

“UTILIZATION, DEVELOPMENT
AND CONSERVATION”[†] OF
NATURAL RESOURCES FOR THE
MAXIMUM BENEFIT OF ALASKANS:
SCRUTINIZING ALASKA’S
PERMITTING REGIME FOR LARGE
MINES

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[†] ALASKA CONST. art VIII, § 2.

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ABSTRACT

This Article disputes analyses and conclusions presented in an article about Pebble Mine published in the Alaska Law Review's June 2008 issue. This Article discusses the history of mining in Alaska and the Pebble Project and describes the permitting regime applicable to mining exploration or development projects as it has been developed by the Alaska Legislature and the United States Congress, implemented by state and federal administrative agencies, and interpreted by federal and state courts. The Authors argue that the mining industry in Alaska has not historically proved detrimental to the fishing industry and that numerous and adequate legal safeguards are provided by the existing permitting regime. They also dispute the previous article's conclusion that development of the Pebble resource would harm fisheries. This Article concludes that a change in state law by which the owners of the Pebble resource are barred from developing the known deposit would effect a compensable regulatory taking.

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INTRODUCTION

This Article provides a comprehensive view of issues regarding large mine permitting in Alaska and, in particular, discusses issues with respect to the proposed Pebble mine. It responds to an article, *Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska’s “Large Mine Permitting Process,”*¹ that was published in the June 2008 issue of the *Alaska Law Review*. The present Authors disagree as to both that article’s analysis and its conclusions.

Like the present Authors, the earlier article’s first named author represents, as an attorney, interests with a stake in this controversy. Mr. Parker represents those who advocated against the Pebble Project.²

1. Geoffrey Y. Parker, Frances M. Raskin, Carol Ann Woody, and Lance Trasky, *Pebble Mine: Fish, Minerals, and Testing the Limits of Alaska’s “Large Mine Permitting Process,”* 25 ALASKA L. REV. 1 (2008) [hereinafter Parker et al.].

2. Mr. Parker has represented Robert Gillam, a vocal opponent of Pebble Mine, in litigation over a proposed bridge that could eventually be used for Pebble’s transportation needs. See *Gillam v. Barton*, 353 F. Supp. 2d 1068, 1071 (D. Alaska 2005), *aff’d*, 200 F. App’x 656 (9th Cir. 2006). Mr. Parker has

Carol Ann Woody and Lance Trasky are also high-profile opponents of the Pebble Project who spoke out against it in public forums and before legislative bodies.³ The authors of this Article, on the other hand, represent mining interests, including the Pebble Project.

In this Article, the Authors respond to the Parker article's scientific and legal arguments against the Pebble Project. Parts II and III discuss the history of mining in Alaska and the history of the Pebble Project—correcting, we believe, inaccurate statements in the earlier article. Parts IV and V argue that acid mine drainage and heavy metal leaching is not “inevitable” at Pebble, that water quality modeling is reliable, and that the dire effects on salmon from low levels of copper predicted by the Parker article have never been documented in the natural environment or recognized by any federal or state agency.⁴

Part VI argues that the existing regime of state and federal laws and regulations safeguard against possible negative environmental impacts from the Pebble Project. It provides an overview of applicable Alaska and federal law and demonstrates how programs developed,

represented both Mr. Gillam and Trout Unlimited in offering comments to the Alaska Department of Transportation and Public Facilities criticizing that agency's plans for transportation projects that could serve Pebble Mine. *See* Letter from Geoffrey Parker, Attorney, Law Office of Geoffrey Parker, to Jeff Ottesen, Dir., Statewide Planning Div., Alaska Dep't of Transp. & Pub. Facilities (Dec. 31, 2005) (on file with the Alaska Law Review). Mr. Parker has also testified before the Alaska Legislature on behalf of Mr. Gillam and Trout Unlimited. *See S.B. 16-POWERS/DUTIES DOTPF/TRANSPORTATION PLAN: Hearing on S.B. 16 Before the S. Transportation Standing Comm.*, 2005 Leg., 24th Sess. (Alaska 2005). Mr. Parker also filed comments with the Alaska Department of Natural Resources in 2007 on behalf of Renewable Resources Coalition, Trout Unlimited, the Nondalton Tribal Council, Nunamta Aulukestai and Bob Gillam, opposing the approval of an exploration plan.

3. Ms. Woody is a consultant for the Renewable Resources Coalition, which opposes Pebble Mine and sponsored ballot initiatives aimed at blocking the mine's development, as described in the Parker article. *See Alaska's Pebble Mine Worries Biologist*, RED ORBIT, Apr. 6, 2008, http://www.redorbit.com/news/science/1329012/alaskas_pebble_mine_worries_biologist/index.html. Mr. Trasky has spoken out against Pebble before the Alaska Board of Fisheries. *See* Troy Letherman, “*They Don't Want Here a Mine City*”: *Hard-rock Mining, Pebble and the Fight for Iliamna*, FISH ALASKA, July 2008, at 78 (describing testimony of Mr. Trasky before Alaska Board of Fisheries).

4. In the discussions regarding science, it should be noted that, like the Parker article, this Article is directed to an audience with a legal background, but not with technical and scientific training. It is not appropriate here to fully explore the scientific bases behind many of the claims and authorities put forward in the Parker piece that are used, in part, to justify its conclusions. Although some of those claims are discussed here, the purpose of this Article is to provide legal analysis of the proposals for radical legislative change in Alaska's laws governing the environmental regulation of mining projects, especially the Pebble mining project.

implemented, and enforced by regulatory agencies protect Alaskan waters and its marine life. Therefore, the two legislative bills the Parker article advocates⁵ are both unnecessary and harmful.

Finally, Part VIII discusses the interaction between Alaska takings law and potential anti-Pebble regulation and argues that these laws would enact a taking of private property for public use and, as such, would entitle the project owners to just compensation.

I. BACKGROUND

Before discussing the controversy over Pebble Mine, it is necessary to provide some background on the history of both the mining and salmon industry in Alaska.

First, declines in salmon runs throughout Alaska prior to statehood are attributable to over-fishing,⁶ not impacts from mining. Outside salmon interests harvested Alaska salmon at an unsustainable level.⁷ For instance, canneries commonly employed stream barricades and fish traps, wiping out entire fish runs.⁸

Next, Alaskans won the fight for statehood with the promise that the state would use its immense federal land grant for the purpose of developing its natural resource base. The federal government retained control over Alaska's commercial fisheries during the state's territorial period.⁹ However, federal management of the marine fisheries did not effectively conserve salmon resources.¹⁰ Salmon runs were so poor by the early 1950s that President Eisenhower declared parts of Alaska to be

5. Parker et al., *supra* note 1, at 31, 39; *see also* S.B. 67, 2007 Leg., 25th Sess. (Alaska 2007), available at <http://www.legis.state.ak.us/PDF/25/Bills/SB0067A.pdf>; H.B. 134, 2007 Leg., 25th Sess. (Alaska 2007), available at <http://www.legis.state.ak.us/PDF/25/Bills/HB0134A.pdf>.

6. STEVE COLT, SALMON FISH TRAPS IN ALASKA 6-7 (1999), <http://www.iser.uaa.alaska.edu/publications/fishrep/fishtrap.pdf>; *cf.* STEPHEN HAYCOX, FRIGID EMBRACE 27 (2002) (noting that early fish traps caught nearly all the fish in a run).

7. *See* HAYCOX, *supra* note 6, at 32.

8. *Id.*; *see also* COLT, *supra* note 6, at 8.

9. COLT, *supra* note 6, at 11-12; *see also* CLAUS-M. NASKE, A HISTORY OF ALASKA STATEHOOD 219 (1985); Charles P. Meacham & John H. Clark, *Pacific Salmon Management—The View from Alaska*, 1 ALASKA FISHERY RES. BULL. 76, 76 (1994), available at http://www.adfg.state.ak.us/pubs/afrb/vol1_n1/meacv1n1.pdf.

10. Testimony of Mr. David Bedford, Deputy Comm'r, Alask Dep't of Fish & Game, to the House Subcomm. on Fisheries and Oceans (2005) [hereinafter Bedford] (statement of David Bedford); Steve Pennoyer, *Early Management of Alaskan Fisheries*, 50(4) MARINE FISHERIES REV. 194, 196 (1988); *see generally* Patricia Roppel, *The Canneries and Salmon of Alaska*, 50(4) MARINE FISHERIES REV., 194, 196 (1988) (summarizing the history of the salmon cannery industry since 1867).

disaster areas.¹¹ In 1959, the total Alaska salmon harvest hit an all-time low.¹² The following year, Alaska banned fish traps, devices which had come to symbolize “outside” control of Alaska’s resources.¹³

While Alaskans fought for statehood and the right to control natural resources,¹⁴ opponents of statehood, including the commercial fishing industry,¹⁵ argued that Alaska did not have a sufficient economic base to support itself and would require heavy subsidies from other states.¹⁶ To allay these fears, sections 6(a), 6(b), and 6(i) of the Alaska Statehood Act¹⁷ included: (1) a 103,350,000-acre land grant to the state which included all mineral deposit rights, and (2) a requirement that the state establish a leasing system for the extraction of minerals from this land.¹⁸

Congress granted Alaska all mineral rights in the state land with the recognition that nearly all of the land was non-arable and thus had little other economic potential.¹⁹ Sections 6(a) and 6(b) of the Statehood Act expressed Congress’ intent that state land be used to maximize Alaska’s mineral resource development, thereby increasing the state’s economic self-sufficiency.²⁰ Alaska subsequently became the first and

11. Roppel, *supra* note 10, at 196; Meacham & Clark, *supra* note 9, at 76.

12. COLT, *supra* note 6, at 14.

13. *Id.*; Pennoyer, *supra* note 10, at 197.

14. Bedford, *supra* note 10.

15. STEPHEN HAYCOX, ALASKA: AN AMERICAN COLONY 269 (2002); *see also* NASKE, *supra* note 9, at 249–51 (discussing opposition from fishing industry and its Congressional allies to both Alaskan statehood and the transfer of fisheries jurisdiction to the state).

16. 104 CONG. REC. 9498 (1958) (statement of Rep. Smith); *see also* *Trs. for Alaska v. State*, 736 P.2d 324, 335–37 (Alaska 1987) (reciting Congressional history leading up to passage of Statehood Act); 104 CONG. REC. 12,297 (1958) (statement of Sen. Talmadge) (inferring Alaska’s inability to support itself as a state from special concessions made in Statehood Act).

17. Pub. L. No. 85-508, §§ 6(a), 6(i), 72 Stat. 339, at 340, 342 (1958).

18. *Id.*; *see also* *Trs. for Alaska*, 736 P.2d at 336 (reciting Congressional testimony of Alaska Territorial Senator William Egan that the mineral potential of the land grant would provide great economic benefit to Alaska).

19. *Trs. for Alaska*, 736 P.2d at 336, n.23 (citing 104 CONG. REC. 12,336 (1958) (statement of Sen. Byrd)).

20. *Id.* (quoting *Statehood for Alaska: Hearings Before the Subcomm. on Territorial and Insular Affairs of the House Comm. on Interior and Insular Affairs*, 85th Cong., 1st Sess. 201–02 (1957) (statements of Rep. Miller and William Egan, Alaska Territorial Senator and President of the Alaska Constitutional Convention)); *see also* 104 CONG. REC. 12,012 (1958) (statement of Sen. Jackson); 104 CONG. REC. 9360–61 (1958) (statement of Rep. Dawson). Under section 6(b) of the Alaska Statehood Act, Pub. L. No. 85-508, 72 Stat. 339 (1958), “Alaska [was] permitted to select over a twenty-five year period after its admission into the Union, up to 102,550,000 acres from the public lands of the United States in Alaska which [were] vacant, unappropriated, and unreserved at the time of their selection.” *Udall v. Kalerak*, 396 F.2d 746, 747 (9th Cir. 1968). “[U]nder section 6(a), Alaska

only state to devote an article in its constitution to guarantee the “maximum use” of the state’s natural resources “consistent with the public interest.”²¹

Statehood also gave Alaska the jurisdiction to manage its own fisheries.²² While federal management left Alaska’s salmon fisheries on the brink of collapse,²³ the salmon made a remarkable comeback largely due to well-executed state management.²⁴ Today, Alaska salmon are thriving.²⁵

Finally, as Alaska’s salmon resources rebounded, the state’s mining industry grew dramatically, providing a significant benefit to the state’s budget and economy. The state’s mining industry currently generates over \$4 billion in annual income.²⁶ Revenue to the state from the minerals industry totaled \$179 million in 2007.²⁷

Furthermore, the Alaska mining industry generates thousands of high wage jobs throughout the state—the mineral mining and mining support industry employed more than 10,000 workers in 2006 and 2007.²⁸ In 2007, both the mineral mining and mining support industries paid an average monthly income that was approximately more than double Alaska’s average monthly salary that year.²⁹

was permitted to select some 800,000 acres of land for the purpose of furthering the development and expansion of its communities.” *Id.* at 749.

21. See ALASKA CONST. art. VIII, § 1 (“It is the policy of the State to encourage the settlement of its land and the development of its resources by making them available for maximum use consistent with the public interest.”)

22. See Pennoyer, *supra* note 10, at 197.

23. Laine Welch, *Alaska Statehood is Pinned to Salmon Industry*, ANCHORAGE DAILY NEWS, Aug. 17, 2008.

24. Meacham & Clark, *supra* note 9, at 77; John H. Clark et al., *The Commercial Salmon Fishery in Alaska*, 12 ALASKA FISHERY RES. BULL. 1, 5 (2006), available at http://www.adfg.state.ak.us/pubs/afrb/vol12_n1/clarv12n1.pdf.

25. Clark, et al. *supra* note 24, at 6; Bedford, *supra* note 10.

26. *Alaska’s Mineral Industry Now Worth Record \$4 Billion*, ALASKA J. COM., Nov. 16, 2008, available at http://alaskajournal.com/stories/111608/loc_20081116009.shtml; Elizabeth Bluemink, *Alaska Mines Produce Record \$3.4 Billion*, ANCHORAGE DAILY NEWS, Nov. 18, 2008; ALASKA MINERS ASS’N, THE ECONOMIC IMPACTS OF ALASKA’S MINING INDUSTRY 1 (2008), <http://www.alaskaminers.org/mcd07sum.pdf>.

27. ALASKA MINERALS COMM’N, REPORT OF THE 2008 ALASKA MINERALS COMMISSION iv (2008), http://www.commerce.state.ak.us/oed/minerals/pub/mineralsreport2008_web.pdf.

28. See D.J. SZUMIGALA, ET AL, ALASKA’S MINERAL INDUSTRY 2006: SPECIAL REPORT 61, at v (2006), <http://www.dggs.dnr.state.ak.us/webpubs/dggs/sr/text/sr061.PDF> [hereinafter SPECIAL REPORT 61]; D.J. SZUMIGALA, R.A. HUGHES & L.A. HARBO, ALASKA’S MINERAL INDUSTRY 2007: SPECIAL REPORT 62, at 2–5 (2007), <http://www.dggs.dnr.state.ak.us/webpubs/dggs/sr/text/sr062.PDF> [hereinafter SPECIAL REPORT 62].

29. ALASKA DEP’T OF LABOR & WORKFORCE DEV., PRELIMINARY 2007 QUARTERLY CENSUS OF EMPLOYMENT & WAGES 1–2, <http://>

II. PEBBLE'S ECONOMIC IMPACT

Given its large size, the Pebble Project could bring much needed economic diversification and growth to southwest Alaska.³⁰ In 2007, over 1000 workers were involved in oil exploration activities, including over 140 residents of more than 16 communities in the Bristol Bay area.³¹

The Pebble Project presents an opportunity to improve the economy in the Bristol Bay region, an area where 73% of the inhabitants are Alaska Natives.³² In 1999, 24% of Alaska Native Corporation shareholders in Bristol Bay lived at or below the poverty line.³³ Additionally, the Bristol Bay region has the second-worst rate of unemployment among the twelve Alaska Native Corporation regions.³⁴ Making matters worse, Bristol Bay has high prices for commodities such as groceries and fuel.³⁵ Its electricity prices are also the highest in Alaska, averaging more than double the prices in Anchorage.³⁶

Moreover, diversification is necessary because the fishing industry cannot solve all of the region's economic woes. This is particularly true because, although the commercial salmon fishing industry plays an important role in Bristol Bay, much of the benefits do not accrue locally. Of the roughly \$98 million the Bristol Bay fisheries generated in 2005, only 11% went to local residents, while 54.2% went to non-Alaskans.³⁷ Similarly, between 2001 and 2005, between 77.3% and 84.6% of Bristol

www.labor.state.ak.us/research/ee/ee07.pdf. The average monthly income in 2007 for mining occupations was \$6884 and the average monthly income in 2006 for support occupations was \$7183. *Id.* The average monthly income in Alaska was \$3627. *Id.* at 1.

30. ALASKA MINERALS COMM'N, *supra* note 27, at 8; *see also* Alaska Office of Economic Development Webpage on Minerals Development, <http://www.commerce.state.ak.us/oed/minerals/mining.htm> (last visited Apr. 14, 2009).

31. SPECIAL REPORT 62, *supra* note 28, at 21; *see also* letter from Alaska Dep't of Commerce, Cmty., Econ. Dev. to Alaska Bd. of Fisheries (Nov. 21, 2006).

32. ALASKA NATIVE POLICY CTR., OUR CHOICES, OUR FUTURE: ANALYSIS OF THE STATUS OF ALASKA NATIVES REPORT 2004, at 110 (2004), http://www.firstalaskans.org/documents_fai/ANPCa.pdf.

33. *Id.* at 78.

34. *Id.* at 78, 100. The figure for non-Natives living in poverty in Bristol Bay stood at 5%. *Id.*

35. *Id.* at 76–77, 110–11; *see generally* Gigi Berardi, *Natural Resource Policy, Unforgiving Geographies, and Persistent Poverty in Alaska Native Villages*, 38 NAT. RESOURCES J. 85 (1998) (analyzing the causes of systemic poverty in rural Alaska). For instance, the cost of food averages about 50% higher in rural Alaska than in Anchorage. ALASKA NATIVE POLICY CTR., *supra* note 32, at 77.

36. ALASKA NATIVE POLICY CTR., *supra* note 32, at 76–77, 110–11.

37. Gross Earnings of Seafood Harvesters Fishing in Bristol Bay Waters by Residency: Bristol Bay Region 2005, <http://www.labor.state.ak.us/research/seafood/BristolBay/BBFHVERngRes.pdf> (last visited Apr. 14, 2009).

Bay seafood processing wages went to non-Alaska residents,³⁸ and only 6% to 9.2% of seafood processing workers lived in the Bristol Bay region during that time period.³⁹

Additionally, salmon prices have trended downward in recent years.⁴⁰ Thus, despite large harvests, Bristol Bay's seasonal salmon fishery workforce declined 19% between 2000 and 2007.⁴¹ Competition from farmed Atlantic salmon caused demand for frozen Bristol Bay salmon to drop.⁴² In 1980, 98% of the world supply of harvested salmon was wild, but by 2001 only 37% was wild.⁴³ This trend should continue due to the inherent economic advantages of farmed fish relative to wild salmon.⁴⁴

III. PEBBLE PROJECT DESCRIPTION

A. The Project Has Yet to Be Designed

The Parker article describes "Pebble Mine and Its Facilities" in great detail,⁴⁵ but his source is an outdated conceptual design.

The Pebble Limited Partnership has not completed an integrated development plan for the two deposits discovered at Pebble.⁴⁶ The company deferred "[d]evelopment and permitting timelines" to conduct more studies to support the development of the near-surface ore at Pebble West and the deeper, richer ore at Pebble East.⁴⁷ In the company's words, "The Pebble Partnership will continue its

38. Bristol Bay Region Seafood Industry, 2000-2005, <http://www.labor.state.ak.us/research/seafood/BristolBay/BBoverall.pdf> (last visited Apr. 14, 2009).

39. Local Seafood Processing Workforce, 2001-2006, <http://www.labor.state.ak.us/research/seafood/BristolBay/BBSFPLocal.pdf> (last visited Apr. 14, 2009).

40. See GUNNAR KNAPP, PROJECTIONS OF FUTURE BRISTOL BAY SALMON PRICES III-2 (2004), http://www.iser.uaa.alaska.edu/iser/people/knapp/knapp_BB_Price_Projections_October_2004.pdf. In 2004, Bristol Bay salmon averaged roughly one-third of its 1980s per-pound price. *Id.* at III-3, fig.III-3.

41. Brigitta Windisch-Cole & Josh Warren, *Employment in Alaska's Fisheries*, ALASKA ECON. TRENDS, Nov. 2008, at 7, available at <http://labor.state.ak.us/trends/nov08.pdf>.

42. KNAPP, *supra* note 40, at VII-13 to VII-15; Josh Eagle et al., *Why Farm Salmon Outcompete Fishery Salmon*, 28 MARINE POL'Y 259, 259 (2004). Atlantic salmon farming is illegal in Alaska. ALASKA. STAT. § 16.40.100(d) (2008).

43. KNAPP, *supra* note 40, at 2.

44. Eagle, *supra* note 42, at 262.

45. Parker et al., *supra* note 1, at 12-14.

46. See Pebble Mine Project Alaska, <http://www.pebblepartnership.com/pages/project-information/project-overview.php> (last visited Feb. 6, 2009).

47. *Id.*

engineering, environmental and socio-economic studies throughout 2009 in order to support the preparation of a proposed development plan that will be submitted for government and public review in the next few years.”⁴⁸

Many fundamental issues remain undecided including: whether there will be an open pit mine; how much power will be needed and how it will be generated; and how to execute the design of infrastructure such as the mill, waste storage facilities, and roads. Although the company expects to submit a proposed mine development plan with its permit applications within the next few years,⁴⁹ more modifications could be required by permitting agencies and other public demands.⁵⁰

B. Known Geologic Processes Mitigate Acid Rock Drainage

The Parker article’s concerns regarding acid rock drainage⁵¹ are misplaced for two reasons. First, the Pebble ore deposits are low-sulfur deposits. Second, and more generally, current waste containment techniques imposed by permitting requirements will adequately prevent drainage of acid sulfides.

Although ore at the Pebble deposit may contain metallic sulfides, it is unlikely that the deposit contains high sulfide concentrations because Pebble is a porphyry deposit.⁵² Such deposits are typically low grade, low sulfide deposits with around 5% sulfide.⁵³ However, even if the deposit contains sulfides, their mere presence in ore does not by itself produce sulfuric acid. Numerous factors and processes can neutralize or mitigate the production of acid rock drainage.⁵⁴ For instance, the host rock associated with metal mining activities, like those proposed at Pebble, often contain carbonate and silicate minerals which neutralize

48. *Id.*

49. See Pebble Mine Project Alaska, <http://www.pebblepartnership.com/pages/project-information/regulatory-review.php> (last visited Feb. 6, 2009).

50. *Id.*

51. Parker et al., *supra* note 1, at 15–16. While the Parker article uses the term “acid mine drainage,” “acid rock drainage” is more typically used in the geology community. Email from Stephen Day, Geologist, SRK Consulting, to Jim Wilkson, Associate, Hartig Rhodes Hoge & Lekisch PC (Dec. 2, 2008) (on file with author) [hereinafter “Day email”]. See also ALASKA ADMIN. CODE tit. 11, § 97.240 (2008).

52. Charles Hawley, Quaterra Resources, Vice-President, and Millrock Resources, Director, Response to Parker et al. Law Review Article (unpublished memorandum regarding geology of Pebble deposit) (on file with author).

53. *Id.*

54. SPECIAL WASTE BRANCH, ENVTL. PROT. AGENCY, EPA530-R-94-036, TECHNICAL DOCUMENT: ACID MINE DRAINAGE 6-7 (1994).

sulfuric acid produced by oxidation of certain sulfide minerals.⁵⁵ Indeed, sulfuric rock drainage is not likely to occur when carbonate and silicate minerals: (1) are closely associated with the sulfides; (2) are available for reaction with the sulfides; and (3) statistically exceed the acid-producing potential of the sulfide minerals.⁵⁶

Pebble's geologic reports show that neutralizing minerals exceed acid producing minerals in most of its rock and the majority (greater than 90%) of its tailings.⁵⁷ However, the Parker article—which implies that Pebble will produce large amounts of acid rock drainage simply because the deposit “contains” sulfides—fails to account for these factors.

C. Federal and State Law and the Mitigation of Any Potential Acid Rock Drainage

The Parker article implies that if acid rock drainage occurs, it will simply flow into surrounding waters.⁵⁸ However, even if some acid rock drainage occurs, mitigation and treatment measures imposed by the permitting process will ensure that any drainage will not flow into nearby surface waters.

These strict regulatory standards for mitigation and treatment require new technologies that can control the entry of acid rock drainage and associated contaminants into surface water by controlling the oxidization of sulfides.⁵⁹ For instance, sulfide minerals likely to produce acid rock drainage may be inundated with water to halt oxidization. Oxygen has limited solubility in water, so only minor oxidization of sulfides occurs in water.⁶⁰ Sulfide minerals may also be overlain with a dry “cap” of materials such as soils or geosynthetics (man-made products) that limit the sulfides' exposure to air.⁶¹ These are just a few

55. 1 STEFFEN ROBERTSON AND KIRSTEN, INC. ET AL., DRAFT ACID ROCK DRAINAGE TECHNICAL GUIDE 2-8 (1989).

56. See ANDREW A. SOBEK ET AL., ENVTL. PROT. AGENCY, EPA-600/2-78-054, FIELD AND LABORATORY METHODS APPLICABLE TO OVERBURDENS AND MINE SOILS 3 (1978); JEFFREY G. SKOUSEN & PAUL F. ZIEMKIEWICZ, ACID MINE DRAINAGE CONTROL AND TREATMENT 17 (2d ed. 1996).

57. Day email, *supra* note 51; PEBBLE PROJECT, DRAFT ENVIRONMENTAL BASELINE STUDIES 2004 PROGRESS REPORTS, CH. 8: GEOCHEMICAL CHARACTERIZATION AND ARD/ML at 8-13 (2005), available at http://dnr.alaska.gov/mlw/mining/largemine/pebble/2004_reports/pr_ch08.pdf.

58. Parker et al., *supra* note 1, at 15-16.

59. See *infra* Part V.D.1.

60. Day email, *supra* note 51.

61. MINE ENVIRONMENT NEUTRAL DRAINAGE (MEND) 2004, DESIGN, CONSTRUCTION AND PERFORMANCE MONITORING OF COVER SYSTEMS FOR WASTE

general examples of how mining technology *could* be used to prevent acid rock drainage. Like the Parker article, this Article is a legal analysis rather than an engineering discussion, but it is appropriate to mention the current technology that is available to satisfy permitting requirements.

IV. COPPER'S TOXICITY IS OVERSTATED IN THE PARKER ARTICLE

Part III of the Parker article is devoted to an argument that dissolved metals, such as copper, are toxic to fish.⁶² It refers in passing to the fact that copper is essential to life.⁶³ However, the principal scientific authority the Parker article relies upon strongly emphasizes copper's importance—it begins its chapter on copper by emphasizing the element's essential nature, mentions that it is "part of about thirty enzymes and glycoproteins" and then proceeds to list nearly a dozen important examples.⁶⁴ Indeed, insufficient copper in salmon diets results in poor growth.⁶⁵ Copper mobilized from spine and muscle tissue is important for female salmon preparing to spawn, and it also appears to be essential for reproductive success.⁶⁶

ROCK AND TAILINGS, MEND 2.21.4 a-e (July 2004); *see also* Day email, *supra* note 51 (regarding acid rock drainage control methods).

62. Parker et al., *supra* note 1, at 17–21.

63. *Id.* at 17.

64. ELSA M. SORENSEN, METAL POISONING IN FISH 235–36 (1991). Ms. Sorensen also discusses homeostatic (internal physiological and biochemical control) mechanisms that keep the forms and concentrations of copper in fish tissues at precisely the right levels. *Cf.* Martina G. Vijver et al., *Internal Metal Sequestration and its Ecotoxicological Relevance: A Review*, 38 ENVTL. SCI. & TECH. 4705, 4705 (2004) (analyzing organisms' ability "to control metal concentrations in certain tissues of their body"). The National Research Council (NRC) lists the minimum dietary requirements of copper for rainbow trout as 3 mg/kg/day and for Atlantic salmon as 5 mg/kg/day. NATIONAL RESEARCH COUNCIL, SUBCOMMITTEE ON FISH NUTRITION, NUTRIENT REQUIREMENTS OF FISH 19–20 (1993). The NRC also reported on reduced heart cytochrome c oxidase and reduced liver copper-zinc superoxide dismutase (important enzymes) activities in copper-deficient fish. *Id.* Fish fed low copper diets showed reduced growth rates and cataract formation. *Id.* However, dietary supplements of copper greater than about 700 mg/kg/day led to reduced growth in rainbow trout, suggesting a maximum dietary amount. *Id.*

65. *See* Takeshi Watanabe et al., *Availability of Minerals in Fish Meal to Fish*, 1 ASIAN FISHERIES SCI. 175, 182 (1988) ("The total deletion of trace minerals from fish meal diet also caused cataracts along with exophthalmus and depressed growth in chum salmon fry during a thirteen week study.").

66. *See* Hugh A. Poston & George Ketola, *Chemical Composition of Mature and Spawning Atlantic Salmon from Different Locations*, 51 THE PROGRESSIVE FISH-CULTURIST 133 (1989).

Parker's statement that "concentrations [of copper] just above the amount required for growth and reproduction can be highly toxic"⁶⁷ ignores a critical consideration: the form of copper in the fish's environment. Various factors govern the toxicity of copper. Virtually all forms of copper toxicity in fish are associated with the "free" cupric (Cu^{2+}) ion.⁶⁸ Research shows that copper toxicity is so strongly influenced by factors such as hardness, pH, dissolved organic compounds (DOC), and particulates that total aqueous concentration is both a poor measure of bioavailability and an inadequate tool for the development of water quality criteria.⁶⁹ Indeed, some researchers have recommended adjustments in generic water quality criteria when water quality at a particular site deviates from the "standard" water used in laboratory experiments.⁷⁰ Researchers have even concluded that copper in rainwater is predominantly in the form of strongly complexed (and non-toxic) species, both in dissolved and particulate phases; free Cu^{2+} ions were found to be present at concentrations of 1/1,000th to 1/10,000th of total copper, and is unlikely to be available to organisms.⁷¹

Copper is an abundant element in the earth's crust and appears naturally in surface waters. Concentrations of copper in natural waters unaffected by human activities range from 1 to 10 micrograms per liter.⁷² The geometric mean concentration for copper derived from thousands of surface measurements of United States waters is 4.2 micrograms per liter.⁷³

67. Parker et al., *supra* note 1, at 17.

68. SORENSEN, *supra* note 64, at 236-46; see also Victoria A. Kjoss et al., *Effects of Different Ligands on the Bioaccumulation and Subsequent Depuration of Dietary Cu and Zn in Juvenile Rainbow Trout (Oncorhynchus mykiss)*, 63 CAN. J. OF FISHERIES AND AQUATIC SCI. 412, 418 (2006); Katherine L. Sciera et al., *Influence of Multiple Water-Quality Characteristics on Copper Toxicity to Fathead Minnows (Pimephales promelas)*, 23 ENVTL. TOXICOLOGY AND CHEMISTRY 2900, 2904-05 (2004).

69. Sciera, *supra* note 68, at 2900; see also Svante Winberg et al., *The Effect of Cu (II) on the Electro-olfactogram (EOG) of the Atlantic Salmon (Salmo salar L) in Artificial Freshwater of Varying Inorganic Carbon Concentrations*, 24 ECOTOXICOLOGY AND ENVTL. SAFETY 167, 167 (1992); Melissa Schwartz et al., *Natural Organic Matter Quality Influences the Degree of Reduction of Metal Toxicity to Fish*, SOCIETY OF ENVTL. TOXICOLOGY AND CHEMISTRY, 23RD ANNUAL MEETING (2002).

70. Jonathan Bearn et al., *Suspended Solids and Copper Toxicity in Waters with Low Hardness and Alkalinity*, SOCIETY OF ENVTL. TOXICOLOGY AND CHEMISTRY, 23RD ANNUAL MEETING (2002).

71. Melanie Witt et al., *Organic Complexation of Copper in Rainwater* AMERICAN SOCIETY OF LIMNOLOGY AND OCEANOGRAPHY ANNUAL MEETING (2004); see also Lucinda J. Spokes et al., *The Role of Organic Matter in Controlling Copper Speciation in Precipitation*, 30 ATMOSPHERIC ENVTL. 3959, 3962 (1996).

72. OFFICE OF WATER, ENVTL. PROT. AGENCY, EPA 440/5-84-031, AMBIENT WATER QUALITY CRITERIA FOR COPPER-1984 1 (1985).

73. AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, DEP'T OF HEALTH AND HUMAN SERVS., TOXICOLOGICAL PROFILE FOR COPPER 135 (2004).

Parker asserts that copper has been shown to cause physiological and behavioral effects at concentrations “below the accepted criterion for aquatic life in Alaska ($<9 \mu\text{g Cu/L}$).”⁷⁴ Leaving aside that the aquatic life criterion in Alaska is variable based on ambient water hardness,⁷⁵ the alleged harmful effects at low copper concentrations have been examined only individually in published studies. While Parker states that “[c]oncentrations below the accepted criterion for aquatic life in Alaska ($<9 \mu\text{g Cu/L}$) have produced . . . documented effects on fish,”⁷⁶ his own authorities fail to support this assertion when applied to natural systems.

V. THE EXISTING REGULATORY AND PERMITTING REGIME FOR MINES IN ALASKA

The laws governing the development of Alaska’s natural resources, including mining projects, are designed to protect fisheries and the environment. While the Parker article is critical of Alaska law,⁷⁷ the State’s limitations on how natural resources may be developed demonstrate a legislative, administrative, and judicial commitment to protect the environment. These laws were drafted to implement the Alaska Constitution. The following section describes how existing Alaska environmental laws, supplemented by applicable federal and local laws and by laws authorizing and regulating the acquisition of property interests in public natural resources, regulate mining projects and impose numerous overlapping safeguards to protect fisheries and other natural resources.

A. Overview

An effective permitting regime for a large-scale natural resources development project must address new data on the environmental impacts of the project, changes in technology, and changes in the political consensus concerning environmental risks and costs. The administrative agencies charged with implementing the permitting process have the expertise to consider these factors in the ultimate permitting decisions and in discretionary administration of permits after they are issued. Therefore, agency discretion in the permitting process is essential because it preserves the ability to respond to specific issues

74. Parker et al., *supra* note 1, at 18.

75. OFFICE OF WATER, ENVTL. PROT. AGENCY, EPA-882-R-07-001, AQUATIC LIFE AMBIENT FRESHWATER QUALITY CRITERIA-COPPER 16-17 (2007).

76. Parker et al., *supra* note 1, at 18.

77. *Id.* at 21-31.

raised by a project. This discretion is fundamental to modern administrative and environmental law.⁷⁸

Investors risking capital in large-scale, long term projects require some degree of security, predictability, and protection against changes that could impair or destroy their investments. On the other hand, the public must preserve its ability to adapt to changing conditions, even when that response adversely affects investors. The dynamic tension between these two conflicting imperatives is directly addressed by constitutional principles. One principle is that, within certain limits not yet well defined by the Supreme Court, today's legislatures and public regulatory bodies do not have the power to preempt the prerogatives of future legislatures to change the laws.⁷⁹ Another principle addresses the taking of property by regulation.⁸⁰

A second important attribute of an effective permitting process is agency discretion guided by objective standards and informed through procedural safeguards. Potential changes to the law should not compromise agency discretion by prohibiting agency decision-makers from exercising their judgment on technical issues.

As discussed below, laws related to mine permitting are dynamic and robust, to ensure that regulatory agencies can be responsive to new information and can provide ongoing oversight throughout the life of a project and reclamation. These laws protect the environment and the interests of the public and have allowed the responsible development of Alaska's natural resources.

B. The Required Federal and State Permits for Large Mining Projects Like Pebble

The development of any large mining project in Alaska can begin only after the project receives various local, state, and federal government permits, as well as other required authorizations. This array of regulatory processes ensures a detailed analysis of a project within the context of applicable environmental laws and multiple land use plans.

The Alaska Department of Natural Resources Office of Project Management and Permitting coordinates the state's review of any

78. *See, e.g., Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843–46 (1984); *Tesoro Alaska Petroleum Co. v. Kenai Pipe Line Co.*, 746 P.2d 896, 903 (Alaska 1987).

79. *See, e.g., Wall v. State*, 23 Ind. 150 (Ind. 1864); *Malone v. Hayden*, 329 Pa. 213, 224 (Pa. 1938); *Kellogg v. Oshkosh*, 14 Wis. 623, 628 (Wi. 1861).

80. *See infra* Part VII.

proposed project.⁸¹ This coordination merely supplements reviews required by federal or state administrative agencies under their individual permitting schemes; none of the other agencies cedes any of its statutory authority to the coordinating agency.⁸² The process formally begins after the proponent defines the proposed project and seeks authorization to undertake that project.⁸³ Many state and federal agencies engage in discussions with project applicants and with the public on baseline information requirements and other potential project-related issues prior to the submission of permit applications.⁸⁴

There is no single “permit to mine.” A substantial number of permits for specific components of a project are needed, and they can be issued only after public review during the permit adjudication process or as part of the overall review under the National Environmental Policy Act (NEPA).⁸⁵ The NEPA review triggers the environmental impact statement (EIS) process, which requires a review of a project’s potential cumulative impacts.⁸⁶

A large mine requires approximately fifty or more permits, approvals, and other authorizations. A mining project is likely to require numerous federal permits from various agencies, including the U.S. Environmental Protection Agency (EPA),⁸⁷ the U.S. Army Corps of Engineers,⁸⁸ the National Marine Fisheries Service (NMFS),⁸⁹ the U.S.

81. See Office of Project Management and Permitting, <http://dnr.alaska.gov/commis/opmp/> (last visited Apr. 2, 2009).

82. See *id.*

83. See, e.g., Transportation Projects, <http://dnr.alaska.gov/commis/opmp/transportation/index.htm> (last visited Apr. 2, 2009) (discussing project management process for transportation projects).

84. See, e.g., *id.*

85. The National Environmental Policy Act of 1969, 42 U.S.C. § 4321 (2006) et seq., establishes national environmental policy and goals for the protection, maintenance, and enhancement of the environment and provides a process for implementing these goals within the federal agencies. 42 U.S.C. § 4321. NEPA established the Council on Environmental Quality (CEQ). *Id.*

86. See *infra* Part VI.C.

87. See, e.g., 16 U.S.C. § 470f (2006) (historical and cultural resources protection); 33 U.S.C. § 1342 (2006) (pollutant discharge elimination system); Stormwater Construction and Operation Permit, 33 U.S.C. § 1342(p) (2006) (municipal and industrial stormwater discharges); Section 404 Permit Review, 33 U.S.C. § 1344 (2006) (dredged or fill material); 40 C.F.R. § 112 (2006) (oil spill prevention, control, and countermeasure plan); 40 C.F.R. §§ 270 (2008) (hazardous waste permit program).

88. See e.g., 16 U.S.C. § 470f (2006) (historical and cultural resources protection); 33 U.S.C. §§ 1343–44 (2006) (water pollution prevention and control); 33 U.S.C. § 1344 (2006) (discharge of dredge or fill materials into U.S. waters).

89. See, e.g., 16 U.S.C. § 661 (2006) (agency coordination regarding fish and wildlife); 16 U.S.C. § 1536 (2006) (agency consultation regarding Endangered Species Act).

Fish and Wildlife Service (USFWS),⁹⁰ the U.S. Coast Guard (USCG),⁹¹ and the U.S. Department of Transportation (USDOT).⁹² Also, a mining project will require a number of Alaska state permits administered by the Department of Natural Resources (DNR),⁹³ the Department of Environmental Conservation (DEC),⁹⁴ the Department of Fish and Game (ADF&G), and the Alaska Department of Transportation and Public Facilities.⁹⁵ In addition, local land use regulations apply.⁹⁶ This detailed, thorough, and pervasive mine permitting scheme often is all but ignored by those who oppose a mining project. Ignoring them gives a seriously distorted view of the regulatory environment in which a mine is developed and operated.

90. *See, e.g.*, 16 U.S.C. §§ 661–67(e) (2006) (agency coordination regarding fish and wildlife); 16 U.S.C. § 668 (2006) (bald eagle protection); 16 U.S.C. §§ 703–12 (2006) (migratory bird protection); 16 U.S.C. § 1536 (2006) (agency consultation regarding Endangered Species Act).

91. *See, e.g.*, 33 C.F.R. §§ 114–15, 118 (2008) (permit for construction for a bridge or causeway across navigable waters).

92. *See, e.g.*, Hazardous Materials Registration Number, 49 U.S.C. §§ 5101 et seq. (2006) (transportation of hazardous materials).

93. *See, e.g.*, ALASKA STAT. § 16.05.841 (2008) (fish passage permit); ALASKA STAT. § 16.05.871 (2008) (fish habitat permit); ALASKA STAT. § 38.05.035(e) (2008) (tidelands lease); ALASKA STAT. §§ 38.05.110–120 (2008) (material sale); ALASKA STAT. § 38.05.205(c) (2008) (upland mining lease); ALASKA STAT. § 38.05.255(a) (2008) (millsite lease); ALASKA STAT. § 38.05.850 (2008) (road, power line, and pipeline rights of way); ALASKA STAT. §§ 41.15.050–060 (2008) (burn permit); ALASKA STAT. § 41.35.080 (2008) (cultural resources authorizations); ALASKA STAT. § 43.65.010 (2008) (mining license); ALASKA STAT. § 46.15.035 (2008) (permit to appropriate water); ALASKA STAT. § 46.15.155 (2008) (temporary water use permit); ALASKA STAT. § 46.17.040 (2008) (certificate of approval to construct and operate a dam); ALASKA STAT. §§ 46.40.094–100 (2008) (coastal project consistency determination); ALASKA ADMIN. CODE tit. 11, § 86.800 (2008) (plan of operations approval); Miscellaneous Land Use Permit, ALASKA ADMIN. CODE tit. 11, § 96.10 (2008) (miscellaneous land use permit).

94. *See, e.g.*, 33 U.S.C. § 1341 (2006) (requiring that applicants for federal licenses or permits for the operation of facilities which may result in discharges into navigable waters obtain certification that discharges will comply with federal law); ALASKA STAT. § 46.03.100 (2008) (waste management, disposal, and discharge authorization); ALASKA STAT. § 46.14.120 (2008) (air quality control permits to construct and to operate); ALASKA STAT. § 46.14.140 (2008) (emission control permit); ALASKA ADMIN. CODE tit. 18, § 31.020 (2008) (food establishment operation); ALASKA ADMIN. CODE tit. 18, §§ 75.415(c), .420(d) (2008) (oil discharge prevention and contingency plan); ALASKA ADMIN. CODE tit. 18, § 80.200 (2008) (approval to construct and operate a public water supply system).

95. *See, e.g.*, Approval to Transport Hazardous Materials, ALASKA ADMIN. CODE tit. 17, § 25.200 (2008).

96. *See, e.g.*, Title 21 Rewrite Project: Girdwood, http://www.muni.org/planning/prj_T21_Girdwood.cfm (Apr. 2, 2009).

C. Problems with the Parker Article's Analysis of Alaska's Permitting Regime

First, despite the general claim that Alaska law has failed to properly protect the environment,⁹⁷ the Parker article curiously cites no example of a large-scale mine operating in Alaska and permitted under state and federal laws that failed in any material way to protect the fisheries resources.⁹⁸ Alaska currently has five large mines in operation. The State of Alaska subjects each of these to a five-year environmental audit.⁹⁹ The potential environmental impacts of any proposed very large mining project in Alaska would be evaluated during the permitting process and the ultimate authorizations would impose specific conditions on the development, operation, and eventual closure of any such mine.¹⁰⁰

Second, the Parker article relied heavily on the Kuipers Report,¹⁰¹ a study commissioned by Earthworks, a mining industry critic,¹⁰² and ignores the questionable validity of that report. The report concluded

97. See Parker, *supra* note 1, at 4.

98. To the contrary, the Center for Science in Public Participation (CSP²), a non-profit corporation that provides research, education, and technical advice to mining-related entities, has applauded the environmental audit requirement imposed on mines by the Alaska Department of Natural Resources and Alaska Department of Environmental Conservation via lease and/or reclamation plan conditions. *Alaska – News from the North*, THE LOGBOOK OF CSP² (The Ctr. for Sci. in Pub. Participation, Bozeman, Mont.), Spring 1999, at 1. CSP² reported that the environmental audit of compliance history, operator procedures, and agency performance in upholding regulatory obligations could be an “excellent tool” for monitoring environmental performance for both mine operators and regulators. *Id.* James Kuipers, P.E., the author of the study relied upon so heavily by the Authors, was employed by CSP² when the Spring 1999 newsletter was published. See also *Availability of Bonds to Meet Federal Requirements for Mining, Oil and Gas Projects: Hearing Before the House Comm. on Res., Subcomm. on Energy and Mineral Res.*, 107th Cong. 53 (2002) (statement of Jim Kuipers, Consulting Mine Engineer, Ctr. for Sci. in Pub. Participation).

99. Ed Fogels, Presentation before the Alaska Department of Natural Resources Office of Project Management and Permitting: The Process and Requirements for Large Mine Permit Applications in Alaska (Jan. 18, 2008) (on file with author).

100. See *supra* Part V.B; see *infra* Part V.D, and Part VI.

101. See Parker, *supra* note 1, at 22–23 (setting out conclusions made by the Kuipers Report regarding reliability of water quality predictions used by agency personnel making mine permitting decisions).

102. Earthworks has been described as the “leading anti-mining group in the world” by industry officials. Rose Ragsdale, *Mining report stirs industry buzz*, MINING NEWS, Jan. 28, 2007 (comments of Laura Skaer, executive director of the Northwest Mining Association). Earthworks is often a party to lawsuits against mining companies. See, e.g., *Hells Canyon Pres. Council v. Haines*, No. CV. 05-1057-PK, 2006 U.S. Dist. LEXIS 54884 (D. Or. Aug. 4, 2006).

that water quality predictions developed during the permitting process for a mine can be incorrect for two general reasons: (1) the science of mine water quality prediction is imperfect, and (2) the predictions are imperfectly applied by regulators.¹⁰³ The Parker article relies on this conclusion to argue that existing permitting regimes are inadequate.¹⁰⁴

Notably, the study did not use a fair sample of mines to obtain its conclusions. Criteria used to select the twenty-five mines included the following “priorities”:

- mines with long histories and NEPA documentation from new project to reclamation and closure (that is, mines permitted long ago);
- mines with different proximities to water resources *but indicating water quality impacts*[:];
- mines that conducted some geochemical testing, and if possible, some water quality modeling;
- mines with potentials to generate acid and leach contaminants into water resources[:].¹⁰⁵

These criteria resulted in a sample population that is skewed toward mines with water quality impacts. The bias is especially pronounced in the second criterion since mines were not included in the study when (1) no impacts were predicted and none occurred, and (2) impacts were predicted but no impacts occurred.

Generally, the Kuipers Report concludes that a credible model for water quality “requires that the prediction be tested, and then the models adjusted based on the results.”¹⁰⁶ However, Alaska’s existing permitting scheme already addresses this issue. According to Tom Crafford, Director of the Large Mine Team within DNR, Alaska agencies diligently review reports from approved mine monitoring programs.¹⁰⁷ Responding to the Kuipers Report’s conclusion that regulators do not compare actual results with predictions, Crafford counters that Alaska “regulators modify terms of mining permits on an ongoing basis in response to problems detected and violations of water quality

103. JAMES R. KUIPERS ET AL., COMPARISON OF PREDICTED AND ACTUAL WATER QUALITY AT HARDROCK MINES: THE RELIABILITY OF PREDICTIONS IN ENVIRONMENTAL IMPACT STATEMENTS ES-1 (2006).

104. Parker, *supra* note 1, at 21–31.

105. KUIPERS, *supra* note 103, at 87 (emphasis added).

106. ALAN SEPTOFF, PREDICTING WATER QUALITY PROBLEMS AT HARDROCK MINES: A FAILURE OF SCIENCE, OVERSIGHT, AND GOOD PRACTICE, at 2 (Dec. 2006) (Earthworks Whitepaper summarizing Kuipers Report), <http://hwww.earthworksaction.org/pubs/PredictionsComparisonsWhitePaperFINAL.pdf>.

107. Ragsdale, *supra* note 102.

standards,” and that DNR, DEC and ADF&G pay close attention to predictions versus outcomes as well as differences between the two.¹⁰⁸

The Kuipers Report does not mention Alaska’s monitoring requirements because it does not even address the state’s mining or environmental laws. Rather, it critiques the Environmental Impact Statement (EIS) process under the National Environmental Policy Act (NEPA), a *federal* law applicable to *federal* agencies undertaking permitting actions under *federal* programs.¹⁰⁹ The Kuipers Report found that the environmental impact statements reviewed by the authors understated mining risks, leading agency decision makers to either grant permits that should have been denied or authorize mining projects with permits that did not include sufficient environmental protections.¹¹⁰ The Kuipers Report encourages agencies to be more aggressive in their substantive application of the EIS process as a tool for decision making, without suggesting changes to the EIS process.

One example illustrates this point: Kuipers argues that permitting decisions by federal agencies should be based on an evaluation of “potential” (i.e., worst case scenario) environmental impacts rather than “predicted” (i.e., most likely scenario) environmental impacts.¹¹¹ NEPA already requires an agency to include an analysis of catastrophic impacts in the EIS—even if their probability is low—provided that the analysis is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.¹¹² This rule is not an empty requirement. The United States Court of Appeals for the Ninth Circuit recently rejected an argument by the Nuclear Regulatory Commission (NRC) that the risk of a terrorist attack on a spent fuel storage installation was “speculative and simply too far removed from the natural or expected consequences of agency action to require a study under NEPA.”¹¹³ The court found that the NRC’s refusal to consider the environmental effects of a terrorist attack on a nuclear facility was unreasonable since precise quantification of some stated level of risk was not necessary to trigger NEPA requirements, and because it was possible to conduct a low probability, high consequence analysis.¹¹⁴

Under current law, risk judgments are appropriately committed to an agency’s discretion. In one case, the likelihood of the “predicted”

108. *Id.*

109. National Environmental Policy Act of 1969 § 102, 42 U.S.C. § 4332 (2006).

110. KUIPERS, *supra* note 103, at 193–94.

111. *See id.* at 84.

112. 40 C.F.R. § 1502.22(b)(4) (2008).

113. San Luis Obispo Mothers for Peace v. Nuclear Regulatory Comm’n., 449 F.3d 1016, 1030 (9th Cir. 2006).

114. *Id.* at 1031.

scenario might be 99.7% and the likelihood of the “potential” scenario might be 0.0004%; in another case, the likelihood of the “predicted” scenario might be only 55%, while the likelihood of the worst case scenario is 25%. It makes no sense to require an agency to base its decision on the worst case scenario in both instances. Similarly, the degree to which the adverse environmental consequences under the worst case scenario exceed those under the predicted scenario will differ radically from one project to the next. This variability makes it unwise, and likely impossible, to legislate a one-size-fits-all statutory requirement addressing the relationship between the “predicted” scenario and the “potential” scenario in preparing an EIS or in making any discretionary regulatory decision. The important thing is that alternative possible outcomes must be identified and accurately assessed in the EIS so that the federal agency decision makers are able to take a hard look at the issues and make an informed decision.¹¹⁵ That is what NEPA requires.¹¹⁶ The Authors are unaware of any legal scholar advocating amendment of NEPA to codify a rule that the decision must in each and every case be predicated on the worst case scenario.¹¹⁷

D. Alaska’s Current Comprehensive, Detailed, and Substantively Stringent Regulatory Regime

We turn now to the heart of the Parker article, the argument that Alaska’s state natural resource and environmental laws do not protect fisheries resources. Before discussing each of the current laws that Parker critiqued, we make three preliminary observations.

First, as noted above, the laws governing the acquisition of property interests in public natural resources—minerals, water, use of the surface of public lands—are not the only laws, nor even the principle laws, that the state and federal governments use to protect the

115. *Angoon v. Hodel*, 803 F.2d 1016, 1020 (9th Cir. 1986).

116. *Id.*

117. NEPA regulations mandated worst-case analysis until 1986, when CEQ replaced the former 40 C.F.R. § 1502.22—which required an agency to include in the EIS a “worst-case analysis and an indication of the probability or improbability of its occurrence” when relevant information was either unavailable or too costly to obtain—with the current version of the regulation, requiring an agency to deal with uncertainties by including within the EIS “a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts [and] . . . the agency’s evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.” 40 C.F.R. §§ 1502.22(b)(3)–(4). The Supreme Court has held that the amendment of the regulations nullified the worst-case analysis requirement. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 355 (1989).

environment.¹¹⁸ Assessing the environmental regulation of a large Alaska mining project without considering all of the applicable environmental laws is misleading and will inevitably lead to a wrong conclusion.

Second, in the context of public natural resource development, it is problematic to judge a specific law's adequacy in isolation. A public natural resource development project of any size or complexity will implicate many permit requirements and environmental regulations. The entire matrix of leases, permits, statutes and regulations provide comprehensive environmental protection. One should not assess a single permit or authorization in isolation and criticize it for not doing the entire job.¹¹⁹

Third, there is a temporal element to this discussion: laws change. Though a forty-year project might receive all of the permits it needs before development begins, its comprehensive permitting status will not excuse it from compliance with present or future environmental laws. As time passes and scientific and technical knowledge improve, laws change too. For example, a mining project initiated twenty or more years ago, like Greens Creek in Southeast Alaska or Fort Knox near Fairbanks, is subject to numerous environmental laws that did not exist when the project was originally permitted and developed.¹²⁰

Another facet of the temporal element is the five-year environmental compliance audit required by DNR or DEC as part of the reissuance of permits.¹²¹ These audits supplement periodic on-site inspections by state and federal agencies. Through audits and

118. See *supra* Part VI.A.

119. For example (as discussed in more detail in this Part), without any reference whatsoever to the state's instream flow reservation requirements, Parker concludes that the statutory criteria for issuing a permit to appropriate water are insufficient to protect fish and game resources (even though the reservation requirements and criteria appear in the same statute). Parker, *supra* note 1, at 26. Similarly, Parker complains that DNR has unacceptably wide latitude to determine "necessary" mining-related surface uses of land and water because the applicable statute limiting allowable surface uses does not define the term "necessary." *Id.* at 25. However, Parker ignores the accompanying regulations, which specify the factors DNR must use to determine "necessary" surface structures and improvements for authorized operations. ALASKA ADMIN. CODE tit. 11, § 86.145(a)(2) (2008).

120. In this Article, we do not address the constitutional issues concerning the application of later-enacted laws to previously-permitted projects, such as impairment of contracts or takings issues.

121. Ed Fogels, The Process and Requirements for Large Mine Permit Applications in Alaska (Alaska Dep't of Natural Res. Office of Project Mgmt. and Permitting) (Jan. 2008) (stating, in slide entitled *Environmental Audits*, that audits on 5-year schedule are tied to reissuance of permits) (PowerPoint materials on file with author).

inspections and the periodic reporting required by permits, a mine receives constant oversight.

1. *State Oversight of Large Scale Mines*

Oversight of large-scale mines by the State of Alaska focuses both on an Integrated Waste Management Permit issued by DEC¹²² and the review and approval of a proposed Plan of Operations and Reclamation by DNR.¹²³ State agencies must undertake these permitting reviews even for projects on federal land that are authorized by the federal government.¹²⁴

The DEC's Integrated Waste Management Permit manages tailings and waste rock from large mine operations by consolidating state permitting requirements for solid waste management, water quality standards, and wastewater disposal.¹²⁵ Focusing primarily on surface and groundwater concerns, the integrated permit is designed to: control potential contaminants from acid rock drainage, metal leaching, and process chemicals; regulate wastewater from disposal and processing operations; and manage garbage and any sewage sludge disposal associated with camp facilities.¹²⁶ In drafting an Integrated Waste Management Permit, DEC reviews a multitude of other applications submitted to state agencies for other authorizations, including the plan of operations, monitoring plan, closure plan, waste characterization plan, design and construction documents, and financial assurance instruments.¹²⁷ Specific applications are reviewed by DEC or DNR, enabling each agency to provide input from its own unique perspectives and areas of responsibility.¹²⁸

122. Section 46.03.100(d) of the Alaska Statutes authorizes DEC to issue: an integrated waste management and disposal authorization covering multiple related or unrelated waste management or disposal activities to be conducted at a facility, including generation, treatment, storage, and disposal of solid or liquid waste. An integrated waste management and disposal authorization may include the authorizations in (b) and (c) of this section and a water-quality-related certification required by 33 U.S.C. § 1341 for the discharge of dredged or fill materials or of pollutants to surface waters from point sources.

ALASKA STAT. § 46.03.100(d) (2008).

123. ALASKA STAT. § 27.19.030 (2008).

124. ALASKA STAT. § 27.19.010(b) (2008).

125. Fogels, *supra* note 121.

126. *Id.*

127. *Id.*

128. *Id.*

2. *Limitations Imposed on Surface Use Rights of Mineral Estate Interest Owners*

The underlying purpose of section 38.05.255 of the Alaska Statutes is to *restrict* the rights that an owner of an interest in a mineral estate on Alaska state lands may exercise on the surface of the land. This section implements the multiple use requirements of the Alaska Constitution and largely negates the common law rule describing the mineral owner's dominant estate. The Parker article's discussion of this statute overlooks the principal purpose and consequence of this statute.

The principle of limited surface use in the mineral development context appears not only in statute, but is also explicitly mandated by the Alaska Constitution. The constitution states, "Surface uses of land by a mineral claimant shall be limited to those necessary for the extraction or basic processing of the mineral deposits, or for both."¹²⁹ To implement this constitutional requirement, the Alaska Statutes limit surface uses of land or water within a mining property to those necessary for prospecting for, extracting, or processing minerals, and subjects those uses to reasonable concurrent uses.¹³⁰ In contrast, federal laws and laws in other public land states generally recognize much broader surface rights for mineral resource owners. For example, federal mining law provides that owners of federal mining claims "shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations."¹³¹ Likewise, the common law rule of mineral estate dominance is not applicable to lands owned by or devolving from the State of Alaska, since the State is required by statute to reserve certain mineral rights when it conveys title to an interest in its lands.¹³² As a result, the title to most land in Alaska is subject to a mineral estate reservation or else is a "split estate," with separate parties owning the surface estate and the mineral estate. Alaska law and U.S. law are inverse—U.S. law limits the rights of others to what is "necessary" and otherwise leaves control of the surface to the owner; Alaska law leaves control of the surface to the state, except where "necessary" for the miner.

Property lawyers in most jurisdictions would probably view section 38.05.255 of the Alaska Statutes as a radical affront to the mining

129. ALASKA CONST. art. VIII, § 11.

130. ALASKA STAT. § 38.05.255(a) (2008).

131. 30 U.S.C. § 26 (2006); *see also* 30 U.S.C. § 612(b) (2006) (making unpatented federal mining claims "subject . . . to the right of the United States, its permittees, and licensees, to use so much of the surface thereof as may be necessary for [non-mining surface use] purposes or for access to adjacent land").

132. ALASKA STAT. § 38.05.125 (2008); *Parker v. Alaska Power Auth.*, 913 P.2d 1089, 1090 (Alaska 1996).

industry. It flatly prohibits surface use by the mineral developer absent a showing of necessity.¹³³ Moreover, the statute prohibits certain activities, even those shown to be “necessary,” if they would prevent “reasonable concurrent uses.”¹³⁴ Furthermore, rather than leaving judgments about necessity and reasonableness to the courts, section 38.05.255 of the Alaska Statutes, by specifying that surface uses within a mining property are restricted to those approved by DNR, endows DNR with the power to make the decisions.¹³⁵

The Parker article asserts that the Alaska Legislature, rather than DNR, should define the word “necessary.”¹³⁶ It asserts that existing law affords DNR “no basis” to make basic decisions about, for example, something as common as employee housing at a remote mining camp.¹³⁷ In fact, DNR’s determination of “necessary” uses is guided by regulation and formalized in written authorization. On state-owned lands, the placement of surface structures and improvements must be approved through a plan of operations, a land use permit, or some other written authorization.¹³⁸ DNR’s surface use determinations are required by regulation to consider “access to the mining property, remoteness of location, security of the operations, planned level of operations, existing authorized surface uses, and the current level of activity.”¹³⁹ In making its determination to grant surface use approvals, DNR is not limited to a mineral owner’s assertions of necessity, but has the authority to require evidence about the proposed mining activity to support a request for surface use.¹⁴⁰

Moreover, where the written surface use authorization takes the form of a “plan of operations,” the plan itself must specify, among other things, “the actions to be taken to avoid or minimize detrimental effects on fish and wildlife and their habitats.”¹⁴¹ The decision to approve a plan of operations is not within DNR’s sole discretion; it must first consult with the Department of Fish and Game, DEC, and other affected agencies.¹⁴² This requirement ensures that concerns such as subsistence use impacts and water quality are integrated into the mine permitting

133. ALASKA STAT. § 38.05.255(a) (2008).

134. *Id.*

135. *Id.*

136. Parker, *supra* note 1, at 25.

137. *Id.*

138. ALASKA ADMIN. CODE tit. 11, § 86.145(a)(2) (2008).

139. *Id.*

140. ALASKA ADMIN. CODE tit. 11, § 86.145(a)(4) (2008).

141. ALASKA ADMIN. CODE tit. 11, § 86.800(b)(9) (2008).

142. *See* ALASKA ADMIN. CODE tit. 11, § 86.800(e) (2008).

process, not only as stand-alone considerations governed by their own specific statutes, but also as part of mine design and operation.¹⁴³

Thus, the existing surface use laws imposed by Alaska's constitution, statutes, and regulations provide DNR with the necessary and proper direction required to make correct decisions and the comprehensive legal authority to enforce them.

3. *DNR Authority to Grant Temporary Surface Use Rights*

Section 38.05.850 of the Alaska Statutes grants DNR the broad authority to issue (and revoke) "permits, rights-of-way, or easements on state land for . . . uses or improvements [such as roads, pipelines, and transmission lines]."¹⁴⁴ In so doing, DNR is required to "give preference to that use of the land that will be of greatest economic benefit to the state and the development of its resources."¹⁴⁵ The Parker article asserts that this and other land use statutes lack specificity¹⁴⁶ and complains that the law does not "spell out" the factors DNR should consider in determining the greatest economic benefit to Alaska and does not clarify what is meant by "the state."¹⁴⁷ However, consistent with the plain language of the statute, the Alaska Supreme Court found nothing objectionable about the generality by which the statute authorized DNR to exercise its authority, observing simply that "[i]n the absence of any showing of disregard of [giving preference to the use of the land which will be of greatest economic benefit to the state and the development of its resources], we will not assume the [DNR] acted improperly."¹⁴⁸

The statute provides clear criteria for DNR to apply in making its surface use permitting decisions, and the Alaska Supreme Court has shown it trusts DNR to implement the unambiguous terms of the statute. The statute means what it says. There is no confusion about it and no justification for any change in the law.

4. *DNR Regulation of Water Use*

Section 46.15.080 of the Alaska Statutes, a provision of Alaska's Water Use Act, lists the factors that DNR must consider when determining whether a proposed water appropriation is in the public interest, including "the effect on fish and game resources and on public

143. *See id.* (requiring the plan be "submitted to the Department at least 50 days before operations . . . begin").

144. *See id.*

145. *Id.*

146. Parker, *supra* note 1, at 25–26.

147. *Id.* at 26.

148. *Swindel v. Kelly*, 499 P.2d 291, 295 n.12 (Alaska 1972).

recreational opportunities.”¹⁴⁹ Other sections of the Alaska Water Use Act provide additional protections for Alaska’s fish and game resources.

Alaska’s natural waters are reserved to the people for common use and are subject to reservation of in-stream flows of water.¹⁵⁰ Accordingly, DNR is required to reserve water in lakes and streams and to maintain fish habitat whenever a person seeks to remove a significant quantity of water from a lake or stream used by fish for spawning, incubation, rearing, or migration.¹⁵¹ Such a reservation is withdrawn from future appropriation, thereby ensuring that the body of water will benefit fish and their habitat as long as it remains in effect.¹⁵² Even proposed appropriations of five thousand gallons or less per day—normally exempt from the reservation requirement—will trigger a reservation if DNR determines, in consultation with the Department of Fish and Game, that the appropriation may adversely affect fish habitat.¹⁵³

In any case, when DNR issues a permit to allow a person to appropriate water, it may impose conditions necessary to protect the public interest, including conditions restricting water withdrawals to protect fish or wildlife habitat or for recreational purposes.¹⁵⁴ Moreover, Alaska’s Water Use Act allows the State, its political subdivisions, and individuals to apply for in-stream flow reservations for, among other things, the protection of fish and wildlife habitat, recreation, and park purposes.¹⁵⁵

The permit criteria imposed by section 46.15.080 of the Alaska Statutes provide the basis for challenging a decision by DNR to grant water rights. Before DNR authorizes any use of water, it must determine that there will always be enough water left in the stream to avoid impacts to resources or habitat.¹⁵⁶ Subsistence fishery users have successfully used the statute to challenge the issuance of permits without conditions protective of fish and game resources.¹⁵⁷ A reviewing court must evaluate “whether [DNR’s] decision was based on a

149. ALASKA STAT. § 46.15.080(b)(3) (2008).

150. ALASKA STAT. § 46.15.030 (2008); *see also* ALASKA CONST. art. VIII, § 13 (“Except for public water supply, an appropriation of water shall be . . . subject to . . . the general reservation of fish and wildlife.”).

151. ALASKA STAT. § 46.15.035(c) (2008).

152. ALASKA STAT. § 46.15.035(c)(1) (2008).

153. ALASKA STAT. § 46.15.035(c)(5) (2008).

154. ALASKA ADMIN. CODE tit. 11, § 93.120(e)(3) (2008).

155. ALASKA STAT. § 46.15.145(a) (2008).

156. *See* ALASKA STAT. § 46.15.080 (2008).

157. *See, e.g.,* Tulkisarmute Native Cmty. v. Heinze, 898 P.2d 935 (Alaska 1995).

consideration of the relevant factors.”¹⁵⁸ The courts view the listed “relevant factors” in section 46.15.080 of the Alaska Statutes as essential to DNR’s determination of whether a water right is in the public interest and will find an abuse of discretion where, for instance, DNR does not adequately address fish and wildlife concerns.¹⁵⁹

This review is not perfunctory, as the Parker article implies. The Alaska Supreme Court found an abuse of discretion in a case in which DNR decided to extend permits to appropriate water from the Tuluksak River and its tributaries for placer gold mining without sufficient conditions to protect fish and wildlife.¹⁶⁰ The Tuluksak River was characterized as a major contributor to the Kuskokwim River commercial fishery and described to contain “the highest quality king salmon spawning habitat in the Tuluksak River drainage.”¹⁶¹ Local native groups argued that DNR failed to address their subsistence and commercial fishery concerns adequately when it included only a very general condition to protect fish and wildlife in its extended permits.¹⁶² The Alaska Supreme Court agreed, finding that (1) the permits’ sole condition was too vague to protect the salmon habitat from dewatering due to mining, and (2) DNR abused its discretion by failing to impose stringent limitations on dewatering to protect fish habitat.¹⁶³

5. *DNR Regulation of Dams, Including Tailings Impoundments*

The Parker article views Alaska’s dam construction statute in isolation, concluding that it does not directly address fish, game or habitat considerations.¹⁶⁴ That statement is not only incorrect, it also disregards the limited purpose of the dam construction statute and implies that it is, or should be, a tool for broad environmental regulation. This statute and its regulations focus on the design, operation, and maintenance of dam structures.¹⁶⁵ However, dam construction is likely to implicate both the Fishway Act and the

158. *Id.* at 940.

159. *Id.* at 950.

160. *Id.*

161. *Id.* at 938 n.2.

162. *Id.* at 952 (“DNR’s decision granting the permit extensions contained one condition regarding fish and wildlife: ‘Operations will be conducted in a manner to minimize wildlife species disruption and habitat destruction. Reclamation will be designed, to the extent practicable, to enhance wildlife habitat diversity and productivity.’”).

163. *Id.*

164. Parker, *supra* note 1, at 26.

165. ALASKA STAT. § 46.17 (2008); ALASKA ADMIN. CODE tit. 11, §§ 93.150–93.201 (2008).

Anadromous Fish Act.¹⁶⁶ Furthermore, such construction could require analysis, for example, under section 38.05.255 of the Alaska Statutes, which governs surface uses of state land (including tailings disposal), as well as under section 404 of the Clean Water Act, which governs permits for fill material deposited during tailings impoundment construction.¹⁶⁷ Both of these statutes protect fish, game, and habitat. Similarly, Alaska mining regulations require an approved plan of operations for mining on state land where a lease is not required to mine, such as the lands where Pebble's claims are located.¹⁶⁸ As noted previously in this article, an approved plan of operations must include, *inter alia*, "actions to be taken to avoid or minimize detrimental effects on fish and wildlife and their habitats."¹⁶⁹

Alaska law requires that dams be inspected at least every five years.¹⁷⁰ No dam can be enlarged, repaired, altered, removed, maintained, operated, or abandoned without approval of DNR.¹⁷¹ A mine that ceases to operate must comply with these requirements for any dam associated with its prior operations.¹⁷² Dam reclamation is a part of a mine's reclamation plan. Furthermore, Alaska law requires a mine operator to provide funding for dam maintenance and long-term waste management for as long as the dam remains in place.¹⁷³

Additionally, construction of a dam on wetlands triggers the federal Clean Water Act. This statute requires the U.S. Army Corps of Engineers (USACE) to comply with criteria known as the "Section 404(b)(1) Guidelines" ("Guidelines") before any discharge of dredged or fill material into wetlands is authorized.¹⁷⁴ This includes authorization to begin construction of a tailings dam. The Guidelines prescribe a three-part requirement: first, avoid wetlands; second, minimize loss of wetlands; third, mitigate loss of wetlands.¹⁷⁵ Under this requirement, USACE will not grant a Section 404 permit if there is a practicable

166. ALASKA STAT. § 41.14.870 (2008). The Anadromous Fish Act requires that an individual or government agency provide prior notification and obtain approval from DNR to construct a hydraulic project or use, divert, obstruct, pollute or change the natural flow or bed of a specified anadromous water body.

167. 33 U.S.C. § 1344 et. seq. (2006).

168. ALASKA ADMIN. CODE tit. 11, § 86.800(a) (2008) ("An approved plan of operations takes the place of the land use permit or miscellaneous land use permit that would be required under this title for unleased land.").

169. ALASKA ADMIN. CODE tit. 11, § 86.800(b)(9) (2008).

170. ALASKA STAT. § 46.17.050 (2008).

171. ALASKA STAT. §§ 46.17.040(a), 46.17.900(3) (2008).

172. See ALASKA STAT. §§ 46.17.040(a), 46.17.900(6) (2008).

173. ALASKA STAT. §§ 37.14.800, 37.14.820, 27.19.040 (2008).

174. 40 C.F.R. § 230.10 (2008).

175. See 40 C.F.R. § 230.5 (2008).

alternative that would have a lower environmental impact.¹⁷⁶ Further, USACE will deny a Section 404 permit unless the applicant has taken “appropriate and practicable steps . . . [to] minimize potential adverse impacts of the [proposed] discharge on the aquatic ecosystem.”¹⁷⁷ As part of an EIS to evaluate a tailings dam at a large mine site, USACE will study whether the project proponent avoided wetland impacts where practicable, minimized potential impacts to wetlands, and provided compensation for unavoidable impacts by funding activities to restore or create wetlands.¹⁷⁸

The Guidelines also prohibit discharges that would cause or contribute to violations of state water quality standards, including those for copper and other total dissolved solids (TDS).¹⁷⁹ The Clean Water Act requires Alaska to certify that the discharges authorized by the permit comply with water quality standards.¹⁸⁰

Additionally, the Clean Water Act requires Alaska to review its water quality standards every three years (the “Triennial Review”) in order to make revisions that are necessary to integrate the latest science, technology, and federal legal requirements into the standards.¹⁸¹ Accordingly, the DEC is working to update its “Toxics Manual,”¹⁸² based on recent scientific literature.¹⁸³ For example, DEC is planning to review fish consumption rates in Alaska as part of the Triennial Review to evaluate whether its human health criteria for fish consumption are

176. 40 C.F.R. § 230.10(a) (2008). An alternative is “practicable” if it “is available and capable of being done after considering cost, existing technology, and logistics in light of overall project purposes.” 40 C.F.R. § 230.10(a)(2) (2008).

177. 40 C.F.R. § 230.10(d) (2008).

178. 33 C.F.R. § 320.4(r) (2008).

179. 40 C.F.R. § 230.10(b)(1) (2008).

180. 33 U.S.C. § 1341 (2006).

181. 33 U.S.C. § 1313(c) (2006). The Parker article recommends that new scientific findings and synergistic effects of dissolved metals, particularly copper, be considered “in devising state statutory standards.” Parker et al., *supra* note 1, at 21. However, the current water quality standard for copper already prohibits “concentrations of toxic substances in water or in shoreline or bottom sediments, that, singly or in combination, cause, or reasonably can be expected to cause, adverse effects on aquatic life” ALASKA ADMIN. CODE tit. 18, § 70.020(b)(11)(C) (2008).

182. ALASKA, DEP’T OF ENVTL. CONSERVATION, ALASKA WATER QUALITY CRITERIA MANUAL FOR TOXIC AND OTHER DELETERIOUS ORGANIC AND INORGANIC SUBSTANCES (May 15, 2003), <http://www.dec.state.ak.us/water/wqsar/wqs/dfs/70wqsmanual.pdf> (last visited Apr. 7, 2009).

183. ALASKA DEP’T OF ENVTL. CONSERVATION, DISSOLVED INORGANIC SUBSTANCES – TDS FACT SHEET, <http://dec.alaska.gov/water/wqsar/trireview/dfs/Dissolved%20Inorganic%20Substances%20-%20TDS%20Fact%20Sheet.pdf> (last visited Apr. 7, 2009).

sufficiently protective.¹⁸⁴ Not only do Alaska's water quality standards come into play during the Section 404 permitting process, compliance with the standards is also required for any discharges permitted under the National Pollutant Discharge Elimination System (NPDES).¹⁸⁵ This is but one example of the interplay between the various processes required to permit a large mine in Alaska.

The Guidelines prohibit discharges that would cause or contribute to "significant degradation" of United States waters, defined to include adverse effects on fish, wildlife, and habitat.¹⁸⁶ To evaluate the potential environmental impact of a proposed discharge, USACE must make various factual determinations, including the effect that a discharge will have on the structure and function of the aquatic ecosystem and its organisms.¹⁸⁷ The factual determinations extend to evaluating the collective effect of numerous individual discharges as well as the secondary effects of discharges on aquatic ecosystems.¹⁸⁸ Given these considerations, it is clear that the permitting requirements for dam construction must take into account fish, game, and their habitat, along with requirements for dam integrity. "Fish, game, habitat and uses of these resources" are not "ignored" during dam authorization, as Parker asserts.¹⁸⁹

The Parker article also observes that more than fifty percent of the streams, rivers and lakes in Alaska used by anadromous fish remain to be identified¹⁹⁰ in Alaska's "Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes" and its associated atlas (the "Catalog").¹⁹¹ ADF&G recognizes that many remote, small, or ephemeral anadromous systems have not been surveyed and are not included.¹⁹² Alaska law authorizes the public to nominate additional anadromous water bodies or streams for inclusion in (or deletion from) the Catalog.¹⁹³ No fish habitat, anadromous or otherwise, may be obstructed without ADF&G authorization, regardless

184. ALASKA DEP'T OF ENVTL. CONSERVATION, TOXICS FACT SHEET, <http://www.dec.state.ak.us/water/wqsar/trireview/pdfs/Toxics%20Fact%20Sheet.pdf> (last visited Apr. 3, 2009).

185. 33 U.S.C. § 1341 (2006).

186. 40 C.F.R. § 230.10(c) (2008).

187. *Id.*

188. 40 C.F.R. § 230.10(h) (2008).

189. *See Parker et al., supra* note 1, at 26.

190. *See id.* at 29.

191. STATE OF ALASKA, DEP'T OF FISH & GAME, ANADROMOUS WATERS CATALOG – INTRODUCTION, <http://www.sf.adfg.state.ak.us/SARR/AWC/index.cfm/FA/intro.guide> (last visited Apr. 3, 2009).

192. *Id.*

193. ALASKA ADMIN. CODE tit. 5, § 95.011 (Jan. 2009 Supp.).

of whether it is listed in the Catalog.¹⁹⁴ Such authorization often includes stipulations to facilitate and protect fishways, related to the design of intake structures, culverts and bridges, as well as sedimentation control.¹⁹⁵

It is also important to note that permit applications related to dam construction require pre-development baseline environmental monitoring as well as additional ongoing monitoring during project development and operation. The data provide fundamental, detailed information on the fisheries resources near a proposed project and supplement any general information developed by ADF&G.

VI. ALASKA'S LAWS PROVIDE ASSURANCE OF MINE SITE RECLAMATION

In addition to being subject to the numerous federal and state environmental statutes and regulations that will govern its operations, the Pebble Project will also be subject to strict state reclamation standards after operations cease. Mine operators must submit a detailed "reclamation plan" to DNR for review and approval prior to commencing any mining operation in the state.¹⁹⁶ During the life of the mine, operations in Alaska must be conducted in a manner that prevents "unnecessary and undue degradation of land and water resources," and the land where an operation is conducted must be reclaimed to leave the mine site in a "stable condition."¹⁹⁷

Following cessation of operations, all mine sites must be returned to a condition compatible with the Commissioner's post-mining land use.¹⁹⁸

A. Alaska's Statutory Reclamation Bonding Mandate

To ensure that reclamation plans are implemented and a mine site is properly restored, a mine operator must provide financial assurance to cover the cost of reclamation.¹⁹⁹ Both DNR and DEC must approve this reclamation bond.²⁰⁰ Bond amounts for large mines in Alaska

194. ALASKA STAT. § 16.05.841 (2008) (allowing the commissioner to require a fishway if he finds it necessary).

195. *Id.*

196. ALASKA STAT. § 27.19.030 (2008).

197. ALASKA STAT. § 27.19.020 (2008).

198. *Id.*

199. ALASKA STAT. § 27.19.040 (2008); ALASKA ADMIN. CODE tit. 11, § 97.400 (2008).

200. ALASKA STAT. § 27.19.040 (2008); ALASKA ADMIN. CODE tit. 11, § 97.400 (2008).

currently range from \$3.5 million for the relatively small Nixon Fork gold mine to \$154.9 million for the much larger Red Dog zinc mine.²⁰¹ The mining bond amount is reviewed either when significant changes are made in mining operations or every five years, whichever occurs first.²⁰² Separate statutes provide that the operator must also prove to the DEC that it has the financial ability to “close” the mining waste disposal facility and prevent pollution.²⁰³

B. Alaska’s Substantive Hard Rock Mine Reclamation Requirements

State mining regulations closely control the reclamation process, from the initial approval of a reclamation plan, to reclamation bonding and enforcement of reclamation requirements during operations and after mining ceases.²⁰⁴

Every major mining project operates according to a comprehensive reclamation plan. The mine operator must submit the proposed reclamation plan to DNR at forty-five days before mine operations begin.²⁰⁵ The detailed reclamation plan requires, among other requirements, a discussion of specific measures the mine operator will take to protect environmental resources and restore the mine site after closure. These measures must include plans for: managing topsoil removal, storage, protection and replacement; reclamation of tailings impoundments and settling ponds; stream placement and reclamation; and reclamation or post-mining conversion of access roads or airstrips.²⁰⁶ The mine operator faces penalties (including stoppage of the mining operation) throughout the life of a mining operation if the operator does not file annual reports that include total acreage and volume of material mined each year.²⁰⁷

The reclamation plan is subject to annual review and evaluation by DNR to ensure that the approved reclamation plan is on schedule; if DNR is not satisfied, DNR has the authority to approve the plan “only after inclusion of reclamation-specific monitoring, reporting, or performance conditions.”²⁰⁸ The mine operator must also allow DNR

201. Fogels, *supra* note 99.

202. *Id.*

203. ALASKA STAT. § 46.03.100(f) (2008).

204. ALASKA ADMIN. CODE tit. 11, § 97.100(a) (2008).

205. ALASKA ADMIN. CODE tit. 11, § 97.300 (2008).

206. ALASKA ADMIN. CODE tit. 11, § 97.310(b)(6) (2008).

207. ALASKA ADMIN CODE tit. 11, § 97.320(a) (2008).

208. ALASKA ADMIN. CODE tit. 11, § 97.320 (2008).

personnel into the mine for purposes of inspecting or monitoring compliance with the reclamation plan.²⁰⁹

Substantive administrative mine reclamation requirements are extensive. For instance, re-vegetation must normally be completed within five years after reclamation.²¹⁰ There are also compulsory grading, backfilling, and contouring standards designed to reclaim the land and restore it to a pre-mining condition.²¹¹ All structures, equipment, debris, and other features of the mining operation must be permanently removed unless the DNR land manager allows them to stay.²¹² Significantly, the regulations require that a "miner shall reclaim a mined area that has potential to generate acid rock drainage (acid mine drainage) in a manner that prevents the generation of acid rock drainage or prevents the offsite discharge of acid rock drainage."²¹³

C. Statutory and Regulatory Penalties for Reclamation Plan Violations

Mine operators who violate the above statutes and regulations are subject to a host of potentially serious punishments. A mine operator who violates or permits a violation of a DNR-approved reclamation plan, and then fails to comply with an administrative order to cure the violation, forfeits the posted reclamation bond or a portion thereof, and is also liable to the state for the full amount of reclamation and administrative costs associated with bringing the action.²¹⁴ In addition, DNR may suspend or even revoke mining permits for operations not in compliance with approved reclamation plans and deny future permits for the same.²¹⁵

VII. PROPOSED REGULATIONS ON PEBBLE AND ALASKA TAKINGS LAW

Whether or not the proposed regulations aimed at stopping the development of Pebble Mine, discussed either in the Parker article or proposed sometime in the future, will be considered a compensable taking is an open question under Alaska law. However, an analysis of the Alaska takings law shows that Alaska provides significantly broader

209. ALASKA ADMIN. CODE tit. 11, § 97.340(b) (2008).

210. ALASKA ADMIN. CODE tit. 11, § 97.200(a)(1) (2008).

211. ALASKA ADMIN. CODE tit. 11, § 97.200(b) (2008).

212. ALASKA ADMIN. CODE tit. 11, § 97.210 (2008).

213. ALASKA ADMIN. CODE tit. 11, § 97.240 (2008).

214. ALASKA STAT. § 27.19.070(a) (2008).

215. ALASKA STAT. § 27.19.070(b) (2008).

protection to property owners than the federal constitution. Therefore, it is at least likely that regulations such as House Bill 134 will result in a taking of private property.

A. Background Law

First, the Alaska Constitution, like the U.S. Constitution, forbids the government from taking private property, even for public use, unless it pays “just compensation.”²¹⁶ However, the provisions in the Alaska Constitution which prohibit a “taking” without just compensation offer more protections to property interests than do their federal counterparts.²¹⁷ This facial analysis is supported by the Alaska Supreme Court’s broad interpretation of the takings clause in the state constitution.²¹⁸

With respect to takings clauses, Alaska courts have determined that the textual differences between the federal and Alaska constitutions are material and substantial; federal takings jurisprudence therefore provides limited guidance to the Alaska courts on how to resolve takings claims.²¹⁹

The Alaska Constitution states that “[p]rivate property shall not be taken or damaged for public use without just compensation.”²²⁰ Unlike the federal takings clause, this section covers both takings and damage to property interests. Accordingly, the Alaska Supreme Court has interpreted section 18 of the Alaska Constitution to provide property owners with broader protection than the Fifth Amendment of the United States Constitution.²²¹ The court has interpreted the Alaska takings clause liberally in favor of property owners.²²²

Next, the Alaska Constitution specifically addresses takings of interests in natural resources by referring to interests in lands in article VIII, section 16:

216. Compare ALASKA CONST. art. I, § 18 and art. VIII, § 16 with U.S. CONST. amend. V.

217. *Id.*

218. See *Spinell Homes v. Municipality of Anchorage*, 78 P. 3d 692, 702 (Alaska 2003); *R & Y, Inc. v. Municipality of Anchorage*, 34 P.3d 289, 293 (Alaska 2001); *Anchorage v. Sandberg*, 861 P.2d 554 (Alaska 1993).

219. Thomas V. Van Flein, *The Baker Doctrine and the New Federalism: Developing Independent Constitutional Principles Under the Alaska Constitution*, 21 ALASKA L. REV. 227, 255 (2004).

220. ALASKA CONST. art. I, § 18.

221. *Spinell Homes*, 78 P. 3d at 702; *R & Y, Inc.*, 34 P.3d at 293; *Sandberg*, 861 P.2d at 557.

222. *Ehrlander v. State, Dep’t. of Transp. & Pub. Facilities*, 797 P.2d 629, 633 (Alaska 1990).

No person shall be involuntarily divested of his right to the use of waters, his interests in lands, or improvements affecting either, except for a superior beneficial use or public purpose and then only with just compensation and by operation of law.²²³

In *Wernberg v. State*,²²⁴ the Alaska Supreme Court ruled that a person whose property access was impaired by the construction of a new state road was entitled to just compensation under article VIII, section 16 of the Alaska Constitution. In reaching this result, the *Wernberg* court relied on excerpts from the State's constitutional convention:

The constitutional minutes reflect the following discussion concerning a proposed amendment to the original language of article VIII, section 16:

The section that I'm proposing to amend... speaks of "No person shall be involuntarily divested of his right to use of waters, his interest in lands, or improvements affecting either, except for a superior beneficial or public use and then only by operation of law." And it is most pointed that you haven't made any reference to eminent domain. Now, Mr. Riley told me that he thought "operation of law" embodied the thought of eminent domain and would probably be the type of proceedings used and that would carry just compensation. But, just to be sure, and for clarity's sake, I ask that, following the word "law" we say "with just compensation."²²⁵

Delegate Riley provided further explanation which led to the adoption of the amendment:

Well, assume, Mr. Gray, that you have appropriated water for a specific purpose, and thereafter, another sought to use the same waters for a use or purpose considered to be of a superior or higher public purpose; although your appropriation would be better in time, he could institute condemnation proceedings and prevail over you by virtue of his higher public purpose to be served by that water, perhaps a public or municipal water supply.²²⁶

223. ALASKA CONST. art. VIII, § 16.

224. 516 P.2d 1191 (Alaska 1973).

225. *Id.* at 1199 (quoting 4 Alaska Constitutional Convention Proceedings 2562 (1955)).

226. *Id.* (quoting 4 Alaska Constitutional Convention Proceedings 2563 (1955)).

This discussion is readily analogous to a situation where the Pebble mining claims are preempted for the “higher public purpose” of creating a game refuge or to benefit marine fisheries. Consequently, article VIII, section 16 would likely be read to encompass the Pebble claims in the event that beneficial use cannot be made of them as a result of state action.

Therefore, Alaska law gives persons holding mining claims the right to mine their interests in most instances. According to the Alaska Supreme Court, the “traditional” takings doctrine in article I, section 18 is only implicated when the State deprives a person of a property right.²²⁷ Regardless of whether a mining claim constitutes a property right, it constitutes an “interest in lands” within the meaning of article VIII, section 16.

Property interests in Alaska are “created and their dimensions are defined by existing rules or understandings that stem from . . . state law.”²²⁸ In *Ruckelshaus v. Monsanto Co.*,²²⁹ a case which involved a takings claim, the United States Supreme Court recognized that “property” extends beyond land and tangible goods to intangible interests created under state law.²³⁰ In Alaska, mining claims are among the property rights susceptible to a “taking” as recognized by the Court in *Ruckelshaus*. Thus, any suggestion that a mining claim carries with it no right to mine is incorrect and reflects a fundamental misunderstanding of Alaska mining law.

Alaska law specifies that a person obtains exclusive rights to possess and extract minerals on state land open to claim staking by discovery, location, and recording.²³¹ “In most areas, such a location is a ‘mining claim,’ which gives the owner an *immediate property right* to mine the deposits.”²³²

Locations that give rise to an immediate property right to mine are distinguished from locations made on state lands that may be mined only under lease.²³³ A location made on land restricted to leasing is known as a “leasehold location,” not a mining claim. A leasehold

227. *Beluga Mining Co. v. State Dep’t of Natural Res.*, 973 P.2d 570, 575 (Alaska 1999).

228. *Anderson v. State ex rel. Central Bering Sea Fishermen’s Ass’n*, 78 P.3d 710, 715 (Alaska 2003) (quoting *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1001 (1984)).

229. 467 U.S. 986 (1984).

230. *Id.* at 1003.

231. ALASKA STAT. § 38.05.195 (2008); *Welcome v. Jennings*, 780 P.2d 1039, 1042 (Alaska 1989).

232. ALASKA DEP’T OF NATURAL RES., FACT SHEET: UPLAND MINING LEASEHOLD LOCATION 1 (Aug. 2006) (emphasis added) [hereinafter *ADNR Fact Sheet*].

233. ALASKA STAT. § 38.05.185(a) (2008).

location must be converted to an upland mining lease before mining begins.²³⁴ In unrestricted areas, locators may convert their mining claims to leases if they wish but are not required to do so before mining commences.²³⁵ Thus, under Alaska law a mining claim includes a right to mine. In Alaska, as on federally owned property, “[a] validly located mining claim is, in the truest sense, an interest in real property.”²³⁶ Moreover, a claim is also a protected “interest in lands” under article VIII, section 16. Thus, the state must provide just compensation if the interest is taken.

Finally, an important factor to consider when analyzing whether mining rights are constitutionally protected from a governmental taking without just compensation is the nature of the reasonable investment-backed expectations of the party seeking protection.²³⁷

A person’s reasonable expectations are controlled by the law in effect when the interest is acquired. In the case of the Pebble claims, the law in effect when the claims were staked created an expectation that the claims could be developed to extract mineral resources. In addition to the provisions of sections 38.05.185–275 of the Alaska Statutes, DNR Land Classification Order No. SC-04-002 implements the 2005 Bristol Bay Area Plan (BBAP) and classifies the majority of lands within the current Pebble Project area as “Mineral Land,” or “land where known mineral resources exist and where development is occurring or is reasonably likely to occur, or where there is reason to believe that commercial quantities of minerals exist.”²³⁸ Under this order, DNR’s general resource management intent for the “Pebble Copper” area is to accommodate mineral exploration and development.²³⁹ Accordingly, the Pebble claims holder’s expectation that it will be able to mine is not just its own, but it is also the State’s. Given the immediate right to mine under Alaska mining law, the State’s stated intentions regarding the development of the Pebble area, and the expectation that the claims will be developed and mined, Pebble has a convincing argument that it has a “reasonable investment-backed expectation” that it will be able to mine its claims.

234. ALASKA STAT. § 38.05.205 (2008).

235. *ADNR Fact Sheet*, *supra* note 232, at 1; *see also* ALASKA ADMIN. CODE tit. 11, § 86.800(a) (2008) (requiring an approved plan of operations in lieu of a land use permit for mining on unleased land).

236. *Freese v. United States*, 6 Cl. Ct. 1, 10 (Fed. Cl. 1984).

237. *Anderson v. State ex rel. Central Bering Sea Fishermen’s Ass’n*, 78 P.3d 710, 715 (Alaska 2003) (citing *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1001 (1984)).

238. ALASKA ADMIN. CODE tit. 11, § 55.130 (2008).

239. ALASKA DEP’T OF NATURAL RES., DIV. OF MINING, LAND & WATER, BRISTOL BAY AREA PLAN FOR STATE LANDS 3-111, 3-175 (2005).

B. Analysis of Alaska Takings Law and Pebble Mine

Alaska courts recognize two classes of per se takings: (1) where there is a physical invasion, and (2) where a regulation denies a landowner all economically feasible use of his property.²⁴⁰ In Alaska, private property is taken or damaged for constitutional purposes if the government deprives the owner of the economic advantages of ownership.²⁴¹ The “economic advantages incident to ownership” of unimproved property have been construed as “the potential for appreciation and the opportunity for development.”²⁴²

There are several instances where courts denied per se takings claims because the litigated statute, ordinance, or regulation did not deprive a landowner of all economically beneficial property uses. For instance, in *Zerbetz v. Anchorage*,²⁴³ the Alaska Supreme Court held that Anchorage’s designation of property as “conservation wetlands” did not deprive the owner of the “economic advantages of ownership” when the property could still be developed as long as the developer submitted water flow data, soil samples, and habitat information.²⁴⁴ Similarly, in *Spinell Homes, Inc. v. Anchorage*,²⁴⁵ the supreme court held there was not a per se taking where the municipality’s withholding of final occupancy certificates did not prevent the developer from constructing houses on affected lots and selling them to third parties.²⁴⁶

Neither of these cases, however, involved a regulatory taking based on a legislative enactment that rendered it practically impossible to make any economically beneficial use of the property consistent with an already-acquired proprietary interest in the affected parcel of land. A mining claim is a limited form of property whose value is limited to the right to mine—if that right is economically foreclosed, the claim is valueless to the claimholder.

A recent Ohio case involving a regulatory taking of mining rights under similar circumstances suggests that a measure such as House Bill

240. *Beluga Mining Co. v. State Dep’t of Natural Res.*, 973 P.2d 570, 575 (Alaska 1999).

241. *Homeward Bound, Inc. v. Anchorage School Dist.*, 791 P.2d 610, 614 (Alaska 1990).

242. *Id.* at 614 n.6 (citing *Stewart & Grindle, Inc. v. State*, 524 P.2d 1242, 1247 (Alaska 1974)).

243. 856 P.2d 777 (Alaska 1993).

244. *Id.* at 783.

245. 78 P.3d 692 (Alaska 2003).

246. *Id.* at 702; *see also Palazzolo v. Rhode Island*, 533 U.S. 606 (2001) (denial of developer’s large scale development plans was not a taking when part of the property was still available for single family development).

134²⁴⁷ would result in a per se taking. In the 1980s, R.T.G., Inc. (RTG), a coal mining company, acquired approximately five hundred acres of coal-bearing property in Ohio.²⁴⁸ RTG held a portion of the property in fee simple and owned or leased the coal rights in the rest.²⁴⁹ In June 1994, most of RTG's property was designated as unfit for mining (UFM) due to the presence of a sole-source aquifer.²⁵⁰ Consequently, RTG was prevented from mining much of its property.²⁵¹ RTG filed an action in state court alleging a regulatory taking of its land.²⁵² The case was ultimately decided by the Ohio Supreme Court. The court concluded that a taking had occurred:

What makes the right to mine coal valuable is that it can be exercised with profit. The UFM designation makes it impossible for R.T.G. to mine coal, thereby depriving R.T.G. from exercising its coal rights for profit. Thus imposition of the UFM designation deprived R.T.G.'s coal rights of *all* economic value. Accordingly, applying *Lucas*, we hold that the UFM designation resulted in a categorical taking of R.T.G.'s coal rights.²⁵³

It made no difference to the court whether RTG owned the land in fee simple or leased the coal: "coal rights are severable and may be considered as a separate property interest if the property owner's intent was to purchase the property solely for the purpose of mining the coal."²⁵⁴ In so ruling, the court: (1) determined that RTG had been completely deprived of the value of its coal rights, and (2) upheld a portion of an earlier decision which applied a categorical takings test to land where RTG owned or leased coal rights.²⁵⁵ In other words:

Unlike other individual rights . . . that make up a complete property estate, mineral rights are recognized by Ohio law as separate property rights. Therefore, because the ownership of the coal is "both severable and of value in its own right, it is

247. See Parker et al., *supra* note 1, at 37.

248. State *ex rel.* R.T.G., Inc. v. State, 780 N.E.2d 998, 1001 (Ohio 2002).

249. *Id.*

250. *Id.* at 1002.

251. *Id.*

252. *Id.*

253. *Id.* at 1009 (quoting Pa. Coal Co. v. Mahon, 260 U.S. 393, 414 (1922)).

254. *Id.* at 1008.

255. *Id.* at 1011.

appropriate to consider the effect of regulation on that particular property interest.”²⁵⁶

The Ohio decision would likely be consistent with the result the Alaska Supreme Court would reach if confronted with a taking of the Pebble claims. Mineral rights in Alaska, like those in Ohio, are recognized by law as separate property rights.²⁵⁷ Payment of just compensation where mining claims are rendered economically valueless due to a change in land use designation is not a novel concept in Alaska. Miners in the former Kantishna mining district near Denali National Park and Preserve received compensation for the taking of federal mining claims that occurred when the mining district was incorporated into the national park boundary.²⁵⁸ One miner received approximately \$662,500 to settle his takings claim.²⁵⁹ The Kantishna Mining Company was awarded approximately \$1,000,000 in compensation for its takings claim.²⁶⁰ Thus, it is well established that mining rights are property rights in Alaska.

The Parker article used the Alaska Supreme Court decision in *Beluga Mining Co. v. State Department of Natural Resources*²⁶¹ to come to a different conclusion regarding Pebble’s regulatory takings analysis. In that case, Beluga Mining held “mining claims” on lands held in trust by the State for the benefit of the Alaska Mental Health Lands Trust.²⁶² A preliminary injunction prevented the State from issuing mining leases on the trust lands.²⁶³ Unable to mine its “claims,” Beluga abandoned them and sued the State.²⁶⁴ The court found that there was not a taking, holding that “Beluga had property rights in its claims, but it had no right to mine; its mining ‘rights’ were prospective and contingent, and were subject to existing claims.”²⁶⁵

There are crucial differences between the Pebble claim and the facts in *Beluga*. Most importantly, there was a prior claim to the Beluga mining locations by the plaintiffs in the Alaska Mental Health Lands

256. *Id.* at 1008 (quoting *Keystone Bituminous Coal Ass’n. v. DeBenedictis*, 480 U.S. 470, 520 (1987)).

257. *See, e.g.*, ALASKA CONST. art. VIII, § 11; ALASKA STAT. §§ 38.05.185–.275 (2008).

258. *See* Lawrence V. Albert, *ANILCA Promises Broken: The Demise of the Kantishna Mining District*, in (D)2 PART 2 42, 52 (J.P. Tangen ed., 2000).

259. *Id.* at 50.

260. *In re Gold King Mines, Inc.*, 8A.B.R. 35, 40 (Bankr. D. Alaska 2004), <http://www.akb.uscourts.gov/8abr35.pdf>.

261. 973 P.2d 570 (Alaska 1999).

262. *Id.* at 572.

263. *Id.* at 573.

264. *Id.* at 574.

265. *Id.* at 575.

Trust litigation.²⁶⁶ Section 38.05.275 of the Alaska Statutes makes mining locations subject to existing claims. The court held that the injunction that prevented mining was the result of the pre-existing claims.²⁶⁷ Beluga had the option to seek modification of the preliminary injunction that prevented the State from issuing leases on the mental health trust lands, but it did not do so.²⁶⁸ Furthermore, Beluga abandoned its leasehold locations by failing to make annual rental payments.²⁶⁹

Based on the holding in *Beluga*, the Parker article asserts that the “holder of a state mining claim . . . has ‘no right to mine’ because that right is always contingent on state permission.”²⁷⁰ DNR determined that Beluga needed a state mining lease before mining commenced.²⁷¹ Beluga held leasehold locations in the trust lands, not “mining claims” as the term is used throughout the court’s opinion. Conversely, the Pebble locations are all mining claims and thus no lease is required before mining may begin.²⁷² In other words, the owner of a mining claim, as opposed to a leasehold location, holds all of the property interests required to mine. Unlike Beluga’s “prospective and contingent” leasehold locations which were subject to the State’s granting a lease, Pebble’s mining claims are a present, vested property right.

Additionally, the *Beluga* court concluded that the mining company lacked sufficient “reasonable investment-backed expectations” because the development of its claims proceeded in the face of litigation asserting adverse claims to its property.²⁷³ Beluga constructed its Mental Health Lands Trust claims while the *Weiss* litigation was pending.²⁷⁴ Beluga proceeded with its case despite the fact that the *Weiss* decision “left open the question of whether the claims of parties like Beluga were superior to the claims of the *Weiss* plaintiffs.”²⁷⁵ The circumstances of *Beluga* were unique and unlikely to be present for other mining claim holders. Further, the “existing claims” language in section 38.05.275 of

266. *State v. Weiss*, 706 P.2d 681, 681–84 (Alaska 1985). Plaintiffs asserted that lands granted by the federal government to the Territory of Alaska in the Alaska Mental Health Enabling Act were to have been held in trust and not administered as general public lands. *Id.*

267. *Beluga Mining Co. v. State Dep’t of Natural Res.*, 973 P.2d 570, 575 (Alaska 1999).

268. *Id.*

269. *Id.* at 574.

270. Parker, *supra* note 1, at 44.

271. *Beluga*, 973 P.2d at 573.

272. See *ADNR Fact Sheet*, *supra* note 229, at 1; see also ALASKA ADMIN. CODE tit. 11, § 86.800(a) (2008) (requiring an approved plan of operations in lieu of a land use permit for mining on unleased land).

273. *Beluga*, 973 P.2d at 576.

274. *Id.*

275. *Id.*

the Alaska Statutes applies to protect prior claimants from oversteaking by latter claimants. Where there are not any competing claimants, and no litigation which could cloud the land status of a claim, there could be no “existing claims” such as the ones in *Beluga*.

Further, the court’s holding in *Beluga* turns on the fact that the preliminary injunction delayed, but did not terminate, the permitting process.²⁷⁶ The injunction simply delayed Beluga’s ability to obtain permission to mine and did not deprive Beluga of its underlying claims. Beluga’s failure to make the annual rental payments—not the State’s enforcement of the statutory scheme—caused the loss of Beluga’s claims.²⁷⁷ Thus, in *Beluga*, the claimholder’s own dilatory conduct resulted in the loss of its claims. This was not due to state action—a distinction that upends the entire regulatory takings analysis as applied to the *Beluga* decision. In sum, *Beluga* appears to have limited application in assessing takings claims by other mining claimants.

Furthermore, the Alaska Legislature determined that it would need to pay just compensation to holders of mineral rights were it to enact a law having the same effect as House Bill 134.²⁷⁸ The Legislative Counsel concluded:

When a person acquires mineral rights through discovery, location, and filing, that person acquires a property interest that requires the state to pay just compensation if the property is taken either as a per se taking or a regulatory taking that deprives the owner of all economic use of the interest.²⁷⁹

In reaching this conclusion, the Legislative Counsel was asked to analyze the potential effects if “the federal or state government limit[ed] or preclude[ed] the development of a mine on state land that was open to mineral development and [was] being developed by a mining company.”²⁸⁰

This conclusion is particularly significant because it was reached by counsel for the body that would be responsible for paying just compensation—the Alaska Legislature.²⁸¹ The Legislative Counsel concluded that a person acquires the right to possess and extract minerals on state land not closed to mining claims merely “by satisfying . . . three

276. *Id.* at 575.

277. *Id.*

278. Memorandum from Legislative Counsel to Representative Paul Seaton (Dec. 7, 2006) (on file with the Alaska Law Review).

279. *Id.* at 1.

280. *Id.*

281. *See id.*

requirements—discovery, location, and filing.”²⁸² The Counsel confirmed with DNR that DNR “does not have discretion in the granting of mineral rights,” so long as the statutory requirements are met:

In other words, a person whose rights are not subservient to a prior interest holder, who acquires the rights by following the statutory requirements, and who maintains those rights by satisfying the annual work and rental payment requirements, has the rights to those minerals.²⁸³

The Legislative Counsel also noted that “the land on which the proposed Pebble Gold Project may be developed is classified as available for mineral development as part of the Bristol Bay Area Plan.”²⁸⁴

CONCLUSION

It is the Authors’ view that the Parker article did not present a balanced perspective on potential mining projects in Alaska, nor did it provide a comprehensive overview of the permitting schemes that would evaluate the potential environmental impacts of any such mine. This Article provides a more comprehensive overview in order to make Alaska practitioners aware that an extensive environmental review required for the permitting process is already in place to protect Alaska’s natural heritage.

282. *Id.* at 1–2.

283. *Id.* at 2 n.2.

284. *Id.* at 4.