

AK LEGISLATURE SPECIAL COMMITTEE FILES SCOMM 147 3200

processes based on sound science; a full and open public process; careful benefit/risk analysis; and thorough review, oversight, and enforcement by appropriate agencies.

With regard to mineral, oil, and gas projects specifically, it is the position of the PSPA Board of Directors that the permitting process must carefully weigh potential shorter-term benefits from extraction of non-renewable resources against any potential negative impacts on perpetually renewable resources, such as fish and the waters and habitat upon which they depend. This would naturally require the permitting process to assess any potential impacts on the waters and watersheds within the range of the project and the routes to be used to transport the resources extracted by the project. Further, it is the Board's position that only projects that will not damage the market perception of the health benefits, purity, and wholesomeness of Alaska's seafood products should be permitted.

PSPA has applied these standards in reviewing the proposed Pebble Mine project near Lake Illiamna. Due to its location in one of the richest fishery resource areas of the world, applying a strict benefit/risk test for this large-scale hard rock mining project is especially appropriate. While we acknowledge the potential short-term economic benefits of the proposed project, we are deeply concerned about the enormous risk of long-term damage to one of Alaska's perpetual economic engines - renewable seafood. The investments of our Member companies in Bristol Bay, as elsewhere in Alaska, are based upon the preservation of pristine waters critical for the fish species upon which our businesses and the livelihoods of our employees and fishermen rely. If, as we understand the current plans for the Pebble Mine, it would degrade important watersheds feeding the world's most productive sockeye salmon fishery, then the project seems to us to pose an unacceptable risk. Thus, consistent with the principles above, PSPA would oppose the Pebble Mine project unless the developer can ensure that there will be no negative impacts to the region's water quality, nor to Alaska's fishery resources and their marketability.

PSPA recognizes the importance of economic diversification and resource development in Alaska. In assessing proposed mineral, oil, and gas projects, we will apply the standards set forth in this document. We look forward to continuing to work cooperatively with other industries and to supporting projects that can ensure no negative impact on fishery resources or the marketability of Alaska seafood.

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Seattle, WA 98119
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February 11, 2008

Representative Bryce Edgmon
State Capitol
Alaska State Legislature
Juneau, AK 99801

THE TENTH FLOOR
2200 SIXTH AVENUE
SEATTLE, WA 98121-1820
206.728.6000
OPERATION FAX 206.441.9090
SALES FAX 206.728.1855

RE: HB 134 and the Proposed Pebble Mine Project

Dear Representative Edgmon,

Peter Pan Seafoods is a processor of Alaska seafood including Bristol Bay salmon. We operate the oldest continually operating cannery in Bristol Bay at our Dillingham plant with a shore support facility in Naknek as well as charter a floating processor. As a member of the Pacific Seafoods Processors Association, we fully support their position on the Pebble Mine project as stated in their paper entitled "Position on Alaska Mineral, Oil, and Gas Development Projects and the Proposed Pebble Mine Project", which I understand has been provided to you.

While we have not taken a position on the specific provisions of HB 134, we appreciate your efforts to focus public and legislative attention on this issue and the serious concerns so many have with the potential development of a large scale mining operation in the heart of the most productive salmon producing region in the world. Bristol Bay sockeye is probably the most studied salmon stock there is. Yet, we still don't know what causes the cyclic fluctuations in the runs. We don't know why the Kvichak system, formally the largest producer in the region, has crashed over the last decade only to recently begin to recover. We can surmise that these salmon are extremely sensitive to changes in their ecology, but don't seem able to identify all of these factors and how they are interrelated. With this level of uncertainty, it is extremely dangerous to consider any project that would upset the hydrology and pristine nature of these systems.

As the desire for healthful food options has increased, the "Alaska Brand" has become very important to consumers. The perception is of healthy food products that are natural, sustainable and come from a pristine environment. We've experienced what can happen when this perception is disrupted. Twenty years ago with the Exxon Valdez oil spill consumers doubted if the Alaska seafood products they were offered were still pure. They couldn't differentiate products that came from areas not affected by the spill from the soiled waters they saw and read about in news reports. While not as dramatic as an oil spill, the development of a large mining operation in such a sensitive area could be a permanent scar in maintaining the perception of the Alaska Brand as it now stands.

The potential scale of the Pebble Mine project, its mineral wealth and potential job and revenue creation is certainly enticing, especially to a region that is in such need of economic diversification. Weigh the potential economic gains of this against the damage or loss of a precious, continuously renewable resource, the social and cultural costs to the region that is intimately tied to these salmon, and the potential damage to the reputation of Alaska seafood as a whole. The potential cost of extracting this exhaustible mineral deposit is simply too high.

Sincerely

A handwritten signature in dark ink, reading "Barry D. Collier". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Barry D. Collier
President and CEO



4 Nickerson Street Seattle, WA 98109

Representative Bryce Edgmon
Alaska State Legislature
State Capitol
Juneau, Alaska 99801

January 30, 2008

Re: HB 134, Protection of Fish and Waters of Bristol Bay

North Pacific Seafoods owns and operates four (4) shore based seafood processing facilities in Alaska. Two (2) of our plants are located in Bristol Bay. One is Pederson Point Seafoods located in the Naknek area, and the other is Togiak Fisheries on Togiak Bay. We are also located in Sitka, Sitka Sounds Seafoods, and in Kodiak, Alaska Pacific Seafoods. We process fresh and frozen Alaskan seafood and market to the domestic and world markets.

We have invested in these Alaskan seafood processing plants based on the natural, healthful seafood resource and the productivity of the resource from Alaska's waters. The Alaska seafood resource continues to demonstrate it is well managed, and we feel confident in saying the Alaskan seafood resource will be abundant for many years to come.

North Pacific Seafoods and the Alaska seafood industry has invested heavily over the years in marketing the Alaskan seafood products as "natural and healthy" protein and from the "cold pristine" waters of Alaska. Most recently, "sustainable" has been added to the key marketing positives of Alaskan seafood. From this continued marketing campaign over the years, a perception has been built for Alaskan seafood to be known for the natural, healthful, pure, sustainable resource.

Today, our business and the livelihoods of our Alaskan harvesters and our Alaskan employees are based upon preservation of Alaska's pristine waters and the seafood resource being natural, healthful, sustainable protein source. As a result, North Pacific Seafoods is focused on ensuring that any Alaskan resource development does not damage the healthy ecosystems or the Alaskan image of "pristine".

North Pacific Seafoods supports maintaining the Alaskan seafood image and has serious concerns about any development project that may change this public image of Alaskan seafood.

Sincerely,

Robert D Nickinovich
President

Subject: FW: Bristol Bay watershed protections

From: Maureen Knutsen [mailto:maureen.knutsen@gmail.com]

Sent: Monday, October 01, 2007 4:08 PM

To: Rep. Bryce Edgmon; Rep. Paul Seaton; Rep. Gabrielle LeDoux; Rep. Carl Gatto; Rep. Kyle Johansen; Rep. Lindsey Holmes; Rep_Vic_Kohring@legis.state.ak.us; Rep. Bob Roses; Rep. David Guttenberg; Rep. Scott Kawasaki; Rep. Craig Johnson; Rep. Peggy Wilson

Subject: Bristol Bay watershed protections

Thank you, Resources & Fisheries Committee members, for holding public hearings in Bristol Bay on H.B. 134. I testified in Naknek that I am in favor of the greatest level of protection possible for our salmon spawning waters and habitat.

Whether we can achieve that with a reworked version of H.B. 134 or by other means, I feel it is imperative that we do this ASAP. Please give this issue the highest priority.

It may be a better strategy to take measures such as moving the Habitat Division back under the jurisdiction of ADF&G and restoring the regulations requiring no mixing zones in salmon spawning streams.

I am a resident subsistence fisherperson and have been commercial fishing with my husband on our boat since 1978. My husband was born in Bristol Bay and has been fishing and subsisting here his whole life. I speak for both of us when I say that we are depending on our representatives in Juneau to help us protect our amazing renewable salmon resource from reckless and short-sighted development.

Thank you for whatever you can do to help us preserve our way of life.

Maureen Knutsen

P.O. Box 134

Naknek, AK 99633

907-246-6675

maureen.knutsen@gmail.com

Louie Flora

From: Adam Berg
Sent: Monday, February 18, 2008 6:35 AM
To: Louie Flora
Subject: FW: SUPPORT OF HB 134

From: Bobby Andrew [mailto:bandrew@nushtel.com]
Sent: Sunday, February 17, 2008 5:17 PM
To: Rep. Bryce Edgmon
Cc: Adam Berg; Kenneth Nukwak; Sally Gumlickpuk Home; Sharon Clark; Big Brother; Stanley Active, Jr.; Moxie Andrew, Jr.; Sylvia Kazimirowicz; Thomas Tilden; Frank Woods; Robert Wassily; Esther Thompson; Daniel Chythlook
Subject: SUPPORT OF HB 134

Representative Edgmon and Committee Members:

For the future generation I urge you to pass HB 134 which will extend the protection of all drainages on the Nushagak river.

It is becoming more evident we need to protect all the habitat and waters below the head waters of the Koktuli river and Talarik Creek for the Salmon. The salmon as well as other renewable resources need clean water for their survival and they need to be protected for the future generation of subsistence users, anglers, commercial fishermen, and lodge owners and processors of salmon.

The Commercial fishing industry as well as the Lodges over the years provided income for many people in the region. Some of the Commercial fishermen have mortgages on their permits, boats. If contamination should ever occur in these waters the permits will be worthless and the Processors will not be able to market the salmon at the international level. Who would want to buy potentially contaminated salmon?

Cost of living is already high in the rural areas and we as subsistence users need to supplement the high cost of grocery items. The high cost of fuel has increased the cost of transportation and shipping.

I urge you to pass HB 134 which will benefit many.

Bobby Andrew
P.O. Box 98
Dillingham, Alaska 99576
PHONE: 907-842-5983
FAX: 907-842-2057
E-MAIL: bandrew@nushtel.com

Louie Flora

From: Aaron Fetter [Aaron@AlaskaAlpineAdventures.com]
Sent: Thursday, February 14, 2008 1:04 PM
To: Rep. Paul Seaton
Subject: *****SPAM***** Protecting Bristol Bay
Follow Up Flag: Follow up
Flag Status: Yellow

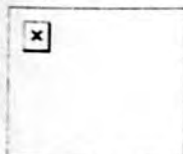
Representative Seaton,

I am writing to you because of my concern for Bristol Bay wild salmon. What renewable resource is more Alaskan than salmon? People from all over the world crave this wild, renewable resource; thousands of jobs depend upon its continued existence. I support HB 134 because I believe in protecting Alaska. I make my living by showing people the majesty of Alaska's wilderness, especially areas not visible from the road. I consider it an honor to be an Alaskan, and to have the ability to share with outsiders my passion for the state.

If we allow our Bristol Bay fisheries to be destroyed, we will not only lose this important resource, but the trickle down effects could be catastrophic. The clients that I take into the wilderness come here to see wildlife, including many species that rely on the salmon for food. If we lose the salmon, we endanger the wildlife, and we endanger my job. I am concerned about the thousands of people like me that rely on this resource; the subsistence, commercial and sport fisheries and the tourism industry.

I ask that you support this bill so that our future is protected.

Thank you,
Aaron Fetter



Aaron Fetter - Manager/Senior Guide
Alaska Alpine Adventures, LLC
Mobile - 907-952-3819
www.AlaskaAlpineAdventures.com

Louie Flora

From: Nina Faust [fausbail@horizonsatellite.com]
Sent: Saturday, February 16, 2008 2:09 PM
To: Rep. Paul Seaton
Subject: HB 134

P.O. Box 2994
Homer, AK 99603

House Special Fisheries Committee
Alaska State House
Juneau, AK

Dear Committee Members:

We strongly support the Committee Substitute for HB134, entitled "The Wild Salmon Protection Act." Alaska's salmon are a sustainable resource for the future. The State should do its utmost to not allow pollution or other activities of sulfide mining operations to degrade the watersheds of Bristol Bay. Maintaining this incredible fishery is the Legislature's responsibility.

Protecting Bristol Bay's salmon is important to us because it is a vital part of Alaska's economy and as a renewable resource can continue to play an important role indefinitely. As fisheries are depleted worldwide, safeguarding our fish resources becomes increasingly important. We cannot afford to compromise this resource by not having the highest standards of water quality and habitat protection possible.

Finally, we do not believe the arguments that some are putting forth that strict regulations like this that protect public resources are a potential takings for mining companies who may be seeking permits to mine in this region. There is no precedent for this but it continues to be a red herring tossed into the discussion to try to dissuade lawmakers from acting in the best interest of protecting clean water, habitat, and fisheries. Please do not fall for this disingenuous argument.

Please pass this new version of HB134 and protect the Bristol Bay fisheries. Thank you.

Sincerely,

Nina Faust Edgar Bailey

Comments on HB 134 at the February 18, 2008 hearing, Juneau Alaska.

Submitted by

Dan Dunaway
PO Box 1490
Dillingham, AK 99576
907-842-2636

Good morning and thank you for the opportunity to speak.

I am Dan Dunaway.

I was born and raised in Anchorage, graduated from UAF with a BS in Fisheries in 1977. I worked summers in Bristol Bay from 1973 to 1975. Upon graduating I worked for ADFG in commercial fisheries on the Susitna River, Alaska Peninsula, Aleutians, and Bering Sea then returned to Bristol Bay in 1989 as a sport fisheries biologist. I retired from ADFG in 2002 serving my last 4 years as the Bristol Bay Area Sport Fisheries Biologist. I live in Dillingham and serve as an alternate on the Nushagak Fish and Game Advisory Committee and as a member of the Bristol Bay Rural Advisory Council in the federal subsistence program.

My comments today are strictly my own and do not represent any other group.

I came down from Dillingham today to support HB 134 to protect salmon spawning waters in Bristol Bay.

I am not totally opposed to mine development but I am extremely concerned about the damage sulfide mines could do. If mines are allowed to be developed in the area I want to know the design and operation is *truly* sufficient to protect the waters and fisheries of Bristol Bay. HB 134 is a step in the right direction.

Bristol is Bay special. Along with the world's largest runs of sockeye salmon and significant runs of other salmon species, it is world renowned for rainbow trout, grayling, char and Dolly Varden, and other fish. It is so special that Jay Hammond and others created the Bristol Bay Fisheries Reserve in 1972. For a number of years the waters around Lake Iliamna and down to the Naknek drainage were designated a trophy trout sport fishing area. The trophy designation has been dropped in part to ease pressure on the area. Several federal conservation units have been created to protect some of these lands and waters. Clearly the area in its current and natural state has been very important to a lot of people, most especially the people who first came to the area and still depend on the bounty available.

Why focus on sulfide mines? Because they have tremendous potential to harm the waters and fish where ever they are created. And they HAVE done tremendous damage that is hard or impossible to undo in many places around the world. The ores and tailings of sulfide metal mines, when exposed to air and water generate sulfuric acid that then dissolves toxic heavy

metals which are carried into surface and subsurface waters. Those toxic metals and compounds kill fish and the plants and animals the fish live on. In sufficiently high concentrations those compounds threaten the health of humans and animals.

Take the Flambeau or Ladysmith mine in Wisconsin that industry likes to tout as a successful mine closure. This mine was operated by Kennecott from 1993-1997. Closure work proceeded into 2007 and may be certified as complete. But I have 2 letters here listing numerous problems that still existed in 2006 and 2007. The letters contend that the mine "company grossly underestimated the groundwater pollution that would occur" (Furtman letter) and toxic ground water is getting through fractured rock and into the Flambeau River and the organisms living there. They contend that post mine water quality is far worse than the mine company predicted and far worse than acceptable standards. The company is apparently not conducting the monitoring it is supposed to do etc. (See Furtman and Great Lakes Indian Fish & Wildlife Commission letters.)

The December 4, 2007 CBC News article I provided describes the failure of tailings caps in the Northwest Territories of Canada. The caps installed in 2000 had failed by 2002.

These are examples of the failures of current mine technology. Why should we trust that mines built in Bristol Bay will be any better?

The failure or insufficient post mine monitoring at Flambeau is also an example of the need for stricter state enforcement and very punitive fines. The fines need to be sufficient so these rich companies do not treat them as a cost of doing business. Just like commercial fishing violators in Bristol Bay can lose permits and boats, and big game guides can lose their licenses and airplanes - the penalties for violations must be significant to assure compliance.

For these reasons I urge you to support HB 134.

Thank you.

Toxic waste boils up from covered tailing ponds at N.W.T. mine sites

Last Updated: Tuesday, December 4, 2007 | 2:44 PM CT

CBC News

Mining engineers are baffled by toxic mining waste bubbling through the covers of tailing ponds at some mine sites in the Northwest Territories.

Tailings, which are byproducts of mining, often contain cyanide, mercury and other chemicals. They are often contained in large holding ponds covered with synthetic, clay, or rock covers.

The tailing pond covers, which are supposed to contain the waste permanently, are not working properly at some places in the North, said an engineer with a firm that designs and creates tailing pond covers used at northern mines.

"We go back to these covers and we see some problems emerging. The tailings covers are not performing the way they are supposed to. We can't quite explain the reasons why," Maritz Rykaart, a geoenvironmental engineer with the firm SRK Consulting, told CBC News.

"We got some select sites. We've seen it at Discovery. That's one case where it's been clearly demonstrated."

The former Discovery gold mine, which had 1.1 million tonnes of mercury-rich tailings spread over 32 hectares of lands before it closed in 1969, had its tailings ponds covered with about 60 centimetres of clay in 2000.

But recently, frost heaves have been pushing the chemical waste through the surface of that cover, in the form of small volcano-like structures, Rykaart said.

"We see tailings emerging through the covers in the form of boils. It can't be explained by the normal physical processes of geotechnical engineering," he said.

"There's been various studies by various groups to get to the understanding of that, to try and find the reasons why this is occurring, and that's an ongoing process."

Federal government engineer Octavio Melo, who is involved in Ottawa's cleanup efforts at the Discovery site, said the boils were repaired in 2002 with synthetic liners for the time being.

"At one stage, the covers — at least in my mind — were being looked at as the magic solution," Melo said. "But obviously, we're coming to the realization that tailings covers require

monitoring and long-term maintenance."

Tailing pond covers are a relatively new invention, having only been used regularly since the 1980s. Rykaart said his firm is working to fix the problem of waste "boils" when engineering new covers for different mine sites.

All mineral companies that want to do business in the Northwest Territories currently have to submit a remediation plan in advance, which must include steps for responsibly managing tailings.

GREAT LAKES INDIAN FISH & WILDLIFE COMMISSION

P. O. Box 9 • Odanah, WI 54861 • 715/682-6619 • FAX 715/682-9294

• MEMBER TRIBES •

MICHIGAN

Bay Mills Community
Keweenaw Bay Community
Lac Vieux Desert Band

WISCONSIN

Bad River Band
Lac Courte Oreilles Band
Lac du Flambeau Band
Red Cliff Band
St. Croix Chippewa
Sokaogon Chippewa

MINNESOTA

Fond du Lac Band
Mille Lacs Band



For Immediate Release

April 5, 2006

"Contaminated discharge continues at Kennecott Minerals' Flambeau Mine"

Odanah, WI — Four years after Kennecott Minerals Company notified the State of Wisconsin that it had reclaimed the Flambeau mine site, the company's own reports document an ongoing release of contaminants at the site. These unresolved contamination issues are causing unease among officials at Great Lakes Indian Fish & Wildlife Commission (GLIFWC).

"The Flambeau mine site continues to be a source of contaminants to waters of the state, and efforts by Kennecott to fix the problems have been unsuccessful," said Mic Isham, Vice Chairman of GLIFWC's Voigt Intertribal Task Force. "In addition to the negative environmental impacts at the site, this raises questions about the safety of future sulfide mining projects."

Containing copper, silver and gold ore, the mine located on the Flambeau River just south of Ladysmith, Wis. operated from 1991-1997. The orebody is what is known as a sulfide deposit, meaning that the metals are bonded to sulfur, forming sulfide minerals. When exposed to air and moisture, a chemical reaction generates sulfuric acid that can leach into the surrounding environment and can cause the release of metals such as copper. Previous efforts to control contamination at the site involved removal of the company's rail spur and its gravel base. In spite of these efforts, discharges of contaminated water continue, and copper has been measured in this water at levels several times the state standard for surface waters.

The latest remediation plan involves removal of a gravel parking lot. However, it is unclear whether this will resolve the problem because the extent of the contaminated soil is unknown. GLIFWC has asked the Wisconsin Department of Natural Resources to hold Kennecott accountable for the ongoing problems at the site and to require the company to perform additional investigations into the sources and extent of the contamination.

These problems are fueling additional concerns for GLIFWC's Voigt Intertribal Task Force. Kennecott recently submitted permit applications to Michigan regulators to construct and operate a new sulfide mine on the Yellow Dog Plains, an undeveloped expanse of wild land situated between the Keweenaw Bay Indian Community and the City of Marquette.

GLIFWC is a natural resource management agency representing 11 Ojibwe tribes in Minnesota, Wisconsin and Upper Michigan. The Voigt Intertribal Task Force makes policy recommendations on the management of resources across lands ceded to the United States in the Treaties of 1837 and 1842. Known as the ceded territory, GLIFWC shares management responsibility in the region along with state and federal officials.

For additional information contact:
John Coleman, Environmental Section Leader
Great Lakes Indian Fish & Wildlife Commission (GLIFWC)
(608) 263-2873

Background:

In 2001 Kennecott filed a Notice of Completion for their reclamation of the Flambeau Mine. However, samples since 1999 show an ongoing discharge of contaminated water from the site into a small stream adjacent to the mine. In an attempt to stem the flow of contaminated runoff, in 2003 Kennecott was ordered by the State to remove and haul to a landfill, 7,400 tons of contaminated soil from the rail spur at the site.

In 2004 copper levels were measured at 9,900 ug/L in runoff within the mine site boundaries. In October of 2005 Kennecott Minerals' Flambeau Mining Company (FMC) released a report on 2005 monitoring of runoff within the mine site and discharging from the mine site. This report showed that runoff within the site still contained high levels of metals, with copper levels reaching 100,000 ug/L. One area with particularly high metals concentration in runoff was a gravel parking lot in an area that served as a truck service area during mining. The water discharging from the runoff holding pond at the edge of the mine site is substantially less contaminated but has been measured by the company in 2005 to contain 27 to 61 ug/L of copper. For reference, the acute toxicity water quality standard for copper is 7 ug/L, and the 61 ug/L of copper exceeds the levels that FMC's permit allowed them to discharge the Flambeau River during active mining.

More recent FMC documents (dated November 22, 2005) show that there is contaminated soil at the site with copper concentrations ranging up to 1,500 mg/kg. This is very similar to the level of contamination found at the site rail spur back in 1998 and 2003. These recently discovered contaminated soils are in the area that had showed high concentrations of metals in runoff during sampling in 2004 and 2005. Because of these contaminated soils and the ongoing discharge of contaminated runoff, the Wisconsin DNR has ordered Kennecott to remove the top 4 inches of soil over a 10,500 square yard area and replace the ground surface with geofabric and gravel to prevent upward migration of additional contaminated soil that will remain at the site at greater depth. The 1,200 cubic yards of contaminated soil that is to be removed will be hauled to a landfill licensed for disposal of special waste. The WDNR has also asked that FMC continue to sample surface waters running off from the area found to be contaminated.

According to WDNR staff, the assumption is that the identified contamination came from spillage or tracking of high sulfide material by trucks that traveled between the pit, the ore loading area and the mine operation buildings. There are other areas of the site that experienced similar truck traffic yet have not been tested for contaminated soil.

Documents and data referenced here can be found at:
<https://mywebspace.wisc.edu/jcolema1/flambeau/reports/>

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February 17, 2008

Testimony for House Bill 134

Honorable Chairmen Paul Seaton and Fisheries Committee Members;

I am unable to join you by phone tomorrow, as I normally do, so I have chosen to share my testimony electronically and sincerely appreciate your undivided attention and serious consideration of my views concerning HB 134. I hope that you would include these with the rest of the testimony you receive.

I am Nanci Morris Lyon, owner and operator of Katmai Fishing Adventures LLC, a commercial sport fishing operation for 22 years, vice chair of the Bristol Bay regional subsistence advisory council, board member of the Bristol Bay Chamber of Commerce, board member of Wells Fargo Bank King Salmon branch, board member of the Southwest Alaska Conservation Coalition and most importantly King Salmon resident, subsistence user and concerned citizen. I write today in support of the revised changes for House Bill 134.

As far back as history is recorded, Bristol Bays watershed has been recognized as a resource worth protecting. In 1972 legislation was enacted to insure a heightened level of protection was placed upon the valuable waters of Bristol Bay, acknowledging what elders had shared long ago. The sustainable resources of Bristol Bay are so vast and so rich as to be unquantifiable in monetary value. The fuel for these resources is our water; fresh, clean and pristine. It is time, today, to enhance what was started in 1972, by specifically defining the protection our waters require.

As I stated in earlier testimony, as a resident of Bristol Bay, I am not anti-development, quite to the contrary, I am pro-development. We need economic opportunities for our residents and youth to prosper and to bring our villages back to life. In an effort to address these needs I have been involved in training for adults and youth in the sport fishing industry by promoting participation in classes where students may acquire coast guard licenses and sport fishing knowledge and guide licenses. These classes have now been in place for several years, thanks to a cooperative effort from UAF and the Southwest Alaska Vocational and Educational Center here in King Salmon. Many of the graduates have gone on to participate in our sport fishery, some under my employment. These classes are currently scheduled to be offered again this spring. Because of

efforts like this I believe we will continue to see more Native Corporations and area Villages taking advantage of the local opportunities in sport fishing. We are opening new economic opportunity, locally, but without protection of our resource, this opportunity will have no future.

The sport and commercial fishing industries have worked hard for decades on bringing a message about Bristol Bay. A message that not only states we have the largest abundance of fresh water fish and salmon available on earth, we also have the most pristine, crystal clear, clean water and environment available. Users of our precious resource, all across the globe, give our markets sustainability because of the pure environment we can and do guarantee. I know that this message carries value not for a day, a season or a year, but further into the future then we can see. It is an established message, deserving additional protection that will not eliminate future opportunity.

I have given careful consideration to the revising of this bills language; I had my reservations about the limitations offered by the previous version. I do not want to see opportunity for our communities and citizens, unduly encumbered, but I do want to make sure that long term opportunity is not forsaken for short term gain at the risk of everything that can and would be ours forever.

I do not wish to take up any more of your valuable time then is necessary, so in closing I thank you for your attention to my testimony. I feel the revisions offered to you in HB 134 address previous concerns about restricting too many future business opportunities in southwest Alaska. HB 134 now offers a valuable measure of protection to our unquantifiable resource. I urge you on behalf of my home, my business, my family and protection for my way of life, to pass HB 134.

Sincerely,

Nanci A. Morris Lyon

Katmai Fishing Adventures LLC

P.O. Box 221 – King Salmon, AK 99613 - 907-246-8322 – gofish@bristolbay.com

Louie Flora

From: Diana Oldham [olddiana56@yahoo.com]
Sent: Friday, February 15, 2008 10:29 PM
To: Rep. Paul Seaton
Subject: hb 134

Follow Up Flag: Follow up
Flag Status: Blue

Pls vote in Favor of hb 134

Be a better friend, newshound, and
know-it-all with Yahoo! Mobile. Try it now. [http://mobile.yahoo.com/;](http://mobile.yahoo.com/;_ylt=Ahu06i62sR8HDtDypao8Wcj9tAcJ)
[_ylt=Ahu06i62sR8HDtDypao8Wcj9tAcJ](http://mobile.yahoo.com/;_ylt=Ahu06i62sR8HDtDypao8Wcj9tAcJ)

Louie Flora

From: Steve Weisman [steview@ppsf.com]
Sent: Saturday, February 16, 2008 5:12 PM
To: Rep. Paul Seaton
Subject: I strongly urge you to support HB 134 - The Wild Salmon Protection Act

February 16, 2008
Paul Seaton

Dear Paul Seaton,

Dear Seaton,

Please protect my livelihood. I work in Bristol Bay and on the Alaska Peninsula. I have been working in the Alaska seafood industry since 1976. If we take care of the habitat we will have subsistence fish and local jobs long after the minerals are gone.

Please support this bill.

Sincerely

Steve Weisman
c/o Peter Pan Seafoods
P.O. Box 16
King Cove, AK 99612

Louie Flora

From: Michael L. Herbeck [upstream@gci.net]
Sent: Sunday, February 17, 2008 5:32 PM
To: Rep. Paul Seaton
Subject: I strongly urge you to support HB 134 - The Wild Salmon Protection Act

February 17, 2008
Paul Seaton

Dear Paul Seaton,

Re: HB 134 - Wild Salmon Protection Act

Dear Paul Seaton;

I urge you to support HB 134.

I agree with HB 134's resolution of the grave challenges Alaska faces in preserving wild salmon habitat the way it exists now and in preventing the degradation of water use and quality.

Contact Information:
Michael L. Herbeck
3294 Riverview Drive
Fairbanks, Alaska 99709

Sincerely

Michael L. Herbeck
3294 Riverview Dr
Fairbanks, AK 99709-4740

From: boone@xyz.net
Sent: Friday, February 15, 2008 12:28 PM
To: Louie Flora
Subject: HB 134

I would like Paul Seaton to know that I am a commercial fisherman in Bristol Bay and am in favor of HB 134. The Bristol Bay area is one of the most pristine areas in the world and has the largest red salmon run in the world. We need to be very careful to prevent anything that would damage that environment.

Thank you.

Dave Boone
Box 396
Homer, Ak 99603

2/15/2008



Alaska State Legislature

Please enter into the record my testimony to the (H)FSH
COMMITTEE NAME
committee on HB134 dated 2/18/08
BILL / SUBJECT TODAY'S DATE

My name is Steve Tutt, I live in Homer, AK (28 years), and have been a commercial fisherman for 37 years. I have 3 sons who also fish and represent the third generation of commercial fisherman in our family.

We have a significant interest in the future of our fisheries, in this case, the protection of the Bristol Bay Anadromous watershed. As Bristol Bay fisherman, and as lifelong Alaskans who are also wild sportsman, we support the vigorous protection of all anadromous water conservation and protective measures needed to preserve both our livelihood and the sport fishing and outdoor activities that have been a part of our lives for generations as

Alaskans. Sulfide mining in any form in any anadromous watershed should be stringently regulated.

Signed:

Respectfully submitted, Steve Tutt

TESTIFIER (SIGN, PRINTED NAME)

self and family

REPRESENTING

PO - Box 1105 Homer, AK. 99603

ADDRESS

907-399-6007

PHONE NO.



Alaska State Legislature

Please enter into the record my testimony to the (H)FSH
committee on HB 134, dated 2/18/08
BILL / SUBJECT COMMITTEE NAME TODAY'S DATE

Sirs,

My Family and I support this
house bill whole heartedly.

Please take this aggressive and
bold move.

The resources in the ground will
be there in future generations and why
it is the salmon runs and B. Bay
culture at this time.

Signed:

Mark Munro

TESTIFIER (Signed, PRINTED NAME)

REPRESENTING My FamilyBox 1971 Homer

ADDRESS

235-2485

PHONE NO.

Louie Flora

From: Tom Robinson [tomr3006@aol.com]
Sent: Monday, February 18, 2008 8:50 AM
To: Rep. Paul Seaton
Subject: Salmon

Dear Paul,

I would like to voice my support for HB 134 "Wild salmon protection act". Alaska has one of the World's last great fisheries as man has decimated most of the others. The Alaska fishery is also very fragile and needs as much protection as possible. HB 134 will go a long way to add another layer of protection for these fish. There is no doubt in my mind that without this type of protection the salmon will eventually be effected and wiped out. It may take some years, but it will happen.

It is incumbent upon this legislature to do something to insure that the salmon will have clean waters to spawn in for all time.

Sincerely,

Thomas V Robinson

More new features than ever. Check out the new AOL Mail ! - <http://webmail.aol.com>

Louie Flora

From: Bill Horn [whorn@dc.bhb.com]
Sent: Tuesday, February 19, 2008 2:57 PM
To: Louie Flora
Cc: Adam Berg
Subject: HB 134 and "Takings" Allegations
Follow Up Flag: Follow up
Flag Status: Blue

Mr. Flora, I understand that new allegations have arisen that HB 134 might create a "taking." Specifically, I was recently provided a Feb. 12, 2008 memorandum that addressed section 3 of the proposed bill which appears to require legislative approval, via a resolution, for oil and gas leasing as well as mining permits in the Bristol Bay drainage. It appears to me that section 3 may create certain separation of powers issues rather than takings concerns per se. The use of legislative resolutions to authorize, or overturn, authorized agency action has been in disfavor for many years. In Alaska, this view is expressed in part by the A.L.I.V.E. Voluntary case cited in the Feb 12 memo. At the federal level, similar quasi-legislative approval requirements (or vetoes) were struck down by the Chadha decision in the early 1980's.

Regarding takings, *Beluga v. DNR* 973 P.2d 570 (Alaska 1999) remains the primary case. In it the Alaska Supreme Court held that although the mining company had "property rights in its [mining] claims" it "had no right to mine" and that its "mining 'rights' were prospective and contingent." *Id.* at 575. Hence, when the claimant could not acquire the authorizations to mine the claims from the State, the State was not liable to the claimant for a "taking."

Should the Legislature act to impose new environmental or public health and safety conditions on prospective mining operations in the Bristol Bay region, and a mining claim holder could not satisfy these new conditions, *Beluga* stands for the proposition that the claim holder could not successfully pursue a takings claim against the State.

In other related cases, the Alaska Supreme Court has been clear that a permit applicant that spends money seeking government approvals or permits has no guarantee that such approvals will be forthcoming. And if such an applicant wanted to "gamble" that it would obtain such permits, but "lost this gamble" (i.e., the permits were denied), the State had no obligation to compensate the applicant for its losses. *Anchorage v. Sandberg* 861 P.2d 554, 560 (Alaska 1993).

These and other related cases are analyzed in detail in a January 9, 2007 legal memorandum provided by me, Mr. Geoff Parker, and Mr. Roger Flynn, on behalf of Trout Unlimited, to the Board of Fisheries. I understand you have a copy of this memo but if not, I would be pleased to send you a copy.

Thank you and please let me know if you have any questions or need additional information.

Bill Horn

William P. Horn, Esq.
Birch, Horton, Bittner & Cherot
1155 Connecticut Avenue, N.W., Suite 1200
Washington, D.C. 20036
Phone: (202) 659-5800
Facsimile: (202) 659-1027

2/19/2008

whorn@dc.bhb.com
www.birchhorton.com

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2/19/2008

Louie Flora

From: Kelly Burnett
Sent: Monday, February 18, 2008 2:47 PM
To: Louie Flora
Subject: FW: testimony

super slouth that i am, i've garnered another for 9/24/07

From: Lydia Olympic [mailto:lydia_olympic@twos.org]
Sent: Monday, February 18, 2008 2:14 PM
To: Kelly Burnett
Subject: testimony

Hi Kelly

Here is the recap on the testimony I gave in the fall at Newhalen, Alaska.

Thank you, Chairman Seaton and representatives for giving us opportunity to tell you our stories.

I am from Igiugig, Alaska top of the Kvichak. As of June 2006 I've moved to Anchorage, AK.

I didn't realize how precious our sockeye salmon was until I moved away.

I thought everyone in this world had this incredible gift of crystal clear waters and abundant salmon in their rivers and backyard.

The Frazier River fishery in British Columbia is in decline and this year many natives chose not to subsistence fish because of low returns.

I've served on EPA's National Tribal Operations Committee and Regional Tribal Operations committee for six years. I was one of 19 elected nationwide to serve as an advisory council to EPA on Indian country issues.

I saw first hand on how these rules and regulations that are there to protect us, our fisheries, our lands, and our environment can be changed by who is elected and their administration. For example the Bush administration changed the wording from hazardous waste to fill and now industries can dump their fill into a freshwater lake/stream such as the Lower Slater Lake or by changing the air particulate matter 2.5-10 so that the mining industries, agriculture and fugitive dust are exempt in populations less than 100,000.

That is on the federal side now on the state side for example moving the habitat division over to DNR or the mixing zone regulation changed by the Murkowski administration.

We must do all that we can to protect our fisheries, our culture, our fresh water, and our way of life that is why I support this bill and we all appreciate your support and thank you for your time.

I'm pretty sure that is how I said the ending.

Lydia

Lydia Olympic
Tribal Advocate
The Wilderness Society
705 Christensen Drive
Anchorage AK 99501
907-272-9453 ext. 104
907-301-1873 cell



Trout Unlimited Alaska

February 18, 2008

To: Representative Paul Seaton and Members of the House Fisheries Committee
From: Lauren Oakes, Conservation Programs Officer, Trout Unlimited Alaska
Re: HB 134

Thank you for the opportunity to comment on the revised version of House Bill 134, The Wild Salmon Protection Act. My name is Lauren Oakes, and I am testifying on behalf of Trout Unlimited Alaska. TU's work in Alaska focuses on protection of key salmon watersheds, stream restoration, and monitoring international fisheries treaties. A large portion of our program focuses on the Bristol Bay watershed.

With the support of over a thousand Alaskan members and 160,000 nationwide, we are deeply concerned about the future of the world's largest remaining wild sockeye salmon fishery in the face of proposed large-scale metallic sulfide mining in the Bristol Bay watershed. Given the demonstrated track record of this polluting industry, we simply believe the risk is too high to take in this location. The proposed sulfide mining directly threatens our world-renowned renewable fishery resources in this watershed, and we support House Bill 134.

I recently reviewed previous testimony from HB 134, both pro and con, and the testimony from the field hearings this past fall. Last winter, you'll recall, the phones were backlogged with callers from across the state. And the written comment was extensive in favor, in fact roughly 4 to 1 in favor of HB 134. Of the testimony submitted not in support of 134, the majority of opposition came from concern about the former version of this bill blocking all development potential in the area. There were concerns about other energy development, dock development and so on and many of the opponents referred to this bill as a blanket legislation. Yet many of these opponents noted the need for any development to occur without impact to fisheries. These concerns have been addressed by Representative Edgmon, as the bill now specifically addresses sulfide mining operation. A petition with over 3000 signatures of support for higher standards of protection was also submitted to the legislature this fall.

There are already changes being made in the region that are affecting habitat, and I'd like to provide you with an example. DNR has issued temporary water use permits to the former Northern Dynasty Mines, now the Pebble Partnership, to withdraw water for use in exploration. 9 permits approve water withdrawals (most more than 100,000 gallons per day) in roughly 40 different locations at the proposed site and surrounding area to the Koktuli, Upper and Lower Talarik Creeks. There is no current understanding of groundwater connections that would allow us or DNR staff, or any scientist at this time (except perhaps Pebble contractors who do not make their raw

data publicly available), to know the impact these withdrawals could be and are having. The United States Geological Survey will verify this fact of concern. I will note that for the first time in documented history this summer, the Koktuli River, headwaters to the Nushagak and Mulchatna Rivers, dried up in large upstream portions. In Dillingham in 2006, local natives testified before the Board of Fisheries that areas where they used to fish were drying up on the Koktuli. As you all were able to visit the region this past fall, you know firsthand it is blanketed in lakes and rivers, endless miles of water. But Bristol Bay, even in these early stages of massive exploration (where Pebble claims they are "not yet a project"), we are already moving water too fast in an area we do not know, and in a watershed that is among the most productive in the world.

I also want to call to attention the fact that the Pebble Partnership has put forward the assertion that Pebble will not be built if there will be damage to any fisheries, essentially this "no net loss" policy. But I do not see them standing before you today to support this bill and to make that commitment in law. That is your responsibility, and it is indeed in the power of the Fisheries Committee to put fish first in Bristol Bay. All other development can come forward but only if it is compatible with that primary use.

House Bill 134 adds common sense safeguards to legislation championed 35 years ago by Alaska's late Governor Jay Hammond during his time in the Alaska State Senate. This bill makes a critical step in putting into law what companies like Pebble preach when wanting to build a project, but inevitably fail to uphold over the long-term operation. You have the power to put into law simply that the world's largest remaining sockeye salmon fishery should be protected.

I would also like to respond to Mr. Fogels comments on liability made today Monday, Feb 18, arguing that there are laws in place to hold individuals responsible for impacts to fisheries. Last summer, over 40 million salmon returned to this watershed. If these numbers drop, how do you hold a company liable for that? How do you place a value on this renewable resource and all the industry, lives, and world-food sources it supports? Why not simply protect it from the onset, today? Let's just set the bar high to start.

Thank you again for this opportunity to comment.



Alaska State Legislature

Page 1

Please enter into the record my testimony to the House Special Committee on Fisheries
Committee name

Committee on CS For HB #134, dated February 18, 2008
Bill/Subject

I support this Bill #134 version "O" with the following specific additions as underlined:

Section 2. AS 16.10 as amended by adding a new section to read:

Sec. 16.10.015. Protection of salmon streams within certain drainages affecting Bristol Bay. (a) Notwithstanding any other provision of law, a person may not intercept, withdraw, obstruct, divert, inject, enrich, contaminate, cause siltation or sedimentation, pollute, or pump, either temporarily or permanently, any subsurface or surface water, or precipitation within the anadromous fish waters of the Bristol Bay watershed in connection with a sulfide mining operation.

These recommendations are offered with the realization all life stages of anadromous fish species depend upon the quality (and quantity) of that water relative to olfactory receptors that facilitate migration to their natal streams. Extraordinary inorganic and organic "enrichment" may either/or produce biomagnification of toxics in the food web and/or increase susceptibility of the fish to bacterial/viral infections leading to high mortality. We seem to be experiencing the latter problems in the Cottonwood Creek, Wasilla Lake watershed. The permitting process relative to DOT&PF, DEC, DNR Habitat, has favored development (Commercial) over Fish/wildlife/water Quality & Quantity Concerns. Let's not allow this in Bristol Bay!

Signed: GARVAN BUCARIA
Testifier

Self
Representing (Optional)

P.O. BOX 870298, WASILLA, ALASKA 99687
Address

(907) 373-4974
Phone number

Page 2

ACCESSION NO: 2001-0069

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES - FISH PATHOLOGY SECTION
333 RASPBERRY ROAD, ANCHORAGE, AK 99518-1599 - Phone (907)267-2244/Fax 267-2194

REPORT OF LABORATORY EXAMINATION

LOT (YEAR, STOCK, SPECIES): Cottonwood Creek sockeye salmon, Oncorhynchus nerka

FACILITY: ADFG Palmer, Sport Fish

CONTACT PERSON/ADDRESS: Tom Namtuedt, ADFG Sport Fish, 1800 Glenn Hwy., Suite 4,
Palmer, AK 99645-6736

SAMPLE DATE: 5/30/01

DATE SAMPLE RECEIVED: 5/30/01

SAMPLE TYPE: Whole fish

LIFE STAGE: Smolt

STATE: Live

NUMBER IN SAMPLE: 10

WILD: Yes

HISTORY/SIGNS: Some moribund and dead sockeye salmon smolts were seen at the Cottonwood Creek weir and also up the Creek to Wasilla Lake. Fish were reported to have eroded fins and white patches on their bodies. Biologists estimate up to 5-10% of the outmigrants have been lost. Water temperatures have been 10-17°C in the Creek.

REASON FOR SUBMISSION: Diagnostic.

FINAL REPORT DATE: 6/15/01

CLINICAL FINDINGS

NECROPSY:

MORIBUND: 6/6 with moderate to heavy Apiosoma on skin scrape
6/6 with eroded caudal fin with invasion of Saprolegnia
3/6 with patches of Saprolegnia on body
3/6 with Flexibacteria on gills with gill hyperplasia
1/5 with motile, rod shaped bacteria on spleen squash
2/6 with hemorrhaging at vent
2/6 with hemorrhaging in eye or at base of fins

FAT: 0/5 positive for Aeromonas salmonicida
0/5 positive for Renibacterium salmoninarum

BACTERIOLOGY: 4 kidneys struck on TSA at 18°C for 5 days.

MORIBUND: 2/4 with light growth of an oxidase positive, Gram negative, motile, rod shaped bacteria. Bacterial isolate identified as Aeromonas hydrophilla by biochemical testing.

VIROLOGY: 2/2 pools (2 X 5 fish/pool) positive for presumptive IHNV. Fish tissues processed by quantal assay on EPC cell line at 15°C for 13 days. Minimum level of detection = 50 infectious particles/gm of pooled sample.

Page 3

DIAGNOSIS: Aplosoma, Saprolegnia, Aeromonas hydrophila, bacterial gill disease, IHNV

COMMENTS/RECOMMENDATIONS: It is difficult to determine which condition is actually causing the primary mortality in this case since several entities were found. The most consistent findings were the Aplosoma and the external Saprolegnia that were seen on every fish examined. Aplosoma is a ciliated protozoan that attaches to the fish by means of a disc. They are normally found in freshwater with a high organic content. Although I did not observe the Flexibacteria on the eroded caudal fins, the bacteria were seen on the gills of some fish in large numbers. These bacteria can attach to the gill epithelium, which results in gill hyperplasia and reduced capacity for gas exchange. This condition is often associated with poor water quality conditions. Aeromonas hydrophila is a bacterium that causes septicemia in fish. It is considered an opportunistic pathogen and normally causes disease in stressed fish or fish compromised by other pathogens. These bacteria are ubiquitous in aquatic ecosystems and are commonly abundant when organic content of the water is high. Infectious hematopoietic necrosis virus (IHNV) is a viral disease commonly seen in sockeye salmon populations in Alaska, especially in adult fish in spawning condition. In this case, the virus was present at low titers and is likely not causing significant mortality at the time of sampling. This virus is occasionally found in outmigrating wild sockeye salmon smolt populations.

FISH HEALTH INVESTIGATOR: ¹⁷Burton

TECHNICAL ASSISTANCE: Starkey

COPIES TO: FY2001, Misc., Meyers

BRISTOL BAY NATIVE ASSOCIATION

P.O. Box 310

Dillingham, Alaska 99576

(907) 842-5257

By

FULL BOARD OF DIRECTORS

Resolution 07 - 33

**A RESOLUTION SUPPORTING THE INTENT OF H.B. 134, AN ACT RELATING TO
CONSERVATION AND PROTECTION OF WILD SALMON PRODUCTION IN
DRAINAGES AFFECTING THE BRISTOL BAY FISHERIES RESERVE.**

WHEREAS, the Bristol Bay Native Association is a regional Native non-profit corporation serving 31 tribal communities in the Bristol Bay Region; and;

WHEREAS, the tribal members of BBNA's member tribes depend on clean water and renewable resources such as salmon, fresh water fish, animals and plants that provide subsistence food to our tribal membership, and;

WHEREAS, without protection and conservation of our river drainages we would lose our renewable resources, and;

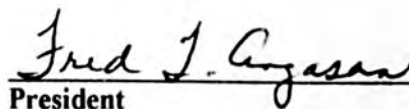
WHEREAS, Bristol Bay is well known for its world's largest wild stock of sockeye salmon, and;

WHEREAS, an overwhelming majority of Bristol Bay residents depend on the return of salmon to provide them with their subsistence needs and fishing employment every year, and;

WHEREAS, the river drainages of Bristol Bay need protection from large scale development that would draw on large quantities of water that harm the environment and stop the return of the annual migration of salmon to the Bristol Bay watershed.

NOW THEREFORE BE IT RESOLVED by the Bristol Bay Native Association that it fully supports the primary intent of H.B. 134 to increase the protection of rivers and streams that support salmon; and

BE IT FUTHER RESOLVED that it urges the Alaska State Legislature to amend the bill to ensure that it would not impede types of development on private lands that do not require large scale use or disruption of water.


President

CERTIFICATION:

I, the undersigned Secretary of the Bristol Bay Native Association, Inc. do hereby certify that the foregoing resolution was passed by the Full Board of Directors of the Bristol Bay Native Association at a duly called and noticed meeting on the 28th day of September, 2007, and that a quorum was present.


Secretary

Louie Flora

From: David Fannon [Duchesse.Dave@hughes.net]

Sent: Tuesday, February 19, 2008 11:37 AM

To: Rep. Paul Seaton

Subject: HB 134

Dear Senator, I strongly urge you to pass this bill protecting the wild salmon of Alaska. Respectfully, David Fannon, Dogue, Virginia

2/19/2008

Louie Flora

From: Dave Lacey [dlacey@mosquitonet.com]
Sent: Friday, February 15, 2008 12:52 PM
To: Rep. Paul Seaton
Cc: Rep. David Guttenberg
Subject: HB 134

Dear Rep. Seaton, I support CS for HB 134. I eat Alaska salmon and want the fishery and my health protected.
Thanks for your efforts. Dave Lacey



February 17, 2008

Representative Paul Seaton
State Capitol, Room 102
Juneau, AK 99801

Re: CS for HB 134

Dear Paul,

I would like to take this opportunity to thank you for taking the time to consider my written testimony. I have a tremendous amount of respect for you and it is clear that you acknowledge the public process contemplating large-scale open pit mining, one the likes Alaska has never seen let alone permitted, is essential. I urge you and the House Fisheries Committee to carefully consider and then support the CR for HB 134.

This timely piece of legislation will assure that the Bristol Bay salmon fishery is forever protected, while allowing for responsible resource development and customary and traditional activities. This updated version of HB134 adds essential safeguards to augment the Bristol Bay Fisheries Reserve. It does so by underscoring the importance of this watershed and its relation to the fisheries in recognizing that the entire system is "hydrologically interrelated and connected." Furthermore, and most importantly, it defines specifically the true threat to the integrity of the watershed and fishery as being "sulfide mining operations." This is an important distinction from the previous version of the bill.

It is absolutely imperative that we take the time now to protect current industries vital to the region - those that are sustainable, responsible, viable, and historic - before we allow one industry, with virtually no track record in the region, the ability to at best manipulate and at worst ruin the headwaters of this incredible resource. I believe that this bill will offer the necessary protections to the watershed and thus to the industries and communities that rely on it.

In closing, allow me to reiterate my respect for you and your colleagues. I beg you to support the CR for HB 134.

Warmest Regards

Dan Oberlatz

Owner - Alaska Alpine Adventures, LLC

Louie Flora

From: Maureen Knutsen [maureen.knutsen@gmail.com]
Sent: Monday, February 18, 2008 7:49 AM
To: Rep. Paul Seaton
Cc: Rep. Bryce Edgmon
Subject: H.B. 134



February 17, 2008

Representative Paul Seaton
 State Capitol, Room 102
 Juneau, Alaska 99801

I am writing to reassert my support for H.B. 134 and to urge quick passage of this essential legislation. I testified in favor of the original bill during hearings in Naknek and am encouraged that revisions have made the bill more acceptable to the majority.

Thank you to Bryce Edgmon and all who have worked on behalf of local residents like me who value our clean water and abundant fish with this bill.

I appreciate your consideration of my views on this issue.

Maureen Knutsen
 P.O. Box 134
 Naknek, AK 99633
 907-246-6675

I would like to take this opportunity to thank you for taking the time to consider my written testimony. I have a tremendous amount of respect for you and it is clear that you acknowledge the public process contemplating large-scale open pit mining, one that has never been let alone permitted, is essential. I urge you and the House Fisheries Committee to carefully consider and then support the CR for HB 134.

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It is absolutely imperative that we take the time now to protect current industries vital to the region - those that are sustainable, responsible, viable, and historic - before we allow one industry, with virtually no track record in the region, the ability to at best manipulate and at worst ruin the headwaters of this incredible resource. I believe that this bill will offer the necessary protections to the watershed and thus to the industries and communities that rely on it.

In closing, allow me to reiterate my respect for you and your colleagues. I beg you to support the CR for HB 134.

Warmest Regards

Dan Oberatz
 Owner - Alaska Alpine Adventures, LLC

From: Rep. Paul Seaton
Sent: Monday, February 18, 2008 8:18 AM
To: Louie Flora
Subject: FW: H.B. 134

From: Maureen Knutsen [mailto:maureen.knutsen@gmail.com]
Sent: Monday, February 18, 2008 7:49 AM
To: Rep. Paul Seaton
Cc: Rep. Bryce Edgmon
Subject: H.B. 134

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Thank you to Bryce Edgmon and all who have worked on behalf of local residents like me who value our clean water and abundant fish with this bill.

I appreciate your consideration of my views on this issue.

Maureen Knutsen
P.O. Box 134
Naknek, AK 99633
907-246-6675

From: Mary Jane Shows
Sent: Monday, February 18, 2008 1:53 PM
To: Louie Flora
Subject: FW: New Pom:HB 134 Protection Of Salmon Spawning Water

-----Original Message-----

From: Shay Wilson
Sent: Monday, February 18, 2008 10:30 AM
To: Mary Jane Shows
Subject: New Pom:HB 134 Protection Of Salmon Spawning Water

Lisa Krebs
Po Box 1971

Homer 99603-1971,
munro@xyz.net

My family and I have fished Bristol Bay for 16 years, and I strongly support the current draft of HB 134. It is vitally important we protect the watershed areas of Bristol Bay that are the spawning ground and nursery for this important fishery. Please protect our wild salmon resource.

From: Mary Jane Shows
Sent: Monday, February 18, 2008 1:53 PM
To: Louie Flora
Subject: FW: New Pom:Environmental Concerns

Follow Up Flag: Follow up
Flag Status: Blue

-----Original Message-----

From: Shay Wilson
Sent: Sunday, February 17, 2008 9:22 AM
To: Mary Jane Shows
Subject: New Pom:Environmental Concerns

Jan Odhner
Po Box 176
Mi.34.5 Seward Hwy
Moose Pass 99631-0176,
jjodhner@arctic.net
288-3678
266-3678

Please consider how important our salmon fishery is to the residents of south central Alaska and gaurd it with your life!



Cook Inlet Alliance
P.O. Box 2421
Homer, Alaska 99603

The Cook Inlet Alliance is comprised of citizens dedicated to promoting the responsible use and management of public resources impacted by mining and related industrialization.

February 17, 2008

Rep. Paul Seaton, Chair
House Fisheries Committee
State Capitol, Rm 102
Juneau, AK 99801-1182

Dear Representative Seaton and Committee Members:

The Cook Inlet Alliance, a project of the Kachemak Bay Conservation Society, supports HB 134. We think this action is essential if the State of Alaska is to provide the level of protection to anadromous fish and their habitat that was initially envisioned when the State established the Bristol Bay Fisheries Reserve in 1972.

HB 134 will not prohibit a sulfide mine if the mine does not impact surface or ground waters. We think this kind of unequivocal statement is needed to avoid having permitting decisions made based on some of the double talk that we are now hearing with regards to the Pebble Mine.

To illustrate, Northern Dynasty's web site recently stated:

Can fishing and mining co-exist?

Definitely.... In many cases, mining activity actually enhances fish habitat and fish production. This is the case at the Fort Knox mine near Fairbanks, where mine development has vastly increased natural populations of grayling and burbot.

What is not being said is that the Fort Knox Mine recently built near Fairbanks is in an area that was extensively mined during the early 1900s. Huge dredges turned much of the area into tailing piles, leaving behind little worthwhile habitat for fish or wildlife. While mitigation associated with the Fort Knox Mine may improve matters, it doesn't restore original productivity. It is misleading to imply that large-scale mining might actually enhance pristine salmon habitat such as Bristol Bay.

In contrast, it should be noted that States Sustainable Salmon Fisheries Policy (5 AAC 39.222) says: "The Board of Fisheries and Department of Fish and Game recognize that while, in the aggregate, Alaska's salmon fisheries are healthy and

sustainable largely because of abundant pristine habitat and the application of sound, precautionary, conservation management practices."

The Northern Dynasty web page also says; *Perhaps the best example of the co-existence of mining and fishing is the Fraser River in British Columbia (Canada). The Fraser River is the second largest salmon-producing system in the world, with sockeye runs that rival the world famous Bristol Bay fishery.*

Without knowing the condition of Fraser River salmon, Northern Dynasty's version would give you the impression that these stocks are robust and thriving. However, an article in the December 1, 2007 issue of the Vancouver Sun says quite the opposite.

"Things are going from bad to worse for Pacific salmon.

Just weeks after the close of an exceptionally poor year, a 2008 forecast by the Department of Fisheries and Oceans suggests that opportunities for sport, commercial and aboriginal food fishing will be exceptionally rare in the Fraser River

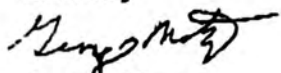
Sockeye in 2008 will be at the low ebb of their four-year cycle of strong and weak runs and the department suggests about two million of the prized red-fleshed salmon could come back to the Fraser this year.

That's no better than the disastrous season just past, in which the Fraser commercial fleet was entirely excluded from the sockeye fishery."

While the demise of the Fraser River salmon is due to a complex variety of impacts that defy pointing the finger at any one cause, it seems clear that it should not be our model for managing Bristol Bay salmon. If anything, the Fraser River situation is what we should avoid.

In summary, the point we want to make is that interpretation of information is already becoming an issue and the Fraser River situation may indeed be the future for Bristol Bay salmon unless we require clear, unequivocal standards that leave little room for creative interpretation. HB 134 meets that standard. We urge your support.

Sincerely



George Matz

From: Rep. Paul Seaton
Sent: Monday, February 18, 2008 2:00 PM
To: Louie Flora
Subject: FW: HB 134
Follow Up Flag: Follow up
Flag Status: Blue

From: Robin Lund [mailto:summersong@alaska.net]
Sent: Thursday, February 14, 2008 3:02 PM
To: Rep. Paul Seaton
Subject: HB 134

Paul—

Please support HB 134. I know that you are making a sincere effort to protect our salmon and water—keep up the good work: I and a lot of other people are rock solid behind you.

Rob Lund
Homer



Alaska State Legislature

Please enter into the record my testimony to the FISHERIES Com.
committee name
committee on HB 134, dated 02-18-08
bill/subject

SUPPORTING DOCUMENTS FOR HB 134.

Signed: [Signature]
Testifier
TROST UNLIMITED
Representing (Optional)
10741 LUBING CIR BNC. AK 99507
Address
907 227-8719
Phone No.

Predicting Water Quality Problems at Hardrock Mines

A FAILURE OF
SCIENCE, OVERSIGHT,
AND GOOD PRACTICE

An EARTHWORKS white paper summarizing and analyzing the
groundbreaking studies by Ann Maest, PhD and Jim Kuipers, PE

*Comparison of Predicted and Actual Water Quality at Hardrock Mines:
The reliability of predictions in Environmental Impact Statements*

and

*Predicting Water Quality at Hardrock Mines:
Methods and Models, Uncertainties, and State of the Art*

By Alan Septoff EARTHWORKS December 2006

Introduction

A failure of science, oversight and good practice

This paper is a summary, written for the layperson, of the findings of a two-year research study on the accuracy of water quality predictions at hardrock mines. The study, conducted by Jim Kuipers and Ann Maest¹, brings to light a decades-long failure by government regulators, industry, and consultants to recognize and correct deficient procedures and methods for predicting contamination of water at hardrock mines.

Kuipers and Maest have discovered that, in practice, there is a failure to compare predictions made before the mines are permitted with the actual results. The predictive modeling results are not adjusted to account for real-life failures—this, despite the fact that at the vast majority of mines, problems were worse than predicted. Establishment of credibility in modeling requires that the predictions be tested, and then the models adjusted based on the results. This process appears broken when it comes to predicting the impact of mines on water quality for mine permits.

To permit mines, federal law² requires regulators to apply scientific approaches to predict the environmental impacts of the mine proposal—including surface water and groundwater quality impacts. The accuracy of these water quality predictions is of significant public concern. Mining's impacts on water quality may affect municipal, agricultural, and rural water supplies; important commercial, subsistence and sports fisheries; wildlife populations; tourism; and recreation. One of the reports from the study, *Comparison of Predicted and Actual Water Quality at Hardrock Mines (Comparison Report)*, asks a basic question that government regulators, industry officials and consultants should have asked long ago:

Do predicted water quality impacts match reality?

The answer, in short, is no. The *Comparison Report* reveals:

- 100 percent of mines predicted compliance with water quality standards before operations began (assuming pre-operations water quality was in compliance).
- 76 percent of mines studied in detail exceeded water quality standards due to mining activity.
- Mitigation³ measures predicted to prevent water quality exceedances⁴ failed at 64 percent of the mines studied in detail.

Along with more analysis of this question, the *Comparison Report* and the companion report on methods and models used to predict water quality (*Methods and Models Report*), also seek to answer the necessary follow-up questions:

- In cases where predicted water quality impacts fail to match reality, why do they fail?

- Do certain types of mines fail more often than others?
- What can be done to address current failures and prevent future failures?

The Kuipers-Maest reports were prepared for a professional audience. The purpose of this paper is to translate and summarize the main findings of their research (for the layperson and the interested public), and to offer common sense recommendations based on those findings with an eye toward protecting natural resources and public health.

The Context

Why this research was necessary

The Environmental and Public Costs of Faulty Predictions

The failure to accurately predict and manage water quality impacts can result in significant negative impacts on clean water and steep taxpayer liabilities for the costs of cleanup. Consider one often-cited example—the Summitville gold mine in Colorado. Water pollution at this mine has cost American taxpayers more than \$200 million in cleanup costs. The majority of that money has been spent mitigating acid drainage and cyanide releases that were not predicted during the permitting process. When pollution spilled from a containment pond, 18 miles of the Alamosa River were effectively killed—impacting not only the aquatic life in the river, but also the adjacent farms and ranches that relied upon the Alamosa for irrigation and livestock watering.

While it may be argued that Summitville is one of the worst-case examples, problems abound. According to the U.S. EPA's Abandoned Mine Land Team, the cost of mine cleanup at sites on the National Priorities List (i.e., Superfund sites, like Summitville) in the United States is \$20 billion—almost 3 times the EPA's FY 2007 budget request. Long term water treatment and management is often the single most significant cost associated with mine cleanup.

In fact, there is an increasing number of mine sites throughout the U.S. that will require water treatment in perpetuity. In the arid west, these types of long-term impacts place a tremendous burden on downstream communities who must deal with the consequences of failed predictions. For example, government regulators have determined that the Zortman Landusky mine, located near the Fort Belknap Reservation in Montana, will continue to generate acid mine drainage for thousands of years. As a result, the Fort Belknap Tribes are faced with a continual threat to important tribal water resources, and the state of Montana will be spending tens of millions in public funds for long-term water treatment.⁵

In order to ensure clean water and protect taxpayers from liability for cleanup costs it is important to understand the frequency and magnitude of failures in predicting water quality impacts. Consider that at most major mines, operators are required to post financial assurances prior to operating. This is the good news. These assurances are supposed to guarantee that, should the mine operator go bankrupt, the mine site will be reclaimed at no cost to the taxpayer. However, the bad news is that these financial assurances are based upon expected reclamation costs and expected reclamation costs are based in large part upon water quality predictions.

Previous research by Jim Kuipers demonstrates that taxpayers are potentially liable for up to \$20.4 billion⁶ in financial assurance shortfalls at existing mine sites (in addition to the \$20 billion for Superfund sites) – due in large part to inaccurate water quality predictions.

A Growing Problem

Without correction, the environmental and financial impacts of faulty predictions could grow. Recent increases in metals prices have triggered an increase in the number of new mines being proposed in the United States. According to the Bureau of Land Management, new mining claims filed in 2006 are on track to more than quadruple since metals prices began their precipitous rise in 2002.

In the United States alone there are approximately 180 large hardrock mines – in nearly all regions of the country – that are in various stages of permitting, development, operation or reclamation and closure. In order to better protect important water resources and reduce future economic liability, improvements must be made in the prediction and prevention of impacts to water quality at these sites. On the positive side, the increase in metals prices has resulted in fewer bankruptcies in the sector—and it is bankruptcies that trigger the use of reclamation bonds for mine site reclamation and water treatment. This may provide regulators and industry officials with a window of opportunity to solve the underlying problems with water quality prediction.

Unprecedented Research: the absence of previous studies and the data gap

When they began their research, the authors expected to incorporate data from some mines where government officials had already completed a comparison of predicted and actual water quality impacts. However, they were unable to find comparisons of water quality predictions and actual water quality impacts of mines.

The authors found that no single repository exists for the Environmental Impact Statements (EISs) currently mandated under federal law. EISs contain the water quality predictions analyzed in the study. In some cases, local

federal offices that processed the studies did not have copies of them. Furthermore, in many cases, the authors were forced to submit Freedom of Information Act requests and pay fees to obtain copies of these studies. Similarly, water quality from mines was inordinately difficult to obtain and in most cases required personal visits to agencies and long hours sorting through paper files.

Taken together, the absence of previously published research and the difficulty in gathering information is evidence of a data gap that surprised the authors and may help explain the previous lack of a comprehensive study of this nature.

It is important to note that the predictions data were available – no matter how difficult to obtain – only because the National Environmental Policy Act (NEPA) requires it. Without NEPA, this study would have been impossible to conduct.

A Tool for Many Audiences

While the research focuses on the underlying scientific and engineering processes that form the basis of water quality predictions, its recommendations are intended for use by many audiences to increase the effectiveness of future mine water quality predictions – directly and indirectly:

- This study should be useful to the scientific and engineering communities for suggesting ways to better characterize risks to water quality and to better apply mitigation methods to minimize or prevent potential impacts.
- The regulatory community can look to these reports, especially *Methods and Models*, for recommendations on how to fundamentally improve the permitting process to ensure a more accurate analysis of potential mining impacts. The inherent uncertainty in water quality predictions and mitigation failures should be conservatively viewed in order to ensure mine permitting decisions that are more protective of human health and the environment. The integrity of the mine permitting process is dependent on the use of accurate methods and models.
- This report can be utilized by the mining industry to improve current practices and more accurately predict consequences and ameliorate potential effects.
- It can be utilized by the insurance and investment industry as a tool to better understand the potential risks and costs associated with mining, and as a basis to reassess risks at current mines.
- And finally, it can be utilized by the interested public to more effectively advocate for water quality protections in the permitting process and to advocate in the public arena for legislative and regulatory changes that better protect water resources.

Do Predicted Water Quality Impacts Match Reality?

As indicated above, the answer is usually no — particularly when high risk mines, such as those with close proximity to water resources, are considered.

Sampled Mines

To arrive at this answer the authors initially reviewed 104 Environmental Impact Statements (EISs) and Environmental Assessments (EAs) for 71 major hardrock mines in the United States.⁷ The mines covered all important mineral sectors (gold, silver, copper, platinum group metals, molybdenum, lead, and zinc) and ten mining states (Alaska, Arizona, California, Idaho, Montana, New Mexico, Nevada, South Dakota, Utah, and Wisconsin).

A representative subset of 25 case study mines was then selected to evaluate the accuracy of the water quality predictions. Environmental impact reports for these mines were evaluated for predictions related to surface water, groundwater, and mine drainage quality during and after mining. These predictions were then compared with actual water quality conditions during and after mining.

Potential & Predicted Water Quality

The authors discovered a two-tiered system for water quality predictions, one-tier of which was based not on sound science, but on unsupported "good faith" projections.

The two tiers of "predictions" made about water quality in environmental assessments are referred to by the authors as "potential" and "predicted" water quality:

- **Potential** water quality is the expected water quality conditions in the absence of mitigation efforts by the operator.
- **Predicted** water quality takes the effect of mitigating measures into account. It is what mine operators forecast actual water quality will be during and after operations.

All the environmental reviews analyzed in the *Comparison Report* predict acceptable water quality after mitigation at mines where water quality standards were met before mining began. If this prediction were not made, the regulatory agency would not be able to approve the mine.

However, inadequate information was provided to demonstrate how the mitigation measures would actually prevent water quality impacts. Therefore, regulators were generally accepting the final water quality predictions on "faith."

Major Findings: Chronic Underestimates of Water Quality Problems

Prediction vs. Reality: Overall Water Quality Impacts to Ground and Surface Water

Of the 25 mines sampled:

- 76% of mines polluted groundwater or surface water severely enough to exceed water quality standards.
- 60% of mines polluted surface water severely enough to exceed water quality standards.
- At least 13 mines (52%) polluted groundwater severely enough to exceed water quality standards.

Predictions vs. Reality: the Failure of Mitigation

In the cases where water quality standards were exceeded, in some cases the mine proponent anticipated the potential for pollution and prepared mitigation strategies (e.g. a mine waste dump lined with plastic to prevent acid drainage leaching into groundwater). Predictions of the efficacy of mitigation were no more reliable than overall predictions of water quality:

- 73% of mines exceeded surface water quality standards despite predicting that mitigation would result in compliance. The other 4 mines didn't predict the need for mitigation.
- 77% of mines that exceeded groundwater quality standards predicted that mitigation would result in compliance. The other 3 mines didn't predict the need for mitigation.

Predictions vs. Reality: Mines near Water with Elevated Acid Drainage or Contaminant Leaching Potential are High Risk

Some mine projects are so high risk that water quality exceedances are a near certainty: those mines that are both near groundwater or surface water resources, and possess an elevated potential for acid drainage or contaminant leaching.

- 85% of the mines near surface water with elevated potential for acid drainage or contaminant leaching exceeded water quality standards
- 93% of the mines near groundwater with elevated potential for acid drainage or contaminant leaching exceeded water quality standards.
- Of the sites that did develop acid drainage, 89% predicted that they would not.

Water Quality Pollutants

Of the 19 mines that exceeded water quality standards, the pollutants that exceeded standards were as follows

- Toxic heavy metals such as lead, mercury, cadmium, copper, nickel or zinc exceeded standards at 63% of mines.

- Arsenic and sulfate exceeded standards at 58% of mines.
- Cyanide exceeded standards at 53% of mines.

Why Do Predictions Fail?

In order to evaluate water quality impacts during the permitting process, government regulators rely on water quality predictions created by hydrologists and geochemists and mining engineers using computer models and other types of field or laboratory studies. Those predictions are only as good as the science upon which the models/tools are based, and the site characterization information supplied to those models. So when water quality predictions fail to predict water quality for mining operations, they fail for two general reasons:

1. the science of mine water quality prediction is imperfect
2. the science of mine water quality prediction is imperfectly applied at mine sites

The Imperfect Science of Mine Water Quality Prediction

The complexity of pollutants' interaction and movement in groundwater and surface water systems at mines is difficult to recreate in a model. This is addressed in detail in the companion report by Maest & Kuipers titled *Predicting Water Quality at Hardrock Mines: Methods and Models, Uncertainties, and State-of-the-Art*.

According to *Methods and Models*, factors that complicate the prediction of water quality at mine sites range in scale from small to large. On a small scale, for example, it is not well known how minerals react in complex systems. On a large scale, geology, climate, methods of mining and mineral processing, and mine waste management approaches vary among and within mine operations. These large scale variations limit the degree to which information from one site can be applied to another.

Also, extrapolation from the laboratory to the mine must address complicating factors such as environmental conditions, water and gas transport, differences in particle size, and how these variables affect drainage quality over periods of decades or centuries. However, there is virtually no available field information describing the effect of these variables over extended periods of time. The lack of this field information introduces significant additional uncertainty into predictions.

Just as weather cannot be accurately predicted beyond a certain point because weather models and their inputs are not perfect, the transport of pollutants through complex geological and hydrological systems over the longer term, which can range from five years to tens of thousands of years is similarly difficult to predict.

One of the study's most significant findings, however, is where the practice of predicting weather and the practice of predicting water quality at mining operations part ways. Weather models are consistently re-evaluated based on a comparison of predictions with actual weather conditions that occur subsequently.

Not so with the models used for predicting water quality at mining operations. The very fact that the study is unprecedented shows that *professionals who predict mine water quality do not revisit their predictions, and neither do the regulators responsible for ensuring the accuracy of those predictions*. The models used for the predictions cannot be improved if their failures and successes are not evaluated. Where predictions of water quality at mining sites are concerned, the scientific process is broken.

Imperfect Science, Imperfectly Applied

A mine water quality prediction model can only reach its potential at any individual mine site if that site is correctly characterized (in terms of its hydrology and geochemistry) to the extent possible. According to Maest and Kuipers, that potential is not being reached.

There are two types of characterization failures described in the *Comparison Report*: hydrologic (related to water flow at a mine site) and geochemical (the chemistry, geology and mineralogy of the materials/minerals that comprise the mine site).

The *Comparison Report* documents that six of the 25 case study mines were inadequately characterized hydrologically, and that eleven of the case study sites were inadequately characterized geochemically.

Another example of "imperfect science, imperfectly applied" is the bias of mine water quality predictions made by consultants hired by the prospective mine operator. This problem is implied by the number of site characterization failures, and by the failure to check the results of past mine water quality predictions.

Regulatory agencies, both federal and state, allow the mining company to select and directly pay consultants to predict mine water quality impacts, and to review and comment on (or even reject) those predictions, prior to release to the agency. It is an understatement to say that consultants heavily influence mine water quality predictions.

Unfortunately, given the client/customer relationship between prospective mine operators and their consultants, consultants are rewarded for having favorable predictions. On the other hand a prediction of poor water quality will usually delay a permit, which increases the permitting costs. While exceptions exist, consultants that predict poor water quality often are not rehired. This perverse incentive is contrary to the spirit of unbiased science, and contrary to the public interest.

Preventing Future Failures (and Addressing Current Failures)

Recommendations

Both the *Comparisons* and the *Methods and Models Reports* reveal that the prediction of future mine water quality is an uncertain business. And given the difficulty in modeling natural systems, even if all the recommendations included here and in the Kuipers-Maest research are implemented, mine water quality prediction will always be an uncertain business. However, there is considerable room for improvement.

Just as weather prediction has improved over time, so can mine water quality prediction — if regulators and professionals in the sector learn from past predictions and improve characterization efforts.

With that in mind, the following recommendations are intended to help improve mine water quality predictions today and in the future.

Addressing the Consequences of the Existing Prediction Process

Assess existing mines. If the results of the *Comparison Report* are extrapolated to all operating major mines, water quality standards would be exceeded at roughly 75% of all mines in the United States. Regulators should, in a public process, canvass all permitted mines to:

- determine which mines are exceeding water quality standards,
- evaluate how surrounding communities and the environment are being affected, and what cleanup steps are necessary,
- revisit the original predictions, and
- reassess the adequacy of the financial assurances provided by mine operators to guarantee mine cleanup and long-term water treatment.

Incorporate uncertainty into permitting process. Regulators should take a suitably precautionary approach to the mine permitting process, and require that mine design, mitigation and financial assurance calculations prepare for reasonable worst-case rather than best-case scenarios.

Better screen high-risk mines. Regulators must demonstrate concrete improvement in the accuracy of mine water quality predictions and mitigation efforts. For example, additional regulatory scrutiny should be given to the highest risk proposals such as those mines near water resources and with elevated acid drainage or contaminant leaching potential. In cases where the risks are too high, regulators should not permit mines. It should be noted

that this recommendation is supported by the *Comparison Report* which demonstrates that 93 % of such mines near groundwater, and 85% near surface water, exceeded water quality standards.

Some major mining companies are realizing that the life-cycle costs need to be clearly evaluated, including the costs of *perpetual maintenance and water treatment after mine closure*. While some leaders in the industry are using life-cycle cost estimates, this is still not a uniform industry standard, and regulators ultimately must make the determination for many mine proposals.

Inform the public about the uncertainty of water quality prediction. As part of the mine permitting process, regulators should inform the public of the history of the accuracy of mine water quality predictions so they can better determine the risk involved in a mine proposal.

Improving Future Mine Water Quality Predictions

Ease access to predictions and results. Information regarding pre-mining, mining and post-mining water quality should be publicly available online, along with the associated mine water quality predictions made during the permitting process. This will facilitate a more informed mine permit process for regulators and the public.

Review original predictions as water quality develops during mining. Mine operations should be regularly assessed to determine if they are departing from mine water quality predictions. This will allow regulators and mine operators to take early action when mine water quality begins to depart from the predicted.

Consult past predictions at other mines. When permitting a mine, regulators should be required to seek similar mines, or similar aspects of different mines, and determine what predictions were made and what water quality actually occurred. These mine analogs should be publicly disclosed.

Require improved characterization of mine sites. This recommendation is covered in much greater detail in the *Methods and Models Report*. In summary, regulators should require better information about the mine site — before, during and after operations.

Require more research on the effectiveness of mine water quality mitigation. The *Comparison Report* found that where predictions of good mine water quality were predicated upon the mine operator using mitigation strategies, mine water quality usually exceeded water quality standards. More research is needed to determine how and why these mitigation efforts fail, and how to improve them.

Change the procedure for selecting consultants to avoid the present conflict of interests. Agencies should independently select and pay the consultants to conduct the

studies. This will limit the ability of a mining proponent to influence the outcome of the predictions. The mine proponent can comment on the study, similar to public interest organizations, but they should not be able to exert sufficient influence to bias the outcome.

Increase government expertise. Many state and federal agencies are not sufficiently funded to employ staff with the technical expertise to provide appropriate analysis and oversight of the mine permitting process. Increased funding should be incorporated into agency budgets to ensure that technical expertise is available for permit review.

Endnotes

1. Jim Kuipers, PE, is a mining engineer with Kuipers & Associates in Butte, Montana, and Ann Maest, PhD, is an environmental geochemist with Buka Environmental in Boulder, Colorado.

2. The National Environmental Policy Act requires a science-based review of mine proposals when federally-owned land is affected, or when a federal permit is required (e.g. the Clean Water Act requires a permit when a mine discharges into waters of the United States). Many states have similar laws, based on NEPA, that apply to mine proposals even when federal land is not involved.

3. Mitigation is the effort by a mine operator to prevent or reduce pollution. For example, some mine waste (e.g. tailings impoundments) is underlain by thick plastic to prevent contaminants from moving into nearby water resources.

4. In this paper, an "exceedance" is the presence of a pollutant in concentrations higher than a water quality standard. This is different from a water quality "violation," which is a breach in the terms of a water quality permit. A water quality permit, although based on standards, may allow exceedances under some conditions. A mine operator is legally liable for a water quality violation.

5. Mitchell, Larry D., a staff paper prepared for the Environmental Quality Council, "Zortman and Landusky Mines: HJ 43 Water Quality Impacts, October 2004.

6. Kuipers, J, 2003, Putting a Price on Pollution: Financial Assurance for Mine Reclamation and Closure. This report was funded by Mineral Policy Center.

7. Many mines have multiple EISs or EIAs for different eras of mining.



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DNR's Vague Statutory Standards that Fall Short of Protecting Fish, Game and Uses of These Renewable Resources When Applied to Development of Metallic Sulfide Mines like Pebble

Information Compiled by Trout Unlimited Alaska, 11/15/07

Department of Natural Resources, Statutes & Application	Current Statutory Standard	Problems Current Standards Create When Applied to Development of Metallic Sulfide Mines
AS 27.05.010 – Establishes DNR as “lead agency” on mining. DNR “shall coordinate all regulatory matters” concerning mining.	The statute articulates no standards and only articulates duties.	
AS 38.04.005 – DNR’s overall policy statute. ¹	Establishes DNR’s overall policy of managing for “maximum use of state land consistent with the public interest.”	“Maximum use of state land consistent with the public interest” is a vague and subjective standard, establishing wide discretion for permitting decisions made by DNR. Vague standards, overseen by DNR, militate against conservation of fish, game and uses dependent on them.
AS 38.05.135(e) – Applies to leases and disposals of public land, mineral and water rights, etc.	Lease or disposal depends on DNR’s determination of the “state’s best interest.”	“State’s best interest” standard is vague and subjective.
AS 38.05.255(a) – Applies to leases for millsites, tailings disposal, mine facilities and other surface uses of state land or water within a mining property.	Leases and surface uses within a mining property are limited to those “necessary” for prospecting, extraction, and processing of minerals and shall be “subject to reasonable concurrent uses.”	1. What is “necessary” for prospecting, extraction, processing is vague and subjective with respect to some uses. For example, how DNR decides whether or not housing, sewerage treatment, etc. for 2000 workers is “necessary” on state land when alternatives exist on non-state land is entirely subjective. Yet this type of permitting decision could have serious regional impacts on fish, game, and uses dependent on them. 2. “Subject to reasonable concurrent use” is vague as to whether it includes production of fish and game.
AS 38.05.850 – Applies to permits, rights of way, or easements on state land for roads, ditches, pipelines not subject to AS 38.05, electric transmission and distribution lines, and similar uses or improvements.	DNR’s Director of Division of Mining, Land, and Water “shall give preference to that use of the land that will be of greatest economic benefit to the state and the development of its resources.”	1. The preference for land use that gives “greatest economic benefit to the state and development of its resources” is vague and subjective. Does “the state” refer to the state treasury, the state and its economy, or the citizens of Alaska? 2. Because of the transfer of ADF&G habitat functions to DNR in 2003, this preference now favors development of non-renewable resources, such as minerals, over already developed renewable resources, such as fisheries, even more than the preference did prior to the transfer.

¹ By contrast, AS 16.05.020 is ADF&G’s overall policy statute. It establishes ADF&G’s duty to “manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the state in the interest of the economy and general well-being of the state.”

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AS 41.14.840 (Fishways Act) – Applies to permits for activities that could obstruct fish passage, such as dams and culverts.	Fish passage may be required "if the deputy commissioner [of DNR] considers it necessary."	1. "Necessary" is vague, subjective, and interpreted by each DNR Deputy Commissioner. 2. DNR implementation results from Governor Murkowski's transfer, by E.O. 107, of ADF&G habitat functions to DNR. It is contrary to (a) the long history of implementation by ADF&G, and (b) decisions made by legislature at Statehood to establish separate agencies for fish and game (ADF&G) and resource development (DNR).
AS 41.14.870 (Anadromous Fish Act) – Applies to permits for activities in waters known to be anadromous.	Plans, activities and permits shall provide "proper protection" of fish and game when the waters are "specified" through field work to be anadromous and listed in the Catalogue of Anadromous Waters.	1. Under current practices, the statute depends on waters being documented in the field as anadromous. 2. "Proper protection" standard is vague, subjective, open to discretion, and lacks a statutory definition. 3. DNR implementation results from Murkowski's transfer, by E.O. 107, of ADF&G habitat functions to DNR and is contrary to (a) the long history of implementation by ADF&G, and (b) decisions made by legislature at Statehood to establish separate agencies for fish and game (ADF&G) and resource development (DNR).
AS 44.62.330(a)(6) and (30) of the Administrative Procedure Act – Affords judicial appeal to review (1) some decisions by DNR's Division of Mining, Lands and Water under the Alaska Land Act [AS 38.05] "where applicable," and (2) decisions under AS 41.14.870.	Alaska Land Act, AS 38.05.035(i), provides appeal to superior court from DNR decisions that are subject to the requirements of AS 38.05.035(e)(6), which applies to sales, leases and disposals of state land other than oil and gas. However, AS 38.05.035(e)(6)(A)-(H) lists 8 exceptions to the requirements. Exceptions include: revocable permits or authorizations; mineral claims located under AS 38.05.195; mineral leases under AS 38.05.205; surface use leases for utilities, tailings disposal and other mine-related facilities under AS 38.05.255; and a permits, rights-of-way, or easements for roads, ditches, pipelines not subject to AS 38.05, electric transmission and distribution lines, and similar uses or improvements under AS 38.05.850.	A result of the exemptions in AS 38.05.035(e)(6) is that many of DNR's decisions related to mining are NOT subject to appeal to the courts under the Administrative Procedure Act. Under existing law, it is likely that the only DNR permits that will be subject to administrative adjudication and appeal to superior court will be Anadromous Fish Act permits for activities in anadromous waters, which are also under-documented throughout the state.
AS 46.15.080 (Water Use Act) – Applies to authorizations to appropriate state owned waters.	Appropriation must be "in the public interest." In determining that interest, DNR shall "consider" 8 factors: (1) benefit to the applicant, (2) effect of economic activity resulting from the appropriation; (3) effect on	1. The "public interest" standard is vague and subjective. 2. The requirement that DNR "consider" eight factors is merely procedural. It is far short of substantive standard that would require DNR to avoid (or even to minimize or mitigate) the harms or risks that can occur. Moreover, "considering" the effects on fish is far short of a statutory standard that

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	fish, game and public recreation; (4) effect on public health; (cont.) (5) effect of loss of alternate uses of water; (6) harm to other persons; (7) intent and ability of the applicant to complete the appropriation; and (8) effect upon access to navigable or public water.	articulates acceptable or unacceptable harm to fish. (cont.) Similarly, because DNR generally lacks criminal citation authority, it cannot enforce a cease and desist order with criminal authority. ADF&G has general criminal citation authority, but due to the transfer of its permitting authority to DNR, ADF&G no longer has permitting authority to enforce.
AS 46.17 - Applies to permits authorizing construction of dams, such as for tailings impoundments.	Dams must be designed, constructed, operated and maintained "consistent with the protection of life and property."	The standard "consistent with the protection of life and property" ignores fish, game, habitat, and uses of them.
AS 46.40 (Alaska Coastal Management Program, ACMP) - Applies to agency decisions on a proposed project located in the coastal zone, as identified by state or district coastal management plans. ACMP is implemented and coordinated by DNR.	Requires that agency decisions on a proposed project be "consistent" with statewide coastal zone standards adopted under AS 46.40.040 and the enforceable policies in an applicable district coastal management.	1. "Consistency" depends on the quality of statewide ACMP standards for protecting fish, game, and uses of them, and on enforceable policies of district plans. The Murkowski Administration diluted many statewide standards and enforceable policies and reduced the coastal zone boundaries. 2. DNR implementation is the result of Gov. Murkowski's transfer of the Program from the Governor's Office, where ADF&G and DNR were peer agencies, to DNR. Vesting sole responsibility in DNR is contrary to decisions made by legislature at Stetchood to establish separate, peer agencies for fish and game (ADF&G) and resource development (DNR).

Table 1 demonstrates that DNR's 11 applicable statutes contain 10 standards, and all 10 are vague. Most are open to wide interpretation. None articulate clear standards for protection of fish and game, habitats, and uses of them. Moreover, aside from the Fishways Act (AS 41.14.840) and the Anadromous Fish Act (AS 41.14.870) which obviously mention fish, of the remaining eight statutory standards listed in Table 1, *only one* (AS 46.15.080) mentions fish, game, and recreation (but not commercial or subsistence use), and that statute only requires DNR to "consider" fish, game and recreation, rather than to protect them.

The Department of Natural Resources statutes are out-of-date for purposes of protecting Alaska's fisheries in the face of large scale mining. Most were enacted when no one could envision the scale and risks that contemporary open pit and block caving mining, and chemical treatment of massive, low-grade, metallic sulfide ores, pose today to regions like the Bristol Bay watershed. Because of its scale and location at the headwaters of two of the most productive salmon systems in the world, Pebble has brought these risks into public view.

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TESTIMONY ON HB 134 (Version "O")

2-20-08

Mr. Chairman and Members of the Fisheries Committee – thank you for giving me the opportunity to testify on this revised version of HB 134. My name is Gail Phillips. I am a former legislator and Speaker of the House. I am testifying on my own behalf and as the Vice-Chairman of a private non-profit organization called "Truth About Pebble". My testimony will strongly oppose the passage of version "O" or any other version of HB 134.

My prior testimony on this legislation, submitted last February, is already on record and I would like to reconfirm my opposition to the bill as stated in my letter of 2-28-07.

Today, I will focus my remarks on the "takings" attempt by the legislature. As a former member of your Body, I know the legal peril you will place the State of Alaska if you pursue this land withdrawal. You heard testimony last Monday from Matthew Nicolai, the President and CEO of Calista Corporation, regarding the issue of "takings" the right of native corporations to develop their lands and mineral resources on those lands.

I totally agree with Mr. Nicolai's interpretation of this blatant takings attempt and will confirm that, if passed, this legislation opens the State to unending lawsuits. We do not have enough money in the State, including all the assets of our Permanent Fund, to cover the potential amounts of payments that these lawsuits could incur.

As I did, you have a sworn responsibility to protect the State of Alaska from unwarranted lawsuits and unlawful takings of our lands and resources. The Fisheries Committee must be able to clearly show the people of the State and the private land owners in the Bristol Bay region that you are not taking away private property rights before you pass this bill from committee.

I have many other objections to this legislation as I've previously stated, but today I just wanted to focus on the "takings" issue and the risk you put on the financial resources of our State if you pursue this legislation.

Again, Mr. Chairman, I thank you for the opportunity to share my opinion on this legislation.

Gail Phillips
1241 W. 27th, # 736
Anchorage, Alaska 99503
277-4867

In Opposition to House Bill No. 134

February 20, 2008

**The Honorable Paul Seaton
Chairman, Special Committee on Fisheries
Alaska State Legislature
State Capitol
Juneau, Alaska 99811**

Dear Chairman Seaton:

SUBJECT: Testimony on HB 134

Mr. Chairman and Members of the Fisheries Committee – thank you for giving me the opportunity to testify on this legislation. My name is Sharon Anderson. I am the former co-owner and operator of Anderson Tug & Barge Co. and now serve as a business consultant.. I am testifying on my own behalf and as a Board Member of a private non-profit organization called "Truth About Pebble". I strongly oppose the passage of any version of House Bill 134 particularly since it is slanted more towards bringing to an end the mining industry in Alaska, than one of protection and conservation of our anadromous fish resources. Version O of HB 134 is an attempt to undermine Alaska's already legally established permitting process requiring specific legislative approval for exploration and development of land specifically designed for just that.

House Bill 134 specifically singles out sulfide mining operations, implying that responsible mining and development of Alaska's natural resources cannot exist even when industry is closely monitored through Alaska state and federal laws and regulations. Some early mining operations have left an historical legacy of negative environmental impacts that still affect the public's perception of mining but mining has undergone dramatic changes in recent years, bringing it firmly into the world of 21st century high technology. Today's stringent mining regulations require state-of-the-art engineering design, pollution prevention technology, monitoring, and

financial guarantees to ensure that mines are built, operated, and reclaimed to the highest environmental standards.

There are many environmentally responsible mines operating successfully in scenic and environmentally sensitive settings like Alaska, proving sulfide mining can be done in an environmentally responsible manner. Advances in mining practices and mine design – have enabled modern miners to better predict, plan for, and prevent or control adverse environmental impacts. Modern mining operations have also demonstrated that the long-term environmental impacts of sulfide mining – principally water quality and air quality – can be adequately addressed. The science has evolved to the point where minerals from a sulfide ore body can be analyzed from core samples to determine if the material even has the potential to generate Acid Rock Drainage before it is excavated from the ground.

Alaska needs to diversify its economy and provide resource development throughout the Bristol Bay region and the entire State. Developing our mining resources offers a perishable opportunity for large-scale economic development and new job creation at higher income levels. Commercial development of these projects will revitalize the area and provide enduring employment for decades to come. Related “spin-off” jobs generated by supplier and support businesses will help stabilize declining communities and local school systems while producing significant new streams of tax revenues to support government and public services. HB 134 effectively blocks any of this future economic growth by preventing new industry in the Bristol Bay region; whether it is mining or oil development.

The Constitution of the State of Alaska mandates development of our natural resources for the benefit of all Alaskans, and House Bill 134 directly contradicts this process.

Thank you.

Sharon E. Anderson

**9840 Hillside Drive
Anchorage, AK 99507
907-272-2608**

**Mailing Address: PO Box 200187
Anchorage, AK 99520
907-229-6624 cell**

Rep. Paul Seaton, Chair
House Fisheries Committee
State Capitol
Juneau, AK 99801

February 20, 2008

RE: CSHB 134 version O

Rep. Seaton:

My name is Heath Hilyard and I am the Business Development and External Affairs Manager for Alaska Supply Chain Integrators (ASCI), a supply chain management, procurement, logistics, and asset management company located in South Anchorage.

I would like to testify in opposition to CSHB 134. While I commend the sponsor, and this committee, for the tremendous amount of work done thus far, even the significant changes made in the "O" version are very problematic and require further work and review.

As a member company of Alaska's resource development industries, we are deeply concerned about the impact this bill will have on Alaska's mines and the general business climate. Although there have been several significant improvements made to the bill since introduction, it remains overly burdensome, unnecessarily restrictive and components thereof legally and procedurally questionable.

Specifically, I am concerned that the appropriation of water rights and the resulting constitutional controversy pertaining to Article VIII, Section 13 remain and the legislative approval is without procedural meaning.

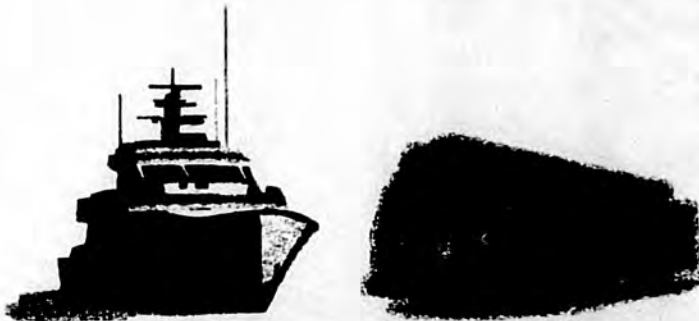
More importantly though this bill does tremendous damage to one of Alaska's significant and growing industries. It is irresponsible to have a conversation on the allocation of or restriction to any one of Alaska's natural resources without considering the long-term impact on economic development and job growth in any one region or statewide. Alaska's mineral resources, whether currently in production or not, are not more important than Alaska's fish and game resources neither are they any less important.

There is a natural tension between the Department of Fish and Game (DF&G) and the Department of Natural Resources (DNR), especially in light of the recent relocation of the Office of Habitat Management and Permitting (OHMP) back to DF&G. I strongly encourage the committee to let these respective departments work through their thoughtful and well designed permitting processes to come to a scientifically evaluated recommendation about how or whether the Pebble mine, or other mining project in the region, should proceed.

I appreciate your time to comment on this legislation.

Sincerely,

Heath E. Hilyard
Business Development and External Affairs Manager
ASCI



**MARINE SAFETY INSTRUCTOR-EMT-VETT INSTRUCTOR- EMT-IN/ACLS/PALS-
AHA CPR INSTRUCTOR-EMP FIRST AID INSTRUCTOR-ONGUARD FIRE ATTACK
INSTRUCTOR- MEDEVAC ESCORT INSTRUCTOR**

**RON BOWERS
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Email: ronmarieiris@yahoo.com**

TESTIMONY TO HOUSE FISHERIES COMMITTEE D-HAM LIO 2/20/08

I HAVE SEVERAL ONGOING CONCERNS AGAINST HOUSE BILL #134. ONE IS HOW THIS BILL, IF ENACTED WOULD FAVOR ONE INDUSTRY OVER ANOTHER. I ALSO BELIEVE THIS BILL COULD POTENTIALLY BE USED BY OUTSIDE ENVIRONMENTAL GROUPS AS PRECEDENT IN SHUTTING DOWN DEVELOPMENT THROUGHOUT THE STATE OF ALASKA. FINALLY I BELIEVE HB#134 WILL VIOLATE THE RIGHTS OF PRIVATE PROPERTY OWNERS AND WILL DEPRIVE ALL ALASKAN CITIZENS REVENUES FROM STATE LANDS AND ALL AMERICANS REVENUES FROM FEDERALLY OWNED/MANAGED LANDS IN BRISTOL BAY.

I AM A VERY ACTIVE SUBSISTENCE USER AND A 25 YEAR RESIDENT OF THIS REGION. I WHOLEHEARTEDLY SUPPORT THE PROTECTION OF SUBSISTENCE ACTIVITIES AND COMMERCIAL FISHING. HOWEVER, I DO NOT SUPPORT LEGISLATION THAT WILL DRIVE AWAY ANY INDUSTRY THAT IS WILLING TO WORK WITH AREA RESIDENTS, TO TOTALLY PROTECT OUR FISHERIES RESOURCES, WHILE AT THE SAME TIME OFFERING DESPERATELY NEEDED ECONOMIC OPPORTUNITIES TO HUNDREDS, IF NOT THOUSANDS OF AREA RESIDENTS.

I BELIEVE THAT IF HB#134 BECOMES LAW, OUTSIDE ENVIRONMENTAL GROUPS WILL USE THIS BAD BILL AS A TEMPLATE TO SHUT DOWN VIRTUALLY ANY CONSTRUCTION, MINERAL DEVELOPMENT OR INDUSTRIAL DEVELOPMENT PROJECT THROUGHOUT ALASKA.

FINALLY PRIOR TO BRINGING THIS BILL ALONG, I WOULD RESPECTFULLY ASK THE HOUSE FISHERIES COMMITTEE, TO DEVELOP AN INVENTORY OF ALL PRIVATE LANDOWNERS, INCLUDING NATIVE CORPORATIONS THROUGHOUT THE BRISTOL BAY REGION, THAT WOULD BE AFFECTED BY THE TENETS OF HB#134. I WOULD ALSO ASK THAT A FUNDING SOURCE BE IDENTIFIED AS A MEANS FOR REIMBURSING THOSE PRIVATE LANDOWNERS FOR THEIR ECONOMIC LOSSES,

DERIVED FROM THE LOSS OF THEIR CONSTITUTIONALLY PROTECTED, LAND
USAGE, DUE TO HB#134,

Post-It® Fax Note 7671		Date 2-20-08	# of pages 2 -
To Louie Flores	From Dillingham L10		
Co./Dept Rep. Seaton	Co. Anna May		
Phone # 465-2689	Phone # 842-5319		
Fax # 465-3472	Fax # 842-5105		