIS data for “Mineral Prospect” from USGS Alaska Resource Data File, <https://mrdata.usgs.gov/ardf/>. GIS data for state mining claims from ADNR Alaska Mine Claims Mapper, <http://akmining.info/>.

<sup>287</sup> 2022 PD, at Figure ES-5 and p. 5-2..

In specifying waters than cannot be used as a disposal area, Region 10 should not limit the Defined Area for Prohibition to the 2020 Mine Plan footprint, but rather prohibit discharges into designated rectangular survey system township, range, and section units that encompass: (1) areas PLP proposed to use in the 2020 Mine Plan (i.e., the current 2022 PD Defined Area for Prohibition) as well as (2) areas PLP proposed and the Corps considered as other options for mine site tailings storage facilities and the water treatment ponds as analyzed and rejected in the EIS process.<sup>288</sup> In section VII(B) below, BBNC provides EPA with specific feedback and mapping on how to re-delineate the Defined Area for Prohibition.

### ***3. BBNC Supports the Defined Area for the Restriction***

The 2022 PD Defined Area for Restriction encompasses certain headwaters of the South Fork Kaktuli, North Fork Kaktuli, and Upper Talarik Creek and is approximately 309 square miles.<sup>289</sup> It “includes areas within the three watershed boundaries where mine claims are currently held and areas where mine claims are available to represent locations where there is a potential for the discharge of dredged or fill material associated with mining the Pebble deposit.”<sup>290</sup>

BBNC supports the Defined Area for Restriction as it is appropriately tailored to the Pebble Project and state lands around the Pebble deposit where mining claims may be staked. Region 10’s Defined Area for Restriction is supported by the factual record developed during Army Corps permitting process in that it encompasses the three watersheds that PLP proposed to locate its mine site facilities. In addition, as the Defined Area for Restriction focuses on state lands where mining claims are available for staking, which is appropriately tailored to the threat.

### **B. BBNC Supports a Clarified Prohibition**

BBNC supports using a prohibition to protect Bristol Bay from the threat posed by mining the Pebble deposit. However, the prohibition as drafted – with its qualification that it applies only to the 2020 Mine Plan – is vulnerable to future creative permit application proposals from PLP that are in effect the same as that mine plan but not identical. As described in Section III(D) above, this threat is very real as PLP and its parent company NDM have publicly stated their intentions to amend the 2020 mine plan in future permitting efforts. Small ancillary changes to PLP’s permit application, such as changes to the proposed transportation corridor, port site, or compensatory mitigation plan would result in modifications to the 2020 Mine Plan and a rebranding of the plan as something other than “the 2020 Mine Plan.” This would potentially make the prohibition inapplicable to the proposal despite the fact that the mine site footprint would remain unchanged and be proposed as the discharge site for dredge and fill material from mine operations. To address this problem, BBNC presents two separate recommendations. Implementation of either of these recommendations would clarify that the prohibition applies to all proposals to mine the Pebble deposit that are substantially similar to the 2020 Mine Plan.

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<sup>288</sup> PLP’s options and associated footprint maps are found in the Army Corps record in PLP’s responses to Army Corps Requests For Information (“RFI”) numbers 69, 98, and 150. *See* enclosed Appx. C pp 2192 to 2287. *See also*, Final EIS Appx. B Figure B-4.

<sup>289</sup> 2022 PD at p. 5-3.

<sup>290</sup> 2022 PD at p. 5-3.

***1. Recommendation #1 – Region 10 Should Strengthen the Delineation of the Defined Area for Prohibition to Include Alternative Mine Facilities Proposals Later Rejected by PLP and/or Proposals Later Rejected by the Army Corps***

In specifying waters that cannot be used as a disposal area, Region 10 should not limit the “Defined Area for Prohibition” to the 2020 Mine Plan footprint, but rather prohibit discharges into designated rectangular survey system township, range, and section units that encompass: (1) areas PLP proposed to use in the 2020 Mine Plan (i.e., the current 2022 PD Defined Area for Prohibition) as well as (2) areas PLP proposed and the Corps considered as other options for mine site tailings storage facilities and the water treatment ponds as analyzed and rejected in the EIS process.<sup>291</sup>

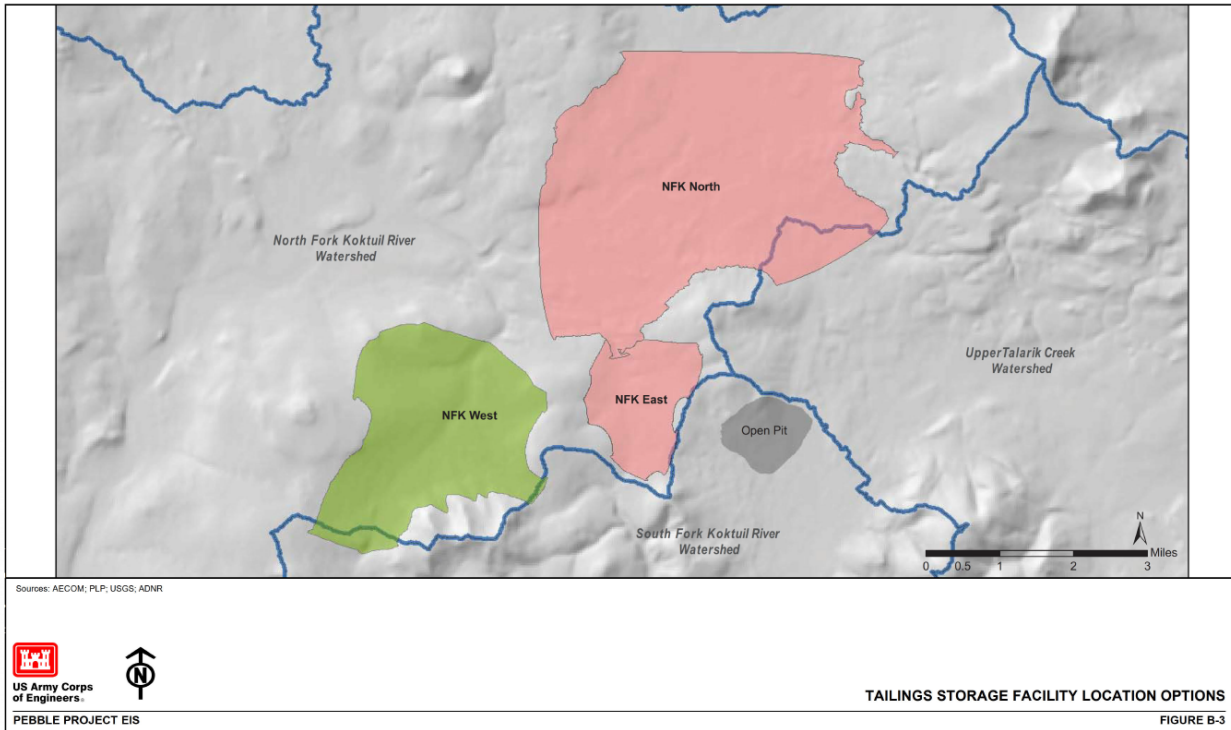
This approach would rely closely on the Army Corps permitting record and PLP’s own proposals. In addition, by using the footprints of tailings storage facilities and water management pond alternatives rejected by the Army Corps during the permitting process, EPA’s 404(c) action would further codify the 404 permitting decision.

To implement this recommendation, Region 10 should utilize the contiguous rectangular survey system township, range, and section units that encompass the alternative TSF and water management pond sites determined by the Army Corps as not constituting the LEDPA, as seen in Figures 7 and 8 below. These previously rejected options, or some combination thereof, might be relevant to PLP’s future mine plans, as the company’s options for siting facilities are limited by the region’s topography, climate, and other factors.<sup>292</sup>

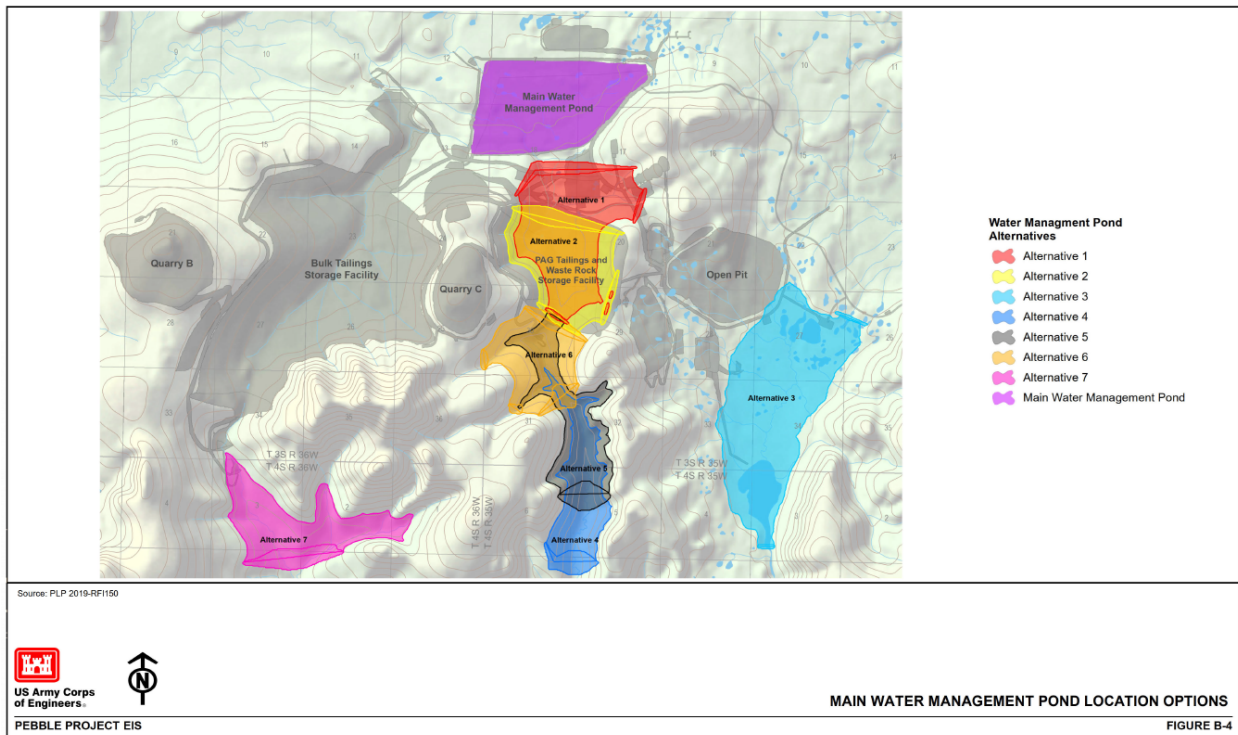
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<sup>291</sup> PLP’s options and associated footprint maps are found in the Army Corps record in PLP’s responses to Army Corps Requests For Information (“RFI”) numbers 69, 98, and 150. See also, Final EIS Appx. B Figure B-4.

<sup>292</sup> For instance, as EPA noted in the 2014 BBWA, the topography in the region limits PLP’s options for siting its tailings storage and water management facilities. 2014 BBWA at p. 6-2 and Appx. I at p. 7 (“The selection and design of a tailings disposal site is site specific and depend on factors such as climate, topography, geology, hydrology, seismicity, economics, and environmental and human safety.”).



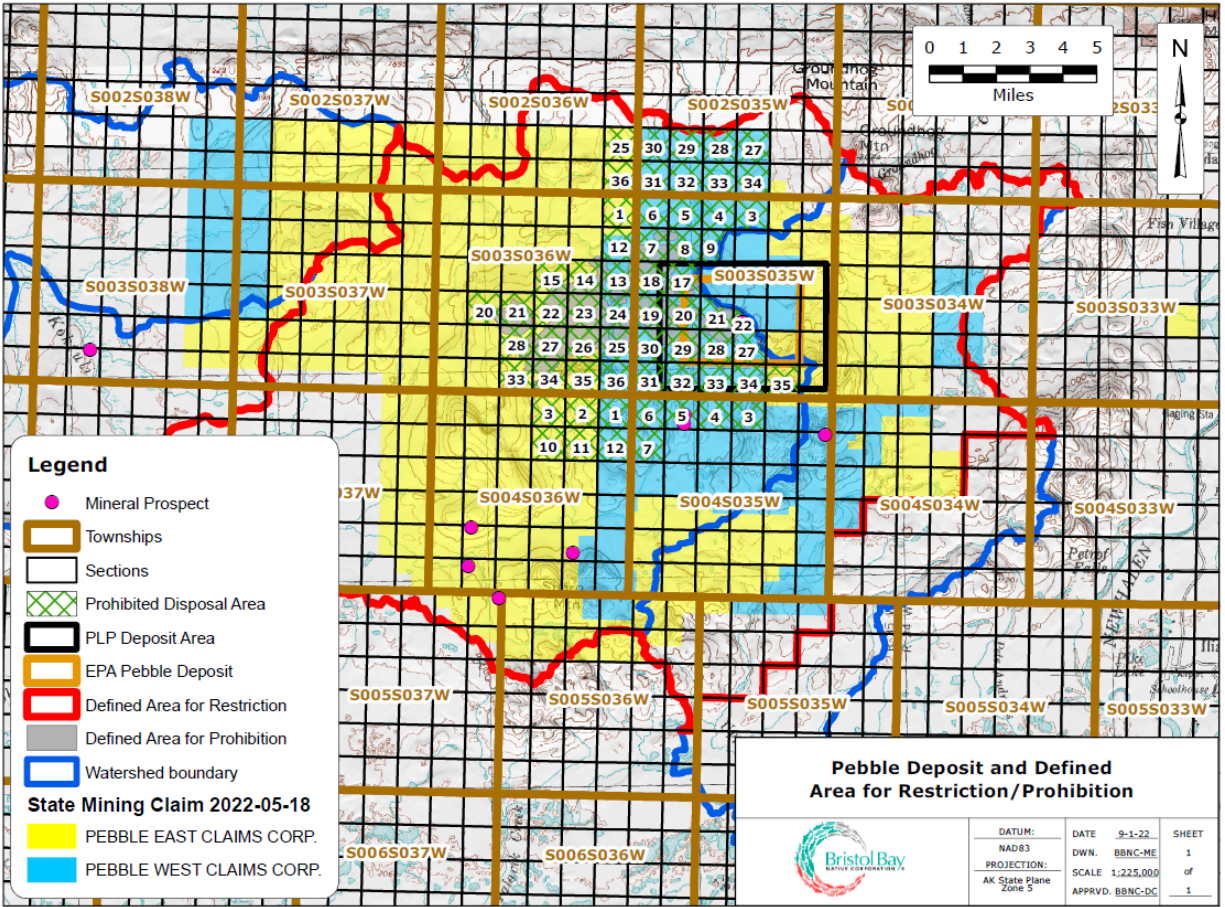
**Figure 7.** Tailings Storage Facility Location Options analyzed by the Army Corps and determined not to be the LEDPA, Final EIS Appendix B Figure B-3.



**Figure 8.** Water Management Pond Alternatives analyzed by the Army Corps and determined not to be the LEDPA, Final EIS Appendix B Figure B-4..

Region 10 should also limit this area to the North Fork and South Fork Koktuli Rivers, as these waterbodies were the main target for PLP’s disposal site. Thus, this suggested Defined Area for Prohibition is approximately 57 square miles within the North Fork and South Fork Koktuli watersheds and consists of the following sections as shown in Figure 9 below:

<b>Table 7. Defined Area for Prohibition</b>								
<b>Only those lands within North &amp; South Fork Koktuli Watersheds</b>								
<b>Meridian</b>	<b>Tship</b>	<b>Range</b>	<b>Section</b>		<b>Meridian</b>	<b>Tship</b>	<b>Range</b>	<b>Section</b>
Seward	2S	36W	25		Seward	3S	35W	6
Seward	2S	36W	36		Seward	3S	35W	7
Seward	2S	35W	27		Seward	3S	35W	8
Seward	2S	35W	28		Seward	3S	35W	9
Seward	2S	35W	29		Seward	3S	35W	17
Seward	2S	35W	30		Seward	3S	35W	18
Seward	2S	35W	31		Seward	3S	35W	19
Seward	2S	35W	32		Seward	3S	35W	20
Seward	2S	35W	33		Seward	3S	35W	21
Seward	2S	35W	34		Seward	3S	35W	22
Seward	3S	36W	1		Seward	3S	35W	27
Seward	3S	36W	12		Seward	3S	35W	28
Seward	3S	36W	13		Seward	3S	35W	29
Seward	3S	36W	14		Seward	3S	35W	30
Seward	3S	36W	15		Seward	3S	35W	31
Seward	3S	36W	20		Seward	3S	35W	32
Seward	3S	36W	21		Seward	3S	35W	33
Seward	3S	36W	22		Seward	3S	35W	34
Seward	3S	36W	23		Seward	3S	35W	35
Seward	3S	36W	24		Seward	4S	36W	1
Seward	3S	36W	25		Seward	4S	36W	2
Seward	3S	36W	26		Seward	4S	36W	3
Seward	3S	36W	27		Seward	4S	36W	10
Seward	3S	36W	28		Seward	4S	36W	11
Seward	3S	36W	33		Seward	4S	36W	12
Seward	3S	36W	34		Seward	4S	35W	3
Seward	3S	36W	35		Seward	4S	35W	4
Seward	3S	36W	36		Seward	4S	35W	5
Seward	3S	35W	3		Seward	4S	35W	6
Seward	3S	35W	4		Seward	4S	35W	7
Seward	3S	35W	5					



**Figure 9.** BBNC GIS map of a proposed Prohibited Disposal Area that encompasses TSF and Water Management Ponds alternatives determined not to be the LEDPA by the Army Corps.

By delineating a “Defined Area for Prohibition” as a contiguous block of rectangular survey system sections that encompass the alternative TSF and water management pond sites, Region 10 would ensure that the Defined Area for Prohibition includes potential future mine site facilities as well as codifying the Army Corps’ rejection of these alternative sites as being more environmentally damaging than the 2020 Mine Plan.

In the alternative, Region 10 should at the very least delineate the “Defined Area for Prohibition” by designating the sections that encompass the 2020 Mine Plan footprint. This approach would avoid gaps in the surficial area covered by the prohibition by utilizing a contiguous block of rectangular survey system units and would give the prohibition a more practical and transparent delineation.

**2. Recommendation #2 – Region 10 Should Focus the Prohibition on the Type and Location of Mining Activity and Not Solely on PLP’s 2020 Mine Plan**

In addition to the revised geographic scope of the Defined Area for Prohibition, Region 10 should focus the prohibition on the type and location of the mining activity and not solely on PLP’s 2020 Mine Plan. To accomplish this, Region 10 should clarify that the prohibition applies more broadly than PLP’s 2020 Mine Plan.

Region 10 may accomplish this with changes to the 2022 PD such as:

- “prohibit . . . the discharge of dredged or fill material for the construction and routine operation of a large-scale porphyry mine at the Pebble deposit.”  
or
- “prohibit . . . the discharge of dredged or fill material for the construction and routine operation of the 2020 Mine Plan (PLP 2020b, USACE 2020a: Appendix J) and substantially similar mine plans.”

When implementing this recommendation, any use of the “Pebble deposit” in the prohibition should utilize a defensible definition of the Pebble deposit as discussed in section A(1) above, namely Region 10 should base the definition and delineation of the Pebble deposit area on the best available information and science of ecological effects from mining pyritic ore.

With these changes, Region 10 would provide more certainty to the people of Bristol Bay that, in the event that PLP decides to re-initiate 404 permitting, any final 404(c) prohibition would not be a dead letter that only applied to a now obsolete mine plan. Instead, EPA would be clarifying for the people of Bristol Bay and to mine proponents that any plan to mine the Pebble deposit would, due to the necessary size and type of mining that would occur within these pristine waters, be prohibited.

### **C. BBNC Supports Clarified Restrictions**

EPA is proposing to establish upper limits on the adverse impacts to water resources associated with mining the Pebble deposit. However, as EPA states, this does not mean that PLP proposals that may impact less than the enumerated standards would necessarily be environmentally acceptable or permissible under the CWA. And indeed, the 2022 PD notes that any future proposals to mine the Pebble deposit “that would either individually or collectively result in adverse effects similar or greater in nature and magnitude” would be a proposal “that triggers any one of these four unacceptability findings [and] would be subject to the restriction.”<sup>293</sup>

In order to avoid PLP permitting maneuvers as seen with the 2014 PD and the company’s 2017 permit application,<sup>294</sup> and to clarify the scope of the restrictions, EPA should explicitly define “adverse effects similar or greater in nature and magnitude” in a Recommended Determination. Here BBNC provides Region 10 with two recommendations towards defining “adverse effects similar or greater in nature and magnitude.” To be most effective, these two recommendations should be taken in conjunction with defining the Pebble deposit as described in section VII(A) above.

Finally, BBNC reiterates our recommendations on EPA’s 2014 PD, namely that Region 10 clarify that the 404(c) restrictions apply on an area-wide basis rather than as limits on individual projects and that the agency should consider strengthening the restrictions by protecting salmon from toxic

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<sup>293</sup> 2022 PD at p. 5-2.

<sup>294</sup> See, e.g., PLP Website “How Big Is It?” at <https://pebblepartnership.com/size> (“our footprint is a near match for the scenario which even the Obama administration’s EPA said could enter permitting.”).

contamination and by applying a rebuttable presumption of anadromous fish occurrence to unsurveyed streams.

BBNC agrees with EPA's assessment that "it would not be reasonable or necessary to engage in another multi-year NEPA and CWA Section 404 review process for future plans that propose to discharge dredged or fill material in the Defined Area for Restriction that could result in effects that are similar or greater in nature and magnitude to effects of the 2020 Mine Plan."<sup>295</sup> To that end, EPA should provide more certainty to the people of Bristol Bay and clarity to the mining industry about when the agency might apply the 404(c) restrictions a final 404(c) action to any future plans to mine the Pebble deposit.

***1. Recommendation #1 – Region 10 Should Elaborate on What Constitutes “Similar or Greater in Nature and Magnitude”***

The 2022 PD's restrictions would limit the "discharge of dredged or fill material for the construction and routine operation of any future plan to mine the Pebble deposit that would either individually or collectively result in adverse effects similar or greater in nature and magnitude to those described in Sections 4.2.1 through 4.2.4."<sup>296</sup> Each of these four types of impacts "could, independently, result in unacceptable adverse effects on anadromous fishery areas" and, accordingly, any proposal that runs afoul of "any one of these four unacceptability findings would be subject to restriction."<sup>297</sup>

The restrictions as drafted – with emphasis on numerical standards for the restrictions and use of "similar or greater" – is vulnerable to future proposals from PLP that would be unacceptable based on the science. The threat that PLP would seek to artificially segment a future mine proposal to maneuver around numerical restrictions is very real and was seen in PLP's marketing of its 2017 permit application as compared to the 2014 PD.<sup>298</sup>

In the Recommended Determination, Region 10 should provide more detail as to what constitutes adverse effects "similar or greater in nature and magnitude" as the 2020 Mine Plan. This definition should focus on particular ecological effects supported by sound science, not just numerical standards developed in response to PLP's 2020 mine plan. These ecological effects should be based on the 404(b)(1) Guidelines, specifically as they relate to significant degradation to waters of the United States (40 CFR § 230.10(c)).

The Recommended Determination should also ensure – through clear guidance to the Army Corps, PLP, and people of Bristol Bay – that the restrictions will provide protections from a mine similar to that analyzed in the 2014 PD and the 2014 Watershed Assessment. Region 10 may accomplish this by including in the restrictions standards for permit application data to ensure that EPA can adequately analyze a proposal's impact early in any permitting process. In particular, Region 10 should explicitly require water resources mapping, including field-verified mapping and fine-scale

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<sup>295</sup> 2022 PD at ES-18.

<sup>296</sup> 2022 PD at 5-2 (emphasis added).

<sup>297</sup> *Id.*

<sup>298</sup> See, e.g., PLP Website "How Big Is It?" at <https://pebblepartnership.com/size> ("our footprint is a near match for the scenario which even the Obama administration's EPA said could enter permitting.").



aerial photography interpretation, in any future 404 permit application for a proposal to mine the Pebble deposit.<sup>299</sup> The Recommended Determination should state an expectation that any future mining proposal would include mapping of sufficient detail to allow EPA to more accurately assess the impacts of the proposal. This is data that the Army Corps CWA regulations require for a complete permit application,<sup>300</sup> and is information necessary to ensure compliance with the 404(b)(1) Guidelines. As such, EPA should require this detailed information in any permit application .

Providing this certainty will ensure that the people of Bristol Bay, federal and state regulators, and industry are all clear on the precise meaning and scope of the restrictions prior to any future permitting process of mining in the area, rather than spending numerous financial and human resources in a future environmental review process to determine whether the restrictions will be triggered. In providing further detail regarding the application of the restrictions in the Recommended Determination, Region 10 can more closely align with the 2022 PD's intent that "proposing the restriction now provides the most effective, transparent, and predictable protection of valuable anadromous fishery areas against unacceptable adverse effects throughout the Defined Area for Restriction."<sup>301</sup>

## ***2. Recommendation #2 – If Using Numerical Standards, Region 10 Should Account for Numerical Uncertainty***

Should Region 10 rely on numerical standards for its restrictions, we recommend that the Recommended Determination account for numerical uncertainty by utilizing numerical ranges of the extent of waters impacted by a proposal to mine the Pebble deposit. This recommendation utilizes the best available information about the extent of mapped waters and wetlands in the North Fork Koktuli, South Fork Koktuli, and Upper Talarik Creek as disclosed through the Army Corps permitting process. In addition, this recommendation accounts for EPA's finding in the 2014 Watershed Assessment that determinations of impacts to waters and wetlands in the region are improved with "higher-resolution mapping, increased sampling of possible fish-bearing waters, and ground-truthing."<sup>302</sup>

The restrictions proposed by Region 10 establish ceilings for aquatic resource losses resulting from the discharge of dredged or fill material from mining the Pebble deposit. These restrictions would apply to any future plans to mine the Pebble deposit and levels of impacts to aquatic resources would be assessed based on a 404 permit application. However, Region 10 and the lengthy Final EIS administrative record note uncertainties with the available data regarding mapped streams, wetlands, anadromous waters, and outside the 2020 Mine Plan footprint, potentially making a judgment about the extent of impacts from a proposal ambiguous at first blush. This concern is not merely academic. As seen in the Army Corps permitting process, it took the agency and PLP more than two years after initial submission of the 404 permit application to fully account for the waters impacted. As such, in the Final EIS issued in 2020, updated mapping and ground-truthing had

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<sup>299</sup> See, e.g., 2022 PD Box 4-2.

<sup>300</sup> 33 C.F.R. 325.1.

<sup>301</sup> 2022 PD at p. 2-19.

<sup>302</sup> BBWA, at p. 7-23, Box 7-1.

determined that the project's impacts to streams was 25% higher than that disclosed in the 2019 draft EIS.<sup>303</sup>

In order to increase certainty to the people of Bristol Bay and to companies seeking to mine the Pebble deposit, Region 10 should implement a numerical range for determining when its restrictions standards automatically apply. In particular, the record indicates the following levels of uncertainties that should be considered:

- Stream miles and wetlands: “the characterization of aquatic habitat area is limited by resolution of the available NWI data, which tend to underestimate their extents. For example, multiple sources of high-resolution remote imaging and ground-truthing were used to map streams and wetlands at the mine site [for the permitting process]. This high-resolution mapping identifies approximately 400 percent more stream miles than the NHD and approximately 40 percent more wetland acres than the NWI in this area [...] However, this high-resolution mapping of aquatic resources is not available for the entire SFK, NFK, and UTC watersheds.”<sup>304</sup>
- Streamflow alteration: “EPA Region 10 has concerns with the methods used to establish the ecosystem flow requirements and predict impacts on downstream anadromous fish habitat as presented in the FEIS.”<sup>305</sup>
- Anadromous habitat: The State of Alaska's Anadromous Waters Catalogue (used by state and federal agencies for documentation of salmon presence and absence) states that “Based upon thorough surveys of a few drainages it is believed that this number represents less than 50% of the streams, rivers and lakes actually used by anadromous species in Alaska.”<sup>306</sup>

Taking these uncertainties into account, a Recommended Determination could maintain the current 2022 PD restrictions while adding a lower range to which the restrictions would automatically apply to any new permit application to mine the Pebble deposit:

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<sup>303</sup> Compare Draft EIS mine site impacts to streams of 73.2 miles (Draft EIS, at Table ES-2, p. ES -60) with Final EIS mine site impacts to streams of 99.7 miles (Final EIS, at Table ES-1, p. ES-93).

<sup>304</sup> 2022 PD, at p. 3-8. See also 2022 PD, at p. 4-20, Box 4-2 (“The stream and wetland mapping generated by PLP was developed using more site-specific information than is typically used in the development of NHD or NWI.”).

<sup>305</sup> 2022 PD, at p. 4-32

<sup>306</sup> [https://www.adfg.alaska.gov/index.cfm?adfg=wildlifeneews.view\\_article&articles\\_id=502](https://www.adfg.alaska.gov/index.cfm?adfg=wildlifeneews.view_article&articles_id=502). See also, BBWA, at p. 7-23, Box 7-1.

	2022 PD Restrictions	Uncertainty factor	Restrictions Lower Range <sup>307</sup>
Destruction of Anadromous Streams	8.5 miles	50% (based on anadromous waters catalog uncertainty)	5.67 miles
Destruction of Streams that Support Anadromous Streams	91.2 miles	400% (based on PD uncertainty noted with the NHD mapping)	18.24 miles
Destruction of Wetlands	2,113 acres	40% (based on PD uncertainty noted with the NWI mapping)	1,509.3 acres
Alteration of Flow in Anadromous Streams by 20%	29 miles	N/A	N/A

In a Recommended Determination, Region 10 should be clear that any such lower range should not be interpreted as a floor and that the agency still retains its discretion to utilize final 404(c) restrictions whenever it decides impacts that meet or exceed the thresholds or would have similar ecological effects regardless of whether the fill originated within the Pebble deposit. However, a restrictions lower range could be expressed in the Recommended Determination as a level of impacts at which, if initially determined in a 404 permit application to mine the Pebble deposit, the application of the 404(c) restrictions automatically would apply. This would avoid the need for costly site-specific determinations of wetlands and streams impacted that would only occur well into the permitting process. Creating such a lower range on the restrictions, based on the known uncertainties in the current data availability for wetlands, streams, and fish presence, would increase certainty to the people of Bristol Bay as well as to potential mine developers.

**3. Recommendation #3 – Region 10 should clarify and strengthen the 2022 PD restrictions by incorporating BBNC’s recommendations on the 2014 PD**

In 2014, BBNC provided Region 10 with extensive recommendations on the 2014 PD restrictions, including requests that the agency clarify and strengthen a number of aspects of the restrictions. For reference, BBNC’s 2014 comment letter is attached in Appendix C. Some of BBNC’s 2014 recommendations remain applicable to the 2022 PD restrictions and are summarized here.

Specifically, as detailed in the 2014 PD comment letter, Region 10 should:

- Clarify that the 404(c) restrictions apply on an area-wide basis rather than as limits on individual projects. As detailed in BBNC’s 2014 recommendations, the use of “individually or collectively” in the restrictions should be clarified and very clearly stated in the Recommended Determination that the 404(c) restrictions must be implemented on an area-wide basis in order to ensure a mining project is not proposed or developed in a piecemeal fashion so that it avoids the aquatic resource loss ceilings imposed by the restrictions. BBNC’s 2014 comment letter contains specific language suggestions for how to define “individually or collectively” to help ensure that the proposed 404(c) restrictions

<sup>307</sup> Where % change = 100 x (final – initial) / |initial|

are durable and cannot be evaded through project segmentation or multiple mining proposals.<sup>308</sup>

- Region 10 should apply a rebuttable presumption of anadromous fish occurrence to unsurveyed streams. As detailed in BBNC’s 2014 recommendations, fish populations across Bristol Bay have not been comprehensively sampled and, as a result, the Anadromous Waters Catalog (“AWC”) and Alaska Freshwater Fish Inventory (“AFFI”) databases fail to characterize all potential fish-bearing streams.<sup>309</sup> In order to prevent these information gaps from undermining the effectiveness of the proposed restrictions, in its Recommended Determination Region 10 should incorporate a presumption that unsurveyed streams in the impacted area are anadromous. BBNC’s 2014 comment letter contains specific language suggestions for how to utilize such a presumption in the restrictions.<sup>310</sup>

#### **D. Region 10 Should Clarify that the Prohibition and Restrictions Will Not Be Affected by Changes in Ownership of the Mining Claims and Permit Applicant**

In defining the “disposal site” encompassed by the proposed 404(c) restrictions, Region 10 has explained that the area includes locations “where mine claims are currently held and areas where mine claims are available to represent locations where there is a potential to be a disposal site.”<sup>311</sup> Accordingly, EPA has defined the area for the restrictions “that includes areas within the three watershed boundaries where mine claims are currently held and areas where mine claims are available.”<sup>312</sup> As explained in the preceding section, BBNC agrees with this geographic scope as it is well-founded in the record. However, as BBNC commented to Region 10 in 2014, EPA should clarify that both the prohibition and restrictions will not be affected by changes in ownership of the mining claims.<sup>313</sup>

Ownership of mining claims can change rapidly, particularly where a mine operator is experiencing financial or other challenges, as is true at Pebble. Indeed, the mining claims at and around the Pebble deposit have been far from static. For instance, NDM subsidiaries have over the years expanded and exercised options to acquire mining claims in the region from other mineral exploration companies.<sup>314</sup> Likewise, some mining claims around the Pebble deposit have been

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<sup>308</sup> See enclosed Appx. C, at pp. 157-158 (BBNC comment letter on 2014 PD, at pp. 26-27).

<sup>309</sup> See enclosed Appx. C, at p. 165-167 (BBNC comment letter on 2014 PD, at pp. 34-36).

<sup>310</sup> See *id.*

<sup>311</sup> 2022 PD, at p. 5-3.

<sup>312</sup> 2022 PD, at p. 5-3.

<sup>313</sup> See enclosed Appx. C, at p. 159 (BBNC comment letter on 2014 PD, at pp. 27-29).

<sup>314</sup> See, e.g., Dave Bendinger, *Liberty Star transfers mining claims north of Pebble to Northern Dynasty*, ALASKA DISPATCH NEWS (June 6, 2014), available at <http://www.adn.com/article/20140606/liberty-star-transfers-mining-claims-north-pebblenorthern-dynasty-0>. See also, NDM, Preliminary Assessment of the Pebble Project Southwest Alaska, prepared by Wardrop (issue date Feb. 17, 2011), available at: <https://www.sedar.com/DisplayCompanyDocuments.do?lang=EN&issuerNo=00003151> (filed on March 22, 2011) [hereinafter “2011 PEA”] (describing PLP’s rights circa 2011 to acquire interests in mineral claims by incurring exploration expenditures on behalf of other mineral claim holders – rights which PLP later exercised in acquiring claims from Full Metal Minerals and Liberty Star).

abandoned or relinquished, leaving the potential that some may be restaked.<sup>315</sup> From 2011 to 2014, PLP's claims and interests in claims were reduced from 3,108<sup>316</sup> to 2,776 active claims,<sup>317</sup> and currently stands at 1,840 mineral claims,<sup>318</sup> leaving many relinquished claims open for potential restaking by new owners. Moreover, the CEO of NDM has noted in public statements that NDM and PLP are unlikely to construct and operate a mine at the Pebble deposit; rather, he anticipates "somebody will come along and take us over."<sup>319</sup>

In the event that mine claims do change hands, or active PLP mine claims are abandoned or relinquished, it will be critical to the clarity and durability of the 404(c) determination that the legal description of the potential disposal site be considered controlling. Therefore, BBNC requests, as we did in our comment letter on the 2014 PD, that Region 10 state explicitly in the Recommended Determination that mine claim ownership was merely a practical mechanism for narrowing the geographic scope of the restrictions and prohibition, but that the applicability of the restrictions and prohibition is governed by the current legal description.

EPA did responsively modify its description from the 2014 PD to the 2022 PD in that the focus of the defined area for the restrictions changed from "all mine claims owned by NDM subsidiaries in the three watersheds"<sup>320</sup> to "areas within the three watershed boundaries where mine claims are currently held and where mine claims area available."<sup>321</sup> As such, EPA recognizes, in the PD Appendix A, that "the ownership status of mine claims could change over time" and that the agency "now believes that both currently held claims and areas where mine claims are available in the SFK, NFK, and UTC watersheds better represent locations that have the potential to be disposal sites associated with mining the Pebble deposit."<sup>322</sup> While this recognition is useful and warranted in describing the Defined Area for Restriction, EPA should clarify as well that both the prohibitions and restrictions control within the defined state lands within the watershed boundaries and are not dependent on PLP being the company holding the mineral claims nor submitting the mine plan and permit application.

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<sup>315</sup> For example, in December 2013 Liberty Star abandoned hundreds of claims in the Pebble region, from 413 claims down to 54 claims. Liberty Star, News Release—Liberty Star's Big Chunk Alaska Claims Paid (Dec. 6, 2013), available at <http://www.libertystaruranium.com/2013/12/06/nr-169-liberty-stars-big-chunk-alaska-claimspaid/>. These claims currently have no holder and may be restaked in the future by NDM subsidiaries or other exploration companies.

<sup>316</sup> 2011 PEA, at 19. This number of claims includes PLP's direct and indirect holdings of claims in 2011.

<sup>317</sup> See enclosed Appx. C, at p. 159 (BBNC comment letter on 2014 PD, at p. 28, n. 173).

<sup>318</sup> NDM, Second Quarter Financial Report for the period ending June 30, 2022 (filed with the SEC Aug. 16, 2022), available at: [https://www.sec.gov/Archives/edgar/data/0001164771/000165495422011412/ndm\\_6k.htm](https://www.sec.gov/Archives/edgar/data/0001164771/000165495422011412/ndm_6k.htm).

<sup>319</sup> Ron Thiessen interview on Frank Curzio Show, episode 579 (December 20, 2017), <https://www.curzioresearch.com/new-era-northern-dynasty/>.

<sup>320</sup> 2014 PD, at p. 2-18.

<sup>321</sup> 2022 PD, at p. 5-3.

<sup>322</sup> 2022 PD, Appx. A, p. A-2.

## VIII. REGION 10 SHOULD TAKE STEPS TO ENSURE THE 404(C) PROHIBITION AND RESTRICTIONS ARE FULLY IMPLEMENTED

The above recommendations are intended to help EPA formulate effective and durable prohibition and restrictions in the Recommended Determination that are based on solid legal and factual foundations and are logical extensions of what, we believe, the agency intended to achieve in the Proposed Determination. Regardless of whether EPA adopts and includes these recommendations, risks remain that PLP or another future company may seek to maneuver around EPA's final 404(c) action and to mine the Pebble deposit in a manner that would still cause unacceptable adverse impacts to Bristol Bay's unique, and uniquely sensitive, wild salmon habitat. To guard against this, Region 10 should take steps to ensure the prohibition and restrictions are fully implemented.

Active EPA involvement in any future 404 permitting process will be critical to the success of 404(c) restrictions in protecting Bristol Bay water and salmon. Since EPA already possesses ample oversight authority, BBNC encourages Region 10 to include a statement in the Recommended Determination indicating its intent to ensure that the 404(c) restrictions, once finalized, are fully implemented and enforced.

### A. EPA Oversight Tools

EPA oversees the 404 permitting program through a variety of authorities, including but not limited to comments on permit applications, restrictions on the use of a defined area as a disposal site, elevation of disputed decisions involving aquatic resources of national importance, and an array of administrative, civil, and criminal enforcement authorities.<sup>323</sup> EPA should express its commitment to using these permitting oversight tools as a means to ensure that the 404(c) restrictions are properly implemented and enforced, with an emphasis on tools that limit the impact on the people of Bristol Bay of unnecessary administrative processes.

### B. EPA Involvement in Review of 404 Permit Applications

Should a Pebble mine proposal be again presented to the Army Corps or should PLP win its administrative appeal of the permit denial, EPA will have a responsibility to provide comments setting forth its analysis of the consistency of the permit application with 404(c) requirements as well as 404 permitting requirements.<sup>324</sup> EPA may be called upon to address some or all of the following issues:

- Evasion of the restrictions through attempts to phase or segment a mining project with an uneconomical project design;
- The potential impacts to fisheries from the loss of miles of streams and acres of wetlands, lakes, and ponds below the thresholds set in the restrictions.

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<sup>323</sup> See 33 U.S.C. §§ 1319, 1344(a), (c), (q); Clean Water Act Section 404(q) Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army (1992), available at <http://water.epa.gov/lawsregs/guidance/wetlands/dispmoa.cfm>; EPA Fact Sheet, *Wetland Regulatory Authority*, EPA843-F-04-001 (April 2004), available at [http://water.epa.gov/lawsregs/lawsguidance/cwa/wetlands/upload/reg\\_authority\\_pr.pdf](http://water.epa.gov/lawsregs/lawsguidance/cwa/wetlands/upload/reg_authority_pr.pdf).

<sup>324</sup> See, e.g., 33 U.S.C. § 1344(b)(1); 40 C.F.R. part 230; and 33 C.F.R. § 323.6(a) (requiring specific findings about numerous types of impacts, avoidance and minimization of impacts, and compensatory mitigation for unavoidable impacts).

- Proper determination of which streams support anadromous fish;
- Application of the restrictions to indirect tributaries;
- Copper toxicity from the leaching of tailings, waste rock piles, and the mine pit;
- Risk of failure from inadequate design and/or improper operation of a tailings dam or water treatment plant;

With respect to all these issues and any others that may arise during 404 permitting for a Pebble mine project, it will be critical for EPA to play an active role in order to ensure the effectiveness of its 404(c) restrictions and to prevent unacceptable effects on Bristol Bay salmon resources.

One key issue involves the calculation of stream, lake, pond, and wetland losses. For every 404 permit application, the Army Corps is required to undertake a jurisdictional determination to delineate waters of the U.S. that are subject to 404,<sup>325</sup> and to ensure compliance with 404(b)(1) guidelines.<sup>326</sup> An accurate and complete accounting of jurisdictional waters and affected stream, wetland, and anadromous habitat is thus always necessary to comply with 404 permitting requirements.<sup>327</sup> Given the sensitive aquatic resources in Bristol Bay, in any Pebble mine permitting process it would be important for EPA and the Army Corps to ensure that comprehensive, up-to-date, and specific data about stream, wetland, and anadromous habitat losses is available, both to determine whether the proposal complies with the 404(c) restrictions and for rigorous 404 permit review. This complete and accurate accounting could be accomplished by means of “improved, higher-resolution mapping, increased sampling of possible fish-bearing waters, and groundtruthing,”<sup>328</sup> and could be assisted by the jurisdictional determination process as well. In particular, Region 10 should explicitly require water resources mapping, including field-verified mapping and fine-scale aerial photography interpretation, in any future 404 permit application for a proposal to mine the Pebble deposit, as the 2022 PD notes this type of detailed, field-verified mapping can result in the identification of 40% more wetlands and four times as many streams as compared to national stream and wetland datasets.<sup>329</sup> Thus, the Recommended Determination should state an expectation, implicit in the 2022 PD at Box 4-2, that any future mining proposal would include mapping of sufficient detail to allow EPA to more accurately assess the impacts of the proposal.

Another key issue for EPA to address early on in any new permit application to mine the Pebble deposit is the economic viability of such a proposal.

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<sup>325</sup> See U.S. Army Corps of Engineers, Regulatory Guidance Letter No. 08-02 (June 26, 2008), available at <http://www.usace.army.mil/Portals/2/docs/civilworks/RGLS/rgl08-02.pdf>.

<sup>326</sup> See, e.g., 33 U.S.C. § 1344(b)(1); 40 C.F.R. part 230; and 33 C.F.R. § 323.6(a) (requiring specific findings about numerous types of impacts, avoidance and minimization of impacts, and compensatory mitigation for unavoidable impacts).

<sup>327</sup> See 33 C.F.R. § 325.1(c), (d)(1), 325.3(a) (permit application and public notice requirements); Army Corps, Application for Department of the Army Permit ¶ 22 (requiring a statement of the surface area filled, in acres of wetlands or linear feet of “other waters”), available at [http://www.poa.usace.army.mil/Portals/34/docs/regulatory/engform\\_4345\\_2013july](http://www.poa.usace.army.mil/Portals/34/docs/regulatory/engform_4345_2013july).

<sup>328</sup> BBWA at 7-23, Box 7-1.

<sup>329</sup> See, e.g., 2022 PD Box 4-2.

PLP has failed to provide a feasibility study to show that the 2020 Mine Plan to mine less than 12% of the Pebble deposit is economically feasible or that it will not mine the full 12.125 billion US tons (11 billion metric tons) that the company has delineated. On the contrary, the public record makes it quite clear that PLP plans to mine the entire deposit, as it says time and again to potential investors.<sup>330</sup> As NDM regularly discloses to its shareholders, the company has no final, economic plan to develop the Pebble deposit:

the Company cautions that the plan described above may not be the final development plan. A final development design has not yet been selected. The proposed project uses a portion of the currently estimated Pebble mineral resources. This does not preclude development of additional resources in other phases of the project in the future...<sup>331</sup>

Since the Army Corps public interest review regulations at 33 C.F.R. Part 320 directs the Army Corps to consider project economics in the context of the overall benefit to the public, EPA might, in line with its duties to oversee proper implementation of the CWA, direct the Army Corps to undertake such a review prior to initiating the NEPA process and further processing the 404 permit application. The Army Corps regulations state that “the district engineer in appropriate cases, may make an independent review of the need for the project from the perspective of the overall public interest. The economic benefits of many projects are important to the local community and contribute to needed improvements in the local economic base, affecting such factors as employment, tax revenues, community cohesion, community services, and property values.”<sup>332</sup> Obtaining this vital economics information at the earliest point possible in the permitting process would help ensure that PLP is not seeking to artificially segment its mine plans to evade final 404(c) action.

### **C. Severability of the Prohibition and Restrictions**

An additional step Region 10 could take to ensure the 404(c) prohibition and restrictions are fully implemented is to clarify that the agency intends the prohibition and restrictions to be severable. This would bolster EPA action in the event of any judicial challenges to the agency’s final 404(c) action. Region 10 could clarify that each is based on separate, but overlapping, factual underpinnings that support separate determinations under 404(c).

## **IX. SUMMARY OF BBNC RESPONSES TO EPA’S SOLICITATION OF COMMENTS**

BBNC supports timely final 404(c) action to protect Bristol Bay from the threats posed by mining the Pebble deposit. The threat of proposed Pebble Mine the resources and people of Bristol Bay has loomed over the region for far too long. BBNC urges EPA to finalize 404(c) protections before the end of this year and, as such, in this section we present for EPA a summary of our comments above. This section is organized as a response to EPA’s solicitation of comments found in section 7 of the 2022 PD so that the agency may expeditiously work towards incorporating BBNC’s feedback into a Recommended Determination.

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<sup>330</sup> See, *supra* section III(D).

<sup>331</sup> See, e.g., NDM, Management’s Discussion and Analysis Three months ended March 31, 2019, at page 9, available at <https://www.sec.gov/Archives/edgar/data/1164771/000149315219008038/ex99-2.htm>.

<sup>332</sup> 33 C.F.R. § 320(q).



**A. Response to Question #1 – EPA Region 10 should prepare a recommended determination**

In its solicitation of comments, EPA Region 10 requests comments regarding whether the EPA Region 10 Regional Administrator should withdraw the proposed determination or prepare a recommended determination for review by the Assistant Administrator for the Office of Water.

BBNC unequivocally supports preparing a recommended determination with effective, durable protections to protect Bristol Bay from the proposed Pebble mine project. The agency has clear and direct legal authority to undertake a Section 404(c) action in this matter, as discussed in **section IV** above. As detailed in **section V** above, the administrative record compiled during the EPA and Army Corps processes strongly supports EPA’s finding of unacceptable adverse effects. And, as summarized in **section VI** above, PLP has failed to provide EPA with corrective actions or mitigation to avoid the finding of unacceptable adverse effects. Therefore, final 404(c) action is legally and factually justified.

As described in **section VII** above, BBNC proposes clarifications and ways to strengthen the proposed prohibition and restrictions. Finally, as described in **section VIII** above, any additional restrictions defined in the Recommended Determination should be explicitly severable from all other restrictions and the agency should take steps in a Recommended Determination to ensure the 404(c) prohibition and restrictions are fully implemented.

**B. Response to Question #2 – There are no corrective actions that could be taken to reduce adverse impacts on Bristol Bay’s waters and salmon fishery**

In its solicitation of comments, EPA Region 10 requests comments regarding any corrective action that could be taken to reduce adverse impacts on aquatic resources from discharges of dredged or fill material associated with mining the Pebble deposit.

As described in **sections V and VI** above, despite more than two decades of opportunities to propose a project that might avoid and minimize impacts to aquatic resources, PLP’s mining plan proposed unprecedented levels of impacts to streams and wetlands while also failing to develop any significant compensatory mitigation proposals. As correctly determined by the Army Corps and reaffirmed by EPA, the avoidance and minimization measures incorporated into PLP’s 2020 Mine Plan did “not reduce the levels of impact to below significant.”<sup>333</sup> And despite being given the opportunity to propose new information to EPA in response to the 15 day letter initiating this 404(c) action, PLP did not do so.

**C. Response to Question #3 – Mining the Pebble deposit would directly and indirectly lead to unprecedented levels of adverse effects on the Bristol Bay fishery, wetlands, wildlife, water quality, and way of life**

In its solicitation of comments, EPA Region 10 requests comments on the likely adverse effects on fishery areas and other ecological resources that would be directly or indirectly affected by discharges of dredged or fill material associated with mining the Pebble deposit (including the SFK, NFK, and UTC and downstream reaches of the Nushagak and Kvichak Rivers).

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<sup>333</sup> Pebble ROD, attachment B2, p. 2.

As detailed in **section V(A)(1)-(4)** above, discharges of dredged or fill material associated with mining the Pebble deposit will likely have unacceptable adverse effects on fishery areas, wetlands, wildlife, water quality, and the way of life for thousands of people in Bristol Bay. These findings are roundly supported in the lengthy administrative records compiled by the Army Corps and EPA over the last decade these agencies spent studying and analyzing proposals to mine the Pebble deposit.

**D. Response to Question #4 – Mining the Pebble deposit would affect wildlife such as bears, caribou, and migratory birds**

In its solicitation of comments, EPA Region 10 requests comments regarding wildlife species that could be affected if discharges of dredged or fill material associated with mining the Pebble deposit were to occur.

As described in **section V(A)(2)** above, mining the Pebble deposit would have unacceptable adverse effects on wildlife species such as bears, caribou, and migratory birds. This conclusion is well-founded in the EPA's 2014 Watershed Assessment record, as well as in the Final EIS and administrative record compiled by the Army Corps.

The discharge of dredged or fill material associated with PLP's proposed Project – under both the short-term 20-year project and cumulatively under the 78-year project – will directly result in unprecedented loss of fish and wildlife habitat in Alaska, loss of wildlife breeding, nesting, and foraging areas, loss of escape cover and travel corridors and landing areas, and loss of preferred food sources for both resident and transient wildlife. Indirectly, the cascading impacts of reduced salmon populations in Bristol Bay headwaters will lead to reduced nutrient availability for the complex food web and would have far-reaching effects on many species. Cumulative effects to fish and wildlife over long time scales, even from the 20-year mine proposal only, will be widespread across the entire Nushagak and Kvichak ecosystems and watersheds.

These impacts and the robust administrative record describing these impacts form an independent basis for EPA to exercise its 404(c) authority.

**E. Response to Question #5 – Recreational uses would be affected from mining the Pebble deposit**

In its solicitation of comments, EPA Region 10 requests comments regarding recreational uses that could be affected if discharges of dredged or fill material associated with mining the Pebble deposit were to occur.

As described in **section V(A)(3)** above, mining the Pebble deposit would have unacceptable adverse effects on recreational uses of Bristol Bay's waters and public lands. This conclusion is well-founded in the EPA's 2014 Watershed Assessment record, as well as in the Final EIS and administrative record compiled by the Army Corps. These impacts and the robust administrative record describing these impacts form an independent basis for EPA to exercise its 404(c) authority.

**F. Response to Question #6 – Drinking water supplies could be affected from mining the Pebble deposit**

In its solicitation of comments, EPA Region 10 requests comments regarding drinking water supplies (including public water supplies and private sources of drinking water such as streams or wells) that could be affected if discharges of dredged or fill material associated with mining the Pebble deposit were to occur.

As described in **section V(A)(4)** above, the Final EIS and associated administrative record documents that many of the communities in the region obtain their drinking water from wells and surface water sources. If discharges of dredged or fill material associated with mining the Pebble deposit were to occur, then water quality impacts would result from routine operation, dust deposition, and catastrophic events. As documented in the Final EIS, discharges resulting from routine operation, dust deposition, and catastrophic events would lead to elevated levels of copper, selenium, low pH, and low dissolved oxygen, among other water quality impacts.<sup>334</sup> Concerningly, as disclosed in the Final EIS, PLP has yet to evaluate its Water Treatment Plant efficiencies to ensure the project will not exceed water quality criteria as it treats contact water, tailings water, and other waste streams that the Final EIS discloses contain contaminants that exceed water quality criteria.<sup>335</sup>

These potential water quality impacts to Bristol Bay’s pristine waters and drinking sources, and the robust administrative record describing these impacts, constitute an independent basis for EPA to exercise its 404(c) authority.

**G. Response to Question #7 – Mitigation cannot successfully reduce impacts on aquatic resources from mining the Pebble deposit**

In its solicitation of comments, EPA Region 10 requests comments on the potential for mitigation to be successful in reducing the impacts on aquatic resources from discharges of dredged or fill material associated with mining the Pebble deposit.

As detailed in **section V(C)** above, EPA’s conclusion—codifying the Army Corps’ finding that PLP’s compensatory mitigation plan “is inadequate to overcome the significant degradation”—is roundly supported by the administrative record developed during the 404 permitting process. EPA and the Army Corps reached their conclusions after closely assessing PLP’s Final Compensatory Mitigation Plan and 2020 Mine Plan impacts. PLP has had ample opportunity to develop measures that might mitigate the project’s impacts on waters and fishery areas; however, the company has failed to do so because, as EPA correctly concluded in the 2014 Watershed Assessment after years of study, mitigation measures are unlikely to ever adequately mitigate the effects of mining the Pebble deposit on Bristol Bay’s pristine fishery areas to an acceptable level.

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<sup>334</sup> Predicted water quality parameters found in Pebble Final EIS, Appendix K4.18; WQC standards found in Final EIS, Appendix K3.18.

<sup>335</sup> Final EIS, Chapter 5, at page 31.

**H. Response to Question #8 – EPA’s delineation of the Defined Area for Restriction is defensible and based on important factors in the administrative record; EPA should clarify the delineation of the Defined Area for Prohibition**

In its solicitation of comments, EPA Region 10 requests comments regarding the approach used to delineate the Defined Area for Prohibition and the Defined Area for Restriction and whether there are other factors or approaches EPA Region 10 should consider in delineating these areas.

As explained in **section VII(A)** above, BBNC supports EPA Region 10’s approach used to delineate the Defined Area for Restriction. This delineation is well-supported in the administrative record and is an appropriate scope.

However, the record supports modifications to EPA’s delineation of the “Pebble Deposit Area” and definition of the Defined Area for Prohibition. As explained in **section VII(A)** above, the record supports prohibition and restrictions on mining using the definition of “deposit area” as contained in PLP’s 2020 Mine Plan and 2021 preliminary economic assessment, including clarifying that the deposit area includes both the inferred and measured/indicated mineral resources. The Army Corps and EPA have identified certain levels of impact that, on their face, are unacceptable in the North Fork Kaktuli, South Fork Kaktuli, and Upper Talarik Creek watersheds. That conclusion is well founded in the administrative record. Region 10’s intent in the Proposed Determination is to prevent these levels of impacts of mining pyritic ore from occurring in these watersheds. This intent is advanced by applying those prohibitions and restrictions to any hardrock mining efforts that would have those levels of impacts in the area of the prohibition and restrictions.

Moreover, the Defined Area for Prohibition would benefit from clarifications that Region 10 is prohibiting discharges into designated rectangular survey system township, range, and section units that encompass: (1) areas PLP proposed to use in the 2020 Mine Plan (i.e., the current 2022 PD Defined Area for Prohibition) as well as (2) areas PLP proposed and the Corps considered as other options for mine site tailings storage facilities and the water treatment ponds as analyzed and rejected in the EIS process. In **section VII(B)(1)** above, BBNC has described the designated rectangular survey system township, range, and section units as well as provided EPA with a map of such a Defined Area for Prohibition.

**I. Response to Question #9 – The effects associated with mining the Pebble deposit warrants a clarified prohibition and restrictions**

In its solicitation of comments, EPA Region 10 requests comments regarding whether the discharge of dredged or fill material associated with mining the Pebble deposit should be prohibited, prohibited/restricted as proposed, prohibited/restricted in another manner, or not prohibited/restricted at all. In particular, EPA Region 10 is seeking comment on whether environmental effects associated with the discharge of dredged or fill material from mining the Pebble deposit in amounts other than those proposed in the 2020 Mine Plan (1.3 billion tons of ore over 20 years) could provide a basis for alternative or additional restrictions.

BBNC unequivocally supports preparing a recommended determination with strong, durable protections to protect Bristol Bay from the proposed Pebble mine project. As described in **section**

VII above, BBNC proposes clarifications and expansions to the proposed prohibition and restrictions. To summarize BBNC’s proposals are:

<b>PROHIBITION RECOMMENDATIONS</b>	
<b>Recommendation</b>	<b>Justification</b>
<p><b><i>Definition of the Pebble Deposit</i></b>            Redefine and specify that the “Pebble deposit” is broader than “an area of at least 1.9 by 2.8 miles” or delineated as a 2.5 mile- by 3.5-mile box and instead base the definition of the Pebble deposit on the best available information and science of ecological effects from mining pyritic ore. In the alternative, when defining the Pebble deposit ore body that, when mined, would be subject to the prohibition, use PLP’s definition of the Pebble deposit as seen in its filings with the U.S. and Canadian Securities agencies.</p>	<p>The prohibition as drafted – with a qualification that it applies only to the 2020 Mine Plan – is vulnerable to future evasive permit application proposals from PLP that would have the same effect as the 2020 Mine Plan but are not identical.</p> <p>This threat is very real. For example, after the Army Corps denied PLP’s permit application the CEO of PLP’s parent company publicly stated that the company was looking for ways to amend its mine plan to maneuver around permit denial. Changes to PLP’s proposed transportation corridor, port site, or compensatory mitigation projects would similarly result in modifications to the 2020 Mine Plan, rendering the prohibition a dead letter even though impacts to the mine site would remain unchanged.</p>
<p><b><i>Prohibit Alternative Mine Facility Locations Proposed by PLP in the Permitting Process</i></b>            In specifying waters that cannot be used as a disposal area, do not limit the area to the 2020 Mine Plan footprint, but rather prohibit discharges into designated rectangular survey system township, range, and sections that encompass: (1) areas PLP proposed to use in the 2020 Mine Plan as well as (2) areas PLP proposed as other options for mine site tailings storage facilities and the water treatment ponds as analyzed and rejected by the Corps in the EIS process.</p>	
<p><b><i>Remove limitation to PLP’s 2020 Mine Plan</i></b>            Focus the prohibition on a broader set of mining activities that target the Pebble deposit, e.g., prohibit discharges within the prohibited disposal area (see #1 above). For example:</p> <ul style="list-style-type: none"> <li>• “prohibit . . . the discharge of dredged or fill material for the construction and routine operation of a large-scale porphyry mine at the Pebble deposit.”</li> <li style="text-align: center;">or</li> <li>• “prohibit . . . the discharge of dredged or fill material for the construction and routine operation of the 2020 Mine Plan (PLP 2020b, USACE 2020a:</li> </ul>	

Appendix J) and substantially similar mine plans.”	
<b>RESTRICTIONS RECOMMENDATIONS</b>	
<b>Recommendation</b>	<b>Justification</b>
<p><i>Elaborate on “similar or greater in nature and magnitude”</i> Provide more detail on what constitutes adverse effects “similar or greater in nature and magnitude” with a focus on ecological effects supported by sound science that would restrict a mine similar to that analyzed in the 2014 PD and Watershed Assessment.</p>	<p>The restrictions as drafted – with an emphasis on numerical standards for the restrictions and use of “similar or greater” – is vulnerable to future proposals from PLP that would be unacceptable based on the science.</p> <p>This threat is also very real and was seen in PLP’s marketing of its 2017 permit application, namely that its mine proposal was “a near match for the scenario” analyzed by EPA in 2014.</p>
<p><i>Definition of the Pebble Deposit</i> Redefine and specify that the “Pebble deposit” is broader than “an area of at least 1.9 by 2.8 miles” or delineated as a 2.5 mile- by 3.5-mile box and instead base the definition of the Pebble deposit on the best available information and science of ecological effects from mining pyritic ore. In the alternative, when defining the Pebble deposit ore body that, when mined, would be subject to the prohibition, use PLP’s definition of the Pebble deposit as seen in its filings with the U.S. and Canadian Securities agencies.</p>	

Finally, as described in **section VIII** above, any additional restrictions defined in the Recommended Determination should be explicitly severable from all other restrictions and Region 10 should take steps to ensure the prohibition and restrictions are fully implemented.

**J. Response to Question #10 – EPA Region 10’s proposed action need not consider impacts associated with other mine infrastructure**

In its solicitation of comments, EPA Region 10 requests comments on whether and how EPA Region 10’s proposed action under CWA Section 404(c) should consider discharges of dredged or fill materials beyond those associated with the mine site and include discharges associated with the construction of other mine infrastructure (e.g., port, pipelines, transportation corridors).

As described in **section V** above, the impacts associated with mining the Pebble deposit alone are unprecedented and support the agency’s unacceptable adverse effects finding. The additional impacts associated with other mine infrastructure in the 2020 Mine Plan such as the port site, pipelines, and transportation corridors amount to an additional 1,595 acres of direct and indirect permanent impacts to waters with 205 stream and river crossings across six major watersheds.<sup>336</sup>

<sup>336</sup> Final EIS, Executive Summary, p. 98.

These impacts, while large and destructive, were not closely analyzed by the Army Corps due to PLP's failure to provide important baseline data such as detailed mapping, salmon surveys, stream flow surveys, habitat typing, and detailed construction plans. Missing from the administrative record are important factors such as the number of streams that are salmon-bearing, which streams would be filled for culverts versus bridges, and the variable seasonal flow of the streams. To the extent that EPA ties its effects analysis to the more detailed baseline data and mapping such as that available at the mine site, including transportation corridor impacts would be less precise as compared to the analysis of impacts at the mine site.

In addition, as a practical matter, due to private landowner objections, PLP does not have a viable transportation corridor and port site plan. Throughout the permitting process, BBNC unequivocally objected to PLP's proposal to use of BBNC subsurface and surface estate for the transportation corridor.<sup>337</sup> The north road alternative would require PLP to bisect BBNC surface estate along the north shore of Iliamna Lake, as well as utilize BBNC rock and gravel subsurface estate. In addition, subsequent to PLP's submission of the 2020 Mine Plan to the Army Corps, private landowners such as BBNC purchased lands that PLP proposed to use for its road, pipeline, and port facilities.<sup>338</sup> Without permissions to use private property parcels essential to its 2020 Mine Plan transportation infrastructure, which BBNC will not provide, PLP will need to amend its plans in the event of any future permitting process. This again raises BBNC's concerns, discussed in **section VII** above, that the 404(c) prohibition must be clarified to avoid the scenario where PLP could make minor changes to its transportation infrastructure plans, resubmit a new 404 permit application that is not for the "2020 Mine Plan," and avoid the 404(c) prohibition.

#### **K. Response to Question #11 – Numerous USACE administrative record documents support EPA's proposed 404(c) action**

In its solicitation of comments, EPA Region 10 requests comments on EPA Region 10's consideration of the USACE administrative record, which contains documents pertaining to the USACE Pebble Mine permit decision. EPA Region 10 included in the docket for this proposed determination all portions of the voluminous administrative record for the USACE Pebble Mine permit decision that are relevant to EPA's decision-making and that EPA considered in its decision to issue this proposed determination. EPA Region 10 is soliciting comments that identify any other documents from the USACE administrative record that EPA should consider in its decision-making for this CWA Section 404(c) review process.

BBNC has reviewed the entire USACE administrative record and was intimately involved in the NEPA/404 permitting process. In **Appendices C and D** to this comment, we are submitting

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<sup>337</sup> See enclosed Appx. C, pp. 402 to 405 (BBNC letter to Army Corps (June 19, 2019), "PLP does not have BBNC's permission to trespass our subsurface or surface lands or utilize any of our subsurface resources.") and pp. 718 to 751 (BBNC letter to Army Corps (May 21, 2020) and associated enclosures regarding the northern transportation corridor and BBNC surface and subsurface estate, writing "to reiterate that our surface and subsurface estate is not available" to PLP.).

<sup>338</sup> See enclosed Appx. C, pp. 718 to 751. In addition, BBNC purchased Native allotment AKAA 51014—the site PLP proposed to use for its Port Facilities and a section of the Diamond Point port road—in August 2021. According to the Final EIS, the 2020 mine plan would impact 15 acres at Native allotment AKAA 51014. See Final EIS, at Table 3.2-1 and Final EIS Appx. N (Project Description), at p.18.

additional USACE administrative record documents that EPA should consider. These documents include:

- Expert and technical reports reviewing the draft and final EIS documents
- BBNC letters to the Army Corps and other permitting agencies on the EIS process, 404 permit public notice, 401 certification, transportation corridor property issues, National Historic Preservation Act issues, Coast Guard permitting;
- BBNC letters to EPA regarding the Section 404(c) process;
- Cooperating agency meeting notes from the EIS process;
- Cooperating agency correspondence to USACE (specifically letters from U.S. Fish and Wildlife Service, State of Alaska, National Marine Fisheries Service, National Parks Service, Lake & Peninsula Borough, U.S. Coast Guard, Curyung Tribal Council, and Nondalton Tribal Council);
- PLP responses to USACE Requests for Information (specifically PLP responses to RFI numbers 54, 59, 59a, 62, 69, 94, 98, and 150);
- Internal USACE and other agency memoranda regarding the project's impacts.

**L. Response to Question #12 – EPA need not consider costs when making a 404(c) final determination**

In its solicitation of comments, EPA Region 10 requests comments on how EPA Region 10 considered costs, including whether all appropriate costs have been considered. As detailed in **section VI(E)** above, EPA need not consider costs when making a final determination under Section 404(c) of the Clean Water Act. The plain text of the Clean Water Act, the congressional intent as evidenced by the Section 404(c) legislative history, and EPA's own interpretation of the statutory factors the agency is permitted to consider when undertaking a 404(c) action notably does not include consideration of potential costs.

To the extent the agency feels it nevertheless wants to characterize costs associated with its decisionmaking, BBNC is providing in **Appendix B** additional cost information for the agency's consideration. As this additional information shows, the ongoing, positive economic role of the ecosystem services provided by Bristol Bay's pristine waters far outweighs the potential loss of speculative revenues from the proposed Pebble Mine.

**M. Response to Question #13 – New information related to TEK and/or subsistence use in the Nushagak and Kvichak River watersheds.**

In its solicitation of comments, EPA Region 10 requests comments regarding updated or additional information related to TEK and/or subsistence use in the Nushagak and Kvichak River watersheds.

The Bristol Bay watershed's streams, wetlands, and other aquatic resources support a more than 4,000-year-old subsistence-based way of life for Alaska Natives. Bristol Bay communities are self-reliant, operating without the benefit of interconnected road and utility systems, and subsistence use of wild resources is the most consistent and reliable component of the local economy. Information related to TEK and subsistence is essential for any evaluation of the Pebble Project's impacts on salmon and the subsistence uses salmon support.

As a starting point for new information related to TEK and/or subsistence use in the Nushagak and Kvichak River watersheds, a 2012 study on subsistence commissioned by BBNC showed that the



vast majority of households in the region rely on subsistence fishing, hunting, and gathering for a large percentage of their food.<sup>339</sup> Given the extremely high cost of groceries in rural Alaska, replacing the salmon harvest with store-bought meat would cost approximately \$7,500 (in 2011 dollars) for the average Alaska Native family, representing nearly 20% of the average Alaska Native household income.<sup>340</sup>

During the permitting process, cooperating agency tribes Nondalton Tribal Council and Curyung Tribal Council submitted substantial information regarding TEK and subsistence. This information is found in the attached **Appendix C** at pages 1470 to 1751 (Nondalton Tribal Council comments on draft EIS), pages 1987 to 2053 (Curyung Tribal Council comments on preliminary final EIS), and pages 2054 to 2186 (Nondalton Tribal Council comments on preliminary final EIS).

In addition, recent subsistence and TEK studies from ADF&G are helpful to illustrate the high level of place-based subsistence use in the Nushagak and Kvichak River watersheds:

- Bronwyn E. Jones; Penelope Crane; Cody Larson; Margaret Cunningham. 2021. Traditional ecological knowledge and harvest assessment of Dolly Varden and other nonsalmon fish utilized by residents of the Togiak National Wildlife Refuge. ADF&G Division of Subsistence, Technical Paper No. 482.
- Caroline L. Brown; James A. Fall; Anna Godduhn; Lisa Hutchinson-Scarborough; Bronwyn Jones; Jacqueline M. Keating; Brooke M. McDavid; Chris McDevitt; Elizabeth Mikow; Jeff Park; Lauren A. Sill; Terri Lemons. 2021. Alaska Subsistence and Personal Use Salmon Fisheries 2018 Annual Report. ADF&G Division of Subsistence, Technical Paper No. 484.
- Lisa Hutchinson-Scarborough; Drew Gerkey; Gabriela Halas; Cody Larson; Lauren A. Sill; James M. Van Lanen; Margaret Cunningham. 2020. Subsistence salmon networks in select Bristol Bay and Alaska Peninsula communities, 2016. ADF&G Division of Subsistence, Technical Paper No. 459.
- Bronwyn Jones; Margaret Cunningham. 2020. The harvest and use of wild resources in Port Heiden, Alaska, 2018. ADF&G Division of Subsistence, Technical Paper No. 465.
- Bronwyn Jones; Margaret Cunningham. 2020. The harvest and use of salmon by residents of King Salmon, Naknek, and South Naknek, Alaska, 2017 and 2018. ADF&G Division of Subsistence, Technical Paper No. 470.
- James A. Fall; Anna Godduhn; Gabriela Halas; Lisa Hutchinson-Scarborough; Bronwyn Jones; Brooke McDavid; Elizabeth Mikow; Lauren A. Sill; Terri Lemons. 2020. Alaska Subsistence and Personal Use Salmon Fisheries 2017 Annual Report. ADF&G Division of Subsistence, Technical Paper No. 451.
- Bronwyn Jones; Margaret Cunningham; David Koster (editors). 2019. Subsistence harvest assessment and biological sampling of Chinook salmon in the Togiak River drainage. ADF&G Division of Subsistence, Technical Paper No. 454.
- James A. Fall; Anna Godduhn; Gabriela Halas; Lisa Hutchinson-Scarborough; Bronwyn Jones; Brooke McDavid; Elizabeth Mikow; Lauren A. Sill; Amy Wiita; Terri Lemons.

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<sup>339</sup> See enclosed Appx. C at pp. 2669 to 2719 (Callaway, Don, *A Statistical Description of the Affected Environment as it Pertains to the Possible Development of the Pebble mine—17 Communities in Bristol Bay* (a study funded by BBNC) (2012), at p. 17.)

<sup>340</sup> *Id* at 2696 to 2697 (Callaway, at pp. 27-28).

2019. Alaska Subsistence and Personal Use Salmon Fisheries 2016 Annual Report. ADF&G Division of Subsistence, Technical Paper No. 446.

- James A. Fall, Anna Godduhn, Gabriela Halas, Lisa Hutchinson-Scarborough, Bronwyn Jones, Elizabeth Mikow, Lauren A. Sill, Alida Trainor, Amy Wiita, Terri Lemons. 2018. Alaska Subsistence and Personal Use Salmon Fisheries 2015 Annual Report. ADF&G Division of Subsistence, Technical Paper No. 440.
- James M. Van Lanen; Gayle Neufeld; Chris McDevitt. 2018. Traditional Ecological Knowledge of the Mulchatna Caribou Herd: Phenology, Habitat Change, Subsistence Use, and Related Species Interactions in Game Management Units 9B-C, 17, 18, and 19A-C, Alaska. ADF&G Division of Subsistence, Technical Paper No. 441.
- Jennifer M. Burns; James M. Van Lanen; David Withrow; Davin Holen; Tatiana Askoak; Helen Aderman; Greg O'Corey-Crowe; Garrett Zimpelman; Bronwyn Jones. 2016. Integrating local traditional knowledge and subsistence use patterns with aerial surveys to improve scientific and local understanding of the Iliamna Lake seals. ADF&G Division of Subsistence, Technical Paper No. 416.

## **X. CONCLUSION**

The people of Bristol Bay have waited more than a decade for EPA to finalize strong and durable Clean Water Act Section 404(c) protections. The agency should move swiftly towards finalizing its Section 404(c) action this year. More than a decade of scientific study and review from EPA and a robust administrative record—including a Section 404 permitting process and analysis of impacts under NEPA—support EPA protecting Bristol Bay’s headwaters.

As proposed by PLP in its Section 404 permit application to the Army Corps, the 20-year mine would destroy approximately 100 miles of streams and over 2,100 acres of wetlands, completely decimating headwaters critical to sustaining Bristol Bay’s salmon fishery. These impacts—proposed to occur in the state’s most valuable and robust salmon ecosystem—are unprecedented in the history of resource development projects in Alaska. Moreover, there are no corrective actions that could be taken by PLP to reduce adverse impacts on Bristol Bay’s waters or salmon fishery. The company has been afforded ample opportunity since submitting its Section 404 permit application to the Army Corps in 2017 to develop methods to reduce adverse impacts and it has failed to do so.

Because of its location, size, and type, if built Pebble Mine would destroy Bristol Bay’s pristine waters, salmon fishery, and way of life. The proposed Pebble Mine Project poses unacceptable risks to Bristol Bay’s salmon fisheries and the economic and subsistence benefits those fisheries provide. Moreover, the proposed Pebble Mine Project would directly impact important wildlife, recreational uses, drinking water supplies, and water quality throughout Bristol Bay. Mitigation cannot successfully reduce impacts on aquatic resources from mining the Pebble deposit. Efforts to restore lost salmon populations in the United States are extremely expensive and largely

unsuccessful.<sup>341</sup> As the Army Corps correctly decided in the culmination of its permitting process in 2020, the proposed Pebble Mine project cannot be permitted under the Clean Water Act.

In moving forward with its Recommended Determination, BBNC is recommending that EPA Region 10 consider a clarified prohibition and stronger restrictions to protect Bristol Bay from the threat posed by mining the Pebble deposit. BBNC's recommendations are supported by the robust record before the agency and are well within the agency's statutory authority.

The majority of BBNC shareholders and Bristol Bay residents support EPA action to end the threat of the proposed Pebble Mine and want to see Bristol Bay protected for good. The threat that the proposed Pebble Mine poses to the people and resources of Bristol Bay has loomed over Bristol Bay for far too long. We thank EPA for restarting the Clean Water Act Section 404(c) process to protect Bristol Bay from unacceptable adverse impacts associated with Pebble and request that EPA finalize protections before the end of this year.

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<sup>341</sup> For example, from 1997 to 2001, the U.S. spent \$1.5 billion on Columbia River salmon and steelhead restoration activities. Despite this expenditure, and many others, Columbia River Pacific Salmon populations remain on the Endangered Species Act list of threatened and endangered species. See, United States General Accounting Office. *COLUMBIA RIVER BASIN SALMON AND STEELHEAD: Federal Agencies' Recovery Responsibilities, Expenditures and Actions*. Report to the Ranking Minority Member, Subcommittee on Fisheries, Wildlife, and Water, Committee on Environment and Public Works, U.S. Senate. GAO-02-612, available at: <https://www.gao.gov/assets/gao-02-612.pdf>.