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APPENDIX A

to

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
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Appendix A—A Brief History of EPA Watershed Assessment and Clean Water Act Section 404(c) Action (2010 to 2018)

The loss of salmon-supporting waters from the proposed Pebble mine would be devastating and unprecedented in Alaska. In 2010, after many years living under the threat of the proposed Pebble mine, BBNC along with Alaska Native Tribes and others, called upon the EPA to exercise its authority under CWA Section 404(c) to protect Bristol Bay salmon resources.¹ In response, EPA took a conservative yet reasonable approach to establishing aquatic resource loss limits, by first developing the Bristol Bay Watershed Assessment (BBWA). The BBWA is an ecological risk assessment undertaken by the agency in an effort to scientifically document “the significance of Bristol Bay’s ecological resources and evaluate the potential impacts of large-scale mining on these resources.”² The BBWA was the product of three years of study, two rounds of public comment, and independent, external peer review. The BBWA assessed how “mining-related stressors . . . would affect ecological resources in the watershed.”³

The vast administrative record for the BBWA, including its 747 reference documents and peer review process, and the subsequent CWA 404(c) Proposed Determination (PD),⁴ represents the best available science regarding Bristol Bay and the threats posed from mining the Pebble deposit. This Appendix describes the history leading to the BBWA and PD and 404 Permit Application; the assumptions, analysis, and conclusions contained in the BBWA and PD; and the vast public support for EPA’s decision to protect Bristol Bay under its 404(c) authority.

A. Nearly Two Decades of Uncertainty, Anxiety, Confusion, and Frustration over the Proposed Pebble Mine; Pre-Application Meetings with EPA and The Army Corps; and PLP’s Initial Mine Plans and State Applications

From 2004 to present, the Pebble Limited Partnership (PLP) and its parent company Northern Dynasty Minerals (NDM) made frequent statements about the company’s intention to soon enter permitting for the mine. The many years of broken promises and living under the threat of permitting created, as Senator Lisa Murkowski noted in 2013 in a letter to PLP, “anxiety, confusion and frustration” throughout the Bristol Bay region.⁵ The following are selected comments over time illustrating a pattern of broken promises that has persisted long before EPA’s involvement in Bristol Bay:

¹ Letter from Jason Metrokin, BBNC, to Dennis McLerran, EPA Region 10 (Aug. 12, 2010). EPA has also received “over 850,000 requests from citizens, Tribes, Alaska Native corporations, commercial and sport fisherman, jewelry companies, seafood processors, restaurant owners, chefs, conservation organizations, members of the faith community, sport recreation business owners, elected officials and others asking EPA to take action to protect Bristol Bay.” See

http://yosemite.epa.gov/opa/admpress.nsf/names/r10_2014-2-28_bristol_bay.

² EPA, An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska (2014), available at <http://cfpub.epa.gov/ncea/bristolbay/recordisplay.cfm?deid=253500#Download> [hereinafter “Bristol Bay Watershed Assessment” or “BBWA”], at ES-1.

³ BBWA at ES-10.

⁴ 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), available at https://www.epa.gov/sites/production/files/2014-07/documents/pebble_pd_071714_final.pdf [hereinafter “Proposed Determination” or “PD”].

⁵ See Letter from Sen. Lisa Murkowski to PLP (July 1, 2013), available at http://www.energy.senate.gov/public/index.cfm/files/serve?File_id=3b2efb37-cdd2-4203-8568-72c405e2a4e4.

- **2004** – Northern Dynasty Minerals (NDM) announces they expect “completion in 2005 of a Bankable Feasibility Study and permit applications for the construction and operation of a long life, large-scale, open pit gold-copper-molybdenum mine.”⁶
- **2005** – NDM claims that it will “complete a feasibility study in December 2005 and prepare submissions to apply for environmental permits during 2006.”⁷
- **2007** – PLP targets the “goal of the Partnership is to engineer, permit, construct and operate a modern, long-life mine at the Pebble Project. The partners are targeting completion of a pre-feasibility study in December 2008, a feasibility study by 2011 and commencement of commercial production by 2015.”⁸
- **2008** –PLP was on “schedule to finalize a proposed development plan in 2009 and, following input from project stakeholders, apply for permits in early 2010.”⁹
- **2009** – PLP noted they were “completing a Prefeasibility Study and preparing the Pebble Project for permitting in 2010.”¹⁰
- **2010** – PLP claims it is “preparing to initiate project permitting under the National Environmental Policy Act (NEPA) in 2011.”¹¹
- **2010** – PLP CEO John Shively tells the Juneau Empire that PLP is likely to start applying for permits in early 2011.¹²
- **2011** – PLP reports that “design process is nearing important milestones and that PLP intends to enter the permitting phase toward the end of 2012.”¹³
- **2012** – PLP announces preparing the Pebble project for permitting at the end of 2012.¹⁴
- **2013** – On E & E News, PLP CEO John Shively explains that he hopes “to have a project to take into permitting this year.”¹⁵

⁶ NDM Press Release (Nov. 3, 2004),

https://www.sec.gov/Archives/edgar/data/1164771/000116477104000013/ndm6k_110304.htm

⁷ NDM Press Release (Nov. 1, 2005),

<https://www.sec.gov/Archives/edgar/data/1164771/000116477105000018/ndm6k-110105.htm>

⁸ NDM Press Release (Oct. 4, 2007),

https://www.sec.gov/Archives/edgar/data/1164771/000116477107000008/ndm6k_100407.htm

⁹ NDM Press Release (Oct. 27, 2008),

<http://www.northerndynastyminerals.com/ndm/NewsReleases.asp?ReportID=595696>

¹⁰ NDM Press Release (March 19, 2009),

https://www.sec.gov/Archives/edgar/data/1164771/000116477109000003/ndm6k_031909.htm

¹¹ NDM Press Release (Feb. 1, 2010),

https://www.sec.gov/Archives/edgar/data/1164771/000116477110000002/ndm6k_020110.htm

¹² http://juneauempire.com/stories/092410/sta_711593114.shtml#.VJEcCqR43Pw

¹³ NDM Press Release (May 2, 2011),

<https://www.sec.gov/Archives/edgar/data/1164771/000106299311001739/exhibit99-1.htm> s

¹⁴ NDM Press Release (May 15, 2012),

<https://www.sec.gov/Archives/edgar/data/1164771/000106299312001783/exhibit99-1.htm>

¹⁵ E&E News (June 13, 2013), <http://www.eenews.net/tv/videos/1698/transcript>

- **2013** – NDM CEO Ron Thiessen stated to the International Business Times, that “We can permit this mine. There’s no question.” “The heavy lifting is done and we have all of the data.” Thiessen further stated that “Northern Dynasty will have permitting documentation done and ready to file by the first quarter of 2014”¹⁶
- **2015 – late 2017** – PLP’s website claims they are working toward the goal of submitting our initial project description for permitting” and “we’re only just now preparing to apply for permits”¹⁷
- **2017** – NDM CEO Ron Thiessen states that PLP will enter into a new partnership and submit its permit applications by the third quarter of 2017.¹⁸

From 2004 to 2011, PLP met with the Army Corps, EPA, and the State of Alaska dozens of times to discuss PLP’s proposal.¹⁹ At these meetings, PLP was informed that review of its plans to develop a hardrock mine in the headwaters of Bristol Bay “would include a public interest review, development of an environmental document in accordance with the National Environmental Policy Act (NEPA), and a review for compliance with the CWA Section 404(b)(1) Guidelines.”²⁰ Also during this time, EPA staff reviewed various drafts and iterations of PLP’s Environmental Baseline Documents, study plans, field plans, progress reports and analytical quality assurance plan, as well as forming and joining interdisciplinary teams with the State of Alaska and Army Corps to visit the site and coordinate agency review of important environmental studies for NEPA.²¹ In December 2011 and January 2012, PLP provided EPA, the Army Corps, State of Alaska, and other resource agencies with its more than 25,000-page Environmental Baseline Document, primarily presenting the results of the baseline studies conducted by NDM and PLP from 2004 to 2008.²²

Despite PLP’s unfulfilled claims of a detailed 404 permit application that never materialized,²³ over the years PLP had indeed submitted mine plans to regulatory agencies for various purposes.²⁴ In these submissions, PLP touted several scenarios and stages of mine development, the smallest being a 2.0-billion-ton mine taking 28 years to extract and the largest being a 6.5 billion-ton mine taking 78 years.

In 2006, NDM submitted water rights applications to Alaska Department of Natural Resources (ADNR). NDM applied for water rights permits to Upper Talarik Creek and the Koktuli River for

¹⁶ International Business Times (Nov. 27, 2013), <http://www.ibtimes.com/pebble-mine-executive-says-northern-dynasty-can-manage-giant-alaskan-copper-mine-alone-if-necessary>

¹⁷ <http://www.pebblepartnership.com/plan.html>

¹⁸ NDM Press Conference (May 12, 2017), available at <http://www.northerndynastyminerals.com/site/assets/files/4390/ndm-conf-call-transcript-may-12-2017.pdf>

¹⁹ PD at 2-1 to 2-4.

²⁰ PD at 2-3.

²¹ *Id.*

²² PD at page 2-4.

²³ To be sure, PLP did file a 404 permit application in 2017. Yet for all the reasons BBNC has detailed in its March and June letters to the Corps, and in the main body of these comments, it is not a good-faith, detailed, permit application.

²⁴ See, e.g., Northern Dynasty Minerals Ltd., Securities Exchange Comm’n Filing (Feb. 24, 2011), available at <https://www.sec.gov/Archives/edgar/data/1164771/000106299311000722/exhibit99-1.htm>; Pebble Project—ADNR Water Rights Applications (2006), available at <http://dnr.alaska.gov/mlw/mining/largemine/pebble/water-right-apps/index.cfm>.

use in mining operations. In total, NDM applied for rights to approximately 35 billion gallons of groundwater and surface water per year.²⁵ In 2006, NDM also submitted to ADNR an Initial Application for Certificate of Approval to Construct a Dam for two tailings impoundments.²⁶ Then in February 2011, NDM submitted its preliminary plans for mining the Pebble deposit to the U.S. Securities and Exchange Commission (SEC).²⁷ This submission described three stages of mine development at the Pebble deposit: an initial 2-billion-ton mine consisting of 25 years of open pit mining, a 3.8-billion-ton mine consisting of 45 years of open pit mining, and a 6.5-billion-ton mine consisting of 78 years of open pit mining. Ghaffari et al. (2011) also indicate that the total Pebble mineral resource may approach 12 billion tons of ore.²⁸

As described below, for its BBWA development throughout 2011 to 2014 and in its 404(c) Proposed Determination issued in July 2014, EPA relied on its history of involvement in the Pebble Project since 2004 and PLP/NDM's own applications and plans submitted to the State of Alaska and SEC, as well as PLP/NDM's Environmental Baseline Document published in late 2011 and early 2012.²⁹

In fall 2017, PLP released to the public a new iteration of its proposal for a mine plan.³⁰ That plan called for a mine footprint (mine pit, tailings facility, and waste pit) of 5.4 square miles, 1.2 square miles larger than the 0.25 scenario that EPA determined could have "unacceptable adverse effects" on the fishery. Then, in December 2017, PLP's 404 permit application described a 1.1 billion ton mine operating with 160,000 tons per day throughput, again larger than EPA's 0.25 scenario. Subsequently, in May 2018, PLP revised its mining plans upwards by 25% to 1.5 billion tons (or nearly six times the size of EPA's 0.25 billion ton scenario), operating with 180,000 tons per day throughput. Nothing in PLP's most-recent and evolving project proposal resolves or addresses the findings of both the BBWA and PD. In fact, as PLP itself notes, its most-recent project proposal remains larger than the EPA 0.25 mine scenario.³¹

Furthermore, it is clear PLP simply intends to *start* with a mine at this scale and then expand by artificially segmenting its project proposal.³² And, PLP's CEO himself has stated that even if PLP does not expand the mining beyond a 20-year, 1.5 billion ton development, "it's unlikely that much copper and gold will be left in the ground, and so someone will probably come along and want to do a second phase of the project at another time."³³

B. Bristol Bay's Concerns about the Proposed Pebble Mine and a Petition to EPA for Protections

Bristol Bay is home to a 130-year-old commercial fishery that supports 14,000 American jobs in Bristol Bay and generates \$500 million in direct income annually. Nationally, the region's

²⁵ PD at page 2-3.

²⁶ <http://dnr.alaska.gov/mlw/mining/largemine/pebble/water-right-apps/index.cfm>

²⁷ Northern Dynasty Minerals Ltd., Securities Exchange Comm'n Filing (Feb. 24, 2011), available at <https://www.sec.gov/Archives/edgar/data/1164771/000106299311000722/exhibit99-1.htm>.

²⁸ PD at page 2-3.

²⁹ PD at 2-2 to 2-4.

³⁰ See PLP Presentation by Tom Collier to the Alaska Resource Development Council, Oct. 5, 2017, at 35 (PLP Current Plan), available at <http://www.akrdc.org/assets/Breakfasts/collier2017.pdf>.

³¹ *Id.*

³² See BBNC letter to the Army Corps (June 29, 2018), section III.C.2.

³³ Statement of Tom Collier, PLP CEO, NBC Nightly News, *Proposed Pebble Mine in Alaska could threaten world's largest salmon fishery* (Feb. 3, 2018), available at <https://www.nbcnews.com/nightly-news/proposed-pebble-mine-alaska-could-threaten-world-s-largest-salmon-n844431>.

commercial fisheries support 15,000 annual jobs, and generates roughly \$2.2 billion in annual economic activity.³⁴ Bristol Bay is also a bucket list destination for hunters and anglers, whose hunting and fishing trips support an additional jobs and add revenue to the region's economy. In 2019, tourism spending in the Bristol Bay region generated \$155 million in total economic output and 2,300 jobs in Alaska.³⁵ The people and communities of Bristol Bay economically and culturally depend on, and thus prioritize the stewardship of, Bristol Bay's salmon resource.

In light of the enormous importance of salmon to Bristol Bay communities, PLP's proposals for mining of the Pebble deposit³⁶ have been of great interest to the people of Bristol Bay since the deposit was first discovered in the late 1980s. After much study and deliberation, the consensus in Bristol Bay is that the proposed Pebble mine would severely undercut the very foundation of Bristol Bay – its incredible salmon resource. That PLP continues to push the mine, especially in light of its oft-repeated yet also ignored statements of deference to the people of Bristol Bay, PLP's proposal causes disruption, uncertainty, and fear throughout the region. Metallic sulfide mining of the Pebble ore deposit has the potential to cause devastating adverse impacts on the area's sensitive salmon habitats and to diminish the salmon resources that serve as the foundation of the region's subsistence way of life, Alaska Native culture, and robust commercial salmon fishing industry.

PLP's repeated promises and failure to file a permit application or otherwise address the concerns of local people over the course of a decade drove 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.³⁷

In its initial 404(c) petition letter to EPA, BBNC explained that "risks to Bristol Bay resources from leaching and potential dam failure are something that the people of this region will face long after the proposed mine has stripped the mineral wealth and ceased operating."³⁸ Specifically, BBNC was then, and remains today, concerned with "unacceptable risks of irreparable harm to the water quality and the natural and renewable resources" in Bristol Bay from long-term contamination that would be difficult to contain over time and would lead to chronic degradation of salmon habitat.³⁹ Chronic degradation of salmon habitat would diminish the salmon resources that serve as the foundation of the region's subsistence way of life,

³⁴ 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>.

³⁵ EPA 2022 Proposed Determination, p. 6-3.

³⁶ 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>.

³⁷ 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 Ekuik 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.

³⁸ Letter from Jason Metrokin, BBNC to EPA Region 10 (Aug. 12, 2010).

³⁹ *Id.*

Alaska Native culture, and robust commercial salmon fishing industry.

In its petition, BBNC also explained that “an impoundment failure quickly would reach BBNC lands and Bristol Bay itself, and thus be devastating to the people of this region.”⁴⁰ As BBNC said in its petition, proposed Pebble mine development “poses an unacceptable risk to our shareholders, their subsistence-based livelihoods, and the prospects for the future, long-term economic development opportunities for the region.”⁴¹

The stress created by this threat, coupled with the uncertainty surrounding a permitting timeline, has exhibited itself in social and economic ways throughout the region. Such fears and uncertainties have been expressed in comments submitted to EPA from BBNC shareholders and regional residents over the years.

The Corps should look to the lengthy administrative record compiled by the EPA, particularly the seventeen public hearing transcripts for the BBWA and 404(c) action to inform its analysis of the public interest.⁴²

In public testimony taken in 2012, 2014, and 2017 EPA heard repeated comments concerning the hardship already being suffered by Bristol Bay fishermen, residents, and communities due to the uncertainty surrounding the proposed Pebble Mine and the continued threat it poses to the people there. Many commenters urged EPA to act promptly to protect the waters and fishery in Bristol Bay to ensure that fishermen, subsistence users, and residents can move forward with their economic and daily pursuits without the looming threat of large-scale destructive mining operations. Comments also reflected the current and on-going cultural pressures resulting from PLP’s activities in the region, the ever-persistent uncertainty engendered by PLP and government inaction regarding the mine, as well as the direct threats of the proposed mine. Comments also discussed concerns over the increased presence of outside visitors, untrustworthy promises of money and jobs, fears of exploitation, and community tensions and fighting. Some examples of this include:

- “[W]e have a right to be afraid of what is happening, because we live in this land We have been in this battle long enough. We want to see something start happening that can assure Alaska native people in this area that our waters, our way of life will continue to be protected.”⁴³
- “It’s been a decade that the threat of this mine has hung over our heads and for people in my generation investing in the fishery, buying in is a huge leap and financial risk and I see it as one that our fishery will pay back to us as long as we make sure that the habitat remains

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² Transcripts from seventeen EPA public hearings available at:

<https://www.regulations.gov/docket?D=EPA-R10-OW-2017-0369> (2017 public hearings in Dillingham and Iliamna); <https://www.regulations.gov/docket?D=EPA-R10-OW-2014-0505> (2014 public hearings in Dillingham, New Stuyahok, Anchorage, Kokhanok, Nondalton, Iliamna, and Igiugig); and <https://www.regulations.gov/docket?D=EPA-HQ-ORD-2012-0276> (2012 public hearings in New Stuyahok, Anchorage, Nondalton, Dillingham, Igiugig, Naknek, Seattle, and Levelock).

⁴³ U.S. EPA Draft Bristol Bay Watershed Assessment Record of Public Comment Meeting – New Stuyahok, Alaska, at 15 (June 7, 2012) [hereafter “New Stuyahok Hearing Transcript”], *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-4154>.

there.... For a fishery to be successful we need continued investment and for that we need the trust that our government is looking out for us. ... And now we need action. We can't wait any longer; we can't let the threat of this hang over us anymore."⁴⁴

- “As I stand here in front of you today, my mind isn't really here. It's at home with my children that I've left for the fourth time this month on Pebble-related causes. It's on my subsistence net I was supposed to mend. It's on getting fish ready, the birch trees we were supposed to cut, it's on my cabin and boat rentals, it's on my clients I get in seven days for the sport fishing opener. [...] Standing here in front of you today, talking about a mining giant threatening my entire way of life wasn't what I ever could have planned for . . .”⁴⁵
- “Every year my freezer is full of meat, fish and berries from Bristol Bay. I look at this proposed mine as an attempt to take that from me, my children and future grandchildren. I believe with all of my heart that if this mine goes through, this will be the end of our lives as we know it. We will be forced to look to other sources for survival and will be forced to give up a part of our lives that is not just about food, but about a culture and a way of life.”⁴⁶
- “[Y]ou have a lot of people concerned about the future and who knows what the future is.”⁴⁷
- Our food are in jeopardy, our future is in jeopardy. What my mind and heart can fathom is the future of my people We are of the fish people. We are the salmon people.”⁴⁸
- “And the thought of my children not being able to pass our way of life to their children makes my heart hurt. I come to you today for my children and my grandchildren's way of life to continue to be passed on to the future generations. Please protect our water.”⁴⁹
- “Please help us, it would be the biggest mine in the world. It hurts me deeply, I have actually cried that our home might be destroyed and I want to save our fish and wildlife. I want my grandchildren to be able to fish like I did. I want to be using my fish camp and living off the fish and subsistence every traditional way. I've lived this way my whole life and I'm 77 years old. I don't like people being against each other over this mine.”⁵⁰
- “Nondalton has already been heavily impacted by the mining exploration in the area. In the last six years, there has been a steady increase in visitors to the village, including scientists, researchers, reporters, mining companies, anti and pro Pebble people. . . . There is an increased level of stress The survival of our culture directly depends on the health of our

⁴⁴ Statement of Katherine Carscallen, Bristol Bay Regional Seafood Development Association, to EPA Administrator Gina McCarthy (Aug. 27, 2013), *audio file available at* <http://kdqg.org/post/epa-administrator-listens-concerns-about-pebble-mine-during-visit-dillingham> (42:00 to 45:00).

⁴⁵ EPA Bristol Bay Watershed Assessment Public Hearing – Seattle, Washington at 24-25 (May 31, 2012) [hereafter “Seattle Hearing Transcript”], *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-1270>.

⁴⁶ Public Comment Letter from Sherina R. Ishnook, Assistant Controller, BBNC (June 5, 2012), *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-0580>.

⁴⁷ New Stuyahok Transcript, at 13.

⁴⁸ U.S. EPA -- Region 10 Bristol Bay Watershed Assessment Public Hearing – Dillingham, Alaska, at 8-9 (June 5, 2012) [hereafter “Dillingham Hearing Transcript”], *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-1290>.

⁴⁹ Dillingham Hearing Transcript, at 86.

⁵⁰ Nondalton Hearing Transcript, at 7.

land, the fish and the wildlife.”⁵¹

- “Any perception amongst salmon consumers that a toxin producing industrial mining complex is operating in the heart of our fishery will damage our marketability ... Acting proactively will also protect the mining industry by providing certainty of what standards would need to be met for any mineral development to occur.”⁵²
- “My biggest concern is the future of the fishery. We need clear water here ... So I think my biggest concern is the future of the fishery. If that mine is developed up there, I think it's going to be -- it's going to be terrible on the water....[T]he salmon and the commercial fishery provides us with the cash, cash that we need for other products, ammunition, flour, and all the other things we need for to exist out here.”⁵³
- “We have been in this battle long enough. We want to see something start happening that can assure Alaska native people in this area that our waters, our way of life will continue to be protected.”⁵⁴
- “Our village, through the help of BBEDC grants will be implementing and will be utilizing a fish processing plant that will employ up to 22 local residents with the potential for growth. This employment will help us to become a more sustainable community. For how long? It is detrimental to our way of life to hang on to the ingenuity of the proposed Pebble project.”⁵⁵
- “On the average, we do 160 million pounds of fish a year. If you do that [mine], you might as well shut down our plant in Naknek. I've talked to our buyers and if the mine goes through and pollutes the water in front of Levelock, and that water goes down to the Kvichak and taints the fish, our market are done.”⁵⁶
- “As the prospect of a mine becomes more real, major uncertainty will be created throughout the fishery, from production through consumption.”⁵⁷
- “[T]he perception that these salmon are tainted food sources is all that it will take to drive prices down to a point where the industry will not survive. 15,000 jobs and hundreds of millions of dollars annually are at stake. My job is at stake. A way of life is at stake. The

⁵¹ U.S. EPA Draft Bristol Bay Watershed Assessment Record of Public Comment Meeting – Nondalton Alaska at 1 (June 7, 2012) [hereafter “Nondalton Hearing Transcript”], *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-4830>.

⁵² Letter from Lindsay Bloom, F/V Rainy Day, to EPA, Docket No. EPA-HQ-ORD-2012-0276 (July 17, 2012), *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-2691>.

⁵³ Testimony of Hjalmar “Ofi” Olson, former Chairman of the Board, President and CEO of BBNC and commercial fisher, Hearing Transcript from EPA Meeting, Dillingham, Alaska (June 5, 2012), at 16-17, *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-1290>.

⁵⁴ Testimony of Joe Chythlook, BBNC Chairman of the Board, Hearing Transcript from EPA Meeting, New Stuyahok, Alaska (June 7, 2012), at 15, *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-4154>.

⁵⁵ U.S. EPA Draft Bristol Bay Watershed Assessment Record of Public Comment Meeting – Levelock, Alaska, at 2 (June 6, 2013) [hereafter “Levelock Hearing Transcript”], *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-4037>.

⁵⁶ Levelock Hearing Transcript, at 13-14.

⁵⁷ Statement of Robert Waldrop, Executive Director, Bristol Bay Regional Seafood Development Association (July 11, 2012) *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-4525>.

largest reason the community is here is at stake. The quality of the water is at stake. It is not worth the risk.”⁵⁸

- “The subject of Pebble is raised by concerned anglers in every conversation I have about the Bristol Bay fishery [D]evelopment of Pebble will put the sport fishing industry of the Bristol Bay region into a recession of long-term duration. It is unlikely my business nor more sport fishing businesses would survive. Development of Pebble would be the destruction of our Bristol Bay ‘brand’ of clean water and sustainable wild salmon.”⁵⁹
- “[N]o amount of money can replace the many different kinds of fish we enjoy or the experience of a first job in the commercial fishing industry.”⁶⁰
- “As a member of a local fishing crew I fear for my fishing livelihood”⁶¹

C. EPA’S Watershed Assessment and 2014 Proposed Determination

The loss of salmon-supporting waters from the proposed Pebble mine would be devastating and unprecedented in Alaska. In 2010, BBNC along with Alaska Native Tribes and others, called upon the EPA to exercise its authority under CWA Section 404(c) to protect Bristol Bay salmon resources.⁶² In response, EPA undertook a three year long peer review process culminating in the publication of the 2014 BBWA. Shortly thereafter, EPA notified PLP that it intended to use its 404(c) authority due to the risk of unacceptable adverse effects to Bristol Bay’s fishery resources..

As described in detail below, EPA Region 10 had a solid foundation for its proposed “unacceptable adverse effects” determination under its CWA authority. As analyzed in the BBWA, a large-scale mine at the Pebble deposit, based on PLP’s own baseline data and plans submitted to the State of Alaska and SEC and confirmed in PLP’s 404 permit application plans, would destroy large tracts of vital salmon habitat because of the inherent geographic nexus between the ore deposit and important salmon streams. Moreover, mining at the Pebble deposit, like other metallic sulfide mining, would generate enormous quantities of tailings and waste material containing copper and other toxic metals. These materials could potentially escape into the surrounding environment during routine operations as well as through future mishaps and failures, destroying and degrading many miles of salmon streams and thousands of acres of interconnected wetlands, ponds, and lakes.⁶³

⁵⁸ U.S. EPA Draft Bristol Bay Watershed Assessment Record of Public Comment Meeting – Naknek, Alaska, at 11-12 (June 5, 2012) [hereafter “Naknek Hearing Transcript”], *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-4153>.

⁵⁹ Public Comment Letter from Mark Rutherford, Owner, Wild River Guides Co. (May 31, 2012), *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-1353>.

⁶⁰ Public Comment Letter from Helen Gregorio, Togiak Resident (June 4, 2012), *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-0594>.

⁶¹ Public Comment Letter from Robert Massengale , Fisherman and Dillingham Resident (June 24, 2012), *available at* <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-ORD-2012-0276-1244>.

⁶² Letter from Jason Metrokin, BBNC, to Dennis McLerran, EPA Region 10 (Aug. 12, 2010). EPA has also received “over 850,000 requests from citizens, Tribes, Alaska Native corporations, commercial and sport fisherman, jewelry companies, seafood processors, restaurant owners, chefs, conservation organizations, members of the faith community, sport recreation business owners, elected officials and others asking EPA to take action to protect Bristol Bay.” See http://yosemite.epa.gov/opa/admpress.nsf/names/r10_2014-2-28_bristol_bay.

⁶³ See BBWA, at Chapter 8.

1. The Bristol Bay Watershed Assessment Provides the Best Available Science Regarding Bristol Bay and the Threats Posed by the Pebble mine

EPA responded to the region's 404(c) petitions by conducting extensive public outreach and by performing a watershed assessment to gather information and study the potential risks associated with large-scale mining in Bristol Bay. In January 2014, following three years of study that included dozens of meetings with stakeholders in the region, extensive scientific analysis, multiple rounds of public hearings, several draft documents, and two rounds of peer review, and 1.1 million public comments, the vast majority of which echoed the early petitioners' call for action (including a remarkable 98% from the Bristol Bay region during one comment period), EPA finalized its Bristol Bay Watershed Assessment (BBWA).⁶⁴

EPA's BBWA describes the Bristol Bay watershed and its outstanding ecological, cultural, and economic importance as well as evaluates the potential impacts of large-scale mining on the resources of Bristol Bay.⁶⁵ The BBWA quantified, in a conservative manner, the expected loss of wetlands, streams, lakes, and ponds from the construction and operation of a porphyry copper mine at the Pebble deposit. EPA elected to focus on the Pebble deposit because its size and extensive characterization make it "the most likely site for near-term, large-scale mine development in the region."⁶⁶

To address the uncertainties regarding the size of a mine that might be proposed for construction at the Pebble deposit, EPA analyzed three potential mining scenarios—Pebble 0.25 (250 million tons of ore), Pebble 2.0 (2 billion tons of ore), and Pebble 6.5 (6.5 billion tons of ore) scenario.⁶⁷ EPA acknowledged that the exact details of any final mine proposal would differ from the specific elements of any one of the scenarios analyzed by EPA. However, the scenarios "reflect the general characteristics of mineral deposits in the watershed, modern conventional mining technologies and practices, the scale of mining activity required for economic development of the resource and the infrastructure needed to support large-scale mining."⁶⁸ By assessing three separate mine sizes, EPA provided a realistic range of potential impacts based on the resources in the Bristol Bay watershed and the real world consequences of large-scale mining. The following discussion highlights some of the most important factors underlying EPA's findings.

Location of the Pebble Ore Deposit. The mining claims that encompass the Pebble ore deposit cover roughly 186 square miles⁶⁹ and straddle the river drainages that serve as the foundation of Bristol Bay's world-renowned salmon fisheries. This represents a simple and straightforward geographic conflict—the Pebble minerals are lying directly underneath vital salmon spawning, rearing, and migration habitat. As a result, EPA concluded that the ordinary

⁶⁴ See EPA, An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska (2014), available at <http://cfpub.epa.gov/ncea/bristolbay/recordisplay.cfm?deid=253500#Download>.

⁶⁵ BBWA at ES-1.

⁶⁶ *Id.* at ES-3 to ES-4.

⁶⁷ The Pebble 2.0 and Pebble 6.5 scenarios were based on potential mine sizes suggested by planning work done by Northern Dynasty Minerals and the Pebble Limited Partnership. *Id.* at ES-10, 6-1, 6-20. These scenarios represent a realistic range for what might be proposed in a plan to mine the Pebble deposit, based on conventional mining practices and the expressed intentions of the holders of the rights to mine the Pebble deposit. See generally BBWA, Chapters 4, 6.

⁶⁸ *Id.* at ES-10 to ES-11.

⁶⁹ NDM, The Pebble Project: The Future of U.S. Mining & Metals, available at http://www.northerndynastyminerals.com/i/pdf/ndm/NDM_FactSheet.pdf.

day-to-day operation of a large-scale mine—even without any accidents or catastrophic events—would result in the direct loss of large quantities of habitat important to salmon.⁷⁰

The “mine footprint” is described in the BBWA as the “area covered by the mine pit, waste rock piles, TSFs [tailings storage facilities], groundwater drawdown zone, and plant and ancillary facilities.”⁷¹ According to EPA, if the Pebble deposit were to be fully developed at the 0.25 billion tons of ore level, direct impacts from the mine footprint alone would cause 24 miles of streams to be “lost—that is, eliminated, blocked, or dewatered,” including 5 miles “known to provide spawning or rearing habitats for coho salmon, sockeye salmon, Chinook salmon, and Dolly Varden.”⁷² Reduced or altered stream flows would “reduce the amount and quality of fish habitat” in another 9.3 miles of salmon-bearing streams,⁷³ and stream flow alterations would also eliminate 1,300 acres of off-channel habitats for salmon and other fishes in wetlands, ponds, and lakes.⁷⁴

Certainty of Toxic Waste Generation. The Pebble 0.25 scenario reflects the size of a mine associated with “a median-sized porphyry copper deposit of 250 million tons of ore.”⁷⁵ The mining of the Pebble deposit at this level will lead to the generation of enormous quantities of acid mine waste and the leaching of copper and other toxic metals from mine tailings and waste rock. According to EPA, the expected scale of mining operations at the Pebble deposit, given the low-grade nature of the ore deposit, “will necessarily produce large amounts of waste material.”⁷⁶ Indeed, a mine developed at the 0.25 billion tons of ore level would generate an estimated 406 million tons of waste rock containing copper and other heavy metals.⁷⁷ This amount of waste rock is greater than that produced to date by other Alaska mines: Fort Knox’s total waste rock production, for example, is reported to be 372.5 million tons, Red Dog’s is 157 million, while Greens Creek, Kensington, and Pogo are each reported at 2 million tons or less.⁷⁸ Moreover, given the low-grade nature of the Pebble ore body⁷⁹ and the stated goals of PLP’s parent company to expand mine operations for generations,⁸⁰ EPA was being conservative in utilizing the Pebble 0.25 scenario as it is far smaller than any PLP proposals.⁸¹

⁷⁰ See BBWA at ES-14, 7-19 to 7-28.

⁷¹ *Id.* at ES-13.

⁷² *Id.*

⁷³ *Id.*

⁷⁴ *See id.*

⁷⁵ BBWA at 6-20.

⁷⁶ *Id.* at ES-10.

⁷⁷ *See id.* at ES-11 tbl. ES-1.

⁷⁸ See Levit, Stuart & David Chambers, Comparison of the Pebble mine With Other Alaska Large Hard Rock Mines at 11-12, Table 1 (Center for Science & Public Participation, Feb. 2012).

⁷⁹ See Letter from Gina McCarthy, EPA Administrator, to John Shively, PLP CEO (Sept. 30, 2013).

⁸⁰ Ron Thiessen, Denver Gold Forum (Sept. 25, 2017), <http://www.denvergoldforum.org/dgf17/company-webcast/NDM:CN/> (“this project, it’s a multi-generational opportunity. Its size and scale will lead to a very, very long life mine and the property we have hosts showings that we’ve got drillholes in that we believe there’s other mining opportunities as well.”)

⁸¹ PLP continues to state that the resource includes 6.44 billion tons of measured and indicated resources and 4.46 billion tons of inferred resources. See The Pebble Project, A Pathway to Permitting, Denver Gold Forum, Sept. 25 2017, The Pebble Partnership, Northern Dynasty Minerals, Ltd., at 3, *available at* <http://wsw.com/webcast/dgf17/ndm.to/presentationDownload.pdf>. PLP’s website confirms that this is no small mine, stating “[w]e know that the Deposit is large enough, and rich enough, to sustain production for 20-25 years, and quite possibly operate for generations” and “[o]ur *initial* approach is for a 20-25-year mine. We believe it’s possible that the project could extend for decades—the Deposit may hold a century’s worth of minerals.” See The Pebble Partnership Plan, <https://www.pebblepartnership.com/plan.html>.

The waste rock associated with the Pebble ore body is acid-forming with high copper concentrations in test leachates.⁸² The exposure of waste rock to water would lead to leaching of metals and likely would lead to the generation of acid mine drainage.⁸³ With respect to the Pebble deposit, copper is the major contaminant of concern as it is toxic to salmon in low concentrations. This is especially true in the streams near the Pebble deposit because they are low in hardness, and copper toxicity increases as water hardness decreases.⁸⁴ According to EPA, “during routine operations,” without any system failure or catastrophic event and no matter how effectively the wastewater treatment system was working, water contaminated with copper and other toxic metals “would enter streams” and “water quality would be diminished” through “uncollected runoff and leakage of leachates from the waste rock piles and TSFs.”⁸⁵ Much of this water would contain heavy metals in extremely high concentrations. At Pebble, “[w]aste rocks associated with the ore body are acid-forming with high copper concentrations in test leachates, and would require 2,900- to 52,000-fold dilution to achieve water quality criteria.”⁸⁶ Under the 0.25 scenario, leachate escaping during routine operations would cause death or reduced reproduction of aquatic invertebrates in 13 miles of streams, and since these invertebrates are the “primary food source for juvenile salmon and all life stages of other salmonids,” the leachate “would be expected to reduce fish productivity.”⁸⁷

Acid mine drainage, moreover, can and does persist for many decades at abandoned and inactive mines throughout the nation and typically carries with it soluble metals that are toxic to aquatic life.⁸⁸ Acid mine drainage can accelerate the leaching of heavy metals from surrounding rock and soils, and even in the absence of acidity, arsenic and other metals can leach from tailings and waste rock piles, contaminating adjacent waters and posing a threat to human drinking water resources as well as aquatic organisms.⁸⁹ These types of severe impacts are not just hypothetical. It is well established that hard-rock mines can generate substantial amounts of toxic wastes, and these wastes have had devastating effects on ecological resources and human communities.⁹⁰ At many abandoned mine sites throughout the American West—including sites far less ecologically sensitive than the area surrounding the Pebble ore deposit—acid mine drainage contaminated with heavy metals has persisted for decades without abatement.⁹¹

Monitoring and treatment of mine tailings, waste rock, and their associated wastewater would be

⁸² BBWA at ES-15.

⁸³ PD at 4-52; BBWA at 8-3.

⁸⁴ BBWA at 3-27.

⁸⁵ *Id.* at ES-15.

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ See generally U.S. Govt. Accounting Office (GAO), ENVIRONMENTAL LIABILITIES: HARDROCK MINING CLEANUP OPERATIONS (June 14, 2006), available at <http://www.gao.gov/assets/90/82282.pdf>; EPA, Office of Solid Waste, Special Waste Branch, TECHNICAL DOCUMENT: ACID MINE DRAINAGE PREDICTION (1994), available at <http://water.epa.gov/polwaste/nps/upload/amd.pdf>.

⁸⁹ See, e.g., EPA Website, Abandoned Mine Drainage, http://water.epa.gov/polwaste/nps/acid_mine.cfm.

⁹⁰ See generally U.S. Govt. Accounting Office (GAO), ABANDONED MINES: INFORMATION ON THE NUMBER OF HARDROCK MINES, COST OF CLEANUP, AND VALUE OF FINANCIAL ASSURANCES (2011), available at <http://www.gao.gov/new.items/d11834t.pdf>; GAO, ENVIRONMENTAL LIABILITIES: HARDROCK MINING CLEANING OBLIGATIONS (2006), available at <http://www.gao.gov/assets/90/82282.pdf>; EPA, Office of Solid Waste, Special Waste Branch, TECHNICAL DOCUMENT: ACID MINE DRAINAGE PREDICTION (1994), available at <http://water.epa.gov/polwaste/nps/upload/amd.pdf>.

⁹¹ See GAO, ENVIRONMENTAL LIABILITIES, at 2.

required on a massive scale long after the cessation of active mining operations and potentially for hundreds to thousands of years,⁹² making it virtually certain that a catastrophic failure or accident will eventually occur. Ken Taylor, PLP's Vice-President for Environment has admitted that "[w]e have to think about what it's going to be like out there 10,000 years from now."⁹³ Similarly, a consultant for PLP has acknowledged that the timeframe for "concern" for mine waste could be on the order of 10,000 years.⁹⁴ Indeed, it is widely recognized that hard-rock metallic sulfide mines require ongoing maintenance and water treatment.⁹⁵

PLP's current plans suggest that treatment in perpetuity may not be needed of the pyritic tailings facility and, according to their most recent plan, pyritic tailings will be returned to the open pit and stored below water. PLP claims that this eliminates the need for perpetual maintenance and water treatment. Given the uncertain technology and PLP's history of misstatements, the Corps must analyze this. For example, this plan is premised on PLP closing the open pit after 20 years, something that seems unlikely as the company simultaneously claims that the mine will operate for "generations" and upwards of 200 years.⁹⁶ If PLP does not close the open pit for more than 200 years, where will the pyritic tails be stored in the meantime and how will effluent from these tails be treated? After 200 years, how will the water level in the open pit be maintained so that discharging will not be required? Once the level of the pit lake has risen to about 890 feet elevation, water will have to be pumped from the pit, treated as required, and discharged to the environment. Additionally, PLP only says that perpetual treatment of the pyritic facility will be eliminated;⁹⁷ however, the Corps should look at whether other project components such as the main water management pond will continue discharging after closure.

Mining the Pebble deposit is also likely to result in further releases of copper and heavy metal contamination because mine tailings would have to be contained over long periods of time, during which a variety of system failures and catastrophic events could be expected to occur. In the BBWA, EPA explains that "[a] variety of water collection and treatment failures are possible, ranging from operational failures that result in short term releases of untreated or partially treated leachates to long-term failures to operate water collection and treatment systems in perpetuity. A reasonable but severe failure scenario would involve a complete loss of water treatment and release of average untreated wastewater flows into average dilution flows."⁹⁸ If just this moderate failure of the wastewater treatment system occurred in the Pebble 0.25 scenario, it would be sufficient to cause "direct effects" on salmon in 17 miles of streams, and the aquatic invertebrates that salmon feed on would be "killed or their reproduction reduced" in 48 to 62 miles of streams.⁹⁹ Similar adverse impacts on salmon could also occur through the

⁹² BBWA at 6-33 (monitoring and management of exposed materials, leachate, and tailings storage facilities would be required for hundreds to thousands of years).

⁹³ PBS Frontline, Alaska Gold (July 24, 2012), *transcript available at*

<http://www.pbs.org/wgbh/pages/frontline/environment/alaska-gold/transcript-26/>.

⁹⁴ See The Keystone Center, Panels on Geology and Geochemistry & Hydrology and Water Quality (Oct. 2-4, 2012), *video available at* <https://www.youtube.com/watch?v=T9tD35mgab8>.

⁹⁵ See EPA, Identification of Priority Classes of Facilities for Development of CERCLA Section 108(b) Financial Responsibility Requirements, 74 Fed. Reg. 37,213, at 37,214-17 (July 28, 2009).

⁹⁶ <https://www.pebblepartnership.com/plan.html>. See also, Statement of Ron Thiessen, Vancouver Resource Investment Conference (Jan 22, 2018) *video available at*, https://www.youtube.com/watch?v=pBs1dnP_9eo.

⁹⁷ Memo from James Fuego, PLP, to Shane McCoy, USACE (May 11, 2018), Technical Note on Updates to PLP's Proposed Project, pp. 2-3, *available at*

https://pebbleprojecteis.com/files/05_11_2018_Pebble_Project_Updates_to_Proposed_Project.pdf

⁹⁸ BBWA at ES-16.

⁹⁹ *Id.*

overflowing of a tailings storage facility and spillage of contaminated water overflow during heavy rains.¹⁰⁰

The failure of a tailings storage facility dam would result in serious adverse effects on salmon.¹⁰¹ For instance, a failure of the dam at TSF 1 (which is included in all three of the BBWA scenarios) would “result in a flood of tailings slurry into the North Fork Koktuli River,” “scour the valley and deposit many meters of tailings fines in a sediment wedge across the entire valley,” “bury salmon habitat ... along nearly the entire length” of the river below the dam, “cause serious habitat degradation in the mainstem Koktuli River and downstream into the Mulchatna River,” and cause “[n]ear-complete loss of North Fork Koktuli River fish populations downstream of the TSF” plus additional salmon and other fish population losses in the mainstem Koktuli, Nushagak, and Mulchatna Rivers.¹⁰²

Impossibility of Effective Mitigation. The BBWA establishes that many of the adverse impacts associated with the development of a large-scale mine at the Pebble deposit could not be adequately mitigated.¹⁰³ Under the Mitigation Rule promulgated by EPA and the U.S. Army Corps of Engineers (Army Corps), mitigation must first seek to avoid adverse impacts to the aquatic ecosystem and, to the extent such impacts cannot be avoided, those impacts must be minimized.¹⁰⁴ Where impacts cannot be avoided or minimized, appropriate and practicable compensatory mitigation must be provided as required by the 404(b)(1) Guidelines.¹⁰⁵ The Mitigation Rule also requires that, for mitigation to effectively compensate for impacts to aquatic resources, such mitigation must be in the same area as the impacts—preferably in the same watershed.¹⁰⁶

The BBWA thoroughly documents the reasons why the adverse impacts from mining the Pebble deposit would not be offset by compensatory mitigation. First, impact avoidance and minimization would not eliminate the losses of aquatic habitat caused by mining because wetlands and streams are widely distributed in the affected watersheds, substantial infrastructure would have to be built in this largely undeveloped and pristine region, and siting options are limited due to the location of the ore body.¹⁰⁷

Further, none of the compensatory mitigation measures proposed to date would adequately compensate for the aquatic habitat losses at the scale at which they would occur. Mitigation credits and in-lieu fee program credits – the preferred mitigation methods under the Mitigation

¹⁰⁰ See *id.*

¹⁰¹ See *generally id.* at ES-17 to ES-24.

¹⁰² *Id.* at ES-23 to ES-24.

¹⁰³ BBWA App. J. An article co-authored by one of BBNC’s outside counsel undertook a similar analysis of potential compensatory mitigation measures for large-scale hardrock mining in Bristol Bay, evaluated them against the requirements of the Mitigation Rule and reached a similar conclusion. See Yocom, Thomas G. & Rebecca L. Bernard, Mitigation of Wetland Impacts from Large-Scale Hardrock Mining in Bristol Bay Watersheds, *Seattle J. Env’tl L.*, Vol. 3:71 (2013), available at <http://www.sjel.org/vol3/mitigation-of-wetland-impacts-from-large-scale-hardrock-mining-in-bristol-bay-watersheds> (“there are few, if any, reasonable and practicable measures within the relevant watersheds that could offset the enormous losses of headwater wetland and aquatic habitats associated with the proposed Pebble mine.”).

¹⁰⁴ 40 C.F.R. § 230.91(c).

¹⁰⁵ *Id.* § 230.10(d); 40 C.F.R. § 230.91(c)(3).

¹⁰⁶ *Id.* 230.93(b).

¹⁰⁷ BBWA, App. J at 11.

Rule¹⁰⁸ – would be inadequate. There is currently no approved mitigation bank serving this area, and the single in-lieu fee program that services the area has provided compensation only for projects with much more limited impacts.¹⁰⁹ In any event, both mitigation approaches would be stymied by the lack of degraded resources and opportunities for restoration or enhancement within the affected watersheds.¹¹⁰ In addition, all of the permittee-responsible compensatory mitigation measures that have been suggested by PLP in its response to EPA’s 15-day letter¹¹¹ – measures such as increasing habitat connectivity, removing beaver dams, increasing habitat quality or quantity, and augmenting water flows – are either unavailable within the affected watersheds because of their intact, functioning character, or have an inadequate track record of success.¹¹² Finally, as EPA points out in the BBWA, preservation is a disfavored method of mitigation and no sites that are large enough, threatened, and not otherwise protected have been identified in the affected watersheds or in the larger Bristol Bay region.¹¹³

Looking outside of the affected watersheds, the potential mitigation measures that have been suggested by PLP in its response to EPA’s 15-day letter – measures such as restoring old mine sites or constructing hatcheries – are problematic for various reasons and are not available at the necessary scale.¹¹⁴

For all of these reasons, sufficient compensatory mitigation opportunities are simply not available within the affected watersheds or nearby to adequately offset the enormous losses of aquatic habitat that would occur as a result of mining the Pebble deposit.¹¹⁵

2. EPA’s Intent to Issue Notice of a Proposed Determination and Unacceptable Adverse Effects Finding

EPA released the final draft of the Bristol Bay Watershed Assessment on January 14, 2014.¹¹⁶ With the release of the final BBWA, EPA also released two new documents related to the Peer Review of the BBWA, EPA’s Response to Peer Review Comments and Peer Review Follow-on Comments on the second BBA draft.¹¹⁷ These documents detail very closely how EPA addressed all independent peer reviewer comments when finalizing the BBWA. In March 2014, EPA also released its responses to public comments on both drafts of the BBWA, closely detailing how the agency addressed the public’s, and PLP’s, concerns in the BBWA.¹¹⁸

After internal review and deliberation, on February 28, 2014, EPA announced that it was taking the first step to initiate its 404(c) action by issuing a 15-day letter to PLP, the Corps, and the

¹⁰⁸ *Id.* §§ 230.93(b)(2); 230.93(b)(3).

¹⁰⁹ *Id.*, App. J at 11, 13.

¹¹⁰ *Id.*, App. J at 13. EPA correctly concludes in its compensatory mitigation analysis that the “most appropriate geographic scale” within which to compensate for unavoidable impacts from mining the Pebble deposit would be at the site of impact, i.e. the North Fork Kaktuli, South Fork Kaktuli, and Upper Talarik Creek watersheds. *Id.* at 9.

¹¹¹ Letter from Tom Collier, PLP CEO, to Dennis McLerran, Region 10 Administrator, EPA (April 29, 2014), available at

https://web.archive.org/web/20170216214136/http://www.northerndynastyminerals.com/ndm/EPA_BBWA.asp.

¹¹² BBWA, App. J at 13-32.

¹¹³ *Id.*, App. J at 33.

¹¹⁴ *Id.*, App. J at 33-36.

¹¹⁵ Yocom & Bernard, *supra* note 249, at 22.

¹¹⁶ 79 Fed. Reg. 3,369 (Jan. 21, 2014).

¹¹⁷ <https://cfpub.epa.gov/ncea/bristolbay/recordisplay.cfm?deid=253500#Download>

¹¹⁸ *Id.*

State of Alaska (as landowner).¹¹⁹ In its announcement, EPA noted that “[t]his action, requested by EPA Administrator Gina McCarthy, reflects the unique nature of the Bristol Bay watershed as one of the world’s last prolific wild salmon resources and the threat posed by the Pebble deposit, a mine unprecedented in scope and scale.” On that day, Region 10 Regional Administrator Dennis McLerran sent letters to PLP, the Corps, and the State of Alaska noting that “[b]ased on the input that the EPA receives during [404(c) steps], the Agency could decide that further review under Section 404(c) is not necessary” and prompted PLP to engage in early consultation with EPA, the Army Corps, and the State by submitting “information for the record to demonstrate that no unacceptable adverse effects to aquatic resources would result from discharges associated with mining the Pebble deposit or that actions could be taken to prevent unacceptable adverse effects to waters from such mining.”¹²⁰ Region 10 noted that it was taking the step to “review potential adverse environmental effects” of mining the Pebble deposit because “it has reason to believe that porphyry copper mining of the scale contemplated at the Pebble deposit would result in significant and unacceptable adverse effects to important fishery areas in the watershed.”¹²¹ EPA provided PLP until April 29, 2014 to respond.¹²²

Following its proposed “unacceptable adverse effects” finding, EPA afforded PLP and the State of Alaska (as landowner) with 60 days to submit information, for the record, to demonstrate either that no unacceptable adverse effects on aquatic resources would result from discharges associated with mining the Pebble deposit or that actions could be taken to prevent such unacceptable adverse effects.¹²³ After carefully considering responses from PLP, the Corps, and others, including nearly 1,500 pages of information and comments from PLP, EPA Region 10 was not satisfied that no unacceptable adverse effect could occur and took the next step under the 404(c) regulations to issue a Proposed Determination.¹²⁴

On July 18, 2014, EPA announced and made available its 404(c) Proposed Determination for the Pebble Deposit in Bristol Bay, Alaska, holding a 60-day comment period and public hearings and tribal consultations throughout the region.¹²⁵ EPA’s proposed restrictions were broadly supported by the public – 99% of the more than 670,000 comments EPA received on the Proposed Determination supported the agency’s proposal. In the seven public hearings held throughout Alaska on the Proposed Determination, more than 75% of Alaskans supported the agency’s proposal, a number that grows to 82% when considering the Bristol Bay region alone.

3. EPA’s 2014 Proposed Determination Technical and Scientific Findings

In its 404(c) Proposed Determination (2014 PD) for mining the Pebble deposit, EPA Region 10 put forward a set of restrictions based on the unacceptable adverse impacts that would be expected from the “construction and routine operation of a 0.25 stage mine at the Pebble

¹¹⁹ EPA Press Release, *EPA moves to protect Bristol Bay fishery from Pebble mine* (Feb. 28, 2014), https://yosemite.epa.gov/opa/admpress.nsf/names/r10_2014-2-28_bristol_bay.

¹²⁰ Letter from Dennis McLerran, EPA Region 10 Regional Administrator, to Tom Collier, PLP CEO, Joe Balash, Commissioner, ADNR, and Col. Christopher D. Lestochi, Commander, USACE Alaska Dist. (Feb. 28, 2014).

¹²¹ *Id.*

¹²² Letter from Dennis McLerran, EPA Region 10 Regional Administrator, to Tom Collier, PLP CEO (March 13, 2014).

¹²³ PD at 2-11.

¹²⁴ PD at 2-14.

¹²⁵

https://archive.epa.gov/epapages/newsroom_archive/newsreleases/b52a95f5b3adefc185257d1900056758.html

deposit.”¹²⁶ EPA Region 10 proposed reasonable upper limits for aquatic resource losses resulting from the discharge of dredged or fill material from mining the Pebble deposit. These upper limits, imposed on discharges individually or collectively, include any of the following:

- 5 or more linear miles of streams with documented anadromous fish occurrence;
- 19 or more linear miles of stream tributaries where anadromous fish occurrence is not currently documented, but that are tributaries to streams with documented anadromous fish occurrence;
- 1,100 or more acres of wetlands, lakes, or ponds contiguous with either streams with documented anadromous fish occurrence or tributaries of those streams; and
- Greater than 20% of daily flow in 9 or more linear miles of streams with documented anadromous fish occurrence.¹²⁷

These restrictions were supported by the record and broadly supported by the public – 99% of the more than 670,000 comments EPA received on the 2014 PD supported the agency’s proposal. In addition, in the seven public hearings held throughout Alaska on the 2014 PD, more than 75% of Alaskans supported the agency’s proposal, a number that grows to 82% when considering the Bristol Bay region alone.

4. EPA Keeps the 2014 Proposed Determination in Place; Public Support Continues for Final EPA Action

In summer 2017, following litigation from PLP and a settlement agreement with EPA, EPA undertook a public process regarding whether or not to withdraw the 2014 PD. As EPA heard during public hearings in the Bristol Bay region in October 2017, the people of the region overwhelmingly requested that EPA keep its proposed restrictions in place. Of the 120 people who testified in the two public hearings in Dillingham and Iliamna, more than 85% of them supported keeping the Proposed Determination in place and opposed EPA’s proposal to withdraw the Proposed Determination. EPA heard strong testimony about the cultural and economic uncertainty the people in the region are facing if the agency withdraws its Proposed Determination.

EPA received more than one million public comments in fall 2017, more than 99.9% of which supported keeping the agency’s Proposed Determination in place as PLP was entering the 404 permitting process. In addition, in 2017 Alaskans commented to EPA in record numbers asking the agency to keep protections for Bristol Bay in place.

On January 26, 2018, one month after PLP submitted its 404 permit application to the Army Corps of Engineers, then-EPA Administrator Pruitt announced that, after hearing directly from stakeholders and the people of Alaska, the agency would keep the Proposed Determination in place. In announcing his decision, the Administrator noted that “it is my judgment at this time that any mining projects in the region likely pose a risk to the abundant natural resources that exist there. Until we know the full extent of that risk, those natural resources and world-class fisheries deserve the utmost protection.”¹²⁸

Indeed, over time, support has grown for EPA’s Proposed Determination and for final 404(c)

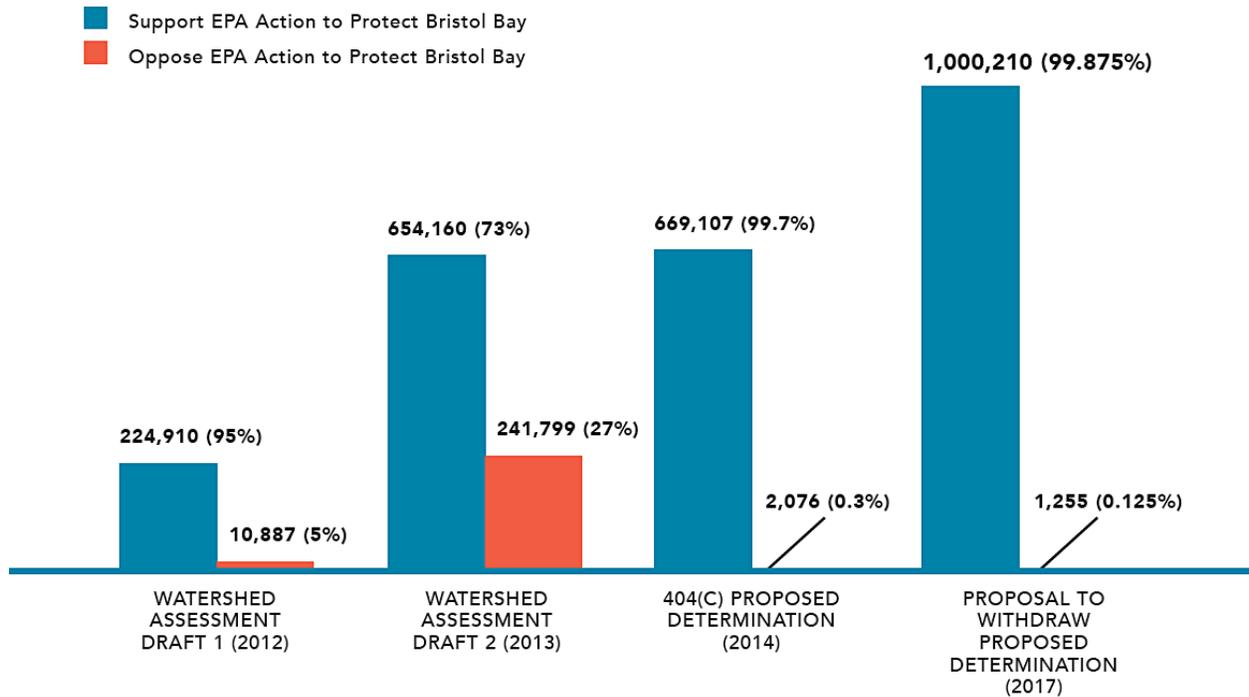
¹²⁶ PD at ES-6, 5-1.

¹²⁷ PD at ES-6, 5-1.

¹²⁸ <https://www.epa.gov/newsreleases/epa-administrator-scott-pruitt-suspends-withdrawal-proposed-determination-bristol-bay>

action. Nationally since 2012, more than 2.5 million public comments have been submitted to the agency supporting its efforts to protect Bristol Bay from the proposed Pebble Mine 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.