**A JOINT LETTER**
From Six Federally-recognized Tribes
in the Kvichak and Nushagak River Drainages of Southwest Alaska:
Nondalton Tribal Council, Koliganik Village Council, New Stuyahok Traditional Council,
Ekwok Village Council, Curyung Tribal Council, Levelock Village Council

May 2, 2010 (mailed May 21, 2010)

Lisa P. Jackson, Administrator
U.S. Environmental Protection Agency, Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dennis J. McLerran, Regional Administrator
U.S. Environmental Protection Agency, Region 10
Regional Administrator's Office, RA-140
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

Re: Tribes request that EPA initiate a public process under Section 404(c) of the Clean Water Act, to protect waters, wetlands, fish, wildlife, fisheries, subsistence and public uses in the Kvichak and Nushagak drainages and Bristol Bay of Southwest Alaska from metallic sulfide mining, including a potential Pebble mine.

Dear Ms. Jackson and Mr. McLerran:

Our federally recognized tribes, from the Kvichak and Nushagak river drainages of southwest Alaska, have government-to-government relations with the United States, and are represented by the undersigned tribal councils. We are writing with assistance of counsel.

Section 404(c) of the Clean Water Act authorizes EPA to prohibit or restrict the discharge of dredge or fill material, including mine wastes, at defined sites in waters of the United States, including wetlands, whenever EPA determines, after notice and opportunity for hearing, that the use of such sites for disposal would have an "unacceptable adverse effect" on fisheries, wildlife, municipal water supplies or recreational areas. EPA may do so *prior* to applications for permits to discharge such material. 40 CFR 231.1(a). "Unacceptable adverse effect" is defined as:

> impact on an aquatic or wetland ecosystem which is *likely* to result in significant degradation of municipal water supplies (including surface or ground water) or significant loss of or damage to fisheries, shellfishing, or wildlife habitat or recreation areas. In evaluating the unacceptability of such impacts, consideration should be given to the relevant portions of the section 404(b)(1) guidelines (40 CFR Part 230).[1]

[1] 40 CFR 231.2(e) (italics added). The purposes of the 404(b)(1) Guidelines are "to restore and *maintain* the chemical, physical, and biological integrity of waters of the United States through the control of discharges of dredged or fill material," and to implement Congressional policies



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We request that EPA initiate a 404(c) public process to identify wetlands and waters in the *Kvichak and Nushagak river drainages* of southwest Alaska, where discharges associated with potential *large scale metallic sulfide mining*, could be prohibited or restricted due to such effects. This initial scope would include the Pebble deposit (which straddles a divide between these drainages) and other metallic sulfide deposits in the area of that deposit. (We understand that Kemuk Mountain may be the site of another metallic sulfide deposit.) During such a public process, some members of the public may urge a broader or narrower scope. The "scope" of a 404(c) process is one of many issues that should be resolved through a public process. The deposits in the area of the Pebble claims, which precipitate this situation, should be included.

We are addressing this to both of you because: (1) 40 CFR 231.3(a) provides that a regional administrator makes the decision of whether to initiate a 404(c) public process; (2) in this instance, initiating a 404(c) process effectuates three of EPA's national priorities,[2] and three of EPA's regional priorities;[3] (3) initiating a 404(c) process promotes EPA's goal that decisions be based on science, law, transparency, and stronger EPA oversight;[4] and (4) doing so is consistent with EPA's national priorities of increased oversight of mineral processing[5] and

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expressed in the Clean Water Act. The Guidelines establish a rebuttable presumption against allowing any discharge unless it can be demonstrated that the 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." The Guidelines declare:

> From a national perspective, the degradation or destruction of special aquatic sites, such as filling operations in *wetlands*, is considered to be among the most *severe* environmental impacts covered by these Guidelines. The *guiding principle* should be that degradation or destruction of special sites [such as wetlands] may represent an irreversible loss of valuable aquatic resources.

40 CFR 230.1 (italics added). The Guidelines address direct, cumulative and secondary effects. 40 CFR 230.11. Secondary effects are those associated with a discharge, but do not result from actual placement of the material, and must be considered prior to agency action under §404. 40 CFR 230.11(h)(1). In this case, a 404(c) process should address potential secondary effects on commercial, subsistence, and recreational fishing and hunting, and public use of parks and preserves. *See* 40 CFR Part 230, subpart F. All are at issue as discussed herein and in attached letter from counsel, and in the briefing paper attached to enclosed letter to State Rep. Edgmon.

[2] These include: (1) protecting America's waters; (2) expanding the public conversation on environmentalism and working for environmental justice; and (3) forging strong partnerships between EPA, tribes and states. *See* EPA's seven national priorities at http://blog.epa.gov/administrator/2010/01/12/seven-priorities-for-epas-future/#more-636.

[3] These include: (1) working with Tribal Governments to protect and restore the natural resources on which tribal communities rely for their physical, cultural and economic well-being; (2) protecting and restoring watersheds; and (3) promoting sustainable practices and strategic partnerships, including with tribal governments. *See* EPA's six regional priorities at http://yosemite.epa.gov/R10/EXTAFF.NSF/Reports/2007-2011+Region+10+Strategy (last visited Feb. 12, 2010), and EPA's Region 10 Strategy for Enhancing Tribal Environments at http://yosemite.epa.gov/r10/EXTAFF.NSF/Reports/07-11+Tribal (last visited Feb 12, 2010).

[4] *Id.* Pebble mine also raises issues that may require the assistance of EPA staff in other offices.

[5] EPA's national priorities for enforcement and compliance for FY 2008 – 2010 and FY 2011 – 2013 (proposed) are at http://www.epa.gov/oecaerth/data/planning/priorities/index.html#new.



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increased attention to Environmental Justice. Furthermore, EPA's on-going 404(c) process with respect to the Spruce No. 1 mine in West Virginia indicates that EPA prefers to be proactive, *i.e.*, "to address environmental concerns effectively *prior* to permit issuance."[6]

We make this request for the following reasons.

**1. The cultural, ecological and economic importance of the Kvichak and Nushagak river drainages, and the magnitude of a potential Pebble mine, indicate that the scope of a 404(c) public process should be broad at the outset.**

Pursuant to 40 CFR 231.3(a), a Regional Administrator's *initial* decision of whether to commence a 404(c) process turns on whether there is "*reason to believe*" that "an 'unacceptable adverse effect' *could* result." (Italics added). This initial decision is based upon "evaluating the information available."[7]

The Kvichak River drainage historically produces more sockeye salmon than any other drainage in the world. Sockeye salmon drive the commercial salmon fisheries of Bristol Bay, which are the state's most valuable salmon fisheries. Within the Bristol Bay drainages, the Nushagak River drainage, also produces vast numbers of sockeye, and produces the largest runs of other species, including chinook, coho, chum and pink salmon. Both drainages are critical to the wild commercial salmon fisheries, subsistence fisheries, internationally famous sport fisheries, and abundant wildlife. The fish serve many onshore, near-shore and offshore uses and ecological functions, including in the North Pacific. The drainages provide water supplies to numerous villages and communities, many of which are substantially populated by Alaska Native people.[8]

The Pebble Limited Partnership (PLP), which seeks to develop the Pebble mining claims, divides them into "Pebble West" and "Pebble East." The former may be susceptible to an open pit mine. The latter (a more recent discovery) may be susceptible to an underground mine.[9] In

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[6] *See* EPA, Spruce No. 1 Mine 404(c) Questions & Answers for Web Posting, Oct. 16, 2009 (italics added), http://www.epa.gov/owow/wetlands/pdf/spruce_1_Oct_16_2009_q_and_a.pdf (visited Jan. 26, 2010). EPA took this position when it invoked the 404(c) public process after years of working with the applicant and other agencies. Spruce No. 1 is the largest proposed mountaintop removal operation in Appalachia, would clear 2200 acres, and fill seven miles of streams. By contrast, just the open pit portion of a Pebble mine (per applications filed in 2006 and subsequently suspended) would be about two square miles (over 46,000 acres).

[7] Because EPA staff has access to EPA's materials, our counsel have prepared an Appendix which lists other potentially relevant documents, from other agencies, the mining claimants, academic or professional publications, professional papers, and presidential documents applicable to environmental issues, tribal relations, and environmental justice. We assume that none would be overlooked and simply call these documents to your attention.

[8] Nondalton is closer to a potential Pebble mine than any other community. Dillingham's Curyung Tribal Council represents the largest tribe in the Bristol Bay drainages of about 2400 members. Koliganek, New Stuyahok, Ekwok and Levelock are downstream of Pebble.

[9] EPA routinely recognizes that mine voids, from open pit and underground mines, are sources of acid mine drainage. We call to your attention P. Younger, "*Don't forget the voids: aquatic*



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2006, Northern Dynasty Mines, Inc. (NDM)[10] filed, and then supplemented, nine applications with the Alaska Department of Natural Resources (ADNR), and then requested ADNR to suspend them. ADNR did so. Four applications sought to appropriate water. Five sought to construct tailings impoundment dams.[11] These nine applications were based *solely* on Pebble West. The surface area of the water of just two tailings impoundments, as then proposed, would have covered over ten square miles (6400 acres). "Beaches" of waste would have surrounded the impoundments created by five dams or embankments up to 740 feet high and several miles long.

The 2006 applications for Pebble West showed that NDM had considered about a dozen potential waste disposal sites. All or many appeared to involve vast wetlands under EPA's jurisdiction. The proposed open pit would have involved about 16.5 miles of 54-inch diameter pipelines to manage discharge tailings, and over two hundred miles of 15-inch diameter pipelines to transport a slurry concentrate for dewatering and ocean shipment from Cook Inlet, and to return used slurry water to the mine facilities. After suspending the applications, PLP has concentrated on exploring Pebble East. It has resulted in more than doubling the amount of potential mine waste, to about ten billion tons of waste. Hence, the questions of where, how and whether the vast volume of waste can be safely and permanently handled are major unresolved issues that involve a vast amount of discharge under Section 404 into a vast amount of wetlands.

Because a Pebble mine, associated facilities, and similar metallic sulfide mines could also have various direct, cumulative, secondary adverse effects in combination with other impacts over a vast area, our tribes recommend that EPA consider a wide geographic area of the Kvichak and Nushagak drainages for purposes of § 404(c), at least initially for a public process. Our reasons include: (1) the importance of the Kvichak and Nushagak drainages for fish, wildlife, and commercial, subsistence and recreational use of fish and wildlife; and the abundance of waters and wetlands that support fish, wildlife and public uses; (2) the location of the Pebble deposit at a divide between Upper Talarik Creek, which flows directly to Iliamna Lake (a significant rearing lake for sockeye salmon) in the Kvichak drainage, and the North and South Forks of the Koktuli River in the Nushagak drainage; (3) the large scale of the deposit and a Pebble mine;[12] (4) the acid generating potential of the host rock, voids, wastes, and dust; (5) the necessity of dewatering a vast area, likely to great depths; (6) the fact that no comparable mine apparently exists in terms of risk to commercial salmon fisheries, subsistence, recreation, and

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*pollution from abandoned mines in Europe*," submitted at the Workshop on Mine and Quarry Waste – the Burden from the Past, held by the Dir. Gen. for the Envir. and Jt. Research Cen. for EU and EC nations, at Orta, Italy, 2002. The paper indicates that voids can vastly exceed waste depositories as sources of water pollution (*see* Table 1 therein, and discussion); *see* http://viso.jrc.ec.europa.eu/pecomines_ext/events/workshop/ProceedingsOrtaWorkshop.pdf.

[10] We understand that NDM is the American subsidiary of Northern Dynasty Minerals Ltd., of which an affiliate is apparently a partner in PLP. *See* announcement of PLP partnership at http://www.northerndynastyminerals.com/ndm/NewsReleases.asp?ReportID=336841&_Type=News-Releases&_Title=Northern-Dynasty-Anglo-American-Establish-5050-Partnership-To-Advance-Pebbl...

[11] The applications comprise over 2000 pages. The attached appendix lists the website posting them. A law journal article (listed in the appendix) summarizes these applications.

[12] The financial commitment necessary to develop Pebble mine is huge, for various reasons such as the cost of power, and is inconceivable as a small mine.



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abundance of wetlands and water proximate to ground level; (7) the apparent existence of other metallic sulfide deposits in the Pebble area and perhaps at Kemuk Mountain; (8) the likelihood that discharge of dredge and fill material, including mine wastes from a Pebble mine or similar mines, and dewatering, will adversely affect vast amounts of wetlands and waters; (9) the facts that the behavior of metallic sulfide mines is difficult to predict; that the record of preventing water pollution from them is not good; that acid mine drainage is a major risk; and that this risk is perhaps increased by abundance of surface and groundwater;[13] (10) the facts that Pebble implies a huge quantity of potential mine waste (perhaps ten billion tons), uncertainty over how wastes might be handled, and that pipelines could move wastes to various discharge sites; (11) the immensity of the task of containing contaminants forever, including acid drainage; (12) the magnitude of potential direct, cumulative, and secondary effects on commercial fishing,[14] subsistence and recreation, including in combination with increased population, access and competition for fish and game;[15] (13) the ecological functions that salmon perform throughout their life cycle in marine and fresh waters; (14) the fact that juvenile salmon have been shown to be present in many waters within the Pebble claims where salmon had been undocumented previously for purposes of the state's Anadromous Fish Act; (15) the likelihood that a transportation route to Cook Inlet could implicate significant beach spawning of sockeye salmon in the north-eastern portion of Iliamna Lake; (16) the likelihood that a Pebble mine, its transportation corridor, and nearly settlement areas could adversely affect areas previously identified as by the State as (a) "essential" moose wintering areas, or "important" spring-, summer- and fall moose habitats, (b) "essential" caribou calving grounds, and (c) "essential" brown bear concentration streams; and (17) the vast amount of compensatory mitigation likely to be required and its questionable sufficiency.[16] All these reasons justify a broad initial scope for a 404(c) process.

## 2. The magnitude of the issues and PLP's recent decision to terminate its Technical Working Groups justify an EPA decision to commence a 404(c) process at this time.

Moreover, the process should be commenced at this time. PLP recently terminated its Technical Working Groups (TWGs), approximately ten in number. They were composed of federal and state officials who, in an advisory capacity, had sought for several years to review and comment upon PLP's baseline study plans before PLP implemented them, and to review results, in order to advise PLP as it progressed toward an environmental impact statement (EIS) under the National Environmental Policy Act (NEPA). During the life of these working groups, information suggests that PLP was not as forthcoming as agency officials had hoped.

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[13] The State of Wisconsin has imposed a moratorium on permits for metallic sulfide mining, by requiring that before permits may issue, a proponent demonstrate one such mine in North America that has operated for ten years without polluting water, and one that has closed for ten years without polluting water. Thus, water pollution at Pebble appears likely.

[14] A listing under the Endangered Species Act of a stock of salmon bound for the Kvichak or Nushagak drainages could affect the commercial fisheries in Bristol Bay.

[15] *See* accompanying letter from counsel addressing likely effects on subsistence and recreational use from a potential Pebble mine.

[16] For such reasons, much of this issue is characterized as short-term private interests in mining a nonrenewable resource versus long-term public/quasi-public interests in commercial, subsistence and recreational uses of fish, wildlife, waters and other renewable resources on public lands.



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PLP's decision to end the TWGs strongly suggests that federal, state and tribal entities may be more likely to face greater informational deficits as they head into an EIS process, than might have been otherwise. Commencing a 404(c) process may help to remedy some of these information deficits before PLP finalizes its design, submits applications, and triggers an EIS.

Because of the magnitude of the issues, all parties (*e.g.*, PLP, federal, state, local and tribal entities, and the public) will benefit from EPA initiating a 404(c) process *before*, and not *after*, PLP submits its anticipated permit applications for a proposed Pebble mine, and *before* an EIS process commences.[17] Moreover, because the potential to invoke a 404(c) process exists, postponing an initial decision to do so until applications are filed serves no affected party.[18]

**3. EPA should commence a 404(c) public process in part because infirmities in the State's 2005 Bristol Bay Area Plan render waiting for the EIS process impractical.**

Our request asks EPA to commence a 404(c) process before an EIS process has begun or run its course. Ordinarily, the analysis of alternatives required by NEPA should provide the information for the evaluation of alternatives under the 404(b)(1) Guidelines. 40 CFR 230.10(a)(4). However, in this instance, infirmities in the State's 2005 Bristol Bay Area Plan (2005 BBAP) render waiting for the NEPA/EIS process impractical.

We are enclosing copies of two other letters, which address the methods that ADNR employed in preparing its 2005 BBAP.[19] It classifies state land, including at Pebble, its access corridor, and nearby settlement lands, into land classification categories and establishes guidelines and statements of intent. The methods used by the 2005 BBAP to do so include:

1. using primarily *marine* criteria, such as whether land is a walrus haulout, to determine whether *inland uplands*, such as those at Pebble, qualify for classification as fish and wildlife habitat (*see* 2005 BBAP, p. 2-9; a link to the 2005 BBAP is in the Appendix);
2. *omission of salmon in non-navigable waters* from the process of designating and classifying land as habitat (*see* 2005 BBAP, pp. 3-323 – 3-330);
3. *omission of moose and caribou* from that process (*see* 2005 BBAP, p. 2-9);
4. lack of a *land use classification category for subsistence hunting and fishing*, while ADNR has a public recreation land category that includes *sport hunting and fishing* (*see* ADNR's land planning regulations at 11 AAC 55.050 – .230 and 2005 BBAP); and then

[17] PLP recently postponed its applications from 2010 until 2011, and may delay further.
[18] Furthermore, a 404(c) process appears to be less costly than an EIS. Facing issues proactively could reduce all costs of agencies, PLP and the public prior to and during an EIS.
[19] One letter, from our counsel to Col. Koenig, of the U. S. Army Corps of Engineers, Alaska District, and Mr. John Pavitt of EPA's Alaska Operations Office, seeks discussions of whether the tribes may be cooperating agencies on any EIS prepared for a proposed Pebble mine. The other, from our six tribes and the Alaska Independent Fishermen's Marketing Association (AIFMA), urges State Rep. Edgmon, while the Alaska legislature is out of session, to facilitate public discussions in the region of whether the legislature should consider legislation to establish a state fish and game refuge or critical habitat area that would include most state land in the Kvichak and Nushagak drainages, including land at the Pebble site.



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5. defining recreation as *excluding* sport hunting and fishing for purposes of preparing the 2005 BBAP (*see* 2005 BBAP, p. A-11).[20]

Based on these and other methods, the 2005 BBAP reclassifies land at Pebble as solely as mineral land, extinguishes habitat classifications of the prior 1984 BBAP on nearly all wetlands, including those that are hydrologically important to fish habitat (a concern in the 1984 BBAP), and almost totally omits references to wetlands in planning units for state land in the Nushagak and Kvichak drainages. As explained in the letter to the Corps of Engineers, Alaska District, and the EPA Alaska Operations Office, as long as the 2005 BBAP is in effect, every alternative in an EIS that would permit a Pebble mine will rest upon such mineral classifications and the methods ADNR used in adopting land use classifications, guidelines and statements of intent.

NEPA regulations provide that an EIS must analyze and address any applicable state land use plan.[21] This requirement, in effect, is likely to put federal agencies in a difficult position of explaining, in public and on the record, why they would evaluate federal permit applications to develop state land, including wetlands, where the State's land classifications, guidelines and statements of intent rest upon (1) using primarily marine criteria to determine whether Pebble is habitat, (2) excluding salmon in non-navigable waters such as Upper Talarik Creek, (3) excluding moose and caribou, (4) having no land use classification category for subsistence hunting and fishing where there is one for sport hunting and fishing, and (5) then defining recreation as excluding sport hunting and fishing. Regardless of whether such methods are lawful or not (and we believe the present ones are *not*), to ignore them would be facially contrary to 40 CFR § 1506.2(d), and would beg the question of what the classifications, guidelines and statements of intent should be applicable, in the absence of the 2005 BBAP and its methods. No one can answer that question.

Because no one can do so, we doubt that federal agencies can engage in legally required, *reasoned* decision-making necessary to approve federal permits so long as the 2005 BBAP is in place.[22] This leaves little room for any decision other than to commence a 404(c) *before*, and not *after*, PLP submits its permit applications, and *before* an EIS process commences. To do otherwise will compel EPA, the Corps and other agencies, in the context of NEPA and an EIS

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[20] In *Nondalton Tribal Council, et al., v. ADNR.*, 3AN-09-46 CI (3rd Jud. Dist., Ak.), these six tribes, AIFMA and Trout Unlimited, Inc. allege that ADNR's 2005 BBAP uses many unlawful methods to classify state land, and establish guidelines and management intent, including where Pebble and its facilities might be located. The litigation is undecided. *See also*, enclosed letter to Rep. Edgmon, and briefing paper (Pt. I) regarding 2005 BBAP. With respect to ADNR's lack of a subsistence category, ADNR claims that its habitat classifications accommodate subsistence, even though the 2005 BBAP reduces the upland acreage classified or co-classified as habitat by 90 percent, from 12 million acres to 768,000 acres, when compared to the former 1984 BBAP.

[21] 40 CFR § 1506.2(d) provides that to integrate an EIS into state planning processes, an EIS shall discuss any inconsistency of a proposed action with any approved state land use plan; and where inconsistency exists, the EIS should describe the extent to which the federal agency would reconcile its proposed action with the plan. In other words, an EIS on any potential Pebble mine will have to consider and analyze the applicable state land use plan.

[22] The 2005 BBAP appears fatal, from a legal standpoint, as a basis for an EIS that would support issuing permits for Pebble. *See* Briefing Paper, Pt. II, attached to letter to Rep. Edgmon.



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process, either to defend the State's methods used in the 2005 BBAP (which would be untenable), or to ignore them, which would be contrary to 40 CFR § 1506.2(d).

## CONCLUSION

For three reasons, this situation seems straightforward. First, the importance of the Kvichak and Nushagak river drainages and the magnitude of the issues raised by a potential Pebble mine warrant an EPA decision now, to commence a 404(c) public process. Second, all of the concerns raised to date, coupled with the recent decision of the Pebble Limited Partnership to terminate its Technical Working Groups, justify commencing a 404(c) process at this time. Third, the infirmities of ADNR's 2005 Bristol Bay Area Plan provide additional reason to commence a 404(c) process at this time. These infirmities leave little room for any decision other than to do so *before*, and not *after*, PLP submits its permit applications, and *before* an EIS process commences, because during an EIS process no governmental agency could lawfully defend or ignore the 2005 Bristol Bay Area Plan.

Thank you for your attention to this matter. We look forward to hearing from you. We hope to work in a public process under Section 404(c) of the Clean Water Act with the U. S. Environmental Protection Agency.

Sincerely yours,

Date: 5/2/2010

Jack Hobson, President
Nondalton Tribal Council
P.O. Box 49
Nondalton, Alaska 99640

Enclosures (2)



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## CONCLUSION

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Sincerely yours,

Date: 5/04/10

Dennis Andrew Sr

Dennis Andrew, President
New Stuyahok Traditional Council
P.O. Box 49
New Stuyahok, Alaska 99636

Enclosures (2)

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## CONCLUSION

For three reasons, this situation seems straightforward. First, the importance of the Kvichak and Nushagak river drainages and the magnitude of the issues raised by a potential Pebble mine warrant an EPA decision now, to commence a 404(c) public process. Second, all of the concerns raised to date, coupled with the recent decision of the Pebble Limited Partnership to terminate its Technical Working Groups, justify commencing a 404(c) process at this time. Third, the infirmities of ADNR's 2005 Bristol Bay Area Plan provide additional reason to commence a 404(c) process at this time. These infirmities leave little room for any decision other than to do so *before*, and not *after*, PLP submits its permit applications, and *before* an EIS process commences, because during an EIS process no governmental agency could lawfully defend or ignore the 2005 Bristol Bay Area Plan.

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Sincerely yours,

Date: 5-10-10

for Angeline Chukwak Vice President

Sergie Chukwak, President
Levelock Village Council
P.O. Box 70
Levelock, Alaska 99625

Enclosures (2)



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For three reasons, this situation seems straightforward. First, the importance of the Kvichak and Nushagak river drainages and the magnitude of the issues raised by a potential Pebble mine warrant an EPA decision now, to commence a 404(c) public process. Second, all of the concerns raised to date, coupled with the recent decision of the Pebble Limited Partnership to terminate its Technical Working Groups, justify commencing a 404(c) process at this time. Third, the infirmities of ADNR's 2005 Bristol Bay Area Plan provide additional reason to commence a 404(c) process at this time. These infirmities leave little room for any decision other than to do so *before*, and not *after*, PLP submits its permit applications, and *before* an EIS process commences, because during an EIS process no governmental agency could lawfully defend or ignore the 2005 Bristol Bay Area Plan.

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Sincerely yours,

Date: 5/11/10

Luki Akelkok, President
Ekwok Village Council
P.O. Box 70
Ekwok, Alaska 99580

Enclosures (2)

process, either to defend the State's methods used in the 2005 BBAP (which would be untenable), or to ignore them, which would be contrary to 40 CFR § 1506.2(d).

## CONCLUSION

For three reasons, this situation seems straightforward. First, the importance of the Kvichak and Nushagak river drainages and the magnitude of the issues raised by a potential Pebble mine warrant an EPA decision now, to commence a 404(c) public process. Second, all of the concerns raised to date, coupled with the recent decision of the Pebble Limited Partnership to terminate its Technical Working Groups, justify commencing a 404(c) process at this time. Third, the infirmities of ADNR's 2005 Bristol Bay Area Plan provide additional reason to commence a 404(c) process at this time. These infirmities leave little room for any decision other than to do so *before*, and not *after*, PLP submits its permit applications, and *before* an EIS process commences, because during an EIS process no governmental agency could lawfully defend or ignore the 2005 Bristol Bay Area Plan.

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Sincerely yours,

Date: 5/12/2010

Thomas Tilden, President
Curyung Tribal Council
P.O. Box 216
531 D Street
Dillingham, Alaska 99576

Enclosures (2)

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## CONCLUSION

For three reasons, this situation seems straightforward. First, the importance of the Kvichak and Nushagak river drainages and the magnitude of the issues raised by a potential Pebble mine warrant an EPA decision now, to commence a 404(c) public process. Second, all of the concerns raised to date, coupled with the recent decision of the Pebble Limited Partnership to terminate its Technical Working Groups, justify commencing a 404(c) process at this time. Third, the infirmities of ADNR's 2005 Bristol Bay Area Plan provide additional reason to commence a 404(c) process at this time. These infirmities leave little room for any decision other than to do so *before*, and not *after*, PLP submits its permit applications, and *before* an EIS process commences, because during an EIS process no governmental agency could lawfully defend or ignore the 2005 Bristol Bay Area Plan.

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Sincerely yours,

Date: 5-13-2010

Herman F. Nelson Sr.

Herman Nelson, Sr., President
Koliganek Village Council
P.O. Box 5057
Koliganek, Alaska 99576

Enclosures (2)

process, either to defend the State's methods used in the 2005 BBAP (which would be untenable), or to ignore them, which would be contrary to 40 CFR § 1506.2(d).

## CONCLUSION

For three reasons, this situation seems straightforward. First, the importance of the Kvichak and Nushagak river drainages and the magnitude of the issues raised by a potential Pebble mine warrant an EPA decision now, to commence a 404(c) public process. Second, all of the concerns raised to date, coupled with the recent decision of the Pebble Limited Partnership to terminate its Technical Working Groups, justify commencing a 404(c) process at this time. Third, the infirmities of ADNR's 2005 Bristol Bay Area Plan provide additional reason to commence a 404(c) process at this time. These infirmities leave little room for any decision other than to do so *before*, and not *after*, PLP submits its permit applications, and *before* an EIS process commences, because during an EIS process no governmental agency could lawfully defend or ignore the 2005 Bristol Bay Area Plan.

Thank you for your attention to this matter. We look forward to hearing from you. We hope to work in a public process under Section 404(c) of the Clean Water Act with the U. S. Environmental Protection Agency.

Sincerely yours,

Dated: 5-20-10

Geoffrey Y. Parker, Attorney
634 K Street
Anchorage, Alaska 99501
(907) 222-6859
gparker@alaska.net
Co-Counsel to Signatory Tribes

Thomas E. Meacham, Attorney
9500 Prospect Drive
Anchorage, Alaska 99507-5924
(907) 346-1077
tmeacham@gci.net
Co-Counsel to Signatory Tribes

Enclosures (2)



EPA-7609-0007041_00014

## APPENDIX

An Abstracted List of Potentially Relevant Information
(This list assumes that EPA has access to its own agency documents, and therefore this list does not include such documents.)

Alaska Department of Fish and Game, *The Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes* and its associated *Atlas*, available at http://www.sf.adfg.state.ak.us/SARR/AWC/index.cfm/FA/main.overview (last visited December 30, 2009).

> *The Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes* ("Anadromous Waters Catalogue") and its associated *Atlas* of maps currently contain about 16,000 streams, rivers or lakes in Alaska which have been specified as being important for the spawning, rearing or migration of anadromous fish. 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. It is estimated that at least an additional 20,000 or more anadromous water bodies have not been identified or specified under AS 16.05.871(a), a state permitting statute.
>
> In recent years, work for the Nature Conservancy has added about a hundred miles of previously undocumented anadromous waters in the vicinity of Pebble.

Alaska Department of Natural Resources, Alaska Department of Fish and Game, Alaska Department Environmental Conservation, *Bristol Bay Area Plan for State Lands* (1984), available at http://www.dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm (last visited December 30, 2009).

> Area plans generally have an administrative life of about twenty years, are prepared by the Alaska Department of Natural Resources, and apply to state-owned and state-selected lands. By state statute, area plans must (1) be based on an inventory of uses and resources; (2) designate primary uses of units of state land; these designations convert to classifications of the land; and (3) adopt general and unit specific guidelines and statements of intent to guide management decisions. The Bristol Bay Area Plan of 1984, prepared and adopted by ADNR, ADF&G, and ADEC, contains a set of five habitat maps, and three maps of subsistence use areas for 31 communities and villages in the Bristol Bay drainages. The 1984 Plan remains useful because the later-prepared 2005 Bristol Bay Area Plan lacks comparable maps and comparable cartographic identification of essential and important habitats. The maps from the 1984 Plan are not posted on ADNR's web pages, but may be obtained separately either from ADNR or from counsel to the tribes. BLM's Resource Management Plan has identical or similar maps of subsistence use areas.



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Alaska Department of Natural Resources, *Bristol Bay Area Plan for State Lands* (2005), available at http://www.dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm (last visited December 30, 2009).

> See above abstract of the 1984 Bristol Bay Area Plan. The Bristol Bay Area Plan of 2005, prepared and adopted by ADNR, is currently the subject of litigation in *Nondalton Tribal Council, et al., v. State, Department of Natural Resources*, 3DI-09-046 CI, wherein these six Tribes, AIFMA Cooperative (a cooperative association of commercial fishers), and Trout Unlimited seek to have the 2005 Plan declared unlawful.

Directorate General for the Environment and the Joint Research Centre, Workshop on Mine and Quarry Waste – the Burden from the Past (http://viso.jrc.ec.europa.eu/pecomines_ext/events/workshop/ProceedingsOrtaWorkshop.pdf, last visited Jan. 25, 2010)

> This is a collection of papers submitted at the conference organized by the for European Union and European Community nations, held at Orta, Italy, in 2002. Many seem useful. In particular, the paper by P. Younger, "*Don't forget the voids: aquatic pollution from abandoned mines in Europe*," indicates that mine voids can vastly exceed mine waste depositories as sources of water pollution (see Table 1 therein, and discussion).

Duffield et al., Economics of Wild Salmon Watersheds: Bristol Bay, Alaska 15 *at* http://www.housemajority.org/coms/hfsh/trout_unlimited_report.pdf (Feb. 2007) (last visited Jan. 6, 2010).

> This report provides estimates of the economic values associated with the sustainable use of wild salmon ecosystem resources, primarily fisheries and wildlife, of the major watersheds of the Bristol Bay, Alaska region. Both regional economic significance and social benefit-cost accounting frameworks are utilized. This study reviews and summarizes existing economic research on the key economic sectors (e.g., commercial fishery, subsistence fishery, recreation, and governmental expenditure and values) in this area. The study also reports recent findings based on original survey data on expenditures, net benefits, attitudes, and motivations of recreational anglers.

William J. Hauser, d/b/a "Fish Talk, Consulting," Potential Impacts of the Proposed Pebble Mine on Fish Habitat and Fishery Resources of Bristol Bay (2007).

> This paper appears to have useful information about salmon production proximate to the proposed road/access route to Pebble, including the hydrological characteristics of areas used by sockeye salmon for beach spawning in northwestern Iliamna Lake, which is immediately down-gradient from the proposed road/access route.



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Northern Dynasty Mines, Inc. (NDM), Pebble Project: Applications for surface and ground water rights, and initial applications for certificates of approval to construct dams (2006), available at http://www.dnr.alaska.gov/mlw/mining/largemine/pebble/waterapp.htm (last visited December 30, 2009).

> Shortly after NDM filed these applications, NDM requested DNR to suspend processing them, and DNR agreed to do so. They contain information on the Pebble West portion of the ore body, proposed routes for road access, pipelines and power, and information relevant to the types of facilities envisioned and the magnitude of the project.

Office of the President, Executive Order 12898 (Feb. 11, 1994) re: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, available at http://www.epa.gov/compliance/resources/policies/ej/exec_order_12898.pdf (last visited December 30, 2009).

> Section 4-4 on subsistence consumption of fish and wildlife may bear upon EPA decision-making under Section 404(c).

Office of the President, Executive Order 13175 (Nov. 6, 2000) re: Consultation and Coordination with Indian Tribal Governments, available at http://www.epa.gov/fedreg/eo/eo13175.htm (last visited December 30, 2009). This executive order applies to federal-tribal relationships.

Office of the President, Memorandum for the Heads of Executive Departments and Agencies, re: Tribal Consultation (Nov. 5, 2009), available at http://www.gpoaccess.gov/presdocs/2009/DCPD-200900887.pdf (last visited December 30, 2009). This presidential memorandum supplements Executive Order 13175.

Parker, et al., "*Pebble Mine: Testing the Limits of Alaska's Large Mine Permitting Process*," Alaska Law Review, Vol. 25:1 (June 2008), available at www.law.duke.edu/shell/cite.pl?25+Alaska+L.+Rev.+1+pdf (last visited December 30, 2009).

> This law journal article, by lawyers and biologists, examines the adequacy of the state's large mine permitting process and finds it insufficient to deal with large metallic sulfide mines such as a Pebble mine.[23] The article contains over 170 footnotes, many with links to sources. Many of the non-legal sources may be useful to the Regional Administrator of EPA in making the initial determination of whether there is "reason to believe" that metallic sulfide mining in the area of Pebble "could result" in "unacceptable adverse effect," and therefore whether to commence a 404(c) process. The citations cover: (1) academic and professional literature on impacts that dissolved copper may have on salmonids and other fish, including a discussion of additive and synergistic effects; (2) academic and professional literature on the role that genetic diversity plays in overall productivity of salmon stocks; (3) EPA documents on acid mine drainage; (4)

[23] The authors have represented or assisted clients or entities opposed to or concerned about a Pebble mine, and continue to do so.



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documents from Pebble Limited Partnership or Northern Dynasty on the nature of the ore body, (5) documents from Northern Dynasty submitted as part of its 2006 applications for water rights and approval of dams, (6) a recent study by Dr. John Duffield (University of Montana) of the economic values and job production associated with wild salmon producing watersheds of the Bristol Bay drainages, and (7) other related materials. Some of the links to PLP and NDM materials are no longer active or have been replaced by more up-to-date sources on PLP's webpages (see below).

Pebble Limited Partnership, various websites at http://www.pebblepartnership.com/.

State of Alaska, Alaska Statutes, Title 38, Chap. 38.04 (land use planning and classification) at http://www.legis.state.ak.us/basis/folio.asp, and ADNR regulations (land use planning and classification), 11 AAC 55.010 -- .280 at http://www.legis.state.ak.us/basis/folioproxy.asp?url=http://wwwjnu01.legis.state.ak.us/cgi-bin/folioisa.dll/aac/query=[JUMP:'Title11Chap55']/doc/{@1}?firsthit

Trasky & Associates, Analysis of the Potential Impacts of Copper Sulfide Mining on the Salmon Resources of the Nushagak and Kvichak Watersheds (2007).

This two-volume report may, or may not, be public at the present time. It was prepared for the Nature Conservancy in Alaska. Mr. Trasky is a retired Regional Supervisor of the Alaska Department of Fish and Game, Habitat Division, Region III, which includes the Bristol Bay drainages.

US Department of the Interior, Bureau of Land Management, Subsistence Use Area Maps, Proposed Resource Management Plan (RMP) for BLM lands in the Bristol Bay drainages, and Final Environmental Impact Statement on the proposed RMP (December 2007), available at http://www.blm.gov/ak/st/en/prog/planning/bay_rmp_eis_home_page/bay_feis_documents.html (last visited Jan. 7, 2010).

The final EIS on BLM's proposed Resource Management Plan contains maps of subsistence use areas of many of the villages and communities in the Bristol Bay drainages. The internet links to the maps of subsistence use areas that appear to include significant amounts of the Kvichak and Nushagak drainages are:

Aleknagik:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.39744.File.dat/Map3-51_Aleknagik.pdf (last visited Jan. 7, 2010)

Dillingham:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.16048.File.dat/Map3-52_Dillingham.pdf (last visited Jan. 7, 2010)

Ekwok:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.76842.File.dat/Map3-53_Ekwok.pdf (last visited Jan. 7, 2010)



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Igiugig
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.33049.File.dat/Map3-54_Igiugig.pdf (last visited Jan. 7, 2010)

Iliamna:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.78607.File.dat/Map3-55_Iliamna.pdf (last visited Jan. 7, 2010)

Kokhanok:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.64140.File.dat/Map3-57_Kokhanok.pdf (last visited Jan. 7, 2010)

Levelock:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.58501.File.dat/Map3-59_Levelock.pdf (last visited Jan. 7, 2010)

Koliganek:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.56441.File.dat/Map3-58_Koliganek.pdf (last visited Jan. 7, 2010)

Manokotak:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.65865.File.dat/Map3-60_Manokotak.pdf (last visited Jan. 7, 2010)

Nondalton:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.36771.File.dat/Map3-62_Nondalton.pdf (last visited Jan. 7, 2010)

Pedro Bay:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.89854.File.dat/Map3-63_PedroBay.pdf (last visited Jan. 7, 2010)

Platinum:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.4004.File.dat/Map3-64_Platinum.pdf (last visited Jan. 7, 2010)

Portage Creek:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.78039.File.dat/Map3-65_PortageCreek.pdf (last visited Jan. 7, 2010)

Port Alsworth:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.10100.File.dat/Map3-66_PortAlsworth.pdf (last visited Jan. 7, 2010)

New Stuyahok:



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http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.90357.File.dat/Map3-68_NewStuyahok.pdf (last visited Jan. 7, 2010)

Togiak:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.42891.File.dat/Map3-69_Togiak.pdf (last visited Jan. 7, 2010)

Twin Hills:
http://www.blm.gov/pgdata/etc/medialib/blm/ak/afo/bay_rmp_eis_final.Par.66104.File.dat/Map3-70_TwinHills.pdf (last visited Jan. 7, 2010)

END



EPA-7609-0007041_00020

THE LAW OFFICE OF

GEOFFREY Y. PARKER

Phone: (907) 222-6859
Fax: (907) 277-2242

E-mail: gparker@alaska.net

634 K Street
Anchorage, Alaska 99501

May 7, 2010

Dennis J. McLerran, Regional Administrator
U.S. Environmental Protection Agency, Region 10
Regional Administrator's Office, RA-140
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

Re: Secondary effects on subsistence and recreational use from a potential Pebble mine.

Dear Mr. McLerran:

I and my co-counsel represent several federally-recognized Tribes that, in accompanying correspondence, have requested EPA to initiate a public process, under Section 404(c) of the Clean Water Act, to identify and designate waters and wetlands in the Kvichak and Nushagak river drainages of Southwest Alaska where discharge of dredge and fill material associated with metallic sulfide mining, such as a potential Pebble mine, could be prohibited or restricted.

Much of the discussion of a potential Pebble mine focuses, understandably, on risks to commercial salmon fisheries. This letter focuses on risks to subsistence and recreation (chiefly sport fishing), in order to draw a distinction.

A distinction is this. With respect to commercial fishing, significant damage or loss may depend, for the most part, on events such as acid mine drainage, seepage from or failure of tailings facilities, other pollution, genetic loss, etc.; and at least some of these events are likely to occur if for no other reason than that containment must be forever. Such events would be secondary effects to discharges of dredge and fill into waters and wetlands. With respect to subsistence and sport fishing, significant damage or loss may occur not only by such means, but also by *other* secondary effects such as increased competition due to increased use, population, access, crowding, etc. Sport hunting is likely to suffer similarly. Thus, while discharges under Section 404 for a Pebble mine (or similar metallic sulfide mine) inevitably will have direct and cumulative effects where the discharges occur, this letter focuses on impacts that are *likely* to result, *secondarily and in combination* with other impacts (of increased use, access, etc.), in significant loss or damage to subsistence and recreational use of fish and wildlife.

## I. Summary of the 404(c) Regulations and the 404(b)(1) Guidelines.

The 404(c) regulations define an "unacceptable adverse effect" as

> impact on an aquatic or wetland ecosystem which is *likely* to result in . . . significant loss of or damage to fisheries . . . , or wildlife habitat or recreation

> areas. In evaluating the unacceptability of such impacts, consideration should be given to the relevant portions of the section 404(b)(1) guidelines (40 CFR part 230).[1]

The purposes of the Guidelines are "to restore and *maintain* the chemical, physical, and biological integrity of waters of the United States through the control of discharges of dredged or fill material,"[2] and to implement Congressional policies expressed in the Clean Water Act.[3] Accordingly, the Guidelines establish a rebuttable presumption against allowing any discharge:

> Fundamental to these Guidelines is the *precept* that dredged or 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.[4]

Thus, the Guidelines prohibit a discharge whenever it results, "either individually or in combination" with other known or probable impacts, in an unacceptable adverse impact. The Guidelines further declare:

> From a national perspective, the degradation or destruction of special aquatic sites, such as filling operations in *wetlands*, is considered to be among the most *severe* environmental impacts covered by these Guidelines. The *guiding principle* should be that degradation or destruction of special sites [such as wetlands] may represent an irreversible loss of valuable aquatic resources.[5]

The 404(b)(1) Guidelines address direct, cumulative and secondary effects.[6] Cumulative effects are the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material.[7] Secondary effects are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material.[8] Information about secondary effects must be considered prior to a final decision under Section 404.[9] Secondary effects may present issues of greater

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[1] 40 CFR 231.2(e) (italics added). The 404(b)(1) Guidelines (40 CFR Part 230) are promulgated by the EPA in conjunction with the Secretary of the Army acting through the Chief of Engineers under Section 404(b)(1) of the Clean Water Act. 40 CFR 230.2.
[2] 40 CFR 230.1(a) (italics added).
[3] 40 CFR 230.1(b).
[4] 40 CFR 230.1(c) (italics added).
[5] 40 CFR 230.1(d) (italics added). Wetlands are a "special aquatic site." 40 CFR Part 230, subpart E.
[6] 40 CFR 230.11.
[7] 40 CFR 230.11(g)(1).
[8] 40 CFR 230.11(h)(1).
[9] *Id.*

significance than direct effects.[10] The Guidelines address effects on human uses of resources.[11] In practice, this includes secondary effects on such uses.[12]

## II. Overview of the Economic Uses of Fish and Wildlife in the Bristol Bay Area.

The most recent study of economic values associated with salmon of the Bristol Bay drainages is: John Duffield[13] et al., *Economics of Wild Salmon Watersheds: Bristol Bay, Alaska* (2007) (*see* Appendix, Tribes' letter requesting a 404(c) process).[14] According to Duffield, the economy of the Bristol Bay region depends on three main types of activities – publicly funded services (government plus non-profits), activities associated with the commercial exploitation of the natural resources of the region (commercial fishing and recreation), and subsistence.[15]

With respect to commercial salmon fishing, Duffield estimates that commercial salmon caught in Bristol Bay in 2005 had a wholesale value of $226 million in the regional economy.[16]

With respect to subsistence, Duffield estimates that subsistence harvest of fish and game, by approximately 7600 people residing in the Bristol Bay drainages, accounts for 2.4 million pounds of subsistence harvest per year for an average of 315 pounds per person annually,[17] and that this results in an estimated net economic value annually of between $78 and $143 million.[18]

With respect recreation, Duffield estimates that in 2005 the fish and wildlife in these drainages accounted for nearly 51,000 recreational trips,[19] which generated $91 million in expenditures within Alaska.[20] With respect to sport fishing trips, Alaska residents account for

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[10] 40 CFR 230.41(b) ("minor loss of wetland acreage may result in major losses through secondary impacts").
[11] 40 CFR Part 230, Subpart F.
[12] An example of a previous EPA action under 404(c) that addresses secondary effects on human use of resources is the Recommended Determination of [EPA Region IV] Pursuant to Section 404(c) of the Clean Water Act Concerning the Yazoo Backwater Area Pumps Project (June 23, 2008).
[13] Dr. Duffield, PhD, is a professor of natural resource economics at the University of Montana and is a co-author of the treatise: Ward, Kevin M. and John W. Duffield, 1992, *Natural Resource Damages: Law and Economics*, New York, John Wiley & Sons.
[14] Page citations herein are to the full study listed in the Appendix to the Tribes' letter to EPA re 404(c). A shorter version of the study was published in USDA Forest Service Proceedings RMRS-P-49 (2007).
[15] Duffield et al., at 93.
[16] Duffield et al., at 16. The "economic value" of commercial salmon fishing in Bristol Bay can be estimated by various values, such as ex-vessel value, expenditure value, wholesale value, net profit, etc., in various geographical contexts, such as a local, regional, or national economy. See Duffield generally.
[17] Duffield et al., at 84 – 85.
[18] Duffield et al., at 107 – 108.
[19] Duffield et al., at 16, 99.
[20] Id.

approximately 65 percent of the trips to the area, and nonresidents 35 percent.[21] Total angler effort is on the order of 100,000 angler days per year.[22] When sport fishing was the sole or primary purpose of these trips, the sport fishing accounted for $61 million in expenditures within Alaska,[23] of which $48 million were expenditures by the one-third of sport fishers who are non-residents of Alaska.[24] With respect to sport hunting and wildlife viewing/tourism, they accounted for $13 million and $17 million respectively, in expenditures within Alaska.[25]

With respect to employment, the following table from Duffield, et al. reflects the distribution of full-time-equivalent jobs.

**Total Full Time Equivalent (FTE) Employment in Alaska Dependent on Bristol Bay Wild Salmon Ecosystems, 2005[26]**

| *Sector* | *Alaska Residents* | | | *Nonresidents* | *Total FTE jobs* |
|---|---|---|---|---|---|
| | Local residents | Non-local residents | Total Alaska | | |
| Commercial fishing | 689 | 667 | 1,357 | 1,172 | 2,529 |
| Commercial processing | 465 | 449 | 914 | 796 | 1,710 |
| Sport fishing | 288 | 435 | 723 | 123 | 846 |
| Sport hunting | 60 | 105 | 165 | 2 | 167 |
| Wildlife viewing / tourism | 82 | 139 | 222 | 17 | 239 |
| Subsistence | 14 | 34 | 49 | 0 | 49 |
| Total FTE jobs | 1598 | 1829 | 3,430 | 2,110 | 5,540 |

## III. Secondary Effects on Subsistence and Recreational Use of Fish and Wildlife.

A Pebble mine, and associated development and access, are likely to increase competition for subsistence and recreational use of fish and game in the Bristol Bay drainages. At various times, the Pebble Limited Partnership (PLP) has asserted that a Pebble mine will require several thousand workers to build it, and a thousand workers to operate it, though PLP's estimates of the number of workers fluctuate. This increased activity inevitably will bring additional residents to the area in other roles, also. Even if stipulations on mining-related permits, such as wetland permits under Section 404, could protect fish and wildlife habitat outside of the sites at which dredge and fill material would be discharged, significant increases in demand for fish and game resources, in access demands, and in secondary development are likely to increase competition for fish and game.

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[21] Duffield et al., at 15.
[22] Duffield, et al., at 17.
[23] Duffield et al., at 15-16, 101.
[24] Id.
[25] Duffield et al., at 16.
[26] Duffield et al., at 17. Hunting is included because wild salmon returning from the sea perform an "ecosystem service" of nutrient recycling to support habitat functions. See id. at 24-26. In Alaska, marine nitrogen accounts for as much as 90 percent of the nitrogen in brown bears. See Robert J. Naiman et al., Riparia: Ecology, Conservation, and Management of Streamside Communities, 184-185 (2005).

For purposes of Section 404(c) and the 404(b)(1) Guidelines, EPA may consider the quality of subsistence and recreational use and socio-economic impacts resulting from changes in subsistence and recreational use patterns.[27]

### A. Subsistence and Environmental Justice.

In the Bristol Bay drainages, the share of the population that is Alaska Native is relatively high at 70 percent, compared to Alaska as a whole, with 16 percent.[28] Accordingly, subsistence is a major concern to the Tribes, and so, the Appendix to the Tribes's letter to EPA on 404(c) provides internet links to maps (used by the Bureau of Land Management) which identify subsistence use areas for the villages and communities in the area that use the Kvichak and Nushagak drainages for subsistence. The demographic aspects raise issues of environmental justice under Executive Order 12898. It requires that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health and environmental effects of its programs, policies, and activities on low-income and minority populations.

Most of the central provisions of State and federal subsistence laws were drafted nearly thirty years ago. Both provide two "tiers" of a subsistence preference (16 U.S.C. § 3114; AS 16.05.258), but they differ with respect to who can participate. Federal law limits subsistence on federal lands to *rural* Alaska residents. State law allows *all* Alaskans to qualify, preliminarily, for subsistence on non-federal lands.[29] Under both schemes, when the total harvest by subsistence and other users of a fish or game stock exceeds sustained yield, the Tier I preference restricts or eliminates non-subsistence users. When the subsistence harvest alone exceeds sustained yield, the Tier II preference is triggered and subsistence is restricted by statutory criteria that allocate subsistence opportunities. On federal lands, 16 U.S.C. § 3114 allocates subsistence opportunities by three criteria: (1) customary and direct dependence on the populations as the mainstay of livelihood; (2) local residency; and (3) availability of alternative resources. The State, however, must avoid local residency criteria as being unconstitutional under the Alaska Constitution. These distinctions in who can hunt and fish in particular situations have divided Alaskans and are known colloquially as the "subsistence dilemma."[30]

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[27] See e.g., USEPA, Recommended Determination pursuant to Section 404(c) Concerning the Yazoo Backwater Area Pumps Project, *supra* (portions address potential changes in quality of, and economic benefits derived from, fishing and hunting in the Yazoo Backwater Area).

[28] Duffield et al., at 11.

[29] *McDowell v. State*, 785 P.2d 1 (Ak. 1989) (Alaska constitution bars State from limiting subsistence to rural residents).

[30] A Pebble mine may increase pressure (which already exists) to revise federal subsistence law to be protect only Alaska Native people, and to apply it more broadly than only on federal land (*i. e.*, to Native corporation lands also). Congress probably could adopt a "Native only" subsistence provision under the Indian Powers clauses of the US Constitution, but the Alaska legislature cannot under the Alaska Constitution. Doing so would drive state and federal governments further apart on subsistence law, and would be very divisive among state residents. A proposed Pebble mine is likely to add to pressures to do so.

A potential Pebble mine is likely to be caught upon the horns of this dilemma, because the Bristol Bay drainages (unlike locations of other large mines in Alaska) are the source of world-class fish and game resources (*e.g.*, salmon, trout, char, grayling, pike, lake trout, caribou, moose, and bears) that attract users locally, regionally, nationally, and internationally. No other large Alaskan mine is located in a region that does so. This distinction implies that Pebble and associated development are likely to result in increasing the numbers of new local rural residents, visitors from Alaska and perhaps elsewhere, and the amount of secondary development.[31] Because of the land ownership pattern, new local residents are likely to settle in the vicinity of Iliamna, Newhalen and Nondalton. However, their uses of lands and resources will reach beyond, to state lands in the Kvichak and Nushagak drainages (and to private land, including Native land, with and without permission) where state subsistence law applies, and to federal land (Lake Clark and Katmai nationals parks and preserves, and BLM lands) where federal subsistence law applies. The Pebble Partnership may restrict fishing or hunting by employees while at the mine site, but it cannot limit development of private land, or the activities of new local residents who are either not its employees, or are visitors. Even well-intentioned restrictions on access to protect subsistence uses of resources tend to be transitory and ineffective (*e.g.*, the Dalton Highway, formerly "the North Slope Haul Road" is now open to public use).

With respect to federal law, the *new* local residents will be *rural* residents for purposes of subsistence in federal parks and preserves and BLM lands. They will compete with both *current rural residents* engaged in subsistence and *sport hunters* who visit the area. As *total* subsistence demand increases due to new *rural* residents, Federal subsistence law, first, will restrict or eliminate sport hunting in the federal Lake Clark and Katmai Preserves (where sport hunting has been allowed). Second, when subsistence demand of all (new and current) rural residents surpasses sustained yield of a fish or game population (most likely a game population) on federal land, some rural residents will be disqualified under the criteria at 16 U.S.C. § 3114. However, the local-residency criterion will not be particularly effective, because new and current rural residents will *all* be local rural residents for purposes of federal subsistence law. The first and third criteria – *i.e.*, (1) customary and direct dependence as the mainstay of livelihood; and (3) availability of alternative resources – will disqualify some subsistence users on federal lands, not unlike the disqualification that occurs under the State's divisive and controversial Tier II hunts. Hence, *current* rural residents would experience increased competition, diminished subsistence opportunity, and disqualification on federal lands, because of an influx of *new* rural residents.

With respect to state subsistence law, conflicts are likely to be more intense because all Alaska residents can qualify for subsistence on nonfederal lands. Some game populations, such as Mulchatna caribou and Nushagak moose, may have to be managed as Tier II state subsistence hunts, in which all sport hunters and many subsistence hunters would be excluded.

Thus, the discharge of dredge and fill material for a Pebble or similar mine is likely to result, in combination with other impacts, in a significant loss of subsistence by current subsistence users. Furthermore, because the population in the Bristol Bay drainages is substantially Native Alaskan, a Pebble mine (or similar metallic sulfide mine) is likely to have

[31] For reasons addressed in Part B below, additional visitors may not result in less, not more recreational expenditures.

disproportionately high, adverse, *secondary* effects, in combination with other impacts, on subsistence use by Alaska Natives in the Kvichak and Nushagak drainages. This raises issues of environmental justice under Executive Order 12898. Again, the Yazoo Backwater Area Pumps Project (see fn. 12, *supra*) provides analogy. In that case, EPA concluded that the project would have disproportionate adverse effects on subsistence fishing and hunting activities of low-income and minority populations, and that a 404(c) decision to bar the project would not.[32]

**B. Sport Fishing.**

As said above, in the Bristol Bay drainages, approximately two-thirds of the sport-fishing trips are by local residents,[33] and approximately two-thirds of the sport-fishing expenditures are by nonresidents. With respect to sport fishing expenditures, the Duffield study is consistent with others published in the 1980's. Generally speaking, the studies have found or implied that two factors drive expenditures for services of remote fishing lodges in the Bristol Bay drainages: (1) desire for large rainbow trout as a target species, ahead of king salmon, silver salmon and other species, and (2) concern about crowding.[34] Most of the commercial lodges and camps are located in the Kvichak and Nushagak drainages.[35]

Duffield compared sport fishing in the Bristol Bay drainages to sport fishing on the Kenai Peninsula. Anglers fishing the road-accessible Kenai Peninsula generally were less concerned with crowding or desire to fishing remote roadless areas than were anglers in the Bristol Bay drainages,[36] and were more likely to pursue salmon.[37] According to Duffield, these findings are consistent with the general finding from Romberg (1999), that there are different market segments of Alaskan sport fishing, and that different types of waters attract different types of anglers.[38] Generally, in primarily road-accessible fisheries of Southcentral Alaska, Alaska residents account for about two-thirds of sport fishing effort (measured in angler-days).[39] In

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[32] USEPA, Recommended Determination pursuant to Section 404(c) Concerning the Yazoo Backwater Area Pumps Project, *supra*, at 65 – 67.

[33] Duffield, et al., at 51 (estimated 19,488 sport fishing trips by Bristol Bay area residents versus 12,966 sport fishing trips by non-residents of Alaska).

[34] Duffield, et al., at 46 – 48 (large rainbow trout viewed as over 26 inches in survey). See also Jon Issacs & Associates, "Commercial Recreation Service Providers Study" (1986) for Bristol Bay Coastal Resource Serv. Area (focuses on Nushagak/Mulchatna drainage); D. A. Ackley, "An Economic Evaluation of Recreational Fishing in Bristol Bay, Alaska," Masters Thesis, UAA/Juneau (1988) (focuses on Kvichak/Naknek drainages; includes Iliamna Lake area).

[35] The authors can provide a copy of the State's "Bristol Bay Area Plan Planning Regions, Recreation Lodges & Camps" (2005) prepared for the State's 2005 Bristol Bay Area Plan but not published in the Plan itself.

[36] Duffield, et al., at 43.

[37] Duffield, et al., at 45.

[38] Duffield, et al., at 43.

[39] ADF&G, Fishery Data Series, No. 09-47, "Estimates of Participation, Catch, and Harvest in Alaska Sport Fisheries in 2005, 37 (This Data Series defines "Southcentral Alaska" as including Kenai Peninsula, Matanuska-Susitna Valley, and Bristol Bay drainages, but the last account for a small percentage of all angling effort as this data series defines "Southcentral Alaska.")

contrast, in the Bristol Bay drainages, where residents account for two-thirds of the sport fishing trips and nonresidents account for two-thirds of the expenditures, the nonresidents who purchase multi-day "trip packages" (of lodge, guiding and air taxi services) in the Bristol Bay drainages, account for over half of the total sport fishing expenditures.[40]

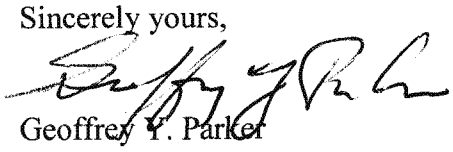
Duffield addresses potential development within the area that could result in road access (by ferry from Homer, Alaska) and thus would impact crowding and size and abundance of rainbow trout in the region.[41] The survey indicates that 45.4% of non-residents and 30.5% of residents feel that the road access would cause them to either stop fishing in the Bristol Bay area (and fish other areas of Alaska) or stop fishing in Alaska entirely.[42] Nearly 80 percent of non-resident lodge clients responded that they oppose developing road access in Bristol Bay area, and nearly 60 percent responded that they would not fish the Bristol Bay area if good road access were developed in the area.[43]

For purposes of 404(c) and the 404(b)(1) Guidelines, the dredge and fill of wetlands to develop a Pebble mine and access to it, in combination with increased crowding, population and access, is likely to result in significant loss of sport fishing within the lodge, guiding and air taxi industries, as non-residents who seek trout at uncrowded, internationally famous destinations are displaced by residents who seek salmon and are more tolerant of crowding. That would simply shift expenditures of residents from road-accessible destinations in the Kenai Peninsula or Matanuska-Susitna Valley to the Kvichak and Nushagak drainages while displacing nonresidents who account for the majority of sport fishing expenditures in the Bristol Bay drainages.

## IV. Existence Value.

Although the focus here is on subsistence and sport fishing, the values of renewable resource services in principle should be available in perpetuity. Hence, EPA might consider what has been said about existence value of the Bristol Bay watersheds. According to Duffield, et al., a major unknown is the total value for existence and bequest (also called passive use values).[44] Subject to qualifications, Duffield, et al., estimate that the existence value of the watersheds is in the range of $6.0 billion to $10.2 billion.[45]

Sincerely yours,



Geoffrey Y. Parker

cc: Lisa P. Jackson, EPA, Administrator, Washington, D.C.
Phil North, EPA, Kenai, Alaska

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[40] Duffield, et al., at 55 – 56; see also *id.* at 50 (re distribution of expenditures).
[41] Duffield, et al., at 58.
[42] Duffield, et. al, at 58.
[43] Duffield, et. al, at 61.
[44] Duffield, et. al, at 110.
[45] Duffield, et. al, at 112.

**Alaska Independent Fishermen's Marketing Association**
P.O. Box 60131
Seattle, WA 98160
Phone/Fax (206) 542-3930

May 13, 2010

Lisa P. Jackson, Administrator
U.S. Environmental Protection Agency, Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dennis J. McLerran, Regional Administrator
U.S. Environmental Protection Agency, Region 10
Regional Administrator's Office, RA-140
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

**Re: Endorsement of Tribes' request that EPA initiate a public process under Section 404(c) of the Clean Water Act, regarding discharges related to potential metallic sulfide mining in the Kvichak and Nushagak drainages of Southwest Alaska.**

Dear Ms. Jackson and Mr. McLerran:

AIFMA Cooperative (Alaska Independent Fishermen's Marketing Association) is a member-based cooperative of commercial fishers, organized under the laws of the State of Alaska. AIFMA's members fish for salmon in Bristol Bay in Southwest Alaska. AIFMA has long opposed development of a potential Pebble Mine. If developed, it would mine a large metallic sulfide deposit located at the divide between Upper Talarik Creek in the Kvichak River drainage and the North and South Forks of the Koktuli River drainage. The Kvichak River drainage historically produces more sockeye salmon than any other river in the world, and the Nushagak River drainage produces the most salmon of the other species caught in the commercial fisheries of Bristol Bay. A Pebble Mine threatens these commercial fisheries.

AIFMA is working with several federally-recognized tribes in the Kvickak and Nushagak drainages on matters related to a potential Pebble Mine. AIFMA's board of directors received and endorsed draft correspondence by the Tribes that requests EPA to initiate a public process under Section 404(c) of the Clean Water Act, to protect waters, wetlands, fish, wildlife, and subsistence and recreational uses in the Kvichak and Nushagak drainages and the commercial fisheries in Bristol Bay from direct, cumulative and secondary effects of discharges associated with metallic sulfide mining, including a potential Pebble Mine. We understand that the Tribes' letter has now been sent to EPA.

This letter confirms AIFMA's endorsement of the Tribes' letter and request for a 404(c) public process. AIFMA will do all it can to assist such a process. Thank you.

Sincerely yours,

David Harsila
President