

HJR

9

<TARGET><BILL>HJR 9</BILL><SUBJECT>HJR
9</SUBJECT><COMM>HFSH30</COMM></TARGET>

REPRESENTATIVE DAN ORTIZ

Alaska State Legislature / Ketchikan, Saxman, Wrangell, Hydaburg, Metlakatla, Hyder, Loring and Meyers Chuck

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Sponsor Statement

House Joint Resolution 9: Canadian Mines on Transboundary Rivers

House Joint Resolution 9 declares the Alaska State Legislature's support for measures the U.S. Congress and the U.S. State Department can take to ensure that Alaskans and the State of Alaska have their voice heard in relationship to transboundary mining issues.

B.C. Canada is currently moving through the permitting process on at least four major mining projects that could potentially have negative impacts on the water quality of three major salmon producing river systems in Southeast, Alaska.

The following statistics come from the McDowell Group's July, 2013 study entitled "Economic Value of the Alaska Seafood Industry."

Including direct and secondary impacts, the commercial seafood industry accounts for 9% of all jobs in Alaska. In 2013, the industry provided full and part-time jobs to at least 78,300 people and paid out an estimated 2.3 billion in labor income, including all multiplier effects. In terms of the number of workers employed, the commercial seafood industry is the state's largest private sector employer.

In the Southeast Region, the seafood industry directly employs about 13,500 individuals within the region and generates an estimated \$321 million in labor income. On an average monthly basis, the seafood industry directly creates 6,500 jobs. The commercial fleet consists of 2,300 vessels and the region contains 45 registered shore-based processing facilities.

The purpose of HJR 9 is to highlight the potentially significant impact that the B.C. Mining Development projects may have on the Alaska seafood industry, a current key component in maintaining a healthy, thriving Alaskan economy.

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Sectional Analysis

House Joint Resolution 9: Canadian Mines on Transboundary Rivers

HJR 16 urges the United States government's involvement with the Canadian government to investigate long-term, region-wide effects of proposed and existing industrial development and to develop measure to ensure resources on both sides are not harmed.

HJR 16 specifically resolves that:

- The Legislature supports the continued corporation between the United States government and the Canadian government;
- The Legislature urges the United States government and the Canadian government to investigate downstream effects of industrial development;
- The Legislature urges the United States government and the Canadian government to develop and implement measures to ensure that the state resources are not harmed by upstream development in British Columbia;
- The Legislature encourages the state to highlight the measures and safeguards currently in place for Alaskan mines and promote them as a model for Canadian mines.

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Nauman
2/14/17

CS FOR HOUSE JOINT RESOLUTION NO. 9()
IN THE LEGISLATURE OF THE STATE OF ALASKA
THIRTIETH LEGISLATURE - FIRST SESSION

BY

Offered:

Referred:

Sponsor(s): REPRESENTATIVES ORTIZ, Kreiss-Tomkins, Tuck, Tarr, Parish

A RESOLUTION

1 **Urging the United States government to continue to work with the government of**
2 **Canada to investigate the long-term, region-wide downstream effects of proposed and**
3 **existing industrial development and to develop measures to ensure that state resources**
4 **are not harmed by upstream development in British Columbia.**

5 **BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:**

6 **WHEREAS** the transboundary rivers of Northwest British Columbia and Southeast
7 Alaska have tremendous unique economic, ecological, subsistence, cultural, and recreational
8 value; and

9 **WHEREAS** protecting productive, pristine waters and intact habitats throughout
10 those transboundary river systems is necessary to ensure healthy wild salmon populations and
11 abundant fisheries; and

12 **WHEREAS** large-scale mining in British Columbia is experiencing unprecedented
13 and rapid expansion within the Taku, Stikine, and Unuk watersheds; and

14 **WHEREAS** proposed and operating mines in the transboundary area include
15 Tulsequah Chief, New Polaris, and Big Bull in the Taku watershed; Galore Creek, Red Chris,

1 and Schaft Creek in the Stikine watershed; and Brucejack and Kerr-Sulphurets-Mitchell in the
2 Unuk watershed; and

3 **WHEREAS** large-scale mining and energy development could have significant
4 adverse effects on the environment and fisheries within the transboundary region; and

5 **WHEREAS** the proposed mines would generate billions of tons of acid-generating
6 tailings, which would be held behind huge dams and could pose the threat of acid rock
7 drainage for centuries, if not in perpetuity; and

8 **WHEREAS** the tailings would need monitoring, maintenance, water treatment, and
9 possible remediation for centuries, if not in perpetuity; and

10 **WHEREAS** ongoing acid rock drainage at the Tulsequah Chief mine, the tailings dam
11 failure at the Mount Polley mine, and the 2016 Audit of Compliance and Enforcement of the
12 Mining Sector published by the Office of the Auditor General of British Columbia
13 demonstrate weaknesses in current monitoring and enforcement efforts in British Columbia;
14 and

15 **WHEREAS** the federal-provincial environmental assessment process does not
16 address the long-term, cumulative effects of industrial development in the transboundary
17 region; and

18 **WHEREAS** the Statement of Cooperation on Protection of Transboundary Waters,
19 signed by Alaska Lieutenant Governor Byron Mallott, Bill Bennett, British Columbia
20 Minister of Energy and Mines, and Mary Polak, British Columbia Minister of Environment,
21 on October 6, 2016, is an important step, but cannot provide binding, enforceable protections
22 for the residents and rivers and watersheds of the state; and

23 **WHEREAS** the Boundary Waters Treaty of 1909 between Canada and the United
24 States is an effective and historically tested means of proactively dealing with similar
25 international transboundary issues; and

26 **WHEREAS** commercial fishermen, subsistence and recreational users, elected
27 leaders, local communities, and Alaska Native and First Nation tribes on both sides of the
28 Alaska-Canada border have raised concerns about the pace and scope of the proposed
29 industrial development in the headwaters of the transboundary river systems and the potential
30 for harm to water quality, fish and wildlife, and the socio-economic sustainability of local
31 communities in the region;

1 **BE IT RESOLVED** that the Alaska State Legislature strongly urges the United States
2 government to continue to work with the government of Canada to investigate the long-term,
3 region-wide downstream effects of proposed and existing industrial development and to
4 develop measures to ensure that state resources are not harmed by upstream development in
5 British Columbia.

6 **COPIES** of this resolution shall be sent to the Honorable Rex W. Tillerson, United
7 States Secretary of State; and the Honorable Lisa Murkowski and the Honorable Dan
8 Sullivan, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the
9 Alaska delegation in Congress.

REPRESENTATIVE DAN ORTIZ

Alaska State Legislature / Ketchikan, Saxman, Wrangell, Hydaburg, Metlakatla, Hyder, Loring and Meyers Chuck

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House Joint Resolution 9 Explanation of Changes - From Version A to D

All changes made through a Blank Committee Substitute

Page 1, Line 14

Insert "and operating" to clarify that the effected mines include both operating and proposed mines

Page 2, Line 1

Insert "Brucejack Mine" to update the list of proposed mines

Page 2, Line 2

Delete "headwaters of the" and insert "Watershed" as a technical clarification

Page 2, Line 11

Insert "2016 B.C. Auditor General's Report" as additional resource and proof

Page 2, Line 16

Insert a Whereas Clause regarding the *Statement of Cooperation on Protection of Transboundary Waters signed by the State of Alaska and the Province of British Columbia on October 6, 2016* as an additional resource and reference

Page 2, Line 20

Insert a Whereas Clause regarding the *Boundary Waters Treaty of 1909* as an additional resource and reference

Page 3, Line 4

Insert "and Governor Walker and Lieutenant Governor Mallott" as additional recipients of the resolution

AMENDMENT

OFFERED IN THE HOUSE

BY REPRESENTATIVE CHENAULT

TO: CSHJR 9(), Draft Version "D"

1 Page 1, line 4, following "**Columbia**":

2 Insert "; and urging the United States government to continue to work with the
3 government of Canada to support the efforts of the state and British Columbia to
4 collaborate on proposed and existing industrial upstream development in British
5 Columbia"

6

7 Page 2, following line 17:

8 Insert new resolution sections to read:

9 "**WHEREAS**, on November 25, 2015, Governor Bill Walker and British Columbia
10 Premier Christy Clark signed a Memorandum of Understanding and Cooperation recognizing
11 and formalizing "the mutual commitment of Alaska and British Columbia to sustaining our
12 environment for the benefit of all, including transboundary rivers, watersheds, and fisheries";
13 and

14 **WHEREAS**, in the Memorandum of Understanding and Cooperation, the state and
15 British Columbia agreed "to establish and oversee a joint process to develop and implement a
16 joint water quality monitoring program for transboundary waters, ensuring that data are
17 publicly available"; and

18 **WHEREAS**, on October 6, 2016, Lieutenant Governor Byron Mallott signed a
19 Statement of Cooperation on Protection of Transboundary Waters, in which a bilateral
20 working group consisting of the commissioners of environmental conservation, fish and
21 game, and natural resources and British Columbia's deputy ministers of energy and mines and
22 environment was established; and

23 **WHEREAS**, in the October 6, 2016, Statement of Cooperation, a technical working

1 group on monitoring, consisting of water quality experts from resource regulatory agencies in
2 the state and British Columbia was established to develop procedures for reporting between
3 the two jurisdictions; and

4 **WHEREAS** the terms of the Memorandum of Understanding and Statement of
5 Cooperation are currently being implemented, and significant progress is being made toward
6 enhanced collaboration and effective input by the state into British Columbia's regulatory
7 processes; and"

8

9 Page 3, line 5, following "Columbia":

10 Insert "; and be it

11 **FURTHER RESOLVED** that the Alaska State Legislature strongly urges the United
12 States government to continue to work with the government of Canada to support the efforts
13 of the state and British Columbia to collaborate on proposed and existing industrial upstream
14 development in British Columbia"

Fiscal Note

State of Alaska
2017 Legislative Session

Bill Version: HJR 9
Fiscal Note Number: _____
() Publish Date: _____

Identifier: HJR9-LEG-SESS-03-10-17
Title: CANADIAN MINES ON TRANSBOUNDARY
RIVERS
Sponsor: ORTIZ
Requester: HOUSE FISHERIES

Department:
Appropriation:
Allocation:
OMB Component Number: 0

Expenditures/Revenues

Note: Amounts do not include inflation unless otherwise noted below. (Thousands of Dollars)

	FY2018	Included in	Out-Year Cost Estimates				
	Appropriation Requested	Governor's FY2018 Request	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
OPERATING EXPENDITURES	FY 2018	FY 2018					
Personal Services							
Travel							
Services							
Commodities							
Capital Outlay							
Grants & Benefits							
Miscellaneous							
Total Operating	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Fund Source (Operating Only)

None							
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Positions

Full-time							
Part-time							
Temporary							

Change in Revenues

None							
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Estimated SUPPLEMENTAL (FY2017) cost: 0.0 *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY2018) cost: 0.0 *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

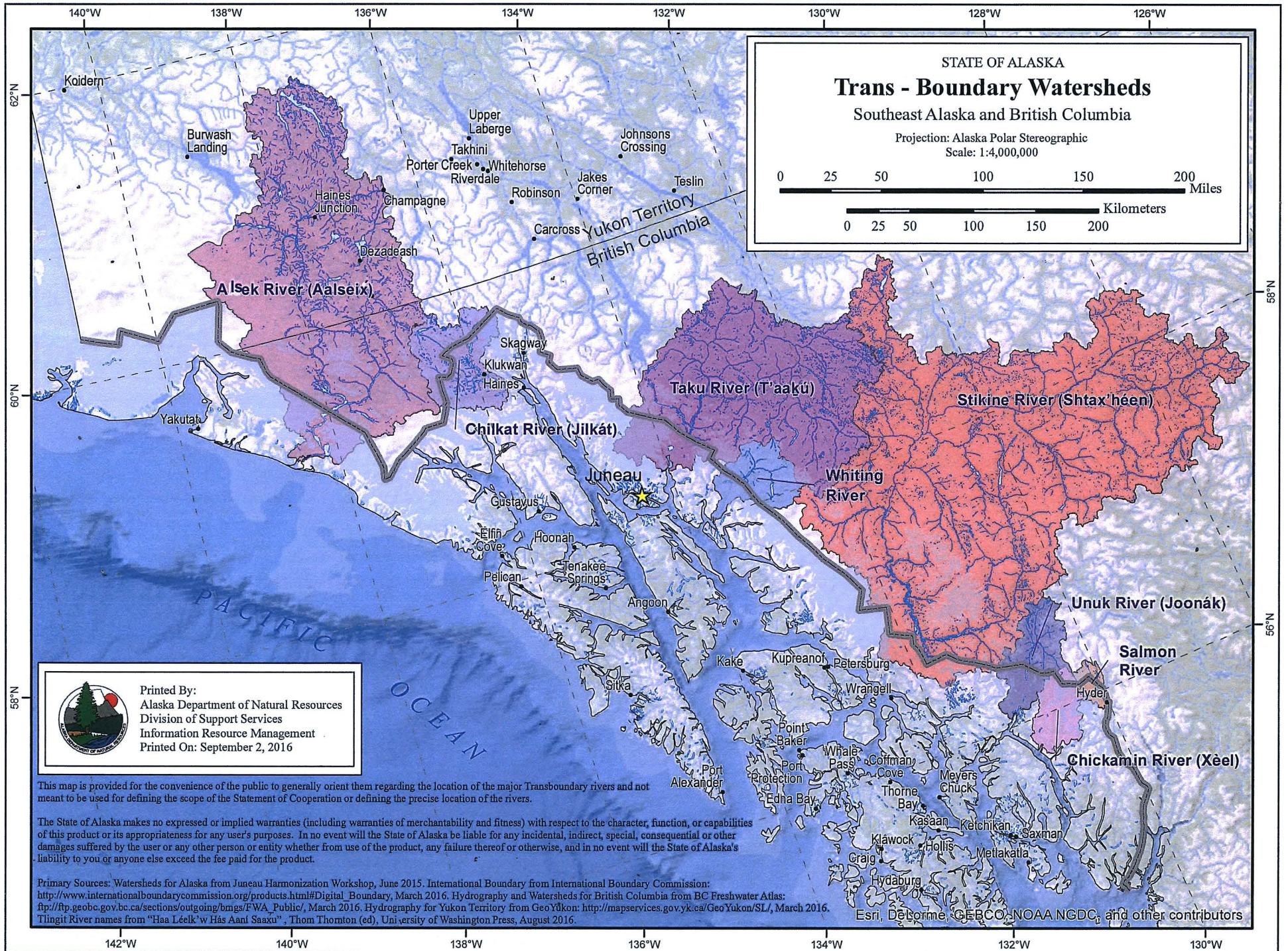
ASSOCIATED REGULATIONS

Does the bill direct, or will the bill result in, regulation changes adopted by your agency?
If yes, by what date are the regulations to be adopted, amended or repealed?

Why this fiscal note differs from previous version:

N/A INITIAL VERSION. ONE PAGE. ZERO NOTE

Prepared By:	JESSICA GEARY, FINANCE MANAGER	Phone:	(907)465-6626
Division:	LEGISLATIVE AFFAIRS AGENCY	Date:	03/10/2017 04:13 PM
Approved By:	PAM VARNI, EXECUTIVE DIRECTOR	Date:	03/10/2017
Agency:	LEGISLATIVE AFFAIRS AGENCY		



OCTOBER 2016

Economic Impact Analysis

Southeast Alaska Transboundary Watersheds

EXECUTIVE SUMMARY

PREPARED FOR **SalmonState**



PREPARED BY

McDowell
GROUP

Executive Summary

Southeast Alaska's economy is highly dependent on the region's rich natural resources. Two of the region's key industries, commercial fishing and tourism/recreation, rely on healthy eco-systems to generate jobs, income, and other economic opportunities. Transboundary rivers, which originate in Canada and flow into the U.S., are important components of Southeast's economically-valuable eco-system. This economic connection between transboundary rivers and the entire Southeast Alaska economy is a critically important aspect of watershed management.

SalmonState contracted with McDowell Group, an Alaska-based research and consulting firm, to measure the economic impacts in Southeast Alaska of three transboundary watersheds: Taku, Stikine, and Unuk Rivers. The analysis also briefly considers economic contributions to Southeast Alaska from the Nass and Skeena Rivers, two river systems that also have cross-border economic impacts.

Recognizing that healthy watershed systems have value far beyond the jobs and income they support, this study of "river economics" focuses on the commercial value of the rich salmon runs supported by Southeast Alaska's three transboundary watersheds. It also considers economic impacts connected to the watersheds' scenic and recreational amenities that make all three areas popular destinations for the visitor industry and Southeast Alaska residents.

Communities closest to the watersheds benefit most directly from healthy transboundary watersheds, though the economic benefits, including business spending, labor income, and job creation, as well as a variety of tax benefits, flow through the entire region.

The perpetual nature of watershed economics is perhaps the most important benefit of Southeast Alaska's transboundary areas. Fish, wildlife, and scenic resources in the watersheds are fully renewable and have the potential to offer greater economic value as similar resources and experiences grow more scarce. With proper management, watersheds can continue to generate economic benefits for Alaskans and others far into the future.



Photo credit: James Den Uyl

Scope of Work

This analysis focuses on economic activity in Alaska associated with the Taku, Stikine, and Unuk River watersheds. The analysis measures direct, indirect, and induced economic effects. Indirect effects are associated with watershed-related business spending on goods and services. Induced effects stem from watershed-dependent household spending on goods and services. The renewable nature of watershed resources can provide on-going, perpetual economic benefits if managed appropriately. These benefits are calculated using the “present value” of future benefits. This study does not attempt to measure “existence” values or non-use values, which are sometimes used to capture intrinsic values of important natural assets, such as Southeast’s transboundary rivers.

Measuring transboundary watershed-related economic activity is complex and difficult to isolate from the larger eco-system and economy that spans Southeast Alaska and Canada. Data is limited for many aspects of watershed-related commercial and recreational activity. Such limitations are present in commercial fisheries data, as run sizes for many salmon species from the rivers are not well documented and participation in specific fisheries is difficult to gauge due to fishermen moving between districts during the season. Also, unless a species is tracked through a tagging program, it is not possible to identify exactly how many harvested fish are from a particular river in the region. As a result, estimates of salmon harvests attributable to each watershed are based on best available data. While commercial fisheries other than salmon depend on the clean water produced by the region’s transboundary rivers, no other seafood-related values can be directly linked with data to watersheds at this time.

It is important to note that the nature of the renewable resources produced in these watersheds varies from year-to-year. Commercial fishing resources, in particular, are cyclical or subject to variations due to weather patterns, management changes, and other factors.

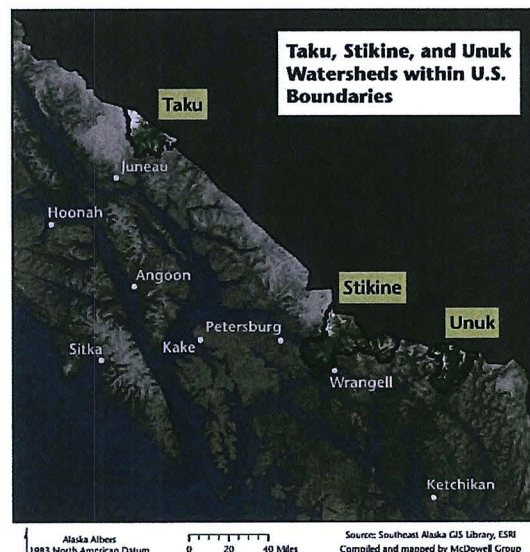
Transboundary Watersheds

The Taku, Stikine, and Unuk watersheds all originate in British Columbia and flow into Southeast Alaska.

The Taku River watershed encompasses approximately 5,000 square miles. The 100-mile long river terminates in Taku Inlet, with the lower 25 miles of the river located in the U.S.

The Stikine River drains a 20,000 square-mile area, flowing through the Stikine-LeConte Wilderness and ending in a river delta north of Wrangell. The lower 27 miles of the almost 400-mile river are located in Alaska.

The Unuk River drains approximately 1,500 square miles, flowing 80 miles to its terminus in Burroughs Bay, approximately 50 miles northeast of Ketchikan. The lower 24 miles of the river, which flow through a portion of Misty Fjords National Monument, are in Alaska.



Taku River Watershed Economic Impacts

Taku River watershed-related economic activity includes \$23.2 million in annual direct spending and \$32.9 million in total spending in Southeast Alaska. An average \$12.8 million in annual labor income and the equivalent of 260 year-round jobs in the region are generated by activity associated with the watershed.

Economic impacts tied to the Taku River watershed include the following:



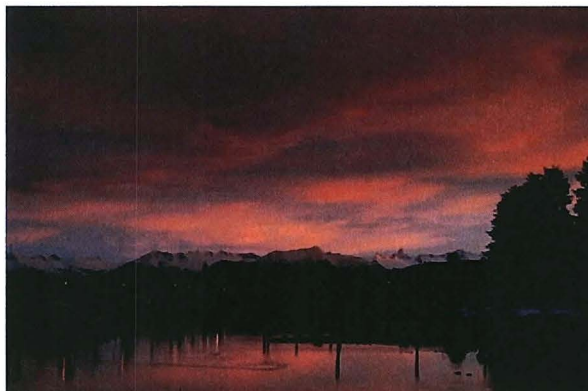
- Fishermen receive an annual average **\$1.9 million in ex-vessel value** for harvests of Taku River salmon.
- An average **\$4.2 million in first wholesale value** of Taku River salmon is processed in Southeast annually.
- Taku River Chinook and coho salmon are responsible for an average **\$2.7 million in sport fishing-related expenditures**.
- Approximately **\$80,000 worth of Taku River salmon** is harvested annually in the personal use fishery.
- **Hunting expenditures total \$65,000** on average in annual spending for hunting in the watershed.
- Visitor industry activity tied to the Taku River watershed generates an estimated **\$16 million in visitor expenditures** annually.
- The City and Borough of Juneau receives an annual average of **\$55,000 in tax revenue** from private property in the watershed.

The Taku River watershed's annual economic impact of \$32.9 million has a 30-year present value of just under \$650 million, based on 3 percent discount rate.

Stikine River Watershed Economic Impacts

Commercial and recreational activity associated with the Stikine River watershed generates an estimated \$12.7 million in annual spending in Southeast Alaska, including \$9.3 million in direct spending. The watershed accounts for \$5.7 million in annual labor income in the region and creates 117 full and part-time jobs.

These economic impacts include the following specific benefits:



- Commercial fishermen are paid an annual average of **\$2.1 million in ex-vessel value** for Stikine River salmon.
- Seafood processors generate an average **\$3.5 million in first wholesale value** annually processing and packaging Stikine River salmon.

- An average **\$4.2 million per year** is expended on sport fishing for Stikine River Chinook and coho salmon.
- An average **\$100,000 worth of Stikine River salmon** is harvested annually in the personal use fishery.
- Hunters spend an annual average of **\$200,000 hunting** in the watershed.
- Tours in the watershed and watershed-associated visitor industry activity in Wrangell generate an average **\$1.2 million in expenditures by visitors** to the Stikine River.
- Private property in the watershed accounts for approximately **\$15,000 in tax revenue** each year to the City and Borough of Wrangell.

The present value of the Stikine River’s annual economic footprint of \$12.7 million, measured over 30 years, is \$250 million.

Unuk River Watershed Economic Impacts

The Unuk River watershed accounts for an annual average \$2.5 million in total spending in Southeast Alaska, including \$1.8 million in direct spending in the region. Annual average labor income attributable to the watershed totals \$1.2 million and the watershed accounts for an estimated 24 full and part-time jobs.

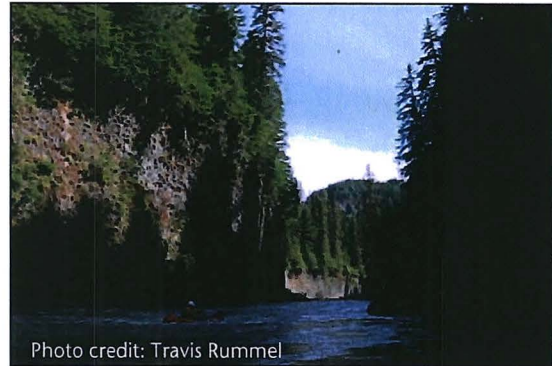


Photo credit: Travis Rummel

Estimated annual economic impacts from the watershed include the following:

- Fishermen are paid an annual average **\$460,000 in ex-vessel value** for Unuk River salmon harvests.
- An annual average **\$890,000 in first wholesale value** is attributable to Unuk River salmon.
- Sport fishing for Unuk River Chinook and coho salmon generates **\$880,000 in sport fishing-related expenditures** annually.
- Hunters spend an annual average of **\$13,000 on hunting activity** in the watershed.
- The visitor industry generates an average annual **\$6,300 in visitor expenditures** associated with the watershed.
- The Ketchikan Gateway Borough benefits annually from an average **\$11,000 in property tax revenue** from Unuk River watershed private properties.

These Unuk River watershed economic benefits have a net present value of approximately \$50 million, based on \$2.5 million in economic activity over a 30-year period.

Nass and Skeena Rivers

The Nass and Skeena Rivers do not flow into Alaska, though they do contribute to salmon harvests in Southeast Alaska fisheries, primarily on the outer coast. The Skeena River is the second largest river in British Columbia and the second largest Chinook and sockeye salmon producer on the B.C. coast. Skeena River Chinook are harvested in southern Alaska troll and net fisheries, and sockeye are harvested in a number of Southeast gillnet

and purse seine districts. Nass River sockeye are harvested in Southeast net fisheries. The economic impact of these rivers was not thoroughly examined in this analysis though examples of contributions to the region follow:

- The District 104 purse seine fishery 10-year average Nass and Skeena River sockeye harvest totals 28,500 fish with an estimated annual \$242,000 ex-vessel value and \$513,000 first wholesale value.
- The District 101 Tree Point gillnet fishery 10-year average harvest of Nass sockeye totals 44,400 with an estimated annual ex-vessel value of \$378,000 and first wholesale value of \$800,000.

Summary of Transboundary Watershed Economic Impacts

Each watershed examined in this study is an important component of the Southeast Alaska economy, especially for the communities nearest the watershed. Combined, the Stikine, Taku, and Unuk River Watersheds account for \$48 million in economic activity annually, including multiplier effects. This includes \$34 million in direct spending, 400 jobs for the Southeast region, and almost \$20 million in labor income.

Summary of Economic Impacts – Stikine, Taku, and Unuk River Watersheds

Economic Sector	Total Average Annual Employment	Total Labor Income	Total Economic Impact
Seafood Industry	156	\$7.7 million	\$12.3 million
Sportfish	62	\$3.1 million	\$10.1 million
Visitor Industry	174	\$8.6 million	\$24.7 million
All Other	7	\$0.3 million	\$0.9 million
Total	400	\$19.6 million	\$48.0 million

Note: Columns may not sum due to rounding.
Source: McDowell Group estimates.

The impact of the transboundary watersheds in Southeast Alaska also includes investments in land and resource management by State and federal agencies, and fisheries taxes, which generate revenue for communities and the state. An estimated \$280,000 in annual fish taxes are attributable to the region’s transboundary watersheds.

Finally, with appropriate management, Southeast Alaska’s transboundary watersheds can generate economic benefits in perpetuity. One measure of that perpetual benefit, the present value of the three watersheds combined, when considering a 30-year horizon, totals just under \$1 billion. The present value of benefits over the next 50 years is over \$1.2 billion, for the three watersheds combined.

Summary of Brief

Canadian Mines on Transboundary Rivers

The Need for Financial Assurances

**prepared by Robyn Allan, Independent Economist
in support of House Joint Resolution 9**

March 16, 2017

A detailed brief has been prepared and submitted in support of the Alaska State Legislative Hearing on House Joint Resolution 9 (HJR 9). To assist the Committee the following is a summary of the conclusions from that brief.

Notwithstanding the recently signed Statement of Cooperation between the British Columbia and Alaska governments, the State of Alaska cannot rely upon the Province of British Columbia to adequately protect downstream interests threatened by upstream mining activity that has been, or will be, permitted and is regulated by the BC Ministry of Energy and Mines and the BC Ministry of Environment.

As recommended in HJR 9, the Canadian and US governments must work together to investigate the current and long-term impacts of mining in British Columbia and develop measures to ensure downstream resources are not harmed. In particular, a fulsome and effective financial assurances regime is needed in British Columbia to protect the environment, guarantee reclamation of mine sites, and in the event unintended major or catastrophic pollution occurs, ensure cleanup, remediation and financial compensation for those affected.

The environmental assessment, monitoring and compliance of British Columbia's mining sector is dysfunctional. It places the environment and the public on both sides of the Canadian and US borders at serious long term risk.

Assurances from the government of British Columbia that these risks are being addressed are effectively without substance.

The laudable goals of the recently signed Statement of Cooperation cannot be achieved under BC's current regulatory regime.

There exists an urgent need for a robust financial assurances framework in British Columbia.

Beyond a guarantee that the polluter will pay for harm the polluter creates, an effective financial assurances regime provides a myriad of benefits to the economy and society.

When companies are required to prove up front that they are fully capable of meeting their environmental impact obligations for reclamation and unintended environmental harm events:

1. companies are incentivized to adopt best available practices and best available technologies;
2. operators release less hazardous waste over the mine's life;
3. fewer accidents occur and the consequence of those that happen are reduced;
4. fewer bankruptcies occur; and
5. reclamation, clean-up, remediation and compensation is provided in a more timely and fulsome manner reducing ultimate harm and cost.

These additional benefits mean that financial assurances have an extremely important role to play in the broader goal of environmental protection. An effective financial assurances system protects the environment because it incentivizes pollution prevention. A robust financial assurances regime, therefore, is integral to any regulatory regime that seeks to protect the environment.

But in order that a financial assurances regime to work:

- i) reclamation estimates must be reliable;
- ii) reclamation liabilities must be fully funded; and
- iii) the risk of major or catastrophic events must be evaluated up front and the mine operator be required to prove access to financial resources to respond to, and compensate for, damage caused by such events.

BC's financial assurances regime fails on all accounts.

Mine reclamation liabilities in BC are underestimated and most mine operators are not required to provide full-funding for the reclamation obligations that are estimated.

For example, Teck Resources is the largest mining company in BC with 6 operating and 7 closed mines.

Teck also operates the Red Dog Mine in Alaska. Red Dog is expected to require water treatment in perpetuity. These costs are required to be incorporated in the reclamation estimate filed with the State of Alaska. Teck has fully funded its \$558 million reclamation liability obligation at Red Dog by posting a bond with the State.

The Province of BC estimates Teck's reclamation liability for its 13 mines at \$1.4 billion (Canadian), but requires only \$510 million (Canadian) in bonding. The \$1.4 billion (Canadian) reclamation estimate excludes significant requirements for ongoing water treatment such as those at Teck's coal mining sites in the Elk Valley. Teck's in perpetuity liabilities are likely underestimated by hundreds of millions of dollars.

When it comes to unintended events, such as the Mount Polley tailings breach, there is no requirement for mandatory financial assurances in BC. Protection of the public interest against mine related pollution events is left to the discretion of the mine operator.

The Province of BC only need adopt the Alaskan model for reclamation estimation and bonding to bring its reclamation system more in line with a comprehensive and robust approach. This can be done through government policy direction since estimation and funding requirements are at the discretion of the Chief Inspector of Mines.

Regarding mandated assurances for unintended environmental harm, the government of British Columbia has endorsed government of Canada programs which could readily be applied to BC's mining sector.

Regrettably, the Province of BC does not intend to enhance the requirements of its subpar system despite recommendations in recent reports released by the BC Auditor General and the Union of BC Indian Chiefs. Further action as contemplated in HJR 9 is required if BC is to address the serious shortcomings in its financial assurances regime and if the environment and the public on both sides of the border are to be protected.

There are six recommendations included in the brief prepared for the Committee, that, if followed, would provide a robust financial assurances regime in British Columbia that would protect the environment and, in the event of unintended environmental harm, properly compensate those impacted. These are:

1. the development of accurate reclamation estimates that include water treatment;
2. transparency and accountability in the preparation of reclamation cost estimates along with an opportunity for public review and comment of the proposed plan and costs;
3. full security posted to fund reclamation costs at time of permit;

4. financial assurances for unexpected environmental harm events for all mines (closed and operating) based on an independent risk assessment;
5. an industry funded pool for reclamation costs not met by mine operators and/or the costs and compensation related to unintended environmental accidents in the event the required mine operator financial assurances are insufficient; and
6. the establishment of a fair and fulsome claims settlement process.

The Province of British Columbia refuses to assume responsibility to adequately protect downstream interests threatened by upstream mining activity by introducing much needed reforms to the regulation of mining activities in the Province, particularly as they relate to the introduction of a fulsome and effective financial assurances regime. Therefore, House Joint Resolution 9 requesting that the Canadian and US governments work together to investigate the current and long-term impacts of mining in British Columbia and develop measures to ensure downstream resources are not harmed, is timely and necessary.

United States Senate

WASHINGTON, DC 20510

April 18, 2016

The Honorable John Kerry
Secretary
U.S. Department of State
2201 C Street NW
Washington, DC 20520

Dear Secretary Kerry:

We write to draw your attention to the proposed and ongoing large-scale mining activities in transboundary watersheds originating in British Columbia and crossing into the United States. We are deeply concerned about the potential impacts of transboundary mines on American commercial, recreational, and tribal fisheries in Washington and Alaska as well as the robust tourism and recreation economy supported by these rivers.

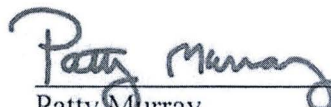
The health of the Washington state economy is closely linked to sustainable seafood businesses throughout the West Coast and Alaska. In addition to fisheries in Washington state, over 5,000 Washington state residents were employed as skippers or crewmen on fishing vessels harvesting in Alaska in 2014 and almost 200 fishing vessel permits were held by Washington residents for Southeast Alaska salmon fisheries. All told, the Alaska seafood industry supported 23,900 jobs and generated \$1.34 billion in labor income in the Puget Sound region in 2013. Continued employment could be threatened, however, if large-scale mining in the headwaters of transboundary rivers continues at its current pace and scale, and all planned operations go into operation. Exploratory activities, proposed mines, and mines in development or operation, could result in catastrophic impacts to the Taku, Stikine, and Unuk watersheds, all of which originate in Canada but cross the border into Alaska. While the headwaters and mouth of the Fraser River are in Canada, the watershed extends into Washington state and is therefore of interest to us as well. The health of these watersheds is essential to the culture and economy of Alaska, Washington, and the United States as a whole.

Given the importance of these rivers to both countries, we ask you to work with your counterparts in Canada to address transboundary mine impacts on the U.S. salmon industry through the International Joint Commission, established by the Boundary Waters Treaty of 1909. We believe review by the International Joint Commission is the most effective way to ensure the health and sustainability of salmon fisheries are not jeopardized.

The potential for a mine tailings dam failure, such as occurred at the Mount Polley mine in British Columbia in August 2014, demonstrates the need for coordinated international action on transboundary mines. Referring this issue to the International Joint Commission would be an important step in protecting salmon fisheries for future generations.

We appreciate your consideration of this request.

Sincerely,



Patty Murray
United States Senator



Maria Cantwell
United States Senator

Alaska State Legislature



Chair

Fisheries Committee

Member

State Affairs Committee
Health and Social Services Committee
Transportation Committee
Economic Development Committee

Session:
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Juneau, AK 99801

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REPRESENTATIVE LOUISE STUTES

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10/28/2016

The Honorable John Kerry
Secretary
U.S. Department of State
2201 C Street NW
Washington, DC 20520
(and via email)

Cc (via email):

Alaska Governor Bill Walker
Alaska Lieutenant Governor Byron Mallott
Alaska Congressional Delegation

Re: House Fisheries Committee Meeting on Transboundary Mines

Dear Secretary Kerry,

I am writing to add my voice to the rapidly expanding group of Alaskans concerned about potential downstream impacts of operating and future large-scale metal mines located near the headwaters of the "transboundary" Taku, Stikine and Unuk Rivers that flow from British Columbia (B.C.) into Southeast Alaska. I agree with U.S. Senators Lisa Murkowski and Dan Sullivan and Congressman Don Young, who stated in their May 12, 2016 letter to you, that you should "utilize every measure at your disposal to address this issue at the international level."

On October 12th, the Alaska State Legislature's House Fisheries Committee hosted a transboundary hearing in order to learn from invited experts, including Alaskan and Canadian indigenous leaders and world-renowned scientists, as well as to allow individual Alaskans to share their concerns and ideas on this topic. This hearing was held just after the State of Alaska and the Province of B.C. signed the non-binding Statement of Cooperation on Protection of Transboundary Waters on October 6th.

Almost all of the hundreds of individual Alaskans and invited presenters stated that the Alaska-B.C. non-binding agreement is a step but falls short in addressing Alaskan concerns and protecting Alaskan interests. The clear consensus of testifiers was that nothing short of an international agreement(s) between the United States and Canada can provide the enforceable measures and funding needed to protect Alaskans (and British Columbians) from the potential negative impacts of large-scale transboundary mining and associated development on fish, water quality, businesses, employment and culture.

The presentations from the invited speakers were illuminating, and often disconcerting. The experts I invited to present at the hearing included: Lieutenant Governor Byron Mallott, Central Council Tlingit and Haida Indian Tribes of Alaska President Richard Peterson, United Tribal Transboundary Mining Work Group Chair Fred Olsen Jr., McDowell Group Project Manager Kirsten Shelton, Geophysicist and Center for Science in Public Participation President Dr. David Chambers, United Fishermen of Alaska Board Member Chip Treinen, University of Washington Professor of Fisheries Aquatic Sciences Dr. Daniel Schindler, First Nations Women Advocating Responsible Mining (FNWARM) Chair Bev Sellars, and FNWARM Coordinator Jacinda Mack. Below are key themes highlighted in the invited presentations (as well as in Alaskans'

testimonies). They represent the key areas Alaskans wish to see Alaska elected leaders work with the U.S. federal government to address immediately:

(1) This is an international situation so the U.S. federal government needs to exercise its rights under the Boundary Waters Treaty and call for an evaluation of the values at risk, and the potential cumulative effects of multiple B.C. mines in various stages of development, in the Taku, Stikine and Unuk River watersheds.

**Dr. Daniel Schindler: The habitat diversity and intactness of the Taku, Stikine and Unuk watersheds drives the tremendous salmon productivity of these systems—a productivity that is extremely rare. The International Joint Commission is the best body to conduct a review of the values at risk, including this salmon productivity. A “death-by-a-thousand-cuts” scenario is just as worrisome as a tailings dam breach so a cumulative effects assessment is absolutely essential.*

**Bev Sellars: “My recommendation based on my lifelong experience with the...[B.C.] government...is to try to get a solid country-to-country agreement on paper. Don’t put all your trust in the province of British Columbia. The state should push to involve the International Joint Commission.”*

(2) The U.S. and Canadian federal governments need to fund the baseline water quality testing and perpetual monitoring needed on the Taku, Stikine and Unuk Rivers.

**President Richard Peterson: Central Council Tlingit and Haida Indian Tribes of Alaska began baseline water quality testing of transboundary rivers in 2015 with a small grant from BIA. But several million dollars are needed for this baseline testing. And then, monitoring needs to take place in perpetuity because most B.C. proposed mines in transboundary watersheds have tailings storage and water treatment facilities that need to operate forever. We need help.*

(3) Alaska and the United States need to demand of B.C. and Canada that safety comes before economics in the design, evaluation, permitting, construction, operation, maintenance and closure of mines in transboundary watersheds. This includes the use of only Best Available Technologies and Best Available Practices (BATs/BAPs) at mines in transboundary watersheds. Financial sureties also need to be secured to ensure that, if and when B.C. mine pollution occurs, it is fully cleaned up and Alaskans (and Canadians) are compensated.

**Dr. David Chambers: “Today...economics drives the design” of tailings dams. Safety doesn’t. “We’re seeing an increasing number of tailings dam failures because they’re being built and operated by companies under financial stress [like Imperial Metals, owner of the Mount Polley mine, as well as the Red Chris mine operating in the transboundary Stikine watershed].” The State of Alaska had no involvement in the assessment or permitting of the Red Chris mine, and the B.C. government has not required BATs/BATs at Red Chris—nor are any financial guarantees in place—despite recent calls from B.C.’s own Mount Polley Expert Panel, auditor general and financial experts to prioritize safety over economics. The U.S. and Canadian federal governments need to hold the B.C. government accountable and protect U.S. interests downstream.*

Alaska lawmakers are committed to doing everything we can to ensure we work with the State of Alaska, the Alaska congressional delegation and the U.S. federal government to ultimately secure binding protections and financial guarantees for Alaskans in the Alaska-B.C. transboundary region. Secretary Kerry, we look forward to hearing from you what steps the U.S. Department of State will take in the coming months to make progress toward securing these binding protections and financial guarantees for Alaskans.

Sincerely yours,



May 2016



AN AUDIT OF COMPLIANCE AND
ENFORCEMENT OF THE MINING SECTOR

www.bcauditor.com

SUMMARY OF RECOMMENDATIONS

In addition to this overall recommendation, we have included 16 recommendations that provide further guidance to government in the development of this new unit. These recommendations are themed by activity: Planning, Permitting, Compliance Promotion, Compliance Verification, Enforcement, Evaluation and Adjustment, and Reporting.

Each recommendation was in response to specific findings. In some cases, the recommendation was made due to specific issues as a result of the Ministry of Environment's or the Ministry of Energy and Mines' performance, and in other cases, the recommendation was applicable to both ministries.

Planning

1.1 Strategic planning

We recommend that government develop a strategic plan that would detail the activities of an integrated and coordinated regulatory approach, and the necessary capacity, tools, training and expertise required to achieve its goals and objectives.

Permitting

1.2 Permit language

We recommend that government ensure both historical and current permit requirements are written with enforceable language.

1.3 Security – adequate coverage

We recommend that government safeguard taxpayers by ensuring the reclamation liability estimate is accurate and that the security held by government is sufficient to cover potential costs.

1.4 Security – catastrophic events

We recommend that government review its security mechanisms to ensure taxpayers are safeguarded from the costs of an environmental disaster.

1.5 *Environmental Management Act* waste discharge fees

We recommend that government review its fees under the *Environmental Management Act* and ensure that the fees are effective in reducing pollution at mine sites.

SUMMARY OF RECOMMENDATIONS

1.6 Cost recovery

We recommend that government adopt a cost recovery model for permitting and compliance verification activities that is consistent across all ministries in the natural resources sector.

1.7 Decision-making – Use of section 137 of the *Environmental Management Act*

We recommend that government publically disclose its rationale for granting a permit under section 137 of the *Environmental Management Act*. Specifically, information should include how factors such as economic, environmental, and social attributes were considered in the determination of public interest.

Compliance Promotion

1.8 Reclamation guidance

We recommend that government develop clear and comprehensive reclamation guidance for industry.

1.9 Incentives

We recommend that government create effective incentives to promote environmentally responsible behavior by industry.

SUMMARY OF RECOMMENDATIONS

Compliance Verification

1.10 Risk-based approach

We recommend that government develop a risk-based approach to compliance verification activities, where frequency of inspections are based on risks, such as industry's non-compliance record, industry's financial state, and industry's activities (e.g., expansion), as well as risks related to seasonal variations.

1.11 Systematic compliance verification

We recommend that government systematically monitor and record compliance with high-risk mine permit requirements.

1.12 Qualified Professionals

We recommend that government establish policies and procedures for the use and oversight of qualified professionals (QP) across the natural resources sector. These policies and procedures should have the following:

- ◆ guidance for staff that outlines the specific nature and amount of oversight expected of a QP's work
- ◆ guidance for staff as to expected timeframe for review and response to QP reports
- ◆ updated guidance for staff for recognizing and responding to misconduct by a QP
- ◆ controls in place to ensure that there is no undue influence on the QPs by industry
- ◆ controls in place to ensure that recommendations by QPs are adhered to

1.13 Mine design

We recommend that government adopt appropriate standards, review mine designs to ensure that they meet these standards, and ensure that mines, as constructed, reflect the approved design and standards.

SUMMARY OF RECOMMENDATIONS

Enforcement

1.14 Policies, procedures and tools

We recommend that government develop policies, procedures and enforcement tools for responding to non-compliances when industry does not meet government's specified timeline.

Evaluation & Adjustment

1.15 Evaluation & adjustment

We recommend that government regularly evaluate the effectiveness of its compliance promotion, compliance verification, and enforcement activities and tools, and make changes as needed to ensure continuous improvement.

Reporting

1.16 Public reporting

We recommend that government report publicly the:

- ◆ results and trends of all mining compliance and enforcement activities
- ◆ effectiveness of compliance and enforcement activities in reducing risks and protecting the environment
- ◆ estimated liability and the security held for each mine

AUDITOR GENERAL'S COMMENTS

The mining industry has a long history in British Columbia and continues to be an important source of employment for thousands of people. Government has stated its plan to continue to support and develop this industry by creating opportunities for new investment.

However, the recent decline in commodity prices has left many mining companies struggling to survive. Regardless of whether the mining industry is experiencing growth or slow-down, protection of the environment needs to be ensured. This is only possible through strong regulatory oversight. We conducted this audit to determine whether the regulatory compliance and enforcement activities of the Ministry of Energy and Mines (MEM) and the Ministry of Environment (MoE), pertaining to mining, are protecting the province from significant environmental risks.



Carol Bellringer, FCPA, FCA
Auditor General

We found almost every one of our expectations for a robust compliance and enforcement program within the MEM and the MoE were not met.

We found major gaps in resources, planning and tools. As a result, monitoring and inspections of mines were inadequate to ensure mine operators complied with requirements. The ministries have not publicly disclosed the limitations with their compliance and enforcement programs, increasing environmental risks, and government's ability to protect the environment.

During the course of this audit, these risks became a reality and disaster occurred when the tailings dam at Mount Polley failed – releasing approximately 25 million cubic metres of wastewater and tailings into adjacent water systems and lakes. It may be many years before the financial, environmental and social implications are fully known.

AUDITOR GENERAL'S COMMENTS

After the failure at Mount Polley and during our audit, we felt it necessary to review MEM's performance as regulator for this site.

We noted the same issues in the Mount Polley file as we did throughout the audit – that is, too few resources, infrequent inspections, and lack of enforcement.

Our advice, to reduce the risk that unfortunate and preventable incidents like Mount Polley don't happen again, is for government to remove its compliance and enforcement program for mining from MEM. MEM's role to promote mining development is diametrically opposed to compliance and enforcement. This framework, of having both activities within MEM, creates an irreconcilable conflict. Because compliance and enforcement is the last line of defence against environmental degradation, business as usual cannot continue.

I am therefore disappointed in the resistance to this overall recommendation as it is consistent with many other jurisdictions' response to similar incidences. In addition, it is disconcerting that government will not be disclosing its rationale for decisions that it makes in the public's interest under section 137 of the *Environmental Management Act*. The next opportunity to discuss these and other areas of disagreement and the contents of this report, will be at a meeting of the Select Standing Committee on Public Accounts.

This was a very large and involved audit. I appreciate the dedication and commitment that everyone, both in the ministries and my Office, showed to see it through to completion.



Carol Bellringer, FCPA, FCA
Auditor General
May 2016

British Columbia Mining Update Transboundary Region Projects and Mount Polley Mine

PROBLEM: Weakened environmental regulations and the construction of a new power line have helped pave the way for at least 10 large-scale mines in Northwest British Columbia (B.C.), a region quickly becoming one of the world's largest mining districts. The mine properties are located in the headwaters and tributaries of the Taku, Stikine, and Unuk Rivers, which originate in B.C. and flow into Southeast Alaska. Existing and proposed mine development is likely to damage habitat and produce acid generating mine waste, which could degrade water quality and harm fish and wildlife. A devastating tailings dam breach at the Mount Polley Mine in Likely, B.C. recently revealed the province's inability to adequately safeguard the environment and mitigate its resident's losses. Acid mine drainage from the Tulsequah Chief Mine near the Taku River has been leaching into the watershed since the 1950s, yet British Columbia has done nothing to clean up the mess.

SOLUTION: Secure enhanced project reviews and enforceable provisions to protect water quality, fish and wildlife. Legally binding financial assurances are needed to mitigate the state and its residents, dependent businesses, and communities in the event of damage stemming from development in transboundary watersheds. Alaska's congressional delegation and dozens of municipal governments and local businesses, commercial, sport, and tribal organizations, NGO's, and private citizens are calling on the U.S. Department of State to secure such protections through engagement with Canada under the [Boundary Waters Treaty](#).

SELECT MINE OVERVIEW

TAKU BASIN:

- [Tulsequah Chief](#) (Chieftain Metals)
 - **Status:** Reviews & permitting complete; [Chieftain Metals in receivership](#) as of Sept. 2016
 - **Location:** 10 miles from Alaska border
 - **Water Bodies of Concern:** Taku and Tulsequah Rivers
 - **Mine Description:** Historic underground copper, lead, zinc, silver, and gold
 - **Estimated Mine Life:** Closed in 1957 with periods of development activity until 2012.
 - **Estimated Daily ore extraction:** None at this time.
 - **Tailings Disposal Method:** N/A
 - **Tailings dam or water storage dam proposed or permitted?**
 - **Known Issues:** Acid mine drainage; short-lived remedial water treatment terminated 2012.

STIKINE BASIN:

- [Galore Creek](#) (NovaGold 50%, Teck 50%)
 - **Status:** Review & permitting complete; project on hold pending site optimization.
 - **Location:** 25 miles from Alaska border
 - **Water Bodies of Concern:** Stikine River, Galore Creek, Iskut River
 - **Mine Description:** Proposed open pit copper, gold, and silver
 - **Estimated Mine Life:** 18 years
 - **Estimated Daily ore extraction:** Up to 95,000 tons per day
 - **Tailings Disposal Method:** Submerged containment at West More Tailings Facility - one main and two saddle dams. Capacity 678 Mt of tailings; current mine plan envisions 510 Mt.
 - **Tailings dam or water storage dam proposed or permitted?** Yes. And, treated water from the filter processing plant will be discharged into Iskut River.

- Schaft Creek (Teck Resources, Ltd. 75%, Copper Fox 25%)
 - **Status:** Project in pre-application phase with feasibility and some engineering studies complete. Comprehensive study terminated May 2016 when Teck requested to withdraw.
 - **Location:** 40 miles from Alaska border
 - **Water Bodies of Concern:** Stikine River, Schaft, Hickman, and Mess Creeks
 - **Mine Description:** Flotation/open pit, copper, gold, molybdenum, and silver
 - **Estimated Mine Life:** 21 years
 - **Estimated Daily ore extraction:** 130,000 tons per day
 - **Tailings Disposal Method:** Tailings ponds
 - **Tailings dam or water storage dam proposed or permitted?** unclear
 - **Known Issues:**

- Red Chris (Imperial Metals)
 - **Status:** In production; first copper concentrate in Feb. 2015
 - **Location:** 150 miles from Alaska border
 - **Water Bodies of Concern:** Stikine River, Trail Creek, Quarry Creek
 - **Mine Description:** Open pit copper, gold, silver; 71,826 acre footprint (112 sq. miles)
 - **Estimated Mine Life:** 28 year (commenced operations in 2015)
 - **Estimated Daily ore extraction:** 30,000 tons per day; potential up to 150,000 tons/day.
 - **Tailings Disposal Method:** Three tailings dams over life of project.
 - **Tailings dam or water storage dam proposed or permitted?** Yes.
 - **Known Issues:** Requires a Fish Habitat Compensation Plan (FHCP) to mitigate Trail Creek.
 - **Other:** Tahltan Nation and Imperial have Impact, Benefit and Co-Management Agreement

UNUK BASIN:

- Brucejack (Pretium Resources)
 - **Status:** Under construction and expected to open in 2017.
 - **Location:** 28 miles from Alaska border
 - **Water Bodies of Concern:** Unuk River, Brucejack and Sulphurets Creeks
 - **Mine Description:** Underground gold project with 301,798 acre footprint (471 sq. mile).
 - **Estimated Mine Life:** 18 years
 - **Estimated Daily ore extraction:** 2,700 tons
 - **Tailings Disposal Method:** Cement paste backfill or placement in Brucejack Lake (no fish)
 - **Tailings dam or water storage dam proposed or permitted?** No.
 - **Known Issues:** Alaska was not involved in the review/assessment process.

- Kerr-Sulphurets Mitchell (KSM) (Seabridge Gold)
 - **Status:** Project approved in Dec.2014; in permitting phase (150 permits required).
 - **Location:** 22 miles from Alaska border
 - **Water Bodies of Concern:** Unuk, Nass & Skeena Rivers, Sulphurets and Mitchell Creeks, Misty Fjords National Monument
 - **Mine Description:** Open pit copper and gold (largest in No. America; 5th in the world)
 - **Estimated Mine Life:** 52 years
 - **Estimated Daily ore extraction:** 130,000 tons per day
 - **Tailings Disposal Method:** Tailings Management Facility drains into non-transboundary Nass River watershed, which supports salmon harvested in Alaska and British Columbia.
 - **Tailings dam or water storage dam proposed or permitted?** Yes. 540' water storage dam, water treatment facility and waste rock disposal locations in Sulphurets (fish) and Mitchell (no fish) watersheds, which drain into the Unuk River.
 - **Known Issues:** State / Federal government / Alaskans requested the more rigorous Panel Review available under Canada's process; request denied by Canadian government.

PORTLAND CANAL

- Red Mountain (IDM Mining, Ltd.)
 - **Status:** Application complete, now in assessment phase.
 - **Location:** 11 miles from Hyder, AK
 - **Water Bodies of Concern:** Portland Canal
 - **Mine Description:** Underground gold and silver
 - **Estimated Mine Life:** 5-7 years
 - **Estimated Daily ore extraction:** 1,000 tons mineral ore per day and 275K per year
 - **Tailings Disposal Method:** All potential discharge will enter Portland Canal.
 - **Tailings dam or water storage dam proposed or permitted?** No?
 - **Known Issues:**

OTHER

- Mount Polley (Imperial Metals)
 - **Location:** Likely, British Columbia
 - **Water Bodies of Concern:** *Hazeltine Creek*, Quesnel Lake, Cariboo & Fraser Rivers
 - **Mine Description:** Open pit gold and copper with a 48,435 acre footprint (76 sq. miles)
 - **Estimated Mine Life:** 28 years (commenced operations in 1997)
 - **Estimated Daily ore extraction:** Prior to 2014 tailings dam breach, about 20,000 tons per day and 7.3 million tons per year. Project restart in 2015 limit of 4 million tons for one year; production limits lifted in summer 2016.
 - **Tailings Disposal Method:** Temporarily stored in the Springer Pit. In June 2016 Company given permission to use the repaired and buttressed tailings storage facility.
 - **Tailings dam or water storage dam proposed or permitted?** Yes.
 - **Known Issues:** a) Tailings dam breach in Aug. 2014 released about 17 million cubic meters of water and 8 cubic meters of tailings material into Hazeltine Creek, Polley Lake and Quesnel Lake as salmon were returning to the Fraser River watershed. b) August 2016 Imperial re-opened Mt. Polley with new rules including weekly reporting and submission of a long-term water treatment plan. c) June 23, 2016, mine authorized to return to normal operations. d) Mount Polley Independent Investigation and Review

SIGNIFICANT EVENTS

British Columbia

- Minister of Energy and Mines Bill Bennett visited Juneau in August of 2015 and met with fishing, environmental and tribal representatives. After flying the Taku River to view acid mine drainage at the Tulsequah Chief Mine, he assured Lt. Governor Mallott that B.C. would take care of the mess. The cost of water treatment at the site is estimated at \$2-4 million per year. To date, nothing has been done and mine owner Chieftain Metals has entered into receivership, while Minister Bennett has announced his retirement.
- The Harper Administration weakened regulations to protect fish and the environment.
- The Auditor General reported in May 2016 that B.C.'s mine sector compliance and enforcement put the environment at risk, "[a]lmost all of our expectations for a robust compliance and enforcement program were not met."
- An independent economist report in May 2016 exposed the inadequacy of B.C.'s financial assurances regime for the mine site reclamation program; funds available are insufficient to pay for potential environmental damages and no provisions exist to cover 3rd party losses. Unlike past years, the government no longer provides this information to the public.

State of Alaska:

- Lt. Governor Byron Mallott has taken the lead on this issue and established an inter-agency Transboundary Working Group.
- State of Alaska has been meeting with US and Canadian officials and the stakeholders.
- The state signed a Memorandum of Understanding and Cooperation (MOU) with B.C. in November 2015, which voices a commitment by the parties to do such things as share information; sustain the environment - including transboundary watersheds- promote marine transportation, safety, and job creation; and, engage local and tribal governments and other stakeholders. The MOU creates a Bilateral Working Group on the Protection of Transboundary Waters. The MOU does not bind the governments or include financial assurances of any kind.
- Alaska and B.C. negotiated a Statement of Cooperation (SOC) to support the MOU, which was signed in early October 2016. Stakeholders expressed concerns about the agreement, particularly the lack of funding to implement its terms or protect Alaska's interests. The MOU package still lacks enforceable measures to hold industry and British Columbia/Canada accountable and binding provisions to mitigate losses that might be incurred by Alaska or its citizens in the event of a catastrophic event. No commitment was made by British Columbia through the MOU or SOC to work to secure such protections from the federal government.
- B.C. announced in Oct. 2016 plans to take over cleanup at Tulsequah Chief Mine.

Congressional Delegation:

- Multiple letters to US Department of State calling for federal action to protect AK interests.
- Senator Murkowski secured Department of Interior appropriation for water quality testing in the Taku, Stikine, and Unuk River watersheds.

Reports

B.C. Auditor General

<http://www.bcauditor.com/pubs/2016/audit-compliance-and-enforcement-mining-sector>

Financial Assurances Report

https://d3n8a8pro7vhmx.cloudfront.net/ubcic/pages/1290/attachments/original/1463347826/Toward_Financial_Responsibility.pdf?1463347826

Mount Polley Independent Review

www.mountpolleyreviewpanel.ca/mount-polley-review-panel-delivers-final-report

Recent Media:

www.salmonbeyondborders.org/media

Letters from Industry and Municipal Leaders:

www.salmonbeyondborders.org/press-releases

www.salmonbeyondborders.org/resolutions--letters-of-support.html

Additional industry letters available upon request.

Alaska State Legislature

Legislative Hearing

Canadian Mines on Transboundary Rivers

The Need for Financial Assurances

Brief

Prepared and Submitted by

Robyn Allan
Economist

March 16, 2017

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1. Introduction

This brief has been prepared in support of the Alaska State Legislative Hearing on House Joint Resolution 9 (HJR 9). Notwithstanding the recently signed Statement of Cooperation between the British Columbia and Alaska governments, the State of Alaska cannot rely upon the Province of British Columbia to adequately protect downstream interests threatened by upstream mining activity that has been, or will be, permitted and is regulated by the BC Ministry of Energy and Mines and the BC Ministry of Environment.

As recommended in HJR 9, the Canadian and US governments must work together to investigate the current and long-term impacts of mining in British Columbia and develop measures to ensure downstream resources are not harmed. In particular, a fulsome and effective financial assurances regime is needed in British Columbia to protect the environment, guarantee reclamation of mine sites, and in the event unintended major or catastrophic pollution occurs, ensure cleanup, remediation and financial compensation for those affected.

2. Background

One of the key features of any effective environmental protection regime is a method by which to ensure that the costs from pollution are borne by those who cause it. Often articulated as the **Polluter Pays Principle**, the idea is that since economic development is desirable and necessary, it must be undertaken in a sustainable manner that protects the environment from harm as well as protects the public from loss and cost.

When companies bear the cost of pollution arising from their commercial activity this not only serves the public interest, it enhances the sound working of the market economy, now and into the future. Placing the financial burden for environmental impact squarely on those who cause it provides clearer market signals about the net benefits from industrial activity and leads to better investment decisions and mine operating practices.

Once regulators adopt the Polluter Pays Principle financial mechanisms become necessary to ensure that when it comes time to pay, the polluter is able to do so. This is the underlying purpose of a financial assurances regime—to ensure that the polluter has the financial assets to fully meet its obligations when they come due.

Regulatory authorities allow a certain degree of environmental harm as a necessary part of the industrial development process. Mining companies are permitted to disrupt the environment if they agree to reclaim it. Financial assurances for reclamation then become a means by which to

ensure that reclamation will be undertaken. If the company fails to perform its obligation, financial assurances provide regulatory authorities with access to funds to undertake reclamation activities themselves.

The reliability of reclamation cost estimates as well as the degree to which the estimated reclamation liabilities are funded become features of a reclamation financial assurances regime that speak to the quality of the program. That is, a financial assurances regime that portends the successful achievement of the Polluter Pays Principle cannot have gaps built into its model whereby the public ends up footing the bill. Accurate reclamation estimates along with full funding of reclamation obligations closes the gap between lip service to a Polluter Pays Principle and its actualization.

Regulatory authorities are aware that unintended environmental pollution events from mine sites can and do occur despite best compliance and enforcement efforts to avoid them. This is why, as part of the permitting process, some environmental protection regimes require that companies prove that they have access to sufficient financial resources for clean-up, remediation and compensation if accidents happen.

A fulsome financial assurances regime for reclamation and unintended pollution events provides environmental protection benefits far in excess of ensuring cash is available to pay for damage done.

When companies are required to prove up front that they are fully capable of meeting their environmental impact obligations for reclamation and unintended environmental harm events:

1. companies are incentivized to adopt best available practices and best available technologies;
2. operators release less hazardous waste over the mine's life;
3. fewer accidents occur and the consequence of those that happen are reduced;
4. fewer bankruptcies occur; and
5. reclamation, clean-up, remediation and compensation is provided in a more timely and fulsome manner reducing ultimate harm and cost.

These additional benefits mean that financial assurances have an extremely important role to play in the broader goal of environmental protection. An effective financial assurances system protects the environment because it incentivizes pollution prevention. A robust financial assurances regime, therefore, is integral to any regulatory regime that seeks to protect the environment.

British Columbia's mining regulation framework recognizes both intended and unintended environmental harm. In both cases, the Polluter Pays Principle is enshrined in BC's legislative framework. Mine operators are required to bear the full cost of mine reclamation during the mine's life cycle as well as bear the full cost of cleanup, remediation and compensation for commercial losses when accidents occur.

In practice, however, this is often not the case. This is because there is little in BC's financial assurances regime to guarantee that reclamation estimates are accurate, that companies have the financial capacity to undertake reclamation when required, or that companies will have sufficient financial resources to respond to damage done when accidents occur.

In too many cases mining operators in BC have avoided all or part of their financial obligations for environmental harm because of the weaknesses built into BC's financial assurances regime. BC's subpar financial assurances framework not only puts the government's ability to protect the environment at serious risk, it has also placed an unfair burden of current and future costs onto the public.

The governments of the Province of British Columbia and the State of Alaska entered into a Memorandum of Understanding and Cooperation on November 25, 2015. On October 6, 2016, a Statement of Cooperation established a Bilateral Working Group on the protection of transboundary waters and the fishing they support.¹

The primary focus of the working group is on concerns related to the degradation of water resources from existing and proposed mines in BC that are located in the headwaters of shared Alaska-BC rivers. The scope of the group's work extends throughout the mines' life cycle which includes development, operations, facilities closure, and long term mine maintenance that in some instances may continue in perpetuity. There is nothing in the agreement that speaks to the need for an effective financial assurances regime in British Columbia as part of the environmental protection strategy or as a means to respond to losses incurred from a degradation of waterways now or in the future.

The Province of British Columbia's regulation of mining activity does not properly protect the public interest of British Columbians or Alaskans, nor does it protect the environment. It does not ensure adequate compensation for losses incurred when things go wrong. The regime is in need of reform despite public statements by the Minister of Energy and Mines, Bill Bennett, that reforms have been implemented.

Regulatory changes that the Province of British Columbia has recently introduced are woefully insufficient to address the lack of compliance and enforcement in mining regulation and there have been no changes to address the failures in the financial assurances regime. The risks to

¹ Appendix I to the Memorandum of Understanding and Cooperation between the State of Alaska and the Province of British Columbia, October 6, 2016, [Statement of Cooperation on Protection of Transboundary Waters](#).

the environment continue while the costs to the public mount under a false pretense that they have been addressed.

Meaningful enhancements to BC's financial assurances regime recommended by the BC Auditor General² and the Union of BC Indian Chiefs³ in reports published in 2016 have gone unheeded. Instead, the BC Ministry of Energy and Mines has endorsed a report on financial assurances it commissioned from consulting firm Ernst and Young (E&Y).⁴ If E&Y's recommendations are adopted by the Province of BC this will likely increase future environmental risk and increase the cost and loss borne by the public.

In the case of mines located at the headwaters of shared rivers, the burden of risk, loss and cost falls disproportionately on the land, water and people who live and work on the other side of the international border.

One of the first steps in addressing the undesirable imbalance between who bears the financial burden of activity from mines located in BC and who has the authority to mitigate it is to understand the financial assurances regime in BC and determine if it meets the standards of practice expected. This brief addresses these issues. In particular, this brief:

1. discusses the financial assurances regime in British Columbia;
2. highlights the degree to which BC's financial assurances regime does not protect transboundary waters and the fishing they support; and
3. recommends actions that could be taken to close the gaps between environmental protection goals and the practical reality.

The Bilateral Working Group's stated intent to protect transboundary waters is not achievable under British Columbia's current regulatory framework and its substandard financial assurances regime. The laudable intent of the Statement of Cooperation to protect transboundary waters and the fishing they support will be frustrated unless BC's financial assurances system is based on accurate reclamation estimates, requires full funding for these cost estimates and requires mine operators to prove access to adequate financial resources to fund response to, and compensate for, major and catastrophic pollution events.

² Auditor General of BC, "An Audit of Compliance and Enforcement of the Mining Sector", May 2016.

³ Union of BC Indian Chiefs (UBCIC), "Toward Financial Responsibility in British Columbia's Mining Industry", Robyn Allan, May 2016.

⁴ Ernst and Young, BC Ministry of Energy and Mines, "Report and recommendations for BC's mine reclamation financial security policy", February 2017.

Since the Province of British Columbia does not intend to address these matters, a call for the Canadian and US governments to work together to investigate the impacts of mining in British Columbia and develop measures to ensure downstream resources are not harmed is both timely and necessary.

3. British Columbia's Financial Assurances Regime

The financial assurances regime for mine site reclamation in British Columbia is inadequate because it does not accurately estimate mine reclamation obligations or require full-funding of reclamation liabilities at the time these obligations are permitted or when obligations are revised every five years as part of the life-cycle monitoring process.

A financial assurances regime to ensure mine owners have sufficient financial resources to pay for environmental damage and commercial losses from unintended mine accidents—such as tailings facilities breaches—is non-existent.

Two recent reports canvassed this issue. They include the BC Auditor General's "Audit of Compliance and Enforcement of the Mining Sector" and the Union of BC Indian Chiefs' "Toward Financial Responsibility in British Columbia's Mining Industry".

The reports drew similar conclusions regarding the inadequacy of BC's system of financial assurances and how this leads to increased risk exposure, increased harm to the environment and increased cost borne by the general public. These findings are in contrast to BC's stated goal of ensuring the polluter pays for the damage the polluter creates.

The UBCIC report recommended that in order to better protect the environment and the public:

1. full security be required to fund mine site reclamation costs;
2. financial assurances be introduced for unexpected environmental harm events;
3. an industry funded pool be established to provide funds for reclamation costs not met by mine operators and/or the costs and compensation related to unintended environmental accidents in the event mine operator required resources prove insufficient;
4. the establishment of a fair and fulsome claims settlement process; and

5. transparency and accountability in the preparation of reclamation cost estimates to ensure their reliability and provide proof that full security is required and posted.⁵

The BC Auditor General's report recommended that government safeguard taxpayers by:

1. ensuring the reclamation liability estimate is accurate and that the security held by government is sufficient to cover potential costs. (Recommendation 1.3 Security – adequate coverage); and
2. reviewing its security mechanisms to ensure taxpayers are safeguarded from the costs of an environmental disaster. (Recommendation 1.4 Security – catastrophic events).⁶

Despite ongoing and recent claims by British Columbian legislators that the province of BC has implemented actions to address the shortcomings in the province's financial assurances regime, recommendations related to financial assurances for both reclamation costs and unintended environmental harm costs have largely gone unheeded.

The recommendations contained in both the BC Auditor General's and UBCIC's reports are as relevant today as when the reports were released since the Province of BC has not acted upon them.

The Province of British Columbia's ineffective response to the systemic failures in mining regulation and its financial assurances regime has led to a recent call for a judicial inquiry prepared on behalf of the Fair Mining Collaborative. The request for a judicial inquiry has been endorsed by numerous First Nations and environmental organizations located throughout British Columbia.⁷

3.1 Reclamation Liability

The first order of business in any environmental protection program is to reasonably estimate the level of risk. Without accurate and reliable reclamation accounting, British Columbian residents—and their Alaskan neighbours—do not know the magnitude of the likely reclamation cost exposure. The Province of British Columbia is most remiss in its estimates of water treatment. In many instances reclamation plans do not include water treatment as part of the estimation exercise. There is no indication that the Province of BC

⁵ Union of BC Indian Chiefs (UBCIC), "[Toward Financial Responsibility in British Columbia's Mining Industry](#)", Robyn Allan, May 2016, page 6.

⁶ Auditor General of BC, "[An Audit of Compliance and Enforcement of the Mining Sector](#)", May 2016, page 12.

⁷ Environmental Law Centre, University of Victoria, Letter to Premier Christy Clark, Request for Establishment of a Judicial Commission of Public Inquiry to Rectify and Improve BC Mining Regulation and report, "[Fixing Systemic Failures in BC's Mining Regulation: The Urgent Need for a Judicial Inquiry](#)", March 8, 2017

intends to improve its approach to its reclamation estimation procedure in a meaningful manner.

Not only are reclamation liabilities generally underestimated, the province also intends to continue its practice of allowing many mine operators to provide only partial security for these underestimated liabilities. In most instances, the province intends to wait until the mine is near the end of its useful life to require that a mining operator post full funding for reclamation.

Waiting until the financial benefits from mining activities are near the end of their useful life is the wrong time to require financial security—this is the very point in the life cycle where a mine is least likely to be able to provide such financial assurance. Such a practice provides an incentive to the mining operator to seek bankruptcy protection to avoid such costs, externalizing the burden onto the public in the process. The practical reality in BC is that when a company seeks bankruptcy protection, reclamation efforts generally move into a state of limbo.

3.2 Major or Catastrophic Event Liability

The Province of BC has not taken any steps toward ensuring that mining operators have adequate access to financial resources in the event of a major or catastrophic event.

The fact that the Province of BC has ignored mandatory financial assurances in the event of unintended environmental harm, such as a tailings facility breach, is surprising given that the province is aware that a Mount Polley type of catastrophe is expected to occur twice each decade. The Independent Expert Engineer's investigation determined that unless half of BC's 123 tailings facilities are decommissioned, two such tailings breaches are likely to occur each decade.⁸ The Province of BC has not taken any steps toward designing the recommended decommission plan, but continues to approve mine projects that rely on wet tailings storage. British Columbia is adding to the risk of future storage facility failures.

The fact that the Province of BC has ignored the introduction of mandatory financial assurances in the event of unintended environmental harm is also surprising given that the Province relies upon, and promotes, such mechanisms for protecting BC's natural resources in other areas of industrial activity.

⁸ Independent Expert Engineering investigation and Review Panel, "[Report on Mount Polley Tailings Storage Facility Breach, Appendix I](#)", January 30, 2015.

For example, Canada's Pipeline Safety Act requires that a minimum of \$1 billion in financial assurances be provided by companies in the event of a spill from crude oil transported along interprovincial pipelines.⁹ During environmental assessment and project permitting the National Energy Board (the federal regulator) has the ability to increase the mandatory amount based on the perceived risk of the project.

The Province of BC recently approved the expansion of the Trans Mountain pipeline system by relying, in part, on the protection mandatory financial assurances required in the Pipeline Safety Act afford land, water and communities in the event of an unintended spill. In contrast, the Province has not seen fit to extend such financial protection to the public if such a toxic spill event occurs from a tailings facility instead of a pipeline.

This inconsistent treatment of pipeline spills as compared to mining related spills not only creates a gap in the fulfillment of the Polluter Pays Principle, it treats two toxic spill events differently depending upon the source of the damage. This is not prudent policy or practice. Prudent environmental protection regulation would treat the need for financial assurances related to a toxic spill the same regardless of how the toxic spill occurs.

Another example of financial assurance protection for unintended pollution events exists in the international liability and compensation regime for spill events related to the marine transport of crude oil. Canada is a signatory to the international program and through the International Oil Pollution Fund (IOPF) \$1.3 billionCDN is guaranteed to be immediately available to respond to, clean-up and compensate for commercial losses related to spill events caused by the marine transport of crude oil.¹⁰

Both the Pipeline Safety Act and the IOPF financial assurance systems have mechanisms that provide additional funding from industry if losses caused by an accident exceed the funds that are readily available. The industry must make good on financial obligations related to pollution caused by their peers so this cost does not fall to the public instead.

⁹ Toward Financial Responsibility in British Columbia's Mining Industry, Op. Cit., pages 82-84, pages 24-26 and page 79.

¹⁰ *Ibid.*, page 79-84.

3.3 Province of BC Review and Response to Financial Assurance Program Shortcomings

In response to public critique of BC's financial assurances system, the government of BC commissioned two reports. Neither report addressed the accuracy and reliability of reclamation estimates or the need for financial assurances related to unintended pollution events. The Province of BC claims to have responded to issues raised, but these claims are disingenuous.¹¹ The most important issues--accuracy of estimates and mandatory requirement for financial assurances related to pollution events--were left outside the scope of the Province of BC's review.

The first report commissioned by the Province of BC was prepared by Stantec Consulting Ltd. The report reviews a limited selection of reclamation financial assurances for reclamation models in other jurisdictions and compares these to the features of British Columbia's.¹² Although Stantec included Alaska's system—a system that undertakes more rigorous estimation of reclamation obligations than BC and requires full reclamation security at time of estimation—Stantec failed to include a discussion of the Quebec system (another Canadian province with significant mining activity) which has a full security requirement similar to Alaska's. The Stantec report provides an imbalanced impression of best practices applied in Canadian financial assurances systems. Such a limited view is relied upon by the Province of BC to support a continuance of BC's flawed regime.

The second report commissioned by the Province of BC was prepared by consulting firm Ernst and Young (E&Y).¹³ The scope of the terms of reference of the report limited the report's review to an evaluation of the financial assurances system BC has in place for reclamation and whether the approach is appropriate.

It is important to note that BC's current regime applies an ad-hoc risk-based approach to BC's financial security program for reclamation in order to justify its determination that some mine operators only need provide partial security for their reclamation obligations.

¹¹ [Government Actions Renew BC as Leader in Mining](#), February 28, 2017, Mine Reclamation Securities: update and next steps.

¹² Stantec Consulting Ltd., "[Policy and Process Review for Mine Reclamation Security](#)", September 2016.

¹³ Ernst and Young, BC Ministry of Energy and Mines, "[Report and recommendations for BC's mine reclamation financial security policy](#)", February 2017.

A similar risk-based approach was followed in the Canadian government's regulation of rail companies. When a rail car exploded in Lac-Mégantic, Quebec, killing 47 people, Canada's ineffective and underfunded hazardous spill regime for train transport accidents was exposed. The polluter--in this case Montreal Maine and Atlantic Railroad--was required by legislation to pay, but mechanisms were not securely established to ensure they could, or would. Montreal Maine filed for bankruptcy and taxpayers have borne the burden of more than \$155 million in claims costs.¹⁴ Mandatory proof of financial resources for all railway companies have since been introduced because a risk-based assessment approach does not protect the public.

The E&Y report determined BC's risk-based assessment approach--which allows under-funding of reclamation obligations--is adequate, despite the Auditor General's and the Union of BC Indian Chief's warnings to the contrary and despite recent evidence that this approach does not protect the public or environment from loss and cost. E&Y recommended in its report that the Province of BC continue its substandard policy and "formalize its risk management framework for mine securities."¹⁵

Not only does the E&Y report endorse BC's fundamentally flawed approach, there is a recommendation in the E&Y report that will lead to an increased downward bias in reclamation estimates.¹⁶ This is because E&Y proposes that the province increase the discount rate it relies upon for calculating each company's stream of future reclamation costs. As the discount rate rises, the stated present value of a given reclamation estimate falls. E&Y's suggested amendment to the calculation of the reclamation estimate is diametrically opposed to the stated objectives of BC's environmental protection philosophy and the interests of people on both sides of the Canada/US border.

The Province of BC's response to recent critique of its financial assurances framework as outlined above is little more than an exercise in public relations and illustrates the folly in trusting the Province of BC to address the failures in its financial assurances system. Under the current system, the Province of BC is not able to protect provincial or transboundary waterways from harm or the public from undue loss and cost.

¹⁴ Transport Canada, [Support for the people of Lac-Mégantic](#), December 21, 2015.

¹⁵ "Report and recommendations for BC's mine reclamation financial security policy", Op. Cit., page 4.

¹⁶ Ibid., page 23.

4. The Risk Posed by British Columbia's Current Approach to Financial Assurances

In summary, the most serious risks to the environment, communities and people downstream of mine operations comes from:

1. underestimation of requisite reclamation activity, particularly the exclusion of long-term water treatment;
2. underfunding of reclamation costs that are estimated; and
3. lack of financial resources available to clean-up, remediate and provide compensation when unintended events occur.

Examples are provided below to assist in quantifying the extent of the gap between an effective Polluter Pays regime and BCs regime. These examples include:

1. an examination of reclamation estimates approved by the BC government for Teck Resources' mines in BC compared to the approach Alaska has adopted for Teck's Red Dog Mine. This example provides an illustration of the extent to which underestimation and underfunding exists; and
2. an examination of the Mount Polley breach to illustrate the lack of available financial resources and the extent of taxpayer burden when an unintended pollution event takes place.

4.1 A Case Study in Underestimated and Underfunded Reclamation Requirements—Teck Resources

Teck operates mines in both British Columbia and Alaska. In Alaska, Teck is responsible for the reclamation plans and obligations related to the Red Dog Mine, whereas in BC, Teck is responsible for the reclamation for 6 operating and 7 non-operating mines.

The province of BC estimates Teck's reclamation liability obligations at \$1.4 billionCDN. This estimate excludes significant requirements related to ongoing water treatment and therefore underestimates Teck's liabilities in perpetuity.

For example, Teck's estimated liability does not include all water treatment obligations in the Elk Valley Teck agreed to undertake as part of the Area-Based Management Plan—a plan that was drawn up as a result of transboundary concerns with Washington State because of selenium leaching into shared waters. Teck has promised to build 6 water treatment facilities in 9 phases between 2014-2032 but full accounting of these obligations and financial assurances to back them up have not been required. The capital cost for the first five years of the plan—and only two of the 6 treatment facilities—is \$600 million.

After Teck has mined the coal and distributed the benefits from its operations to its shareholders, there is little leverage available to the province of BC to enforce water treatment. This lack of leverage to enforce water treatment exists for any mine where the water treatment obligations are anticipated but not fully or properly estimated in reclamation plans and the mine operator is not required to fully fund such obligations, such as is the case with Tulsequah Chief.

In contrast, Teck's Red Dog Mine in Alaska is expected to require water treatment in perpetuity after the mine has finished its useful life in 2030.¹⁷ Full security for reclamation and water treatment to protect downstream resources is required in the State of Alaska, but is not required in BC. Reclamation estimation is undertaken in a more rigorous manner in Alaska and full documentation is available to the public. In addition the public has an opportunity to comment on reclamation plans and estimates. Full access to information and opportunity to critique reclamation estimates is not available in BC.

Since the Chief Inspector of Mines has required the company post security of only \$510 millionCDN for the \$1.4 billionCDN liability estimate it has accepted, this leaves \$869 millionCDN of unfunded liability—an unfunded liability of 63% as compared to 100% full funding on a larger estimated liability as would be required by the State of Alaska.¹⁸

¹⁷ [Reclamation and Closure Plan](#), Red Dog Mine, SRK Consulting prepared for Teck Alaska Incorporated, August 2016.

¹⁸ British Columbia, Ministry of Energy and Mines, [Annual Report of the Chief Inspector of Mines](#), 2015, page 36 - 39.

Teck has filed an irrevocable letter of credit (bond) with Alaska for reclamation obligations related to its one mine in the amount of \$558 millionUS¹⁹ while the company has been required to post only about \$510 millionCDN related to 13 mine facilities in BC.

It is important to note that there are no legislative or regulatory amendments required to ensure reclamation cost estimates are more accurate and incorporate potential water treatment obligations, or that reclamation costs for mines located in BC be fully funded. Enhanced estimation and immediate and ongoing full funding of reclamation obligations is at the discretion of BC's Chief Inspector of Mines. The Chief Inspector could require that all mining reclamation plans for mines located in proximity to shared international waters be fully funded.

More robust estimation and full funding of reclamation liabilities is an easily attainable goal in BC—it simply requires a government policy decision for it to occur.

Not only does the Province of BC's failure to accurately and reliably evaluate the need and cost of water treatment obligations put fresh water and ecosystems at risk, it creates a playing field that is not level among neighbouring jurisdictions.

The differing approaches between BC and Alaska incentivizes different corporate behaviours and is not in the interests of a well functioning market or in the interests of well managed international trade and commerce relations.

When mine operations in both BC and Alaska have the potential to impact waterways and the fishing they support, it is inappropriate for the reclamation estimation and funding process in one jurisdiction to be so fundamentally superior to that followed by the other jurisdiction. Whether Red Dog Mine operates in BC or Alaska should have no impact on the integrity of the reclamation plans or the likelihood that the costs will be paid when they come due. If Red Dog were located in BC, the estimated reclamation obligations and related funding requirements would be substantially lower than those required in Alaska for the same activity. The substandard approach in BC increases risk to the environment and the likelihood of public loss and cost.

In an effort to accommodate the needs of business over the needs of the environment and public, the current British Columbia government has granted special approvals to mining

¹⁹ State of Alaska, Department of Natural Resources, [Mining Reclamation Bond](#), October 4, 2016.

operators such as Teck and can be expected to continue this inappropriate practice for mines in BC in the future.

The tendency to favour business interests over environmental interests led the BC Auditor General to raise serious concerns about conflicts of interest within the Ministry of Energy and Mines and the potential for the regulator to become captured by the industry it is supposed to regulate. For example, Teck was granted provincial Cabinet approval for a permit to expand its Line Creek coal mine. That permit allows an increase in selenium discharge five times the level recommended in provincial guidelines.²⁰

Ministry of Environment staff advised the BC government that issuing a permit under such discharge conditions would likely not be protective of the environment. Department of Environment staff advised government that it could not approve a permit on that basis. In an unprecedented action, the British Columbia Cabinet invoked Section 137 of the Environmental Management Act to approve the permit for Line Creek's expansion. The risks from such a significant increase in selenium discharge, and the rationale for approval, have not been disclosed to the public. The BC Auditor General recommended that the government do so, but the government has refused.

4.2 A Case Study of Unintended Pollution Events—Imperial Metal and Mount Polley's Tailings Facility Breach

Imperial Metals is the second largest mine operator in the province of BC, second only to Teck Resources. Imperial Metals operates two copper mines—Mount Polley and Red Chris. It is a 50% of Huckleberry which entered care and maintenance in 2016. Imperial Metals is also a 50% owner of Ruddock Creek which is currently in development.

In 2014 the reclamation liability estimate for Mount Polley was \$25.9 millionCDN with \$10.5 millionCDN unfunded. For 2015 Mount Polley's reclamation liability increased to \$35.4 million and yet the unfunded liability amount rose to \$11.7 millionCDN. This means that although the province of BC knows that Imperial Metals operates a facility that should not have failed (which reflects poorly on the company's practices and procedures), and that the cost of future reclamation has increased partly due to the damage created by the breach, regulators have somehow concluded that the company's operations are less risky. This is

²⁰ "An Audit of Compliance and Enforcement of the Mining Sector", Op. Cit., page 100.

reflected in the fact that the Province of BC has reduced the percentage of security the company must post against its future reclamation costs.

On August 3, 2014, the 40-metre-high tailing dam at Imperial Metals' Mount Polley mine failed. Twenty-five million cubic metres of toxic wastewater and construction materials spewed into Polley Lake, Hazeltine Creek and eventually Quesnel Lake. Within the year much of the affected forest would be dead.

Two days after the spill, the BC ministries of Environment and Energy and Mines promised the response to the spill would be thorough, that health and safety would be protected and that the "cost of the cleanup of the breach is the responsibility of Imperial Metals, and is not a cost borne by B.C. taxpayers." Two days after that, BC Environment Minister Polak said: "We have a polluter-pay model in British Columbia and we expect the company will be the one paying for the cleanup and recovery."²¹

But B.C. does not have an enforceable polluter-pay model. Mining companies are not required to prove in advance that they have the insurance or other financial resources to pay for damage they cause. And if they are unable to pay, there is no industry-funded pool to fill the gap.

In the case of Mount Polley, which is operated by one of the largest mining companies in BC, the company was profitable before the event and therefore had positive cash flow, had access to the deep pockets of two large investors, and held some business interruption and pollution liability insurance. However, BC taxpayers have ended up on the hook for a substantial portion of the \$67.4 millionCDN in cleanup costs. Taxpayer funded refunds for expenses Imperial Metals incurred related to its response have meant more than \$23.6 millionCDN returned to the company, and unrecovered BC government (taxpayer funded) response expenditures of more than \$14 millionCDN have been incurred.²²

Not only are cleanup costs subsidized by the public purse, the land and waterways downstream of the tailings facility have, effectively, become Imperial Metals' new, more natural version, of a toxic waste impoundment area. The sludge will never be reclaimed and returned for storage in its former facility.

²¹ Vancouver Sun, Robyn Allan, [Mount Polley Cleanup Heavily Taxpayer Subsidized](#), August 3, 2016.

²² Email correspondence with the Ministry of Environment of unrecovered costs to March 2017.

None of these concerns address the needs of communities, local businesses and individuals that have not been compensated for commercial claims or reduced land values because of the spill. The claims mechanism whereby Imperial Metals responds to and determines compensation for those who have suffered financial loss is unfair and inefficient. Those who have suffered losses must file their claims with Imperial Metals which is not an arm's length, disinterested third-party. For many small business operators, proof of loss is a difficult and time consuming activity. When legitimate claims for compensation are refused, the only access is to the courts, which is a timely and expensive proposition leaving many impacted parties without proper redress.

Instead of heeding the recommendations in the Expert Engineers report that half of the province of BC's 123 facilities be decommissioned to ensure that tailings dams failures like Mount Polley's be avoided in the future, the BC government has not only ignored the recommendation, it continues to approve such facilities in new mine permits.

There remain many outstanding questions as to whether the cleanup and remediation plans approved by the province of BC have been driven by prudent environmental standards or have been driven by Imperial Metals' financial constraints. Within weeks of the event Imperial Metals booked its anticipated cleanup, remediation and compensation costs related to the event at \$67.4 millionCDN. That estimate has not been altered since. It is unusual for response and compensation costs for such a major event to be unvaried over the time horizon of cleanup, remediation and claims settlement.

There are two major lessons to be learned from the Mount Polley catastrophe.

The first is that access to adequate financial resources for responding to unintended pollution events should not be left to the discretion of mining companies. The majority of these companies do not sufficient financial resources to respond to their obligations and for mines close to the end of their life, under care and maintenance or closed, there is a significant incentive for the mine company to seek bankruptcy protection to avoid the costs of an unexpected pollution event.

The second lesson is that if the risk and potential cost of unintended events is assessed by an independent party prior to events taking place, clean-up, remediation and compensation will not be left to limitations imposed by the financial resources a company has access to, but will reflect predetermined standards for response and compensation. Certainly this is the standard of practice for a number of other potential pollution events such as those that may

occur from the failure of an interprovincial pipeline, a tanker spill, or rail car explosion. There is no reason such a standard of financial assurances should not exist for a mine site.

5. Conclusion

It is imperative that if transboundary waterways are to be protected that a comprehensive financial assurances program be introduced in British Columbia. Such a program needs to include:

1. the development of accurate reclamation estimates that include water treatment;
2. transparency and accountability in the preparation of reclamation cost estimates along with an opportunity for public review and comment of the proposed plan and costs;
3. full security posted to fund reclamation costs at time of permit;
4. financial assurances for unexpected environmental harm events for all mines (closed and operating) based on an independent risk assessment;
5. an industry funded pool for reclamation costs not met by mine operators and/or the costs and compensation related to unintended environmental accidents in the event the required mine operator financial assurances are insufficient; and
6. the establishment of a fair and fulsome claims settlement process.

The Province of British Columbia refuses to assume responsibility to adequately protect downstream interests threatened by upstream mining activity by introducing much needed reforms to the regulation of mining activities in the Province, particularly as they relate to the introduction of a fulsome and effective financial assurances regime. Therefore, House Joint Resolution 9 requesting that the Canadian and US governments work together to investigate the current and long-term impacts of mining in British Columbia and develop measures to ensure downstream resources are not harmed, is timely and necessary.

Summary of Brief

Canadian Mines on Transboundary Rivers The Need for Financial Assurances

**prepared by Robyn Allan, Independent Economist
in support of House Joint Resolution 9**

March 16, 2017

A detailed brief has been prepared and submitted in support of the Alaska State Legislative Hearing on House Joint Resolution 9 (HJR 9). To assist the Committee the following is a summary of the conclusions from that brief.

Notwithstanding the recently signed Statement of Cooperation between the British Columbia and Alaska governments, the State of Alaska cannot rely upon the Province of British Columbia to adequately protect downstream interests threatened by upstream mining activity that has been, or will be, permitted and is regulated by the BC Ministry of Energy and Mines and the BC Ministry of Environment.

As recommended in HJR 9, the Canadian and US governments must work together to investigate the current and long-term impacts of mining in British Columbia and develop measures to ensure downstream resources are not harmed. In particular, a fulsome and effective financial assurances regime is needed in British Columbia to protect the environment, guarantee reclamation of mine sites, and in the event unintended major or catastrophic pollution occurs, ensure cleanup, remediation and financial compensation for those affected.

The environmental assessment, monitoring and compliance of British Columbia's mining sector is dysfunctional. It places the environment and the public on both sides of the Canadian and US borders at serious long term risk.

Assurances from the government of British Columbia that these risks are being addressed are effectively without substance.

The laudable goals of the recently signed Statement of Cooperation cannot be achieved under BC's current regulatory regime.

There exists an urgent need for a robust financial assurances framework in British Columbia.

Beyond a guarantee that the polluter will pay for harm the polluter creates, an effective financial assurances regime provides a myriad of benefits to the economy and society.

When companies are required to prove up front that they are fully capable of meeting their environmental impact obligations for reclamation and unintended environmental harm events:

1. companies are incentivized to adopt best available practices and best available technologies;
2. operators release less hazardous waste over the mine's life;
3. fewer accidents occur and the consequence of those that happen are reduced;
4. fewer bankruptcies occur; and
5. reclamation, clean-up, remediation and compensation is provided in a more timely and fulsome manner reducing ultimate harm and cost.

These additional benefits mean that financial assurances have an extremely important role to play in the broader goal of environmental protection. An effective financial assurances system protects the environment because it incentivizes pollution prevention. A robust financial assurances regime, therefore, is integral to any regulatory regime that seeks to protect the environment.

But in order that a financial assurances regime to work:

- i) reclamation estimates must be reliable;
- ii) reclamation liabilities must be fully funded; and
- iii) the risk of major or catastrophic events must be evaluated up front and the mine operator be required to prove access to financial resources to respond to, and compensate for, damage caused by such events.

BC's financial assurances regime fails on all accounts.

Mine reclamation liabilities in BC are underestimated and most mine operators are not required to provide full-funding for the reclamation obligations that are estimated.

For example, Teck Resources is the largest mining company in BC with 6 operating and 7 closed mines.

Teck also operates the Red Dog Mine in Alaska. Red Dog is expected to require water treatment in perpetuity. These costs are required to be incorporated in the reclamation estimate filed with the State of Alaska. Teck has fully funded its \$558 million reclamation liability obligation at Red Dog by posting a bond with the State.

The Province of BC estimates Teck's reclamation liability for its 13 mines at \$1.4 billion (Canadian), but requires only \$510 million (Canadian) in bonding. The \$1.4 billion (Canadian) reclamation estimate excludes significant requirements for ongoing water treatment such as those at Teck's coal mining sites in the Elk Valley. Teck's in perpetuity liabilities are likely underestimated by hundreds of millions of dollars.

When it comes to unintended events, such as the Mount Polley tailings breach, there is no requirement for mandatory financial assurances in BC. Protection of the public interest against mine related pollution events is left to the discretion of the mine operator.

The Province of BC only need adopt the Alaskan model for reclamation estimation and bonding to bring its reclamation system more in line with a comprehensive and robust approach. This can be done through government policy direction since estimation and funding requirements are at the discretion of the Chief Inspector of Mines.

Regarding mandated assurances for unintended environmental harm, the government of British Columbia has endorsed government of Canada programs which could readily be applied to BC's mining sector.

Regrettably, the Province of BC does not intend to enhance the requirements of its subpar system despite recommendations in recent reports released by the BC Auditor General and the Union of BC Indian Chiefs. Further action as contemplated in HJR 9 is required if BC is to address the serious shortcomings in its financial assurances regime and if the environment and the public on both sides of the border are to be protected.

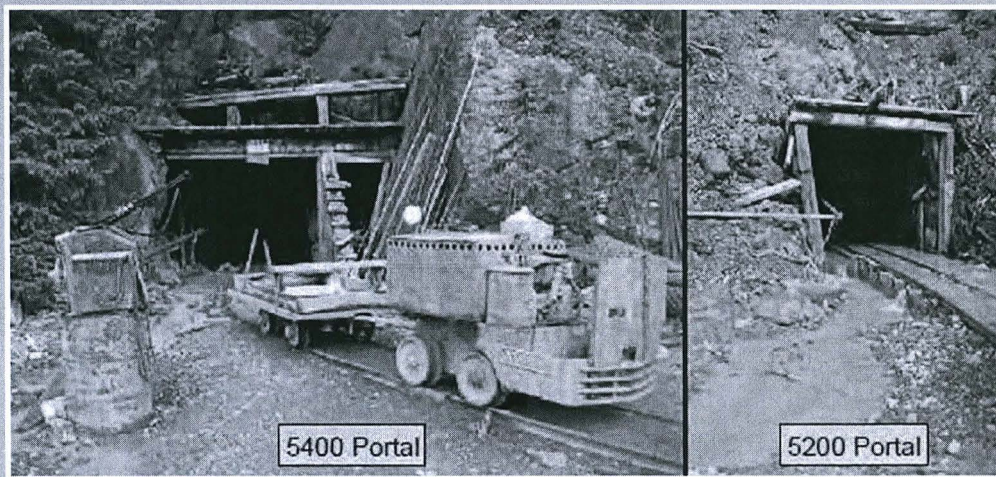
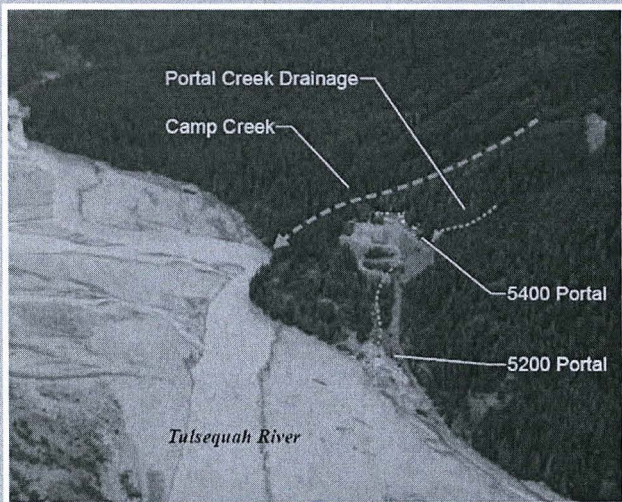
There are six recommendations included in the brief prepared for the Committee, that, if followed, would provide a robust financial assurances regime in British Columbia that would protect the environment and, in the event of unintended environmental harm, properly compensate those impacted. These are:

1. the development of accurate reclamation estimates that include water treatment;
2. transparency and accountability in the preparation of reclamation cost estimates along with an opportunity for public review and comment of the proposed plan and costs;
3. full security posted to fund reclamation costs at time of permit;

4. financial assurances for unexpected environmental harm events for all mines (closed and operating) based on an independent risk assessment;
5. an industry funded pool for reclamation costs not met by mine operators and/or the costs and compensation related to unintended environmental accidents in the event the required mine operator financial assurances are insufficient; and
6. the establishment of a fair and fulsome claims settlement process.

The Province of British Columbia refuses to assume responsibility to adequately protect downstream interests threatened by upstream mining activity by introducing much needed reforms to the regulation of mining activities in the Province, particularly as they relate to the introduction of a fulsome and effective financial assurances regime. Therefore, House Joint Resolution 9 requesting that the Canadian and US governments work together to investigate the current and long-term impacts of mining in British Columbia and develop measures to ensure downstream resources are not harmed, is timely and necessary.

A REVIEW OF THE TULSEQUAH CHIEF ECOLOGICAL RISK ASSESSMENT



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INTRODUCTION

Tulsequah Chief is a small abandoned mixed metals underground mine in northwest British Columbia very close to the Alaska border. The site is in a remote, mountainous environment about 100 air km (60 mi) south of the town of Atlin, B.C., and about 65 air km (40 m) northeast of the town of Juneau, Alaska on the Tulsequah River, a tributary to the transboundary Taku River. The Taku River is southeast Alaska's largest coho (*Oncorhynchus kisutch*) and Chinook (*O. tshawytscha*) salmon producing river (ADFG 2010), and supports robust populations of other Pacific salmon species. The river provides important customary and traditional, commercial and sport fisheries.

The Tulsequah Chief deposit was historically mined from 1937 to 1957, at which time low metal prices made mine operations unprofitable. The mine was abandoned in 1957 without any reclamation. Acid mine drainage (AMD)—created by unearthing sulfide minerals as part of the mining process and exposing them to air and water—has been leaching from the site at least since 1957. AMD exhibits both high acidity (low pH), and high concentrations of metals dissolved in acidic waters. Because of the toxicity of AMD to salmon and other aquatic life upon which salmon depend, the legacy of AMD and high metals concentrations is of great concern to subsistence, commercial, and recreational fishermen in B.C. and Alaska.

The mine has continually violated permit requirements for water quality and Canadian federal law because of chronic AMD and associated metals contamination. Recent estimates indicate that 12.8 liters/second (over 1 million liters per day, and 400 million liters per year) of AMD are leaching exhibiting a pH of <3.5 and copper concentrations up to 52,000 parts per billion (Core6 Environmental et al. 2003).

Copper, zinc and other contaminants are draining into the Tulsequah River from the Tulsequah Chief mine. Reports indicate copper levels as high as 1000 times the water quality criteria used for screening. At increases of just 2-20 parts per billion (equivalent to 2-20 drops in an Olympic-sized swimming pool), copper impacts a salmon's ability to smell (Baldwin et al. 2011, McIntyre et al. 2012). That ability facilitates locating spawning grounds, finding food and mates, and detecting predators. In other words, sense of smell is essential to salmon survival. Zinc exceeds legal standards by over 2000 times at the mine site. Zinc is toxic to fish—inhibiting growth, breathing, heart function, and spawning, and ultimately decreasing survival (Di Giulio and Hinton 2008).

In 2009, after an Environment Canada official collected water from the site that caused 100% fish mortality in subsequent lab studies, the agency ordered an immediate cleanup of Tulsequah Chief (Comin 2009). In response, mine owner Chieftain Metals constructed an Interim Water Treatment Plant (IWTP). The IWTP operated for less than four months and was shut down in June 2012 because operations costs were purportedly too high for Chieftain Metals to afford. When metals concentrations in receiving waters again increased after IWTP closure, the B.C. Ministry of Environment required Chieftain Metals to commission an Ecological Risk Assess-

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ment (ERA) for the mine waste produced at Tulsequah Chief. The objectives of the ERA are to characterize the general risk of AMD and associated metals to aquatic life and to compare this risk to aquatic life under IWTP operation versus this risk after IWTP operation ceased. This document is a review of the ERA. The ERA can be downloaded at: <http://www.chieftainmetals.com/wp-content/uploads/reports/Tulsequah-Chief-Aquatic-ERA-report.pdf>.

In short, this review concludes that the ERA relied on an unclear and insufficient sample design, used inappropriate receptor (bioindicator) species, incorporated previously collected data of unknown quality, failed to address some study objectives altogether, and reported information haphazardly. Consequently, the conclusion of low risk to aquatic life from Tulsequah Chief Mine AMD is unreliable.

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GENERAL COMMENTS

ERA Study Design and Methods

In general, the Ecological Risk Assessment (ERA) is poorly organized and includes dozens of errors, suggesting little concern for quality and scientific defensibility. It includes typos, pages out of order, mislabeled sections, mixed units of reporting, and flawed data. As written it appears the ERA is considered a formality by Chieftain Metals rather than an important assessment that will be used to determine significant risk to fish and water quality. The ERA fails to provide an adequate review of the cumulative impacts that decades of AMD has had and continues to have on the culturally and commercially important salmon resource.

The ERA failed to use scientifically defensible site selection methodology, and overlooked habitat types important to salmon and other aquatic biota. The ERA reported water quality samples from just four sites: two sites above the location of AMD discharge, one site immediately below, and another site 2.7 km (1.7 mi) downstream of the AMD discharge. Although the ERA bases its conclusions on the assumption that water quality is unaffected by AMD in off-channel habitat, samples from that habitat were not taken to verify the assumption. There is no explanation of how sites were chosen to characterize the full extent of impacts and risks and results indicate that site selection was insufficient to identify the “zone of impact” (Sharpe 2013), much less provide adequate information with which to accurately estimate risk. This raises serious questions regarding the validity of the conclusions of the ERA and precludes accurate estimation of risk.

Failing to use a scientifically defensible site selection methodology as well as failing to take samples from specific habitats and species raises serious concerns regarding the validity of the conclusions in the ERA and provides little to no information upon which to accurately estimate risk. Moreover, some of the data that is collected directly contradicts the conclusion of “low risk” found in the ERA.

The study relied heavily on data collected in eight limited and largely outdated studies. Nearly all studies cited were conducted by mine proponents and may be biased toward conclusions favorable to the mining company. The rigor and reliability of most of these studies is unknown because they are not easily accessible for review (Core6 Environmental et al. 2003).

The study describing fish distribution was conducted in 2001, and quantitative assessments have not occurred since at least 1997, making data from which conclusions were drawn out of date and unreliable. Two assessments of fish habitat (but not fish populations) were conducted in 2007 (Cambria and Gordon Ltd. 2007a and Cambria and Gordon Ltd. 2007b), but they evaluated only small stream crossings along proposed temporary access roads as opposed to the Tulsequah River itself where AMD is leaching. No empirical fish density or abundance data are reported in the most recent studies considered.

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Furthermore, the ERA used salmon and char—sockeye (*O. nerka*), coho (*O. kisutch*), Chinook (*O. tshawytscha*), and Dolly Varden (*Salvelinus malma*)—as the “primary receptors.” Best available science defines primary receptors (aka bioindicators) as those which are 1) highly abundant, 2) relatively immobile, and 3) sensitive to contaminants of concern (Suter 2006). Salmon and Dolly Varden fail to meet the first two criteria because, in general, they occur at lower abundances than lower-trophic level biota (e.g., sculpin and aquatic insects), and they are highly mobile (Bramblett et al. 2002). Consequently, if salmon and Dolly Varden sense contamination, they can simply move to a new environment. For those and other reasons, aquatic insects are typically used as primary receptors or bioindicators of aquatic contamination (Karr and Chu 1998). Aquatic insects tend to be highly abundant, move over limited distances, and many taxa exhibit high sensitivity to pollutants. Although consultants for Chieftain Metals argued that invertebrate data were inadequate for analysis and that invertebrate communities were “likely” unstable due to active river channel migration, they provide no empirical support for those arguments. At least three previous studies of the Tulsequah River considered in the ERA characterize aquatic insect communities in the Tulsequah River and surrounding watersheds (Rescan Environmental services Ltd. 1997, Gartner Lee 2000, Gartner Lee 2008a).

Because of the widespread scientific acceptance of their utility as bioindicators, Chieftain Metals’ consultants should provide empirical evidence (i.e., some analysis of previously collected data) to support their decision to exclude aquatic insect data. Previous research quite clearly indicates that aquatic insects in fact persist in glacially influenced, highly active floodplains, and thus could serve as useful bioindicators in environments like the Tulsequah River (Milner et al. 2001). In addition to failing to evaluate aquatic insects as indicators themselves, the ERA also excludes consideration of dietary uptake of contaminated insect prey by fish as a pathway of exposure to contamination. Given that insects comprise the primary diet items for juvenile salmon and Dolly Varden in streams, this oversight leads to vast underestimation of risk of contaminants to fish.

The ERA also considered metals in Dolly Varden muscle tissue a further indicator of the lack of effects of AMD in the Tulsequah River (Hitselberger 2012). Again, because Dolly Varden are highly mobile, moving more than 150 km (nearly 100 mi) within a year (Bramblett et al. 2002), they are less likely to accumulate metals in tissue and are thus poor indicators of metals contamination in AMD receiving waters. Moreover, in the tissue analysis study, it is unclear if the Dolly Varden captured were representative of typical fishes occurring around the area of the mine, how much time they spent in/around the mine site and whether or not they were affected by mine waste in ways that may not have been evident by analyzing muscle tissue alone (i.e., detrimental impacts to physiology, behavior, etc.).

Results of the ERA

In general, results are reported inconsistently and in a confusing manner. Metals are reported as both micrograms per liter ($\mu\text{g/L}$ or parts per billion) and milligrams per liter (mg/L or parts per million). Because these units are three orders of magnitude different, metals levels reported are

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frequently misleading. Several graphs in the ERA display hazard quotients and metals concentrations on a logarithmic scale, making risk appear lower than it actually is.

The ERA used hazard quotients (HQs) to estimate risk of contamination to ill-suited receptor species (sockeye, chum, and Chinook salmon, and Dolly Varden). As the ERA explains, “When HQs are less than or equal to one (1), no unacceptable risks will occur in the exposed aquatic population. When HQs are greater than one, unacceptable risks may occur.” In the ERA results, HQs consistently exceeded 1 (meaning conditions pose unacceptable risks to aquatic life) for cadmium, copper, and zinc at a site about 0.3 km (0.2 mi) downstream of the mine. Hazard quotients for copper, one of the most toxic elements to aquatic life, exceeded 1 at least 2.7 km (1.7 mi) downstream of the mine. Results indicating hazard quotients exceeding thresholds of acceptable risk simply do not support the conclusions of low risk drawn in the ERA.

For many water quality results, concentrations of dissolved metals are reported to exceed those of total metals, which is not possible. The dissolved concentration of metals in water is always a fraction of the total concentration. This raises doubt about the entire water chemistry dataset, and the ERA’s conclusions, because they rely upon this data.

Conclusions of the ERA

Many of the conclusions of the ERA, which claim low to no risk to fishes from AMD, also depend on the tenuous assumption that fish do not use turbid mainstem environments. It is unclear from the ERA if such environments were adequately sampled to justify that assumption. Furthermore, salmon have been extensively documented using turbid waters in the Taku River and other glacially turbid systems (e.g., Murphy et al. 1989, Young and Woody 2007). Lorenz and Eiler (1989) concluded, “[s]pawning by sockeye salmon in the lower Taku River *seems* particularly unlikely because of high sediment loads, unstable channel conditions, and little access to typical lacustrine rearing habitat associated with this species; however, our study showed that this glacial river does provide suitable spawning habitats for sockeye salmon” (emphasis added).

Consequently, the erroneous assumption that juvenile salmon do not utilize glacially turbid habitat in the Tulsequah River raises considerable concern regarding the overall conclusions of the ERA. Because fish and other aquatic life are easier to detect in clear water habitats than glacially turbid habitats, data regarding fish distribution may be erroneous. Also, since clear water habitats were not sampled for AMD impacts, the assumption made in the ERA that off-channel habitat allow salmon to avoid risk is unfounded.

In the Ministry of Environment’s initial request for the ERA (Sharpe 2013), Chieftain Metals was directed to “identify the zone of influence from the discharge of untreated mine effluent”—in other words, to delineate the areal extent of water quality impacts from AMD. At the furthest downstream site 2.7 km (1.7 mi) downstream of the mine site, copper and zinc concentrations

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still exceeded water quality limits by two and three times, respectively. Consequently, the ERA includes no sites where the effects of AMD are entirely diluted—it thereby fails to identify the zone of impact. Additional zone of impact calculations rely on estimates rather than verification from rather easily collected empirical data. Estimates inherently include more error than direct sampling.

The report concludes that “Until such time that the historic waste rock is capped to reduce infiltration, it does not appear possible to prevent occurrences of HQs exceeding the threshold of 1,” contradicting the additional conclusion that the AMD poses low to no risk to aquatic life.

SPECIFIC COMMENTS

EXECUTIVE SUMMARY

Summary of Mine Effluent Quality

“Current water quality of the effluent in SE-2 (water discharging into Tulsequah River) is comparable to historic portal discharge water quality which indicates the water quality has not undergone noticeable change since the mid-1990s.” (pg. 3 of Executive Summary)

Comment: This clearly indicates that exceptionally degraded water quality that initially prompted the ERA and other mitigation measures has not improved in decades. Based on previously documented lethal impacts of mine effluent to fish (Comin 2009), risks to aquatic life persist despite conclusions drawn by the ERA.

Primary Receptor Selection

“Of the aquatic resources in the Tulsequah River, fish are likely the primary receptors with the highest risk of exposure to mine discharge.” (pg. 3 of Executive Summary)

Comment: Fish were chosen as primary receptors, ignoring the importance of the base of the aquatic foodweb including algae and aquatic insects which are not mobile and consequently more susceptible to impacts of mine waste. Reasons for excluding insects were briefly discussed, but diatoms were not discussed, despite being both better suited for biomonitoring and essential to the growth and survival of culturally and commercially important fish species. Furthermore, the three fish assessed (coho, sockeye, and Dolly Varden) are some of the most mobile of fish species documented in the study area, also underscoring their inadequacy as a “primary receptor” for estimating risks from mine waste.

1 REGULATORY SETTING

1.2 Interim Water Treatment Plant History

“Prescribed discharge water quality criteria were achieved but design parameters were not being met, operating costs were significantly higher than anticipated and it was apparent that water discharge quality criteria could not be assumed.” (p. 4)

Comment: Although water quality did not always meet permit criteria during IWTP operation, it was significantly improved with operation. Ceasing operation increased risk to aquatic life. Characterizing the IWTP as ineffective is spurious.

2 RISK ASSESSMENT INTRODUCTION

2.2 Scope of Work

“Of the aquatic resources in the Tulsequah River, fish are likely the primary receptors with the highest risk of exposure to mine discharge.” (p. 8)

Comment: Again, insects and diatoms are much more likely to suffer impacts of impaired water quality because of their lack of mobility or ability to escape sub-optimal conditions. Although aquatic insects in particular were sampled for some previous studies of the Tulsequah Chief mine, the ERA fails to incorporate or summarize that data. Consequently, the assertion that aquatic insects are inhibited by glacial conditions is unsubstantiated both in the ERA and the general scientific literature (Milner et al. 2001).

“Available data on sediment and benthic invertebrates are limited and the hydrologic regime of the Tulsequah River (i.e., seasonal major glacial outbursts) **would likely** preclude the presence of stable benthic invertebrate communities or sediment quality over the years.” (emphasis added) (p. 8)

Comment: Data explicitly describing previously collected insect (benthic invertebrate) data should be presented in order to substantiate this argument. Scientific literature confirms that aquatic insects in fact colonize glacial streams globally, including in Southeast Alaska (Milner et al. 2001, Milner et al. 2011). They are much more commonly used as receptors than fishes (Karr and Chu 1998), and are important components of sockeye, coho, Chinook, and Dolly Varden diets.

3 PROBLEM FORMULATION

3.1 Site Description

3.1.2 Aquatic Ecological Setting

3.1.2.5 Tulsequah Fisheries

“Within the Tulsequah watershed, juvenile Coho Salmon (*O. kisutch*) and Dolly Varden were the most common and ubiquitous species captured during previous studies (Gartner Lee 2007).” (p. 18)

Comment: Coho salmon, although a poor “receptor” species, are highly sensitive to heavy metals contamination from metals like zinc and copper which are leaching from the Tulsequah Chief Mine site. At increases of just 2-20 parts per billion, copper impacts a salmon’s ability to smell, which it uses to identify predators, prey, mates and kin, and to identify natal spawning grounds (Baldwin et al. 2011, McIntyre et al. 2012). Consequently, their occurrence in the zone of AMD discharge is of considerable concern.

“Although the Tulsequah River is used primarily as a migration corridor, which allows fish access to several minor tributaries, and to Shazah Creek, as well as other wetland and clear water side channel habitat, Chum are known to spawn in the lower mainstem and juvenile Coho and Sockeye salmon and Dolly Varden/Bull Trout were captured in mainstem habitats upstream and downstream from the mine site (Rescan 1997).” (p. 18)

Comment: The ERA frequently downplays the importance of main channel habitat to salmonids by describing it as simply a “migration corridor.” Because olfaction plays a critical role in the ability to home to natal sites to spawn (Quinn 2011), copper can interfere even during the migration process. That ultimately could degrade the genetic structure that is maintained by salmon returning to the site of their birth, which is critical to maintaining overall sustainability of salmon populations (Schindler et al. 2010). Furthermore, chum clearly use mainstem habitat for more than migration as the ERA points out itself in this statement. It is also unclear if efforts to capture fish in mainstem, turbid (and thus challenging to work in) habitat were adequate. Chinook salmon, arguably the most prized salmon species, tend to spend their initial 1-2 years rearing in freshwater in larger, mainstem habitats as Murphy et al. (1989) documented in the Taku River. The tenuous nature of the assumption that mainstem habitat is unimportant to salmon undermines conclusions drawn in the ERA.

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“Within the Tulsequah River floodplain, the highest quality salmonid rearing and overwintering habitat is known to occur in clear water side channels along the river margins (both banks) and to a lesser degree in mid-channel areas.” (p. 19)

Comment: It is unclear if the limited fisheries data collected to date on the Tulsequah can sufficiently support this conclusion. A cursory attempt was made to locate reports cited in the ERA that include fisheries data and they were not readily available through internet or university library sources.

“To a lesser extent, some deeper pools in the mainstem, primarily at channel convergences and outside meanders, provide limited overwintering habitat (Rescan 1997).” (p. 20)

Comment: In general, glacial streams are clearer in winter when glacial melt is not occurring and consequently could provide ample habitat based on the questionable assumptions of the ERA. It is unclear if any winter sampling was ever conducted in the study area, which would be essential to support the assumption that areas impacted by AMD are not important overwintering habitat. Overwintering habitat is often the most limiting to Alaska fishes because of the cold climate (Reynolds 1997).

In addition to failing to sample habitat in winter, mainstem habitat may have been insufficiently sampled during other times of year. In general, because it is more difficult to observe or capture fishes in turbid waters, their true abundance may be underestimated relative to abundance in clearer waters where fishes may be easier to see.

3.2 Receptor Description

“Further, salmonid species tend to be more sensitive to environmental or chemical disturbances, compared to non-salmonid species, and are therefore more representative of receptor species that best measure potential risks.” (p. 21)

*Comment: Many fish species are more sensitive to disturbance than the receptor species chosen for the ERA. For example Arctic grayling (*Thymallus arcticus*) occur in the river, but were not assessed as a receptor species. They tend to be more sensitive to metals than species chosen as receptors such as coho or rainbow trout (Buhl and Hamilton 1991).”*

“The relative tolerances (96h LC50) of juvenile Chinook Salmon and Steelhead Trout (alevins, swim-up, parr and smolts life stages) to Cadmium (Cd), copper (Cu) and zinc (Zn) were evaluated by Chapman (1978). The research determined that newly hatched alevins were much more tolerant to Cd and to a lesser extent Zn than were later juvenile

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forms (e.g., parr and smolts). However, with respect to Cu concentration, steelhead smolts, the oldest juvenile form was the more tolerant (96h LC50: 29 µg/L) than the younger forms while Chinook parr (96h LC50: 38 µg/L) were the most tolerant form for that species. Chapman (1978) recommends that when a sensitive life stage for acute toxicity with metals is required, that the use of the more resistant newly hatched alevins be avoided, and that the more sensitive later juvenile forms be considered.” (p. 21)

Comment: Although the relevance of this paragraph to the rest of the ERA is unclear, it highlights the fact that sensitivity to metals varies widely across life stages and time. The ERA failed to clearly identify the most sensitive species present in the river and their most sensitive life stages. In order to avoid risk, water quality criteria should be the most conservative (i.e., below sensitivity levels of most sensitive species and life stages).

3.2.1 Chinook Salmon

Comment: In general, the description of Chinook salmon fails to indicate that they prefer large, main channel habitat (Murphy et al. 1989). Because water quality impacts are assumed most pronounced in the mainstem, conclusions that overall risk is low, particularly to Chinook salmon, are suspect.

3.2.3 Sockeye Salmon

“In November, population densities of Sockeye peaked in side channels, suggesting that juveniles overwinter in these areas (Thedinga et al. 1988).” (p. 23)

Comment: This suggests that sockeye are migrating into side channels in November from other habitats. The ERA fails to describe sockeye habitat utilization prior to November.

3.3 Source Description

3.3.3 Mine Effluent Quality (SE-2)

“Limited mitigation options exist on site since the shutdown of the IWTP.” (p. 26)

Comment: At least one other mitigation strategy (capping waste rock) is discussed in the ERA. Furthermore, although expensive, the IWTP did decrease overall risk. No mitigation option should be dismissed.

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“In addition, now the Site Exfiltration pond is currently the only point of collection of the various water sources before discharging into the Tulsequah River, it does have filter fabric incorporated to reduce particulate matter and when the discharge goes into the River, it is diffused over approximately 10 meters instead of a single point.” (p. 26)

Comment: Given that over 1 million liters per day of contaminated AMD are entering the Tulsequah River daily (Core6 Environmental et al. 2013), a tenfold increase in surface area at the point of discharge is unlikely to have a noticeable effect. Reduction of particulate matter also has no impact on most metals contamination.

3.3.4 Receiving Environment

FIGURES 12 AND 13 (PP. 33-34)

Comment: The figures illustrate copper levels as high as 1000 times the water quality criteria used for screening—which was not the most conservative standard possible. It is also worth noting that pages are posted out of order starting at this point in the report, which is confusing for the reader.

3.3.6 Constituents of Potential Concern

“The screening level selection approach was as follows: the previously accepted SSWQOs took precedence over the BCWQO and CCME values, otherwise the lowest of the provincial and federal values were selected as the screening levels, except where the background level exceeded regulatory criteria. In such cases, the 90th percentile for the background data was carried forward as the screening level – this was the case for only four parameters: nitrite, total aluminum, total chromium, and total vanadium.” (p. 35)

Comment: Generally, the selection process for determining screening levels was justified. However, it highlights that mine effluent contains at least thirteen elements with adverse impacts to aquatic life, including copper, zinc, and cadmium, which are some of the most toxic.

TABLES 6-12 (PP. 41-47)

Comment: For many water quality results, concentrations of dissolved metals are reported to exceed those of total metals, which is not possible. The dissolved concentration of metals in water is always a fraction of the total concentration. This brings the entire water chemistry dataset into question, in addition to the conclusions which rely upon that data.

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3.4 Exposure Pathway(s) Description

“Given that benthic invertebrates and sediment was evaluated as not being a source for uptake (see Section 2.2), this risk assessment focused on water quality and hence was the only direct contact pathway evaluated quantitatively through the estimation of hazard quotients (HQs).” (p. 48)

Comment: This overlooks dietary intake of macroinvertebrates which authors previously acknowledge as an important exposure pathway. Because the fishes considered in the ERA rely largely on aquatic insects during their freshwater rearing phase, dietary intake should be factored into risk calculations, and direct risks to insects should also be considered.

4 EXPOSURE ASSESSMENT

4.1 Direct Contact with Surface Water

4.1.3 Main Stem versus Side Channel Surface Water Concentrations

“In most cases, clear water side channels are isolated from mainstem surface flows and remain wetted through tributary or upwelling (sub-surface flow) sources. As such, clear water side channels are also removed to a large extent, from the influences of effluent released at the mine site as shown in Table 13.” (p. 50)

Comment: The ERA fails to provide any empirical support for this assumption. Based on data presented in the ERA, water quality data was never collected in clear water side channels where the ERA assumes fish use exclusively. Consequently, the assumption of lower or no risk in these habitats is not validated.

4.1.4 COPC Zone of Influence

“If the HQ for receptors for any chemical was greater than 1 at station W32 then the zone of influence of the mine site was assumed to extend further downstream beyond W32.” (p. 51)

Comment: Because HQs do exceed 1 at site W32, the most downstream water quality sampling site from the mine site, the full extent of impact (i.e., the zone of influence) was not delineated by the ERA.

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“If we assume that half of the increase in the flow of the Taku at the Canada-US border is related to the Tulsequah River drainage, then the flow from the Tulsequah River can be estimated by dividing the difference in flow at the WSC gauge (Station 08BB001) and WSC gauge (Station 08BB005) by 2.” (p. 51)

Comment: Site-specific flow measurements are straightforward and inexpensive, and thus should have been taken along with water quality sampling so that estimates were not used to understand dilution factors. Furthermore, water quality sampling should have continued downstream past the influence of mine effluent in order to accurately delineate the zone of influence.

5 EFFECTS ASSESSMENT

5.1 Toxicity Profiles

5.1.2 Aluminum

“The sensitive life stage varies amongst fish species; however, the fry stage is generally very sensitive.” (p. 55)

Comment: Water quality results and summaries indicate that aluminum reached highest levels during spring melt, which tends to coincide with fry emergence. Consequently, sensitivity of fry to contaminants poses risk and should be of great concern.

5.1.6 Copper

“Salmonid fry appear to be highly sensitive to copper toxicity.” (p. 57)

Comment: Water quality results and summaries indicate that copper reached highest levels during spring melt, which tends to coincide with fry emergence. Consequently, sensitivity of fry to contaminants poses risk and should be of great concern. At that time, fry are also beginning the process of imprinting required to accurately return to their natal habitats to spawn. Because copper can inhibit that process, its impacts are of particular concern.

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5.1.8 Lead

“The larval and juvenile life stages appear to be more susceptible to lead toxicity than eggs and adult life stages.” (p. 58)

Comment: Water quality results and summaries indicate that lead levels are particularly high in mine effluent, and peak during spring melt, which tends to coincide with fry emergence. Consequently, sensitivity of fry to contaminants poses risk and should be of great concern. Juvenile salmon spend up to two years rearing in freshwater receiving environments, so their sensitivity should also be of concern.

5.2 Toxicity Reference Values

“Chronic EC20 concentrations were preferred. If not reported, other endpoints were considered and adjusted to an estimated EC20 value. For adjustment from chronic LC50 to chronic EC20, a factor was used based on an assumed linear chronic dose-response with zero response at EC0 and 50% response at the EC50 concentration.” (p. 61)

Comment: It is unclear that this is a standard method. At the very least, a citation should be provided indicating this methodology is widely accepted.

6 RISK CHARACTERIZATION

6.1 Hazard Quotient Estimates

“For comparative purposes, each graph also contains an HQ boxplot for the background station W32.”

Comment: It is worth noting that the designated background station is W10—an important typo because water quality impacts are still evident at W32—the most downstream site sampled for the ERA. Furthermore, boxplots for cadmium and copper at the actual background site (W10) indicate occasional HQs well above 1, suggesting W10 may not be an appropriate background site.

Hazard quotient boxplots (pp. 65-68)

Comment: Plotting hazard quotients and metals concentrations on a logarithmic scale is misleading, making hazard appear lower than it actually is.

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6.3 Uncertainty Analysis

“Risks to fish from COPCs in the Tulsequah River were evaluated for direct contact exposure pathways (surface water), but not for dietary uptake (see Section 2.2). This may lead to an underestimation of risk. While the magnitude of this underestimation is not known, it is not considered to be substantial as it is likely that the direct contact pathway (see Section 2.2) is more important than the ingestion pathway and that the magnitude of the error is relatively small.” (p. 69)

Comment: It may be more accurate to state that failure to consider dietary uptake of contaminants would certainly lead to an underestimation of risk. To suggest the underestimation is not substantial requires literature support at the least, and ideally empirical evidence (data) from the study area.

“Conversely, some water samples were collected from sites suspected of increased (maximum) contamination (e.g. station W51, which becomes isolated from the Tulsequah River except for mostly hyporheic flow, leaving it inaccessible to fish for part of the year.” (p. 69)

Comment: The assumption that the most contaminated sites are inaccessible to fish is unsubstantiated. Empirical fish distribution data should be provided from the study site in order to draw any conclusions about risk based on this assumption.

7 DISCUSSION AND CONCLUSION

7.1 Receptor Exposure when the IWTP was Operational and was Not Operational

“Based on the above, the operation of the IWTP clearly showed a positive influence on water quality at the stations monitored.” (p. 71)

Comment: This contradicts statements made earlier in the ERA and suggests the IWTP is an appropriate consideration for mitigation of risk.

7.2 Seasonal Trend in Surface Water COPC Concentrations

“Until such time that the historical waste rock is capped to reduce infiltration, it does not appear possible to prevent occurrences of HQs exceeding the threshold of 1. However, and perhaps most importantly, is that whether or not the IWTP was operating, the HQ was less than 1 for the majority of the year including the critical time periods when

Chinook Salmon, Sockeye Salmon and Coho Salmon are migrating to spawn and the eggs are incubating and hatching. “ (p. 72)

Comment: This conclusion is simply not supported by the information preceding it in the ERA.

7.3 Risk Mitigation as a Result of Timing of Receptor Presence by life-stage in the Tulsequah River

“Moreover, when they do enter the Tulsequah River, they are more likely to be found in the clear water side channels, accessible wetlands and lower tributary reaches than in the mainstem. These high quality habitats are known to support rearing, overwintering and spawning for salmonids.” (p. 73)

Comment: Again, this could be the result of ease of observation and capture in clear water environments (observer bias), lack of winter sampling, and other factors. It is unclear if the statement that salmon are confined to clear water habitats is supportable.

“Juvenile salmonids in the Tulsequah River watershed are less likely to rear extensively in the fast-flowing, turbid water of the mainstem as they typically rear and overwinter in beaver ponds, side channels, sloughs, channel edges, and tributaries. As such, juvenile forms of the receptors of concern are less likely to be exposed to the episodic loadings of COPCs from mine discharge. It is therefore reasonable to assume that the sensitive life stage of the juvenile form is unlikely to be exposed to high exposure of mine effluent discharge in the Tulsequah River. ” (p. 73)

Comment: Murphy et al. (1989) showed that juvenile salmonids, and particularly Chinook salmon, indeed do rear in mainstem environments of the Taku River. Furthermore, the ERA fails to characterize water quality in the off-channel habitats it claims are more important to salmon. It is unclear that clear water habitats are unimpacted by mine waste.

“However, the metals tissue residue study completed by Hitzelberger (2012) of juvenile Dolly Varden char from the Tulsequah River found that the discharges from the mine site were not causing elevated metals in juvenile Dolly Varden char suggesting that either the exposures were not significant or that the exposure levels were within a range that the fish could readily bioregulate.” (p. 76)

A REVIEW

OF THE TULSEQUAH CHIEF ECOLOGICAL RISK ASSESSMENT

Comment: *Hitselberger (2012) is of little utility for estimating risk and exposure to aquatic life in general. It is unclear if the Dolly Varden captured in the Hitselberger study were representative of typical fishes occurring around the area of the mine, how much time they spent in/around the mine site and whether or not they were affected by mine waste in ways that may not have been evident by analyzing muscle tissue alone (i.e., olfaction impacts, etc.).*

7.4 Zone of Influence

“The zone of influence extends downstream within the braided mainstem beyond station W32.” (p. 76)

Comment: *Although this statement is substantiated in the ERA, the document overall fails to delineate the full zone of impact as requested by Environment Canada. In order to do so, Chieftain’s consultants would have needed to assess water quality as far downstream from the mine as metals are elevated. The farthest downstream site tested was still showing elevated levels of copper and zinc.*

7.5 Tissue Residue Assessment

Comment: *Hitselberger (2012) is of little utility for estimating risk and exposure to aquatic life in general. It is unclear if the Dolly Varden captured in the Hitselberger study were representative of typical fishes occurring around the area of the mine, how much time they spent in/around the mine site and whether or not they were affected by mine waste in ways that may not have been evident by analyzing muscle tissue alone (i.e., olfaction impacts, etc.).*

7.6 Summary

“Overall, the potential risk to aquatic receptors as a result of mine discharge is considered low.” (p. 77)

Comment: *Given the multitude of shortcomings, errors, and unsupported assumptions in the ERA, this conclusion is unwarranted.*

A REVIEW

OF THE TULSEQUAH CHIEF ECOLOGICAL RISK ASSESSMENT

STATEMENT OF QUALIFICATIONS

Sarah O'Neal has over 15 years of international experience in freshwater ecology in salmon ecosystems, including a combined nine years of experience between British Columbia and Alaska. Her expertise includes water quality, aquatic plants, diatoms, zooplankton, macroinvertebrates, resident and anadromous fishes, and interactions between them in both lakes and streams. She has worked in private, public, and non-governmental sectors. She has a Bachelor's Degree in Ecology, Evolution, and Conservation Biology from the University of Washington, a Master's Degree in freshwater ecology from the University of Montana's Flathead Lake Biological Station, and is currently pursuing a Ph.D. with the School of Aquatic and Fisheries Sciences at the University of Washington.

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A REVIEW

OF THE TULSEQUAH CHIEF ECOLOGICAL RISK ASSESSMENT

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***Economic Impacts
of Southeast Alaska
Transboundary
Watersheds***



Prepared for:
State of Alaska House Fisheries Committee

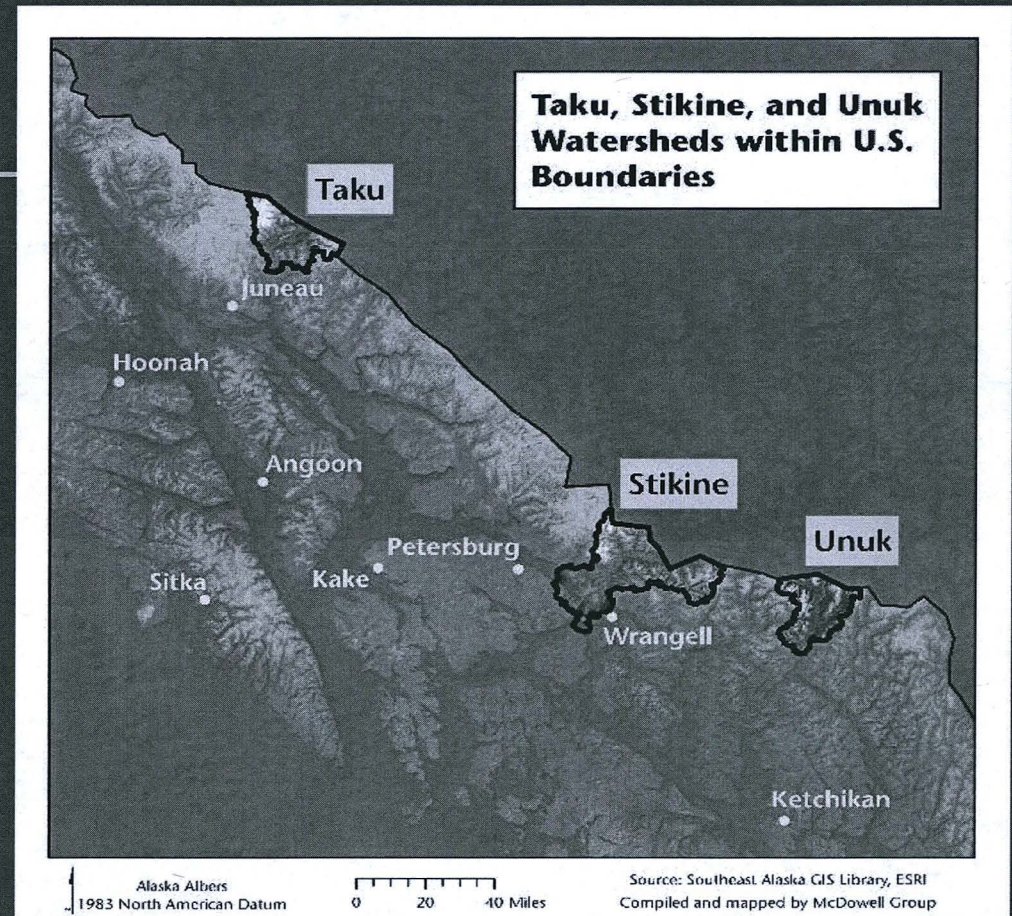
March 16, 2017

Scope of Work

Economic impact analysis of three watersheds:

- Taku River
- Stikine River
- Unuk River

Preliminary analysis of Nass/
Skeena Rivers

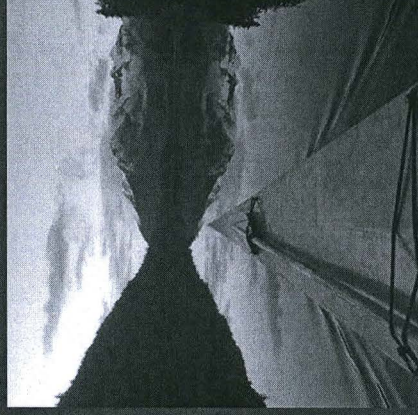
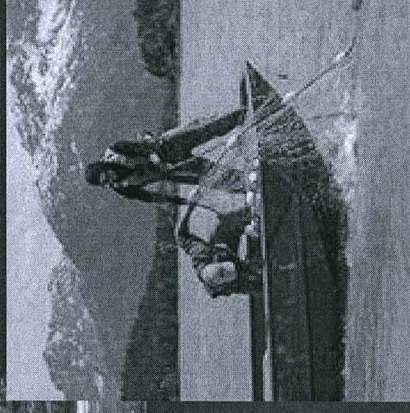


Economic Impacts

- Jobs and labor income for employees of watershed-related businesses
- Indirect impacts: spending by watershed-related businesses
- Induced impacts: spending in communities by employees
- Visitor spending
- Tax benefits for communities
- Present value of future benefits

River Economics

- Commercial fishing
- Sport fishing
- Personal use
- Hunting/trapping
- Visitor industry
- Recreation activity
- Limitations
 - Limited data
 - Interconnected ecosystems and economy



Taku River Watershed

Commercial salmon fisheries

- \$1.9 million ex-vessel value
- \$4.2 million first wholesale value

Sport fishing

- \$2.7 million in expenditures

Visitor industry

- \$16 million in visitor expenditures

Tax revenue

- \$55,000 to the City and Borough of Juneau

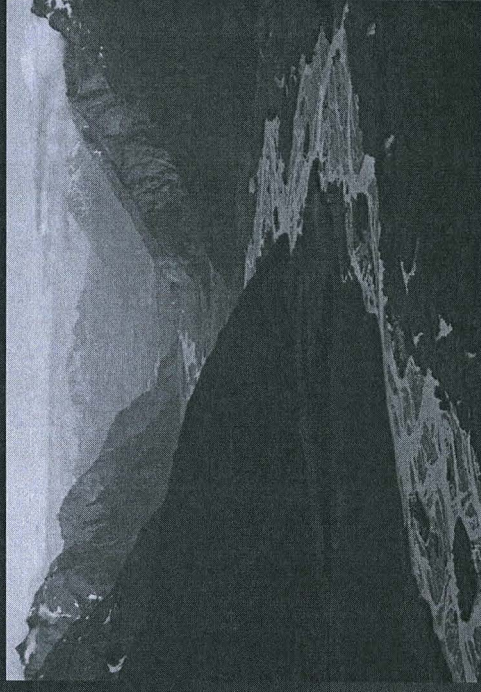


Photo credit: Doug Milek

Taku River Watershed

Total Annual Economic Activity

- Spending: \$32.9 million
- Labor income: \$12.8 million
- Average annual employment: 260 jobs

Thirty-Year Present Value

- \$650 million



Stikine River Watershed

Commercial salmon fisheries

- \$2.1 million ex-vessel value
- \$3.5 million first wholesale value

Sport fishing

- \$4.2 million in expenditures

Visitor industry

- \$1.2 million in visitor expenditures

Tax revenue

- \$15,000 to the City and Borough of Wrangell



Photo credit: Chelsea Tremblay

Stikine River Watershed

Total Annual Economic Activity

- Spending: \$12.7 million
- Labor income: \$5.7 million
- Average annual employment: 117 jobs

Thirty-Year Present Value

- \$250 million

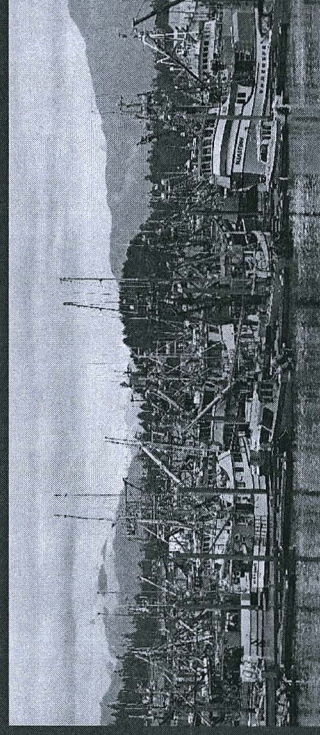


Photo credit: Jim Den Uyl

Unuk River Watershed

Commercial salmon fisheries

- \$460,000 ex-vessel value
- \$890,000 first wholesale value

Sport fishing

- \$880,000 in expenditures

Visitor industry

- \$6,000 in visitor expenditures

Tax revenue

- \$11,00 to the Ketchikan Gateway Borough



Photo credit: Travis Rummel

Unuk River Watershed

Total Annual Economic Activity

- Spending: \$2.5 million
- Labor income: \$1.2 million
- Average annual employment:
24 jobs

Thirty-Year Present Value

- \$50 million



Summary of Economic Impacts Stikine, Taku, and Unuk River Watersheds

Economic Sector	Jobs	Labor Income	Economic Impact
Seafood Industry	156	\$7.7 million	\$12.3 million
Sportfish	62	\$3.1 million	\$10.1 million
Visitor Industry	174	\$8.6 million	\$24.7 million
All Other	7	\$0.3 million	\$0.9 million
Total	400	\$19.6 million	\$48.0 million

Present Value of Future Benefits

Fifty-Year Present Value
Over \$1.2 billion



McDowell Group

Questions

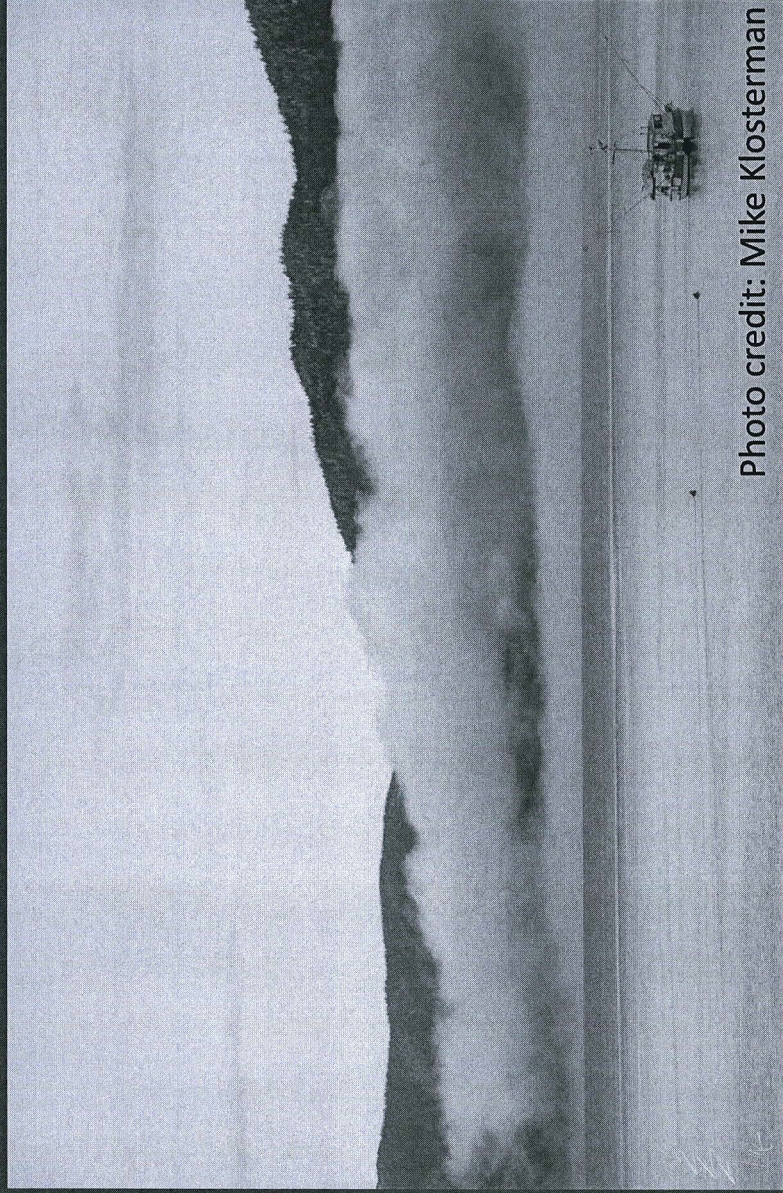


Photo credit: Mike Klosterman

Status of Select British Columbia Mine Projects

- **DNR, Office of Project Management and Permitting's (OPMP) Canadian Large Project Webpage**
 - <http://dnr.alaska.gov/commis/opmp/Canadian%20Mines/index.htm>
- **British Columbia's Mine Information Webpage**
 - <http://mines.nrs.gov.bc.ca/>
- **Red Mountain (IDM Mining Ltd.) – Application complete, entering assessment process.**
 - Proposed underground gold and silver project located approximately 11 miles northeast of Stewart, British Columbia (~13 miles from Hyder, Alaska). As proposed, the Red Mountain Gold Mine Project would produce approximately 1,000 tons of mineral ore per day and 275,000 tons per year, over an operational mine life of five to seven years.
 - The project is proposed in a transboundary watershed; however, all potential discharge from the project area would enter Portland Canal in Canadian marine waters.
 - This project will follow a coordinated assessment process between the Canadian Environmental Assessment Agency (CEAA) and the B.C. Environmental Assessment Office (EAO). Coordination means that the EAO and the CEAA will work together to align their separate processes and decisions.
 - Federal Canadian Environmental Assessment process:
 - CEAA initiated a 30-day public comment period that ended October 19, 2015.
 - The Office of Project Management and Permitting (OPMP) coordinated with DNR-Mining Section, DEC-Water Division, and ADF&G-Habitat staffs to provide comments on Oct. 16, 2015. OPMP recommended that the CEAA hold public meetings in Hyder and Ketchikan and consult with “Alaska Native representatives that have current, traditional, or cultural ties to Portland Canal.”
 - Provincial Environmental Assessment (EA) process:
 - The EAO has initiated the EA process by issuing a Section 10 and Section 11 orders (Feb. 2016).
 - A 30-day public comment period on the Application Information Requirements (AIR) was administered by the EAO from October 5, 2016 through November 4, 2016. The AIR was issued in March 2017.
 - The Proponent has notified EAO that they intend to submit the Application for an Environmental Assessment Certificate in late May 2017. Once the Application is received, EAO will notify the Working Group of the commencement of the 30-day screening evaluation of the Application.
- **Red Chris (Imperial Metals) – construction complete; in production.**
 - Operating open pit copper and gold mine in the Stikine/Iskut watershed (~150 miles from border with AK). Construction was completed in October 2014. Production started in Oct./Nov. 2014, with full production starting in June 2015.
 - Provincial EA process:
 - EA Certificate issued July 21, 2005 (amended Feb. 24, 2012).
 - Provincial MA/EMA Permitting:
 - On June 12, 2015, the Ministry of Environment issued an amended EMA permit, which replaces the previously issued interim approval and allows the mine to discharge tailings into the tailings storage facility (TSF) and discharge water from the TSF, subject to water quality guidelines.
 - On April 4, 2016, Imperial Metals submit applications to amend their MA/EMA permits to allow a redesign of their south tailings dam and to address a number of other changes to ensure project conformance.
 - OPMP coordinated with DNR-Dam Safety, DEC, and ADF&G to review and comment on the amendment application.
 - The amended EMA Permit and Trigger Response Plan was issued by B.C. Ministries of Environment (MOE) on Oct. 27, 2016, and the Water License was issued by MOE on Oct. 11, 2016.
 - Ministry of Energy and Mines (MEM) issued their Mines Act Permit amendment on 2/28/17 approving operation of the South Tailings Dam.
 - Monitoring
 - OPMP is receiving monthly monitoring reports and posting them on the Canadian Large Project webpage.
- **Brucejack (Pretium Resources) – Construction complete. Production starting summer 2017.**
 - Permitted underground gold project in the Unuk River watershed (~28 miles from the border with AK).

Status of Select British Columbia Mine Projects

- Subaqueous (“wet”) tailings disposal in the non-fish bearing Brucejack Lake, which drains to Brucejack Creek, under Sulphurets Glacier, to Sulphurets Creek, and finally the transboundary Unuk River. Water quality (WQ) baseline data and modelling indicate no measurable change in WQ at the Alaska Border.
- No tailings dam or water storage dam proposed or permitted.
- Production is expected to start in 2017
- Provincial EA process (started on March 26, 2013).
 - On March 26, 2015, the EAO issued an EA Certificate with 15 enforceable conditions.
 - OPMP coordinated with DNR-Mining Section, DEC-Water Division, and ADF&G-Habitat staffs to participation in the technical working groups organized by the EAO.
- B.C. Mines Act and Environmental Management Act Permit Applications (MA/EMA)
 - OPMP, in coordination with ADF&G-Habitat Div., DNR-Mining Section, and DEC-Water Div., submitted written comments to the Mine Review Committee (MRC) on June 5, 2015 in response to the MA/EMA application. No significant concerns were identified.
 - The MA permit was issued by the B.C. Ministry of Energy and Mines on July 22, 2015.
 - The EMA permit was issued by the B.C. Ministry of Environment on August 31, 2015.
- Federal Canadian Environmental Assessment process:
 - Consolidated state agency comments were submitted to the Canadian Environmental Assessment Agency (CEAA) on Oct. 1, 2014, and June 11, 2015. No significant concerns were identified.
 - A favorable federal environmental decision was issued July 30, 2015 by the Minister of Environment, along with a direct response to SOA comments.
- **KSM (Seabridge Gold) – Federal & provincial reviews complete; initial permitting complete**
 - Proposed open pit copper and gold project in the Unuk watershed (~20 miles from border with Alaska).
 - Tailings Management Facility (TMF) proposed in the upper Teigen Creek/Treaty Creek watersheds, which do not drain to waters of the State/U.S. These rivers flow to the non-transboundary Nass River, which supports salmon stocks harvested in Alaska fisheries.
 - Proposed waste rock disposal locations, water storage facility (540’ tall dam), and water treatment facility are all proposed in Sulphurets (resident fish only at lowest reach) and Mitchell watersheds (non-fish bearing), which drain to the Unuk River and waters of the State/U.S.
 - The Independent Geotechnical Review Board (IGRB) for KSM released its first report back in April, which is now available on their website at <http://ksmproject.com/independent-review-board/>
 - Seabridge Gold issued a press release on Aug. 2nd announcing the results of its Best Available Tailing Technology (BAT) review for its KSM Project. The review was completed by Klohn Crippen Berger. The press release may be found at <http://seabridgegold.net>
 - Provincial EA process:
 - EA Certificate issued July 30, 2014 with 41 enforceable conditions.
 - Consolidated State comments were submitted on Jan. 24, 2014. No significant concerns were identified.
 - Federal Canadian Comprehensive Study process:
 - Federal environmental approval issued Dec. 19, 2014.
 - Consolidated State comments submitted to CEAA Aug. 20, 2014. The State made several recommendations to the Minister of Environment for her consideration in the final decision.
 - Provincial permitting:
 - Initial (concurrent) permitting is completed. These initial permits relate to access (e.g. roads and bridges) and initial or temporary facilities (e.g. camps, laydown areas, temporary water treatment facilities, etc.). These permits do not allow for construction or production.
 - In November 2015, Seabridge Gold submitted a joint application to amend their MA Permit and request an EMA Permit. Seabridge proposed to construct an exploration adit into the Deep Kerr resource that would measure 2,100 m long by 4.2 m wide by 4.8 m high, along with associated laydown area, waste rock pile, temporary water treatment plant and settling ponds.
 - OPMP is coordinated with DNR, DEC, and ADF&G to review the application and submit technical comments to the Mine Review Committee (MRC), facilitated by the MEM.
 - Seabridge Gold and MEM addressed the State’s technical comments through amendments to the proposed activities and clarifying information.

Status of Select British Columbia Mine Projects

- The EMA Permit was issued by MOE on Aug. 24, 2016; the MA Permit was issued by MEM on Oct. 12, 2016, requiring a total bond of \$17.133 M; and MOE issued the Water License on Oct. 6, 2016.
- Seabridge Gold has not yet started construction on the approved Deep Kerr Exploration Adit.
- **Tulsequah –Project is currently in receivership.**
 - Historic underground copper, lead, zinc silver, gold project located in Taku River watershed (~10 miles from the border with AK) that is proposed for new development.
 - EA Certificate issued Dec. 12, 2002 with 126 enforceable conditions.
 - Acid Mine Drainage (AMD) releases into Tulsequah River from the old mine workings have occurred following closure in 1957. An Interim Water Treatment Plant (IWTP) was constructed in Fall 2011 and operated from March to June 2012 before being shutdown and bypassed.
 - On July 25, 2012, B.C. Ministry of Environment issued a Notice of Non-Compliance and Warning to Chieftain Metals Inc. (CMI), requiring a remedial action plan be submitted and implementation of a weekly monitoring program.
 - On November 5, 2015, B.C. Ministry of Environment issued a Non-compliance Advisory Letter to CMI resulting from an inspection conducted Oct. 15, 2015, requiring the following actions: 1) Commission the IWTP immediately once site development occurs, and 2) Ensure monitoring occurs in the locations, frequencies and parameters required in the June 12, 2014 Amendment to the EMA permit.
 - On November 10, 2015, the EAO issued a Non-compliance Order to CMI finding they were not compliant with Condition 1 of the EA Certificate due to “a failure to construct and operate the Project in accordance with the Spill Plan and that non-compliance with this condition has resulted in hydrocarbons spilling into the environment.” The Ministry required CMI to 1) immediately implement spill prevention measures that are adequate to ensure that hydrocarbons are not spilled or otherwise release into the environment from any equipment or hydrocarbon storage located on the Project site; 2) by November 30, 2015, develop a plan to remove the hydrocarbons that have been spilled at the four-non compliant locations into the receiving environment; and prevent future spills or other releases of hydrocarbons into the receiving environment at the Project site; and 3) develop and implement the plan to the satisfaction of the EAO.
 - On Feb. 9, 2016, CMI submitted a compliance status update to the EAO confirming they had:
 - ✓ Implemented spill prevention measures to ensure that hydrocarbons are not spilled or otherwise released into the environment from any equipment or hydrocarbon storage at the Project site;
 - ✓ Develop and implemented most of their required Plan to prevent future spills and to remove hydrocarbons spilt;
 - ✓ Covered their secondary containment site with a temporary roof and has committed to modifying the design prior to operations;
 - ✓ Cleaned up and secured all conflict wildlife attractants (lubrication grease);
 - ✓ Removed pipes that were directing the discharge from the 5200 level adit directly to the river. The water is now flowing to the Exfiltration Pond;
 - ✓ Temporarily addressed the Portal Creek diversion pipe issue with ditching and has committed to maintaining the ditching until there is funding to replace the pipe.
 - On May 18, 2016, EAO confirmed with OPMP that the EAO is satisfied with Chieftain’s corrective actions, including excavation and storage of the contaminated soils, to date.
 - Whole body metals concentration results for Dolly Varden char sampled by ADF&G-Habitat from the Tulsequah River above and below the mine site and from the Taku River at the U.S. Border in June 2011 were published in 2012 (Report No. 11-09, Hitselberger, 2012). ADF&G-Habitat collected additional samples in 2014, 2015, and 2016 and published the results in Technical Report No. 16-06 (Oct. 2016).
 - BC has seized the financial surety totaling about \$1.4 million (Canadian) and they are using those funds to contract for limited clean-up work and additional environmental analyses.
 - BC Ministry of Environment has collected additional environmental samples and is currently working on an updated Aquatic Ecological Risk Assessment, which is expected to be released publicly in April/May.
 - MEM is preparing to publish a Request for Proposals (RFP) to develop a reclamation and closure plan for the project.

Status of Select British Columbia Mine Projects

- **Galore Creek (NovaGold (50%) and Teck (50%)) Federal & provincial reviews complete, on hold.**
 - Proposed open pit copper, gold, silver project in Stikine River watershed (~25 miles from border with AK).
 - EA Certificate issued in 2007 with 193 enforceable conditions.
 - Revised feasibility study completed in 2011.
 - Final permitting is on hold pending site optimization by project proponent.
- **Schaft Creek (Teck (75%) and Copper Fox (25%)) – Withdrawn from environmental review by applicant.**
 - Conceptual open pit copper, gold, molybdenum, and silver project in the Stikine River watershed (~40 miles from border with AK).
 - Feasibility study released in January 2013.
 - On May 4, 2016, CEAA notified OPMP that the comprehensive study of the Schaft Creek Project had been terminated due to a request for withdrawal by Teck Resources Limited.
 - Limited engineering studies conducted in 2014.
- **Mount Polley (Imperial Metals) – Full production has re-started.**
 - Mount Polley is an open pit copper/gold mine located in south-central B.C in the upper region of the Fraser River watershed, which does not drain into to State/U.S. waters, but supports Alaska fisheries.
 - The SOA did not participate in the EA process for this project.
 - On Aug. 4, 2014, a tailings pond breach occurred at Mount Polley Mine. The breach released approximately 17 million cubic meters of effluent water and 8 million cubic meters of tailings material into Hazeltine Creek, Polley Lake and Quesnel Lake. <http://www.env.gov.bc.ca/eemp/incidents/2014/mount-polley/>
 - The B.C. Ministry of Environment is the lead agency responding to and monitoring the breach while the B.C. Conservation Office Service (COS) is the lead agency investigating the cause of the incident.
 - The Mount Polley Independent Expert Investigation and Review Report was released Jan. 30, 2015. <https://www.mountpolleyreviewpanel.ca/final-report>. Two additional investigations are pending.
 - On July 9, 2015, MoE and MEM approved Imperial Metal to restart the Mount Polley Mine under partial operations. The amended EMA Permit does not authorize the discharge of water, but an additional amendment is expected in late fall to allow for waste water discharge. The amended MA Permit authorizes the company to operate at about half capacity and tailings must be placed in an existing open pit on the mine site, not the tailings storage facility that failed previously. Weekly monitoring reports are required, and the company has until June 30, 2016 to submit a long-term water treatment and discharge plan and reclamation and closure plan.
 - The latest updates related to continued environmental sampling and remediation at the Mount Polley Mine can be found at <https://www.imperialmetals.com/our-operations-and-projects/operations/mount-polley-mine/mount-polley-updates/remediation-and-monitoring>
- **BC Actions**
 - On Feb. 28, 2017, Minister of Energy and Mines Bill Bennett outlined the BC Government's actions, including new policies and funding, to increase competitiveness, strengthen First Nations involvement, and enhance responsible resource development in British Columbia's mining sector. More information, fact sheets, and several reports are available at <https://news.gov.bc.ca/releases/2017MEM0008-000420>
 - (MEM) commissioned Stantec Consulting Ltd. to examine how jurisdictions in Canada and abroad deal with the issue. The report, completed in September 2016, is available here: http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reclamation-and-closure/stantec_report_mine_reclamation_security_sept_30_2016.pdf
 - MEM and the Ministry of Finance commissioned Ernst and Young to undertake an in-depth examination of reclamation securities practice. Their report is available here: http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reclamation-and-closure/bc_mem_ey_report_on_mine_reclamation_security_final.pdf
 - The updated Health, Safety and Reclamation Code for Mines in British Columbia is available here: http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/code-review/health_safety_and_reclamation_code_2017.pdf
 - MEM also commissioned Klohn Krippen Berger to complete a third-party comparison of mining legislation and guidelines in British Columbia, Montana and Alaska. The comparison found B.C.'s

Status of Select British Columbia Mine Projects

requirements for mining to be equal to or more stringent than those in Montana or Alaska. The Klohn Krippen Berger analysis is available here: <http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/code-review/1611251-miningcodereview.pdf>

- **BC Auditor General Report**

- On May 3, 2016, the BC Auditor General released an “Audit of Compliance and Enforcement of the Mining Sector.” The full report and related documents may be downloaded at <http://www.bcauditor.com/pubs/2016/audit-compliance-and-enforcement-mining-sector>
 - In a press release (5/3/16), the Auditor General stated, “The compliance and enforcement activities of both the Ministry of Energy and Mines, and the Ministry of Environment are not set up to protect the province from environmental risks.”
 - The Auditor General makes one overall recommendation “that the Government of British Columbia create an integrated and independent compliance and enforcement unit for mining activities, with a mandate to ensure the protection of the environment. Given that the Ministry of Energy and Mines (MEM) is at risk of regulatory capture, primarily because MEM’s mandate includes a responsibility to both promote and regulate mining, our expectation is that this new unit would not reside within this ministry.”
 - The Auditor General also made 16 additional recommendations “that provide further guidance to government in the development of this new unit.” Those 16 recommendations are categorized as “Planning, Permitting, Compliance Promotion, Compliance Verification, Enforcement and Adjustment, and Reporting.”
 - In response to the Auditor General, the Ministries stated, “While we do not accept that the Ministries have been deficient in protecting the environment, or the recommendation to reorganize the compliance and enforcement programs within a separate agency, we do believe the 16 sub-recommendations provide meaningful and constructive guidance that will complement current initiatives already underway.”

- **Site Characterization for Dam Foundations in B.C.**

- On September 1, 2016, The Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) have developed and published Professional Practice Guidelines – Site Characterization for Dam Foundations in BC in response to Recommendation 6 in the Report on Mount Polley Tailings Storage Facility Breach prepared by the Independent Expert Engineering Investigation and Review Panel. The guidelines may be downloaded at <https://www.apeg.bc.ca/News/Articles/Site-Characterization-Guidelines-Improve-Dam-Safet>

The information on BC water quality standards presented in this table has not been vetted by Canadian officials. Direct comparison of water quality standards is difficult, as the implementation of standards differs between BC and Alaska. More information and analysis might be needed to meaningfully interpret any differences between standards.

Survey of AK and BC Water Quality Standards (Fresh Water, Similar Conditions)

Constituent (units)	AK Standard*	BC Standard*	Description
Aluminum (µg/L)¹	87	50 (dissolved)	<ul style="list-style-type: none"> Aluminum occurs naturally in most rocks and soils. Aluminum can be toxic to aquatic life in some forms.
Antimony (µg/L)	6	9	<ul style="list-style-type: none"> Antimony is a metalloid commonly associated with ore deposits. Antimony can be toxic to humans.
Arsenic (µg/L)	10	5	<ul style="list-style-type: none"> Arsenic occurs naturally in rocks and soils. Arsenic can be toxic to humans and to aquatic life.
Cadmium (µg/L)	0.16 ²	0.13 ² (dissolved)	<ul style="list-style-type: none"> Cadmium is a metal commonly associated with ore deposits. Cadmium can be toxic to humans and to aquatic life.
Copper (µg/L)	5.2 ²	2.0 ²	<ul style="list-style-type: none"> Copper is a common contaminant in water draining from hard rock mines. Copper can be toxic to aquatic life and can have behavioral effects.
Cyanide (µg/L)	5.2	5.0	<ul style="list-style-type: none"> Cyanide is commonly used in mineral processing. Cyanide can be toxic to humans and to aquatic life in some forms.
Iron (µg/L)	1,000	1,000	<ul style="list-style-type: none"> Iron is ubiquitous throughout the earth's crust. Iron can be toxic to aquatic life and iron precipitates can impede spawning.
Lead (µg/L)	1.3 ²	4.6 ²	<ul style="list-style-type: none"> Lead occurs naturally in some ore deposits. Lead can be toxic to humans and to aquatic life.
Manganese (µg/L)	50	800 ²	<ul style="list-style-type: none"> Manganese is a metal that occurs naturally in rocks and soils. Manganese can be toxic to humans.
Mercury (µg/L)	0.012	0.010 ³	<ul style="list-style-type: none"> Mercury is a metal that can be associated with some ore deposits. Mercury is toxic and accumulates in the environment.
Molybdenum (µg/L)	10	10	<ul style="list-style-type: none"> Molybdenum is a metal that occurs naturally in rocks and soils. Molybdenum can be toxic to livestock.
Nickel (µg/L)	29 ²	25	<ul style="list-style-type: none"> Nickel is a metal that occurs naturally in rocks and soils. Nickel can be toxic to aquatic life and to humans.

* All water quality standards are expressed in terms of total concentration (solid and dissolved phases), unless otherwise noted.

¹ The aluminum limits are for pH ≥ 6.5 and < 7.

² Some limits depend on water hardness (calcium and magnesium content). A hardness of 50 mg/L was used for hardness dependent limits.

³ The BC limit for mercury is scaled based on percent of methylmercury present.

⁴ The turbidity standard is expressed in terms of the allowable increase above natural conditions.

The information on BC water quality standards presented in this table has not been vetted by Canadian officials. Direct comparison of water quality standards is difficult, as the implementation of standards differs between BC and Alaska. More information and analysis might be needed to meaningfully interpret any differences between standards.

Constituent (units)	AK Standard [*]	BC Standard [*]	Description
Nitrate as N (µg/L)	10,000	3,000	<ul style="list-style-type: none"> Nitrates are used in explosives and are commonly found in mine drainage. Nitrates can be toxic to humans and can cause algae blooms.
pH (s.u.)	6.5-8.5	6.5-8.5	<ul style="list-style-type: none"> Water draining from acid generating rock can be very acidic. Changes in pH can harm fish and shellfish and can impair waterbodies.
Selenium (µg/L)	5	2	<ul style="list-style-type: none"> Selenium is a metal that occurs naturally in rocks and soils. Selenium can be toxic to humans and to aquatic life.
Silver (µg/L)	1.2 ²	10.0 ²	<ul style="list-style-type: none"> Silver occurs naturally in some ore deposits. Silver can be toxic to aquatic life.
Total Dissolved Solids (TDS) (mg/L)	500	500	<ul style="list-style-type: none"> Runoff from development or the treatment of water can elevate TDS levels. High TDS levels can harm fish and are a nuisance in drinking water.
Turbidity (NTU) ⁴	5 NTU over natural background	2 NTU over natural background	<ul style="list-style-type: none"> Stormwater runoff can increase the turbidity (cloudiness) of water. Increases in turbidity can harm fish and increase disease risks to humans.
Zinc (µg/L)	66.6 ²	7.5 ²	<ul style="list-style-type: none"> Zinc is a metal that can be associated with some ore deposits. Zinc can be toxic to aquatic life and to humans.

* All water quality standards are expressed in terms of total concentration (solid and dissolved phases), unless otherwise noted.

¹ The aluminum limits are for pH ≥ 6.5 and < 7.

² Some limits depend on water hardness (calcium and magnesium content). A hardness of 50 mg/L was used for hardness dependent limits.

³ The BC limit for mercury is scaled based on percent of methylmercury present.

⁴ The turbidity standard is expressed in terms of the allowable increase above natural conditions.

Deficiencies in Post-Mt Polley Reclamation Changes:

- BC Financial Surety for Mines
- BC Mine Reclamation Code Changes

David M Chambers, Ph.D., P. Geop.
Center for Science in Public Participation
Bozeman, MT

Facts to Consider Post-Mt Polley

- ❖ **BC has an unfunded total reclamation liability of \$1.2 billion***
- ❖ **BC intends to reduce, but not eliminate, this liability over the next 8 years****
- ❖ **BC still intends to continue to utilize a risk-based approach:**
 - A risk-based approach means a company does not need to have the entire amount of the financial surety in collectable instruments, part of the surety is supplied by a corporate guarantee
- ❖ **BC has no financial surety for a catastrophic event at a mine**
- ❖ **Mt Polley Expert Panel predicted 2 failures every 10 years in BC**

BC Utilizes A Risk-based Approach

A risk-based approach:

- Creates unacceptable risk for the public if a mine/company is not evaluated properly – like Imperial Metals/Mt Polley
- Creating winners and losers in mining (anti-free market)
- Requires a program that is unnecessarily complicated and resource intensive (over regulation and expensive to implement)
- Is not justified by the cost savings to the companies, the costs of administration, or the increased risk to the public
- BC has claimed it needs to allow corporate guarantees to stay competitive. Corporate guarantees are not necessary to keep BC mines competitive - if anything it creates a competitive advantage for regulatory jurisdictions that use this approach
- Is an approach favored (but not exclusively) in Canadian Provinces and Australian States, but much of the world has already, or is moving toward, requiring 100% reclamation at the time of mining.

SURVEY OF REGULATORY APPROACHES TO FINANCIAL ASSURANCE

❖ Canada

- British Columbia – risk based
- Alberta – risk based - unfunded liability of \$19.3 billion* (FA info confidential)
- Manitoba – based on financial strength
- Nova Scotia – minister has wide discretion (FA info confidential)
- Ontario – based on financial strength (FA info confidential)
- Saskatchewan – corporate guarantees
- Quebec – 100% 2-yr payment period (public disclosure)
- Yukon – 100%
- Nunavut – 100% (DIAND)
- Northwest Territories – 100% (DIAND)

❖ Australia

- Western Australia – rehabilitation fund contribution, optional bond (FA info confidential)
- Victoria – risk based, moving to 100%
- Northern Territories – 100%
- New South Wales – coal (no info available)
- Queensland – minister has wide discretion
- South Australia – rehabilitation fund contribution, optional bond
- Tasmania – minister has wide discretion

❖ US

- BLM / USFS – 100%
- Most states – 100%
- Alaska & Nevada – can use corporate guarantees

❖ Chile – 100% (phased payment)

❖ European Union – polluter-pays principle (details left to individual countries)

❖ Ghana – 100%

❖ South Africa – 100%

Post-Mt Polley BC Reclamation Code Changes

DAM SAFETY

“Safety attributes should be evaluated separately from economic considerations, and cost should not be the determining factor.” (Mt Polley Expert Panel)

❖ Code:

- safety versus cost in tailings dam design is not addressed

❖ Code Guidance Document

- Alternatives Assessment:

- *Physical stability is of paramount importance, and options that require a compromise to physical stability should be discarded”*

- Risk Assessment:

- *“Elements for consideration should be selected as appropriate for the scope and complexity of the structure and the site, and may include the following consequence categories:*

- ...

- *Safety and health*
- *Financial Impacts*

Post-Mt Polley BC Reclamation Code Changes

WATER

“Eliminate surface water from the impoundment” (Mt Polley Expert Panel)

- **Code:** has no requirement for minimizing water in the tailings on closure
- **Guidance Document:** requires an “*effort to reduce and remove water from containment within tailings facilities should be made*” and that “*alternatives to water covers should be considered in planning stages.*”

(emphasis added)

- The **Code** and **Guidance Document** rely on site-specific considerations, which include cost.
- **All sulfide-mines operating or proposed in the Transboundary Region utilize wet closure.**

Post-Mt Polley BC Reclamation Code Changes

- ❖ **Draft Code Part 10 published 20Jul16**
 - CSP2 submitted 19 pages of comments on the July, 2016, Draft Code & Guidance Document to MEM in September, 2016
- ❖ **Final Code Part 10 published 28Feb17**
 - Only grammar & formatting changes from 20Jul16 Part 10
 - No response to comments
- ❖ **Code Guidance Document**
 - Identical to July 2016 version
- ❖ **Red Chris Final Operating Permit issued 28Feb17**
 - \$12 million financial surety required, but liability is probably 3-4 times that amount
- ❖ **KSM – permitted but construction has not commenced**
 - EIS predicts the copper and lead could exceed AWQS at border
 - Requires post-closure treatment of 171 million gal/day (= Berkeley Pit full water every 2 weeks) – CSP2 bond estimate of ~ \$1.2 billion

“The Panel firmly rejects any notion that business as usual can continue.”

(Mt Polley Expert Panel)

QUESTIONS?

The State of Alaska Departments of Environmental Conservation, Fish and Game and Natural Resources

And

The Province of British Columbia Ministries of Environment, and Energy and Mines

Recitals:

- A. The State of Alaska and Province of British Columbia have entered into a Memorandum of Understanding and Cooperation (MOU) that among other provisions calls for the collaboration of the agencies identified above in the protection of Transboundary Waters and the fisheries they support. The undersigned are entering into this Statement of Cooperation (SOC) to implement Section II. 1. ("Establishing a Bilateral Working Group on the Protection of Transboundary Waters") of the MOU.**
- B. Given the level of public interest in mining activity in the region, the primary focus of the Bilateral Working Group (BWG) formed pursuant to Section 1 of the SOC will initially be on concerns relating to existing or proposed mine development, operations and closure, and long term maintenance that hold the potential to cause significant degradation of water quality or of the fisheries they support. The primary geographical area of initial focus will be the Alsek, Stikine, Taku and Unuk watersheds and marine waters where fisheries could be impacted by pollution of these watersheds.**
- C. In implementing the SOC, it is intended that the agencies represented on the BWG will build on the existing collaboration and good working relationships they have enjoyed for many years, strive to enhance their engagement with the Nisga'a Nation, First Nations, Tribes, communities, organizations and residents in the region, and collaborate with their respective federal government.**
- D. In entering into and performing this SOC the parties do not intend to constrain or discourage in any way the collaboration and networking that is already taking place among different organizations and people in the Transboundary Region; rather it is a goal of the parties to the SOC to help facilitate this constructive dialog and the cooperative and mutually beneficial relations it engenders.**
- E. British Columbia acknowledges that it has entered into the Nisga'a Final Agreement (NFA) and other agreements with the Nisga'a Nation which contain unique provisions relevant to the Transboundary Region, and where applicable, will be considered by British Columbia in the implementation of the SOC.**

Section 3.

- c. Establish and maintain procedures to regularly report to each other and engage in discussions on the environmental performance of operating and closed mines and other commercial developments that have ongoing wastewater discharges or impoundments that could pose a significant risk to Transboundary Waters and the fisheries they support, as described in Section 4.
 - d. Facilitate opportunities for information sharing and constructive dialog among members of the BWG, and with the Nisga'a Nation, First Nations, Tribes, federal agencies, local governments, organizations and other interested parties, on broader concerns as described in Sections 5 and 6.
 - e. Carry out the terms of the SOC, recognizing the limits of current agency budgets, competing demands for agency resources, and legal limits on the authority of each agency.
 - f. Continue to look for collaborative means to further the objectives of this SOC.
2. **Technical Working Group on Monitoring (TWG-M):** The parties recognize the importance of having a reliable and adequate process for the collection, summary and distribution of baseline, regional and project-specific water quality and related data that describes the quality and quantity of Transboundary Waters before, during and after mining and other industrial development, and to monitor the condition of fish and other aquatic life that might be impacted by pollutants in Transboundary Waters.
- a. A TWG-M comprised of experts nominated from agencies and ministries of the parties, whose appointment to the TWG-M shall be confirmed by the BWG, shall develop recommendations for the BWG regarding the scope, elements and funding of a defined coordinated monitoring effort. The members of the TWG-M will actively engage with federal agencies, Tribes, the Nisga'a Nation, First Nations, local governments, industry members, organizations and others in developing their recommendations to the BWG. This may include one or more public workshops in Alaska and British Columbia.
 - b. The TWG-M shall also make recommendations to the BWG on ways to help assure the trustworthiness of data, import or link to trustworthy data sets

proposed "Action Plan" with proposed actions, timelines and deliverables.

- f. It is the intent of the BWG that the TWG-M provide its preliminary draft description of the proposed monitoring and reporting program (Program Description) as described in the MOU along with proposed two-year Work Plan and any related recommendations it has to the BWG within six months of the effective date of this SOC. The BWG, with the continued assistance of the TWG-M, plans to develop the final Program Description, which once accepted by the BWG, shall be attached as "Attachment 1" to the SOC and become a part of it. It may then be modified from time-to-time by the BWG.

3. Participation in the Environmental Assessment and Permitting Processes Relating to Particular Mines and Other Developments: The BWG will look for opportunities to build on and enhance the existing collaboration between technical staff from the state's Departments of Natural Resources, Fish and Game and Environmental Conservation and technical staff from the Ministries of Energy and Mines and the Environment in the permitting and environmental assessments of proposed projects.

- a. While continuing the existing collaboration, the BWG members plan to develop a written description of reciprocal procedures the parties will use to facilitate the invitation and on-going involvement of the government representatives and their designated scientists in the processes described in subsections i-iii below. This may include a more detailed list of projects that one party would like to receive notice of and identify the agencies or offices that should receive that notice. Once this description is approved by all of the members of the BWG, it will be attached as "Attachment 2" to this SOC and become a part of it.

- i. Environmental Assessments;
- ii. Permitting Processes;
- iii. Where appropriate and in furtherance of the objectives of the SOC, analogous processes triggered under federal law where British Columbia or Alaska is engaged in that federal process.

Nisga'a Nation, First Nations, local governments, organizations, and the general public to easily access useful information about mining and other significant development projects in Transboundary Waters and to provide their input into provincial and state authorization processes before they are complete. Among other potential means to accomplish this, it is envisioned there will be public open houses in Alaska during the Environmental Assessment process on particular proposed projects. As allowed by law, the parties shall also look for opportunities to hold public hearings in the other jurisdiction where there is significant public interest or for other opportunities to solicit public comment.

- 4. Reporting on Ongoing Discharges, Operational Oversight, and Closure: The parties intend to:**
- a. Identify and share reports with each other, in a timely manner without violating any legal requirements, that provide reliable information on the on-going compliance of a mine with the terms of its permits and other government authorizations that are intended to protect Transboundary Waters;**
 - b. Notify in a timely manner the other party to the MOU, to the extent permitted by law, of:**
 - i. Discovery of a deficiency in the design, placement, construction or maintenance or performance of a tailing dam, or other structure designed to store mine tailings and waste water, that the discovering party believes poses risk of significant degradation to Transboundary Waters;**
 - ii. Compliance actions taken against a company operating in the Transboundary Region that fails to meet the conditions and requirements prescribed in an environmental assessment certificate or permit, including information that becomes available during the course of the compliance action and relates to the fiscal health of the companies involved; or**
 - iii. The imminent threat or actual release of pollutants from a mine or former mine, or other commercial development, that the discovering party believes could have a significant adverse impact on Transboundary Waters.**
 - c. The parties may include more specific provisions in Attachment 2 to this SOC regarding the content, timing and other aspects of the notices to be provided under this Section 4.**

facilities by introducing new regulations and safety standards for tailings storage facilities, including a review of the Health, Safety and Reclamation Code for Mines; and

- ii. Concerns that British Columbia does not have in place robust regulatory processes for natural resource projects, including environmental assessments, permitting, compliance and enforcement; and
- iii. Greater understanding of Canadian common law and constitutional law requirements to consult and accommodate the Nisga'a Nation, and First Nations.

- c. The parties may develop a joint statement of the issue(s) relating to each of the existing concerns described in 5.a. or b. above. Each statement of an issue may then be used to develop a report on the measures the jurisdiction being asked to address the issue has in place or is planning to put in place that is expected to address the issue. This could include how the jurisdiction plans to address any related recommendations or findings from third party reviews of the issue. The parties may then develop additional recommendations for addressing the issue for consideration of the jurisdiction addressing the issue.
- d. Any member of the BWG may, in a written request to all of the members of the BWG, ask that they agree to attempt to address a specific concern not otherwise being addressed under 5.a. - c. or other section of this SOC. The written request should identify the concern with specificity and identify any means the requesting BWG member believes should be used to address the concern under the SOC. This could include, by way of example, convening a special workgroup, collaborating on a special study or demonstration project or a technology conference.

- 6. **Communications:** A key goal of this SOC is transparency and dialog with the Tribes, the Nisga'a Nation, First Nations, federal and local governments, organizations and other interested parties. The BWG intends to prepare a Communication Plan that describes with reasonable specificity how the BWG and its respective agencies, and technical and work

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- Transboundary;
- b. Better inform Tribes, the Nisga'a Nation, First Nations and the public regarding the steps for particular projects off Nisga'a Lands in the Permitting Process and opportunities for Tribal, the Nisga'a Nation, First Nations and the public to engage;
 - c. Provide easier access by the Tribes, the Nisga'a Nation, First Nations and the public to useful information relating to proposed mines and other significant commercial development, including comments and recommendations submitted by Alaska agencies as part of their participation in these processes;
 - d. Provide in a timely manner, early on, meaningful information on potential future mine and other significant developments that might be considered under the SOC;
 - e. Provide in a timely manner relevant information on the ongoing compliance of a mine, during the operation, shutdown, closure and reclamation phases of its life, with the terms of its permits, authorizing documents, approved plans and other legal requirements; and immediate notice of any catastrophic or other unanticipated event relating to a transboundary mine or other commercial development that could have significant environmental impacts downstream of the site of the event.

7. The Nisga'a Nation

- a. The Parties acknowledge that prior to any decisions in respect of policies, procedures, or initiatives contemplated under this SOC that relate to existing or proposed mine development, operations and closure which could potentially impact Nisga'a rights or interests under the Nisga'a Final Agreement or any other agreement between the Nisga'a Nation and British Columbia which contain unique provisions in respect of the Transboundary Waters and the Transboundary Region, British Columbia will consult with the Nisga'a Nation in accordance with the Nisga'a Final Agreement, such other agreements and other procedures as agreed to by British Columbia and the Nisga'a Nation.
- b. The Parties acknowledge and understand that the SOC does not apply to any project or portion of a project located on Nisga'a Lands (as that term is defined in the Nisga'a Final Agreement and as depicted on the map attached hereto as Attachment "B") which require an environmental assessment or other permits pursuant to Nisga'a law.

the BWG on matters relating to the implementation and performance of this SOC.

9. Engagement with Communities and the Public.

- a. It is a goal of the parties in performing work under this SOC to engage collaboratively with communities, organizations and individuals interested in protecting the quality of Transboundary Waters and the fisheries they support.
- b. The parties can engage with individuals from citizens' groups in British Columbia and Alaska to provide independent advice to an agency or company regarding one or more commercial operations and the resources they might impact in a particular geographical area. Citizens groups generally represent a broad cross section of stakeholders and help find collaborative solutions or outcomes. With this in mind, the parties plan to look for opportunities to facilitate:
 - i. Citizens from Alaska to work with citizens groups in British Columbia that have a scope of work that includes concerns of significant interest to Alaskans in the Transboundary Region;
 - ii. Citizens from British Columbia to work with citizen groups in Alaska that have a scope of work that includes concerns of significant interest to citizens of British Columbia in the Transboundary Region;
 - iii. Representatives from agencies, the Nisga'a Nation, First Nations, Tribes and organizations in one jurisdiction to attend meetings of citizen groups in the other jurisdiction to present helpful information and discuss concerns relating to Transboundary Waters and the fisheries they support.

10. Engagement with Federal Agencies: A number of the concerns the parties may seek to address under this SOC might involve the duties and authorities of one or more federal agency. In some instances a federal agency might have experience, expertise or resources that might be of assistance in addressing a concern that arises under the SOC. With this in mind, the parties intend to look for beneficial ways to engage with their respective federal agencies in addressing concerns and issues that arise under the SOC. This includes without limitation, inviting persons from federal agencies to work with the TWG-M and other technical and

12. Oversight of the BWG: The MOU provides that the Lieutenant Governor of Alaska, as chair of the Alaska Transboundary Working Group, and British Columbia's Minister of Environment and Minister of Energy and Mines shall provide oversight of the BWG.

- a. The members of the BWG from each jurisdiction are responsible for providing to their respective senior leader(s) (Lieutenant Governor in Alaska and the Minister of Environment and Minister of Energy and Mines in British Columbia): 1) advance notice of meetings of the BWG and of its technical and other groups established by the BWG under this SOC; 2) drafts of the Communication Plan (described in Section 6 of the SOC); proposed goals, timelines and performance measures; and other documents prepared for or by the BWG that are important to the implementation of the MOU and 3) such other information as their senior leader(s) may desire.
- b. If the BWG is unable to find consensus on a matter they are discussing, they may seek assistance from the Alaska Lieutenant Governor and British Columbia Minister of Environment and Minister of Energy and Mines.

13. Funding: The parties recognize the constraints contracting budgets put on them and the need to prioritize work under the SOC, build on existing collaborations, leverage existing partnerships and resources, and avoid unnecessary duplication.

14. Definition of Terms: The following terms are defined as follows for purpose of this SOC.

- a. "Transboundary Water(s)" includes: any river, stream or other surface water that flows across the international borderline between Alaska and British Columbia, including all tributaries to these waters, and on which mining or other commercial development is being planned, is occurring or has occurred, that involves the risk of significant degradation of those waters or the fisheries they support; and, also includes all marine waters within the jurisdiction of Alaska south of sixty (60) degrees latitude or within the jurisdiction of British Columbia. Attached as Attachment "A" to this SOC is a map showing the location of the four major watersheds that cross the boundary between British Columbia and Alaska and the location of the sixty degree line of latitude.

authority to issue or approve a permit or authorization in response to a proposed mine or other commercial development that could in its construction, operation, closure or reclamation, result in significant degradation of a Transboundary Water or the fisheries it supports.

- e. "Fisheries" for purposes of this SOC, includes: areas where fish are harvested for commercial, subsistence, recreational and other purposes; fish populations harvested for these purposes; and the habitats that support those fish.
- f. "Significant degradation", for purposes of this SOC, means an addition of contaminants from one or more sources that lowers the quality of the receiving water such that the receiving water:
 - i. If within the jurisdiction of the state of Alaska, cannot support the designated uses of that water specified under AS 46.03.080 and 18 AAC 70.020, or
 - ii. If within the jurisdiction of the Province of British is considered pollution under the *Environmental Management Act*.

15. **Interpretation:** This SOC is to be interpreted consistent with the terms of the MOU.

16. **Limitations:** This SOC shall have no legal effect; impose no legally binding obligation enforceable in any court of law or other tribunal of any sort, nor create any funding expectation; nor shall either Alaska or British Columbia be responsible for the actions of third parties or associates. This SOC does not limit or change in any way the legal rights or obligations of either party, or any third party, may have under a treaty, contract or other agreement or law. This SOC does not narrow, expand or supersede any state or provincial law. By entering into this SOC or taking any action pursuant to this SOC, Alaska or British Columbia is not precluded from seeking or supporting at any time an alternative means for resolving a concern, including without limitation, a referral to the International Joint Commission pursuant to the Boundary Waters Treaty between the United States and Canada. Any decision or recommendation by the BWG or any committee they form pursuant to this SOC shall not be legally binding on either party or their agencies.

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performance of BC mines, enhancing existing opportunities for Alaskans to receive information and comment on new mining projects in BC, and otherwise enhancing the communication and collaboration between Alaska and British Columbia on water quality concerns.

"We have come a long way with the help of many citizens in Alaska and British Columbia who care deeply about the quality of our water, our fisheries, and way of life, and I thank them," said Lt. Gov. Mallott. "However, we know success will only be measured by how well we do going forward. I was pleased with the commitment I saw in Friday's meeting to protecting Southeast waters."

ADEC is the lead for the state in implementing a water quality monitoring program that will facilitate the sharing of water quality and related data collected in transboundary watersheds and marine waters. "The intent is to have reliable data on current and future conditions so we can spot any changes of concern and act on them before we see significant impacts," said ADEC Commissioner Larry Hartig. "Although we appreciate all of the additional safeguards and government oversight BC and the Canadian federal government have been putting in place relating to mining concerns, we are expecting more commercial development and shipping in the area and believe having a monitoring program like this in place is wise."

Over the next four years, ADEC will be using EPA grant funds it receives to help support work in Alaska on this program. ADEC will be seeking additional federal assistance and forming collaborations with others performing monitoring in the area. "We are particularly pleased with the monitoring work being done by Central Council Tlingit and Haida Indian Tribes of Alaska," Hartig said. "We look forward to collaborating with them in a number of ways, including incorporating into our data set the valuable data they are collecting and getting their help in collecting traditional ecological knowledge, a key piece of this joint monitoring project."

projects, including on environmental performance. While Alaska and BC agencies have already been exchanging information and technical comments, under the SoC the agencies will post this shared information, analyses, and comments on public websites, and there will be more opportunities for the public to engage with the regulators on topics of concern. According to Deputy Commissioner of DNR Ed Fogels, his department has been working with BC on a draft set of protocols and procedures it expects to propose to the BWG in January to help implement these provisions of the SoC. "DNR has already seen a ramping up of the information we have been getting from BC," noted Fogels. "In addition, DNR is developing an interactive web-based map that will make it easier for the public to get information about mining projects in BC. We plan to have this ready for demonstration as early as next month."

ADF&G is the state's lead for developing a communication plan describing how Alaska and BC will make available to the public the data, information, and analyses shared under the SoC. Greater transparency is a key element of the SoC. "Our central goals are providing user-friendly access to reliable information and more meaningful engagement with Tribes, First Nations, and stakeholders," according to David Rogers, Director of Habitat at ADF&G. "We expect to have a detailed outline of the draft plan to present to the BWG and public in January."

The SoC calls for the draft plans for the water quality monitoring program and the Communication Plan to be taken up by the BWG no later than April 2017. There will be opportunities for Tribes, First Nations, and the public to review and have dialog with the BWG and its member agencies on the drafts before then. Among other things, ADEC will host a public workshop to provide an opportunity for the public to provide its input to the technical staff from ADEC, ADF&G, and DNR working on plans for the joint water quality monitoring program.

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In 2015, Governor Bill Walker and British Columbia Premier Christy Clark signed a
 ng. While the MOU is not a legally binding document, it is a firm commitment by both governments to continue working together where possible. The MOU identifies the broad areas of continued or new activity by Alaska and British Columbia, including:

- Establishing a bilateral working group on the protection of transboundary waters;
- Sharing best practices on workforce development and training;
- Advancing marine transportation reliability and safety;
- Reinforcing emergency management mutual aid response through the existing Pacific Northwest Emergency Management Arrangement;
- Fostering continued growth of existing and increased transportation links;
- Continuing joint visitor industry promotion;
- And exploring other areas for cooperative action, including natural resource development, fisheries, ocean acidification, border management, trade and investment, and climate change adaptation.

In response to increased mining activity in northwestern British Columbia, Canada and increasing concerns from Alaskan stakeholders, Lieutenant Governor Byron Mallott established the Transboundary Working Group to improve the State's involvement in activities proposed in B.C. that could impact Alaskan waters and fish. The Transboundary Working Group is composed of representatives from the Departments of Fish and Game, Environmental Conservation, Natural Resources, Commerce and Economic Development, Labor, and the Lt. Governor's office.

er

M R A N A N C O O P E R A T I O N

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J M B I A



NOW THEREFORE DESIRE TO ENTER INTO THIS MEMORANDUM OF UNDERSTANDING AND COOPERATION AND HEREBY AGREE AS FOLLOWS:

I. Responsible Parties

- 1.) The Governor of Alaska and the Premier of British Columbia are responsible for oversight and implementation of this Memorandum of Understanding and Cooperation.
 - a. The Governor's Office is designated the lead entity for Alaska. The Governor's Office will act as the lead and coordinating entity, and will call upon the appropriate state agencies for implementation.
 - b. The Intergovernmental Relations Secretariat, a branch of the Office of the Premier, is designated lead entity for British Columbia. The Secretariat will act as the lead and coordinating entity, and will call upon the appropriate provincial agencies for implementation.
- 2.) Officials appointed by the Governor and the Premier may negotiate jointly, and, with the permission of their respective Governor or Premier, may execute cooperative arrangements in the implementation of this Memorandum of Understanding and Cooperation. Such agreements shall be incorporated as appendices to this Memorandum.

II. Cooperation

Alaska and British Columbia commit to work together collaboratively to:

1.) Establish a Bilateral Working Group on the Protection of Transboundary Waters

Alaska and British Columbia will establish a Bilateral Working Group on the Protection of Transboundary Waters consisting of officials from state and provincial agencies that will report to and be overseen by the State of Alaska's Lieutenant Governor, as Chair of the Alaska Transboundary Waters Working Group, and British Columbia's Minister of Environment and Minister of Energy and Mines.

The state and provincial agencies will be directed to further develop a cooperative arrangement that will describe the Working Group's member agencies, structure, responsibilities, reporting and communication plans, with the following terms of reference with respect to any development in the Alaska and British Columbia transboundary area which holds potential to cause significant degradation of water quality or of the fisheries they support:

- establish and oversee a joint process to develop and implement a joint water quality monitoring program for transboundary waters ensuring that data are publicly available;
- establish reciprocal procedures that facilitate the invitation and on-going involvement of interested governmental representatives and their designated scientists in environmental assessments triggered under provincial or state law or regulation, and work to facilitate their participation in those processes undertaken under federal laws;
- establish reciprocal procedures that facilitate the invitation and on-going involvement of interested governmental representatives and their designated scientists in permitting processes triggered under provincial or state law or regulation, and work to facilitate their participation in those processes undertaken under federal laws;
- develop opportunities for interested Tribes, First Nations, and stakeholders to better access information about mining and other development projects, in or affecting transboundary watersheds and to have meaningful opportunities to provide input into the authorization processes before they are completed;
- otherwise develop means to communicate and share information about: the ongoing operation and closure of mines in the transboundary waters area; best practices and other means to reduce the risk of pollution of transboundary waters; and other topics of agreed mutual interest relating to such risks; and
- seek alternate public or private sector funding of costs and other needed resources that are in addition to those normally covered by existing state or provincial operating budgets.

on Workforce Development and Training

ortance of local hire and ongoing efforts to develop trained workforces in each jurisdiction, Alaska and British Columbia
ant agencies to share best practices on training and workforce development.

nsportation Reliability and Safety

olumbia will collaborate to promote marine transportation reliability and safety. Areas of collaboration include measures
nd spills and to reduce the consequences of accidents and spills should they occur.

y Management Mutual Aid Response

olumbia will continue to collaborate and cooperate on planning, training, exercising and information sharing efforts
d rescue, and emergency management mutual aid.

olumbia agree to continue this spirit of cooperation and partnership through the Pacific Northwest Emergency
ement (PNEMA).

rowth of Existing and Increased Transportation Links

olumbia will direct their relevant Departments and Ministries to share information about infrastructure development and
s that would encourage increased and more efficient travel and shipping in the region.

or Industry Promotion

olumbia will continue their longstanding cooperation on the joint visitor industry marketing program that promotes travel
stern Canada region.

for Cooperative Action

olumbia will also direct their relevant agencies to explore other areas that would benefit from cooperation, including
lopment; fisheries, including ocean acidification; border management, trade and investment; and climate change

Limitations

f Understanding and Cooperation shall have no legal effect; impose no legally binding obligation enforceable in any court
al of any sort; nor create any funding expectation; nor shall our jurisdictions be responsible for the actions of third parties

Term and Amendment

f Understanding and Cooperation is effective when signed by both the Governor and the Premier and as otherwise
for under its provisions. It may be amended at any time by agreement between the signatories and may be terminated by
otice to the other.

AGREED as to form and content and signed and dated in two (2) duplicate originals;

ned in Juneau

ned in Juneau

is 25 day of November 15

is 25 day of November 15

Bill Walker

WALKER

Christy Clark

CLARK

UMBIA

REPRESENTATIVE DAN ORTIZ

Alaska State Legislature / Ketchikan, Saxman, Wrangell, Hydaburg, Metlakatla, Hyder, Loring and Meyers Chuck

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HJR 9: Canadian Mines on Transboundary Waters Supporting Document - Letters of Support Cover Letter

The full document can be found online at BASIS and includes 48 letters of support for House Joint Resolution 9, "Canadian Mines on Transboundary Rivers." The supporters write from over a dozen Alaskan House districts, including the following places: Palmer, Kotzebue, Soldotna, Juneau, Ward Cove, Sitka, Wrangell, Petersburg, Haines, Kodiak, Anchorage, Homer, Tenakee Springs, Fairbanks, Naknek, Gustavus, Metlakatla, Ketchikan, as well as a handful of places out of state.

Alaska State Legislature

Senator Dennis Egan
Representative Sam Kito III
Representative Justin Parish
Representative Jonathan Kreiss-Tomkins
Representative Dan Ortiz



State Capitol
Juneau, Alaska
99801-1182

January 31, 2017

The Honorable Bill Walker
Governor
P.O. Box 110001
Juneau, AK 99811

The Honorable Byron Mallott
Lieutenant Governor
P.O. Box 110001
Juneau, AK 99811

Dear Governor Walker and Lt. Governor Mallott:

For decades, acid mine drainage (AMD) pollution from the Tulsequah Chief mine has flowed across our border. The pollution affects water quality, making it harder to market Alaska seafood based on our clean, pristine ocean and rivers. Alaska has responsibly managed habitat in the transboundary Taku watershed and we need our neighbors in British Columbia (B.C.) to do the same.

Two mining companies have gone bankrupt trying to re-develop this mine. Under your administration's leadership B.C. Minister Bill Bennett witnessed the mine pollution firsthand. Recent statements by Minister Bennett indicate the province now recognizes it likely will need to assume responsibility for mine cleanup and closure, and the B.C. government has a budget surplus. That makes this the best opportunity since the Tulsequah Chief was abandoned in 1957 to achieve a lasting cleanup.

But remediation is no sure thing. B.C. has not specifically committed to cleanup, and Minister Bennett, who retires in May, has downplayed the effects of the AMD. Alaska must do all we can to ensure B.C. commits to and implements immediate, meaningful steps toward mine cleanup and closure.

Like you, we hope the Statement of Cooperation, negotiated in good faith, will prove its worth. The first, defining test is cleaning up the Tulsequah Chief. This will set the tone for Alaska fishermen, businesses, and communities, as B.C. pursues projects like Red Chris and the proposed KSM mine. We call on your Administration to ensure Alaska's downstream interests are not harmed by upstream development in B.C. in the past, present, or future. Cleaning up the old Tulsequah Chief mine would be an excellent way to start.

Sincerely,

Handwritten signature of Sen. Dennis Egan.

Sen. Dennis Egan

Handwritten signature of Rep. Sam Kito.

Rep. Sam Kito

Handwritten signature of Rep. Dan Ortiz.

Rep. Dan Ortiz

Handwritten signature of Rep. Justin Parish.

Rep. Justin Parish

Handwritten signature of Rep. Jonathan Kreiss-Tomkins.

Rep. Jonathan Kreiss-Tomkins

Congress of the United States
Washington, DC 20515

September 8, 2016

The Honorable John Kerry
Secretary
U.S. Department of State
2201 C Street NW
Washington, DC 20520

Dear Secretary Kerry:

Thank you for your staff's June 14th response regarding the development of several hardrock mines in British Columbia and their potential effects on water quality in the transboundary rivers that flow from Canada into Southeast Alaska. We are pleased to hear that you continue to discuss potential impacts of mining in British Columbia. It would be helpful if you could convey the results of these discussions, as well as address what actions have been taken on the specific items raised in our letter addressed to you this May.

For quite some time, we have urged you and your Department to work with us to focus appropriately on the risks that mining in British Columbia poses to Alaska and Alaskans. When you visited Alaska last year, we were encouraged by your comment that "downstream impacts should not be taken lightly by any country, anywhere." But we remain troubled that nearly a year later, we have seen little action from State on such an important issue to so many.

Treating transboundary mining issues with urgency and focus today would prevent discord and disaster tomorrow. We need the federal government to partner with Alaska to press Canada on policy answers.

Alaska is a resource state and we believe, as Canadians do, in smart, thoughtful extraction of energy and minerals. Mining is central to our economy, provides well-paying jobs, helps generate revenues for our treasuries, and serves as the foundation of our manufacturing sector. But we are very concerned about the absence of leadership at the Department of State to constructively and candidly address the transboundary issue and work collaboratively with Canada to find the best mechanism to proactively resolve concerns.

The stakes for Alaska are enormous. Alaska's salmon rivers provide for commercial and recreation fishing and tourism which are vital to the economy of southeast Alaska. The continued health of these rivers also sustains the regions unique way of life. This region of Canada is now one of the world's largest mining districts, and many Canadian mineral projects are located in transboundary watersheds of key salmon rivers—the Taku, Stikine and Unuk—that originate in British Columbia and flow into Southeast Alaska. These mines pose huge economic risk to Alaska in the form of acid mine drainage and toxic heavy metals that threaten Alaska Native communities and traditional and customary lifestyles as well as the regional \$2 billion-dollar-a-year fishing and tourism industries. As

Secretary Kerry
September 8, 2016

we all remember, almost two years ago, the Mount Polley mine in central British Columbia dumped just over six billion gallons of contaminated tailings into waters leading to the salmon-rich Fraser River.

To this point, we believe there has been a failure by your Department to support potential solutions embraced by Alaskans. Alaska has been left alone to pursue steps including a Statement of Cooperation with British Columbia, even though we know that by definition that is only one step in a process which must include federal leadership. We are continuing our fight to elevate this issue and to find funding for baseline water quality monitoring. We ask that you please reconsider our requests from our May letter:

- 1) Encourage British Columbia officials to consider the cumulative impacts of mining and their potential impacts on transboundary waters during the review and approval process for mines.
- 2) Determine whether an International Joint Commission reference is a suitable venue to determine whether Canadian mines are following "best practices" in treatment of wastewaters and acid-producing mine tailings – especially in light of the scientific reviews of the causes of the Mt. Polley tailing disposal dam failure.
- 3) Establish a more formal consultation process with American state agencies, other federal agencies, tribes, and Alaska Native Claims Settlement Act corporations during Canadian mine permit reviews, similar to the American process of having participating entities during Environmental Impact Statement preparations.
- 4) Support Environment Canada's water quality study effort relating to the impacts of mining on transboundary waters.
- 5) Support and work towards robust funding for water quality testing on the American side of the border to establish baseline water quality data, so that the U.S. can file for damages in the event of mining-related damage from Canadian mines.

Alaska is at a point now where we urge you to consider appointing a Special Representative for U.S.-Canada Transboundary Issues, creating an Interagency Working Group to address these issues, and work with us to form U.S.-Canada exchanges of legislators and parliamentarians to discuss these issues on both sides of the border. Most importantly, we ask that you will respond to these specific proposals on the merits – and propose some answers of your own.

We formally request a meeting with you as soon as possible to discuss these issues. Thank you for your consideration of our requests. Please contact our offices if you need additional information.

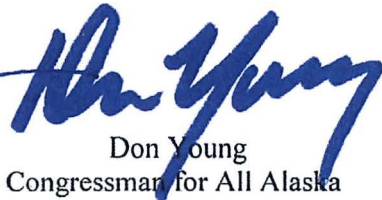
Sincerely,



Lisa Murkowski
United States Senator



Dan Sullivan
United States Senator



Don Young
Congressman for All Alaska

Dear Representative Ortiz and Members of the House Special Committee on Fisheries, Resources:

I am Brian Lynch, a retired biologist with over thirty years experience with Alaska Department of Fish and Game in Southeast Alaska, am a former Executive Director of Petersburg Vessel Owners Association and a 35-year resident of Petersburg. I also currently work part-time for Rivers Without Borders. I want to express my support for your introduction of **HJR 9, CANADIAN MINES ON TRANSBOUNDARY RIVERS** and thank Representatives Ortiz, Kreiss-Tomkins, Tuck, Tarr, and Parish for sponsoring this resolution. The need for direct engagement between the U.S. and Canadian federal governments on this issue is absolutely necessary.

The transboundary rivers, the Taku, Stikine and Unuk, cross an international boundary and are subject to provisions of the Boundary Waters Treaty of 1909 (BWT) which makes this an inherently federal and international issue. The BWT expressly requires both countries to prevent damage to the other country's resources. Either nation can ask for an International Joint Commission (IJC) reference to solve watershed disputes. In this case I believe an IJC should be considered to 1) investigate potential mining impacts on a mine by mine case and, more importantly, the cumulative effects of the mining activity over the long term; 2) make recommendations to resolve potential problems, and 3) ensure financial assurances exist to pay for accidents and cleanup and to compensate affected individuals and communities. For almost two decades, conservation groups and commercial fishermen have called for IJC involvement on the Taku River. Review by the IJC is the most effective way to ensure the health and sustainability of salmon fisheries are not jeopardized across the transboundary region.

I would like to urge you to revise HJR 9 to specifically call for IJC involvement. I also advocate that the resolution specifically call on the State of Alaska to support IJC involvement and to formally request assistance from the U.S. State Department.

Notwithstanding the Statement of Cooperation (SOC) between the State of Alaska and the British Columbia (B.C.) provincial government that was signed on October 7, 2016, international regulatory action undertaken between the U.S. and Canadian federal governments is the only legally binding course that can be taken to address concerns that Canadian mining activity will not harm water quality and fisheries in these transboundary rivers. An IJC would bring more resources to the issue than any state/province agreement(s) and its decisions would carry more weight. This may also be the best or only way to provide for financial assurances if mining related environmental problems do arise, and provide for either nation to seek damages against the other for provable economic impacts.

Given the State's current budget crisis, federal engagement would bring in both money and technical expertise to provide for more rigorous review of mining projects and more extensive baseline and on-going water quality testing. In addition, federal engagement would also bring in more involvement in Canadian permitting processes from U.S. agencies and formal State Department consultation with the Canadian government.

Although the State of Alaska has committed to providing funding for implementation of the provisions of the SOC, projected budgets for the three affected State resource management and regulatory agencies could be impacted to the point where normal, existing agency functions will be seriously constrained or eliminated. Focusing on the SOC will not bring in federal resources at a time that Alaska has less money than ever to provide the funding necessary to get the job done.

The ongoing acid mine drainage (AMD) at the Tulsequah Chief mine provides a clear example of why federal engagement is needed. AMD with its complement of toxic heavy metals has been leaking from the Tulsequah Chief mine into the Tulsequah River, the largest tributary to the Taku, for 60 years. This now-abandoned mine sits right on the banks of the Tulsequah River, about 13 river miles upstream of the Alaska/B.C. border and 40 miles northeast of Juneau. While the AMD leaking from the Tulsequah Chief mine has not yet resulted in the contamination of salmon or other seafood harvested from the Taku River it does violate the Canadian Fisheries Act, mine permits, an agreement with the Taku River Tlingit First Nation, and likely the Boundary Waters Treaty as well. At a minimum, the AMD is degrading water quality, possibly harming salmon habitat and may be resulting in sub-lethal harm to juvenile salmon, which may be affecting their survival. If the AMD is not stopped, the image of Alaska's clean water and pristine habitat and the purity of its seafood could be also be tainted and marketing efforts harmed.

Despite numerous inspections and cleanup orders B.C. has done little to halt the ongoing AMD pollution. While the SOC has resulted in improved communications with B.C. and a site visit by Lt. Governor Mallott and B.C. Minister Bill Bennett in August 2015 has resulted in more attention to the AMD problem, the State has not been aggressive in pressuring B.C. to stop the AMD that has been polluting the Tulsequah River for six decades.

While B.C. has recently expressed intentions to clean up the mine site and stop the AMD from entering the river, the cleanup effort appears to have been negatively affected by the belief that no environmental harm is being caused by the AMD. In fact, B.C. Minister of Mines, Bill Bennett, has made several statements to that effect. In an August 8, 2015 interview with the Juneau Empire he stated: ***"I said I'm going to try to fix it, so I'm going to try to fix it. It's a horribly difficult and complex issue for B.C., because the scientists on both sides of the border say there isn't any environmental harm from what's going into the Tulsequah River."*** He reiterated that claim again on January 3 of this year in an interview with KTOO when he stated ***"Even though the water that's been tested by both Alaska and British Columbia has shown no negative impacts on aquatic organisms..."*** and finally, as recently as March 5 in an interview with the Juneau Empire he remarked, ***"We're operating right now on the basis of some research at the site, in the river by both Alaska and British Columbia and that research has indicated at this point and time that there is no contamination in the river."*** The assertion that the AMD is causing no environmental harm is obviously unproven, while there is clear evidence that the AMD does pose significant risks to water quality, habitat and marketing efforts.

Minister Bennett's unproven assertions seem to be based, at least in part, on two reports on Dolly Varden whole body metals concentrations the ADF&G, Division of Habitat published. Neither of these reports supports a conclusion of no harm, as verified by the Division of Habitat in the Empire article, but, nonetheless, they are obviously being used by B.C. to forestall the cleanup

A particularly disturbing new twist to the assertion of no harm has only recently surfaced. The B.C. government is now waiting on a new Aquatic and Environmental Risk Assessment (ERA) to be released later this month or in April before they make any full commitment to clean-up the mine and only if there is no buyer for the mine. However, even that possibility is now in jeopardy according to Minister Bennett. As he stated in the March 5 *Empire* article: ***"if the ERA fails to reveal environmental harm, we will not spend tax dollars."*** and ***"What I am saying to you is there is not currently an emergency that we are aware of. We are going to deal with this. We're going to do our Ecological Risk Assessment in the spring, then we'll make a determination whether there is environmental harm being done"***. Given that there are no legal definitions of "harm" and "environmental emergency" in B.C./Canadian environmental law, the determination of harm or an emergency is extremely vague and open ended and will be left entirely up to the B.C. government, which up to this point, has disregarded and dismissed all requests and demands to clean up the mine site and stop the AMD. That is an extremely distressing situation that will give the B.C. government a convenient excuse to avoid doing the right thing.

Contrast this approach with that taken in Montana starting in the 1980's to address pollution in Montana rivers downstream from BC coal mines. The State of Montana and the US federal government joined forces to achieve an IJC and an ongoing process to address Montana's concerns.

Although the ability to prove extensive harm to salmon production in the Taku River drainage from the Tulsequah Chief mine AMD may be difficult, the pollution and the mine site need to be cleaned up nonetheless. Letting this problem continue to fester is unacceptable. This is a situation that could and should be dealt with through the SOC but apparently has yet to be addressed through that process specifically under section 2. Technical Working Group on Monitoring (TWG-M) : *The parties recognize the importance of having a reliable and adequate process for the collection, summary and distribution of baseline, regional and project-specific water quality and related data that describes the quality and quantity of Transboundary Waters before, during and after mining and other industrial development, and to monitor the condition of fish and other aquatic life that might be impacted by pollutants in Transboundary Waters.* While the TWG-M may not have been able to provide input into the drafting of the ERA since the SOC was not signed until last October 7 and the letting out of the ERA contract occurred prior to that date, at a minimum they should have been provided the opportunity for review and comment on the final assessment report (which we have not yet seen).

B.C.'s mining must be carried out in a way that protects water quality and does not threaten our downstream economy and livelihoods. The fact that it has taken six decades and heavy pressure to convince B.C. to follow its own laws at the relatively small Tulsequah Chief mine gives me little confidence that we won't see more and worse problems at the much larger B.C. mines that are operating or under development in the watersheds of the transboundary rivers flowing into Southeast Alaska.

The valuable resources of our transboundary rivers are under threat by large scale mining activity in the B.C. portions of these river's watersheds and they need protection. Because these rivers cross an international boundary, Alaska alone cannot provide those protections. Federal involvement is necessary to legally establish meaningful, enforceable rules and commitments to protect Alaska's interests and provide financial assurances to mitigate any losses that may occur as a result of the massive mining development in transboundary watersheds. There has been a clear mandate from citizens, tribes, community leaders, and businesses across Southeast Alaska for federal engagement including an IJC reference. I am frankly baffled as to why the State is not seeking federal help and using all possible tools to protect our transboundary rivers. I again urge and will continue to urge the State of Alaska to seek federal help and an IJC reference. And regardless of the State's action on this, I also urge the U.S. federal government to communicate concerns to the Canadian federal government along with the invitation to join in an IJC or similar process.

Again, thank you for introducing and allowing me to testify on HJR 9. If I can provide you with any more information, please don't hesitate to contact me.

Sincerely,

Brian Lynch

Brian Lynch
P.O. Box 1247
Petersburg, AK 99833

Comment: Indigenous people ‘sing’ for the earth

FREDERICK OLSEN , JR. AND JACINDA MACK / TIMES COLONIST

MARCH 26, 2016 12:44 AM

Have you heard of mine birds singing? Long ago, miners took canaries into coal mines to warn about the presence of poisonous gases. As long as the birds lived, people lived. Indigenous people are like coal-mine canaries, except that we are not brought into the mines — the mines are brought to us.

Our ancient indigenous homelands are located in present-day British Columbia and Alaska, considered part of the Arctic Nations. We are connected through water, culture, salmon, oral history and complex family bloodlines. As indigenous peoples, we now unite to address the urgent and far-reaching impacts of unbridled mining activities in B.C. We now “sing” of threats to our existence.

We have already felt the sting and suffering of a major mining disaster in B.C. in 2014 at Imperial Metals’ Mount Polley Mine, that left us reeling in fear for our future, clean water and wild salmon. The preventable disaster released 6.6 billion gallons of mining waste into Quesnel Lake and the Fraser River watershed, home to one of the world’s largest salmon runs. For the first time in history, indigenous families along the Fraser River did not harvest salmon, out of fear of mining contamination.

Despite it being the worst environmental disaster in Canadian mining history, no charges or fines have been laid against the company. Instead, B.C. granted the company a temporary re-opening permit that created new potential for another breach during spring snow melt. Their solution? Authorize ongoing discharge into Quesnel Lake. This “business as usual” approach to mining must end.

We maintain a long-term approach to our way of life, considering beyond our own lives, ahead to seven generations of grandchildren. We acknowledge our stewardship responsibilities and have already mobilized to work together, across political borders, to protect clean water, healthy salmon and flourishing wildlife by addressing mining threats in a proactive and collaborative way, to ensure our collective future well-being. Do you hear the mine birds singing?

U.S. President Barack Obama and Prime Minister Justin Trudeau committed to “collaborating with indigenous and Arctic governments, leaders and communities to more broadly and respectfully include indigenous science and traditional knowledge into decision-making, including in environmental assessments, resource management, and advancing our understanding of climate change and how best to manage its effects.”

We share a vision of the future: fresh, clean water, wild salmon, healthy and vibrant communities thriving for millennia. Let us put safety before profits and implement the independent Mount Polley Report recommendations. Let us reinstate critical fisheries

habitat protections under Canada's Fisheries Act. International solutions and higher standards will benefit everyone.

We advocate for world-class stewardship and mining policies based on best practices and best technologies, such as that of the Northern Secwepemc, which has taken the industry by storm. In Alaska, the United Tribal Transboundary Mining Work Group calls for the U.S. government to uphold its fiduciary trust responsibility to tribes. We seek a binding agreement between indigenous and federal governments with seats as equals at the decision table.

Indigenous peoples from Alaska and British Columbia are rekindling ancient ties to bring together First Nations and tribes. At the end of April, we will meet on Prince of Wales Island in southeast Alaska, where we will collaborate to unify our strategies and actions to protect the vital resources we share with each other and the world. We welcome Trudeau and Obama to attend.

Please hear us. We sing for our changing Earth. We sing for our way of life. We sing for all of us. Join our chorus. Together, stronger and louder, we will inspire the world to keep the forest mine birds singing.

K'yuuhlgaansii Frederick Olsen, Jr., Haida, is chairman of the United Tribal Transboundary Mining Work Group (a consortium of 14 Southeast Alaska Tribes). Nuskmata Jacinda Mack, Secwepemc and Nuxalk, is the co-ordinator of First Nations Women Advocating Responsible Mining, a coalition of indigenous women addressing mining impacts in British Columbia.



UNITED FISHERMEN OF ALASKA

Mailing Address: PO Box 20229, Juneau AK 99802-0229

Physical Address: 410 Calhoun Ave Ste 101, Juneau AK 99801

Phone: (907) 586-2820 **Fax:** (907) 463-2545

Email: ufa@ufafish.org **Website:** www.ufafish.org

March 14, 2017

Representative Louise Stutes, Chair
House Special Committee on Fisheries
Alaska State Legislature
State Capitol, Juneau, AK 99801

RE: Support for HJR 9 and U.S. State Department Engagement on Trans-boundary Mines

Dear Chairwoman Stutes and Committee Members,

United Fishermen of Alaska (UFA) is a statewide commercial fishing trade association representing 34 Alaska commercial fishing organizations as well as over 400 individuals participating in fisheries throughout the state and its offshore federal waters. UFA works to promote and protect the common interest of Alaska's commercial fishing industry as a vital component of Alaska's social and economic well-being.

UFA continues to support the Alaska State Legislature and the State of Alaska in the ongoing efforts to ensure state resources are not further harmed by Canadian large-scale mining development in the headwaters of the Taku, Stikine, Unuk or other trans-boundary salmon rivers that flow from Northwest British Columbia (B.C.) into Southeast Alaska. We support Alaska House Joint Resolution 9, which calls on the United States government to investigate the long-term, region-wide downstream effects of proposed and existing B.C. industrial development in trans-boundary watersheds, as well as development of enforceable measures and financial assurances with the Canadian government to protect fisheries and fishermen from the potential negative impacts to Alaska fisheries from large-scale trans-boundary mining.

Based on expert testimony presented at the October 12, 2016 House Fisheries Committee hearing, there was a clear consensus that nothing short of an international agreement(s) between the United States and Canada can provide the enforceable measures and funding needed to protect the fish, water quality, businesses, employment and culture of the Alaska – B.C. trans-boundary region. Consequently, UFA continues to support elevation of trans-boundary water issues to the US State Department--presumably through the Boundary Waters Treaty--so that the that Alaska fisheries and fishermen are protected from potential adverse effects of mining development in British Columbia.

Thank you again for your efforts to ensure that the economic and ecological values of the Alaska – B.C. trans-boundary river systems are not compromised. We look forward to continuing to work with you toward this goal.

Sincerely,

Jerry McCune
President

Mark Vinsel
Executive Administrator



UNITED FISHERMEN OF ALASKA

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Phone: (907)586-2820 **Fax:** (907) 463-2545
Email: ufa@ufa-fish.org **Website:** www.ufa-fish.org

December 9, 2015

Governor Bill Walker
Lieutenant Governor Byron Mallott
P.O. Box 110001
Juneau, AK 99811

RE: Support for engagement with the U.S. State Department and request for International Joint Commission reference.

Dear Governor Walker and Lieutenant Governor Mallott,

United Fishermen of Alaska is the statewide commercial fishing trade association, representing 35 commercial fishing organizations participating in fisheries throughout the state and its offshore federal waters. Eleven of our member groups represent salmon fisheries in Southeast Alaska, a large portion of which are inextricably dependent on salmon habitat in the rivers of British Columbia.

UFA appreciates the interest and work the Lt Governor has done on international mining issues and that the U.S. Secretary of State is currently engaged in this topic. UFA is concerned that the Memorandum of Understanding and Statement of Cooperation do not provide enough protection to Alaska salmon without engagement of the federal governments of both countries whether through an International Joint Commission (IJC), through the Boundary Waters Treaty or through government acceptance of agreements drafted between the State of Alaska and British Columbia will be necessary.

We previously requested the former administration and our delegation to engage the U.S. State Department on this matter. We support southeast salmon groups in the perception that engagement by the U.S. State Department will be necessary in the end to have binding agreements regarding indemnity and compensation in the event of tailing dam failures upstream or other less catastrophic failures that could impact Alaska's water quality and salmon. The interests and protection of Alaska and our salmon fleets as we pursue the necessary binding agreements to protect and ensure long term sustainability of the fisheries are of utmost importance.

Thank you for your attention to this matter.

Sincerely,

Jerry McCune
President

UNITED SOUTHEAST ALASKA GILLNETTERS

Box 2196, Petersburg AK 99833 * (253) 237-3099 * usag.alaska@gmail.com * akgillnet.org

March 9, 2017

House Fisheries Committee
Representative Stutes, Chair
Representative Ortiz
Representative Tuck
Representative Parish
Alaska State Legislature
Juneau, AK 99801 (sent via email)

RE: House Joint Resolution 9 SUPPORT

Dear House Fisheries Committee Members and Representatives Ortiz, Tuck and Parish:

This House Joint Resolution shows the world that Alaska's Legislature stands together in its urging for the Federal governments of the USA and Canada "to investigate long-term, region-wide downstream effects of proposed and existing industrial development and to develop measures to ensure that state resources are not harmed by upstream development in British Columbia".

States and Provinces cannot do this alone. Alaskan and British Columbian officials, groups and individuals need to continue working diligently to protect our transboundary waters -- we thank them for their work. To fully investigate and develop protection measures such as this Resolution asks however, we need active Federal involvement on both sides of the border.

Our members responsibly harvest healthy wild salmon in front of three watersheds in question and take the issue of Southeast's water quality and transboundary mining impacts very seriously. United Southeast Alaska Gillnetters' mission is to serve, protect and enhance the commercial gillnet salmon fleet of southeast Alaska; we represent the interests of 473 permit holders, their families and their communities.

We ask you PASS THIS RESOLUTION to protect our fishery and way of life. Please let me know if you have any questions.

Thank you,

A handwritten signature in black ink that reads "Cynthia Wallesz". The signature is written in a cursive style with a large initial 'C' and a long, sweeping underline.

Cynthia Wallesz
Executive Director

Cc: Senator Lisa Murkowski



March 13, 2017

Representative Dan Ortiz
Alaska State House of Representatives
Alaska State Capitol, Rm. 513
Juneau, AK 99801

Re: House Joint Resolution 9

The Southeast Alaska Guides Organization (SEAGO) represents sportfishing guides, charter captains, and lodge owners throughout Southeast Alaska. SEAGO advocates for reasonable laws, regulations, and policies which ensure the long-term sustainability of our businesses and fishery resources. We write today to express SEAGO's support for House Joint Resolution 9 (HJR9), calling on the United States government to continue working with the Canadian government to investigate, mitigate, and prevent harmful transboundary effects of upstream Canadian mining and development.

Southeast guided sportfishing businesses depend on clean water and healthy wild fish. These businesses serve anglers from around the world travelling specifically to participate in fisheries fed by the Taku, Stikine, and Unuk Rivers. Both developed and proposed mines at the headwaters of these rivers put major river systems at long-term risk from a combination of acid mine drainage, toxic sediments, heavy metals, and other pollutants. The devastating failure of British Columbia's Mount Polley tailings dam serves as an example of the risks posed by these mines. It likewise demonstrates a lack of existing policies and practices to prevent, mitigate, or provide restitution for such occurrences.

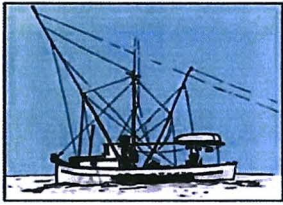
As with other marine tourism industries, guided sport fishing puts millions of dollars into Southeast economies and creates hundreds of jobs. Clients, businesses, and employees frequent local businesses, and spend money on vehicles, gas, fishing supplies, fishing licenses, and fish stamps. Southeast Alaska cannot afford to endanger its fishing and tourism industries by ignoring risks to its waters.

The State of Alaska and the Province of British Columbia have already entered cooperative agreements to discuss the protection of our shared waterways. HJR 9 is a vital appeal to our federal government to take firm action in support of State efforts to safeguard our natural resources and businesses. As such, SEAGO respectfully requests that the Legislature move HJR 9 forward.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Weinstein", written over a horizontal line.

Samantha Weinstein
Executive Director, SEAGO
samantha@seagoalaska.org



Alaska Trollers Association

130 Seward #205
Juneau, AK 99801
(907)586-9400 phone
(907) 586-4473 fax
ata@gci.net

March 14, 2017

Representative Louise Stutes, Chair
House Fisheries Committee
Alaska Legislature
Juneau, AK 99811

Dear Representative Stutes and Committee Members:

Thank you for hosting a hearing on Transboundary River mining issues. Alaska Trollers Association (ATA) supports HJR 9, which encourages the United States to engage Canada to find meaningful ways to protect transboundary watersheds from degradation and secure the interests of Alaska and other stakeholders who would be harmed as a result of catastrophic events stemming from mining and other development. This matter is of significant importance to our members and the many Southeast residents who rely on an abundance of healthy fish, wildlife, and plants for their livelihoods and sustenance. Regrettably, I am unable to attend the hearing, so offer the following for your consideration and review.

ATA has been involved in Transboundary (TBR) mining issues for several decades, starting with the Tulsequah Chief mine in the Taku River watershed; the mine has been defunct since the 1950's. Various mining companies have attempted to reopen the mine, but many of the proposals for the mine and associated in-river transport of equipment, fuel, and ore were unrealistic given the topography of the area and morphology of the river; concepts presented would have put our fisheries at significant risk. In the years since mine closure, the site has leaked acid waste into the watershed and very little effort has been made to assess the impacts on the watershed. The most recent mine operator, Chieftain Metals, set up a water treatment plant, but as is so often the case, market conditions changed and the company gave up its plans for the project. Chieftain Metals is currently in receivership. As a result, any headway made on water treatment has fallen by the wayside. British Columbia officials have said that the province will take over site remediation and we hope they will make good on that commitment. However, recent media statements lead us to wonder if clean up might only be initiated if it is proven that harm has been done.¹ Time will tell.

To give you a sense of the types of concerns we have about development in the transboundary watershed I've attached a few of our association's comments covering various TBR mining topics. Included is an overview of the larger mining projects slated for the TBR region and a letter from Carol Bellringer, British Columbia's auditor general, introducing a report highlighting program deficiencies and concerns revealed during last year's audit of the mining program. One statement was particularly troubling, *'[w]e found almost every one of our expectations for a robust compliance and enforcement program ... were not met.'*²

As we all know, accidents happen. The Mount Polley tailings dam breach provided a stark reminder of this at a smaller scale mine. But what if the same situation erupts at a mine six times (or more) the size of Mt. Polley,^{3,4,5}

¹ <http://juneauempire.com/news/2017-03-05/toxic-water-leaches-prime-alaska-canada-salmon-habitat>

² [B.C. Auditor General Report](#)

³ <http://www.mining.com/web/mount-polley-mine-disaster-followed-years-of-permit-delays-report/>

⁴ <https://www.mountpolleyreviewpanel.ca/>

⁵ <http://www2.gov.bc.ca/gov/content/environment/air-land-water/spills-environmental-emergencies/spill-incidents/past-spill-incidents/mt-polley>

like the Kerr-Sulphurets Mitchell (KSM)? The KSM mine is located in the Unuk River watershed. Recently, Southeast fishermen have been conservatively managed to help boost production of Unuk River king salmon. This year closures to protect fish from the Unuk and several other transboundary rivers will be the most punitive experienced in the last 40 years. In the case of our fleet, those management actions extend dozens of miles from the river itself and make our spring king fisheries extremely challenging. All user groups will be restricted in hopes of increasing productivity, which appears to have dropped more as a result of changing ocean conditions than fishing. This makes inriver habitat even more important to the long term health of fish stocks.

What happens if discharges or activity from mine development at KSM, or the other mines, negatively impact water quality, spawning and rearing areas, or the health of juvenile fish? KSM's mine is on the Unuk River and its two '1000 year' tailings dams are slated for the Nass River. Under the Pacific Salmon Treaty, fishermen in Southeast Alaska and Northern British Columbia are directly managed for salmon that come from the Nass River.

The KSM mine is anticipated to produce 130 tons of ore per day for more than 50 years and could involve chipping away a portion of a glacier. Despite its largess, British Columbia denied requests to conduct Canada's most rigorous review prior to permitting the KSM mine. It is difficult to imagine how much bigger a project would have to be to garner this seemingly appropriate review.

The reach of just the KSM mine will be extensive and there are many other large and mid-range mines planned for the region. The cumulative impacts could be immense. If there are accidents, who will pay? There is nothing to force British Columbia or the government of Canada to do so. Can Alaska afford to step up and mitigate habitat damage? What about the direct loss of fishing and hunting opportunity, or the broad scale community harms that could result from degraded habitat or a mining accident affecting water quality or fish and wildlife resources? Monitoring, enforcement, and liability questions have not been addressed in any way and, according to both state and provincial officials; this will take federal action to resolve and finance. This is why ATA supports HJR 9.

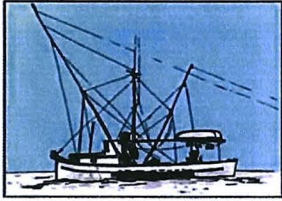
For the good of our region and the state, Alaska must officially call on the State Department and other federal agencies to engage the Canadian government on this matter. Getting ahead of this issue is critical and time is of the essence. Establishing clear lines of responsibility and a plan of action will not only be of benefit to Alaska residents if there is an accident, it will also help maintain relationships with the province should things go awry.

It is encouraging that your committee is taking an active interest in this issue. You have a solid list of speakers and I hope the hearing is enlightening and provides information and ideas to help define the path forward. If there is anything ATA can do to assist you as a committee, or individually, please don't hesitate to contact me.

Best regards,



Dale Kelley
Executive Director



Alaska Trollers Association

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(907)586-9400 phone
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ata@gci.net

August 15, 2016

The Honorable Lisa Murkowski
709 Hart Senate Office Building
Washington, DC 20510

Dear Senator Murkowski:

Thank you for all that you are doing to assist commercial fishermen and other interests who are concerned about Canadian mine development in transboundary watersheds that flow into Southeast Alaska. We appreciate that the delegation has gone to great lengths to encourage the Department of State (DOS) to formally raise this matter with Canada and help the two countries find mechanisms to protect our shared watersheds and the region's stakeholders. Alaska Trollers Association (ATA) believes that essential elements include legally binding financial assurances and third-party project reviews. I am writing to reiterate our concerns about British Columbia's mining program in our shared watersheds and to urge you to continue your efforts to persuade Secretary Kerry to engage with Canada on this matter.

As you know, the introduction of electrical power to the region has spurred exploration and development of no less than ten large-scale mines along the border between Southeast Alaska and British Columbia. This area is quickly transforming into one of the biggest mining districts the world has ever seen. These mines are in various stages of approval and start-up and positioned along watersheds that house salmon stocks of significant importance to both Alaska and British Columbia. Most of these stocks, and the fisheries that harvest them, are subjected to protective provisions of the Pacific Salmon Treaty.

The Taku, Stikine, Unuk, and the Nass rivers provide tens of thousands of salmon and other varieties of fish and wildlife each year. Fishermen are concerned about the heightened risks posed to these systems by large mines, whether to rivers, tributaries, and streamside habitat or glaciers which provide important nutrients and cool water. Each of the operations envisioned has the potential to negatively impact valuable fisheries resources and local foods, at significant financial and social cost to Alaska residents, businesses, and communities.

ATA represents commercial salmon trollers who operate in state and federal waters from Dixon Entrance to Cape Suckling. There are currently 1,938 active troll permits, 86% of them owned by Alaskans primarily living and working in Southeast communities. Trollers make up the largest resident Alaska fleet. On average, 1,100 hand and power trollers and their deckhands make deliveries each year; roughly 1 of every 35 people in Southeast works on a troll boat. Like all southeast salmon fishermen, trollers are highly reliant on fish that spawn and rear in, or near, Transboundary Rivers. In 2013, trollers landed 28 million pounds of salmon valued at over \$41 million, which directly put over \$837K in fisheries business tax into Alaska's general fund and communities, in addition to helping fuel a broad network of support businesses. Many trollers also harvest halibut, cod, and shellfish, which all rely on the watersheds impacted by transboundary mining. Trollers pay to help finance the region's hatchery programs, which provide salmon for all user groups; these fish also depend on the availability of clean water and rearing areas. Many troll permit holders are part owners of a seafood processing cooperative, freeze their catch at sea, or direct market their products, which means a separate level

of reliance on healthy watersheds.^{6 7}

The seafood industry is critical to the economic health of Southeast Alaska and includes thousands of other fishermen and support sector businesses. In 2013 and 2014, more than 12,000 people were directly employed harvesting, processing, or working at hatchery facilities. All total, 291 million pounds of seafood, valued at \$260 million, was harvested in 2014 by Southeast fishermen, where nine communities typically number among the nation's top ranked fishing ports for volume and/or value – three (Sitka, Ketchikan, Petersburg) consistently in the Top 20. In 2014, Juneau ranked 51st and Wrangell 75th. Across the region 54 shorebased operations processed 235 million pounds of seafood in 2014, with a first wholesale value of \$520 million. In addition, thousands of recreational, personal use and subsistence fishermen harvest fish each year; and, many residents also hunt and gather local foods.^{8 9}

The State of Alaska is currently negotiating a Statement of Cooperation (SOC) with British Columbia, which involves a number of cooperative programs and initiatives. In a January 21, 2016 letter to transboundary river stakeholders regarding the draft agreement, Lt. Governor Byron Mallott indicated that Alaska does not intend to spend any money in support of its terms. The state is also limited in its ability to compel implementation of protective mechanisms or hold either British Columbia or Canada liable for mitigating losses, because, “...*the State of Alaska does not have the authority to enter into a binding agreement with a foreign nation.*” The state obviously does not have the financial wherewithal to undertake the monitoring programs necessary to assess impacts from the mines, much less clean up and mitigate any potential damage.

It is unlikely that British Columbia will be in any better position to deal with significant problems given that in March 2016, the Crown Contaminated Site Program indicated that the cost to the government to clean up abandoned, contaminated mines currently stands at over half a billion dollars (\$508 million).¹⁰ This is more than 200% more than estimated in 2006 and a \$224 million increase in just two years. Of 84 mines identified since 2003, only 18 have been remediated. 16 more are in progress with the remaining 48 triaged as low priority, but only because they aren't thought to pose an immediate risk to human health. The Britannia Mine, a copper producer north of Vancouver has so far cost the tax payers \$64 million. One year after the Mount Polley mine tailings breach the Provincial government reported \$6 million spent. Imperial Metals claimed to have spent \$67 million, though some evidence suggests the taxpayers subsidized over \$23 million of that amount.

Therefore, even if the state and province take action to boost cooperation at the border and implement enhanced monitoring programs, the United States government will still need to put into place agreements with Canada to ensure adequate environmental protections and indemnification of losses Alaska and its citizens could incur as a result of this mining activity. Given the size and scale of the development planned - in multiple critical habitat areas - and the value of fish and wildlife to our state and region, a multi-pronged approach is the only way to truly safeguard Alaska's interests as they relate to clean water and healthy resources.

British Columbia's Minister of Energy and Mines Bill Bennett has stated, “... *I would not foreclose or dismiss the future opportunity to involve the federal governments if they can help.*” ATA believes the federal governments can, and absolutely must, help.

The recent game-changing report from BC's Auditor General ¹¹ revealed that the Minister of Energy and Mines currently holds security deposits that are woefully insufficient to cover environmental costs to the province from

⁶ [2015 ADOR Annual Report](#)

⁷ [Commercial Fisheries Entry Commission](#)

⁸ [The Economic Value of Alaska's Seafood Industry, McDowell Group, December 2015.](#)

⁹ [Top Major Ports by Pounds ; Top Major Ports by Value](#)

¹⁰ [Crown Contaminated Sites Program Biennial Report, 2016.](#)

¹¹ [An Audit of Enforcement and Compliance of the Mining Sector, May 2016.](#)

unexpected mine pollution. The report probably underestimates the cost of a catastrophic event, since the \$2.1 billion deemed necessary to meet liabilities is unlikely to include remuneration for losses incurred by industries and local residents – much less Alaskans. Mount Polley residents are still waiting for their government to make things right. To make matters worse, a new report by the Union of British Columbia Indian Chiefs claims that the Ministry's unfunded liability grew from \$228 million in 2000 to \$1.3 billion in 2014. In the past, BC's Public Accounts used to tally net liabilities and report them to the public as a matter of course, but since 2015 the Ministry has failed to disclose these figures or the risks they pose to regional and national security.

This information, on the heels of the well-publicized Mt. Polley Mine breach, and as Red Chris begins production, adds gravity to the fact that it is not a matter of 'if' such an incident will occur, but 'when'. The Tulsequah Chief mine has been polluting the Taku River for close to 60 years and the BC government has done virtually nothing to remedy the situation. This makes fishermen dubious that any agreement lacking explicit and enforceable protections for Alaskans will adequately protect their interests.

The auditor general indicated that nearly all expectations for compliance and enforcement of the mining industry were, and remain, unmet. Further, she highlighted a ministerial culture of promoting mines over protections and an ongoing resistance to implement needed change. Establishing clear rules and commitments between the countries, the state, and province - long before we ever need them - will help protect both our interests and regional relationships in the event of a catastrophic incident.

At present, it is BC taxpayers who pay when mining companies pollute or declare bankruptcy and disappear from the scene. If mine-related pollution from one or more of the transboundary mines denigrates Alaska resources, will the BC government ask its taxpayers to make Alaskans whole? That seems highly unlikely, unless the federal government secures in advance, formal contracts binding Canada and BC to explicit and enforceable provisions. Any agreement must include fair compensation for the state and Alaska communities, businesses, and families.

Senator Murkowski, I recently returned from fishing in southern Southeast and meetings with fishermen in Sitka. Nearly everyone I spoke to listed BC mining in the transboundary area among the top tier of the potential long-term harms to our industry. ATA and its members recognize and appreciate the personal energy you are devoting to this important issue, yet we also know there is a long way to go to secure the interests of the state and its citizens. This is a financial issue - for Alaska as well as our fish and wildlife-reliant industries and communities. All eyes are firmly affixed on state and federal officials; we know Alaska can't prevent BC from mining, but there is an expectation that our elected officials will do everything in their power to ensure that our shared resources are protected and local businesses and families will be made whole in the event things go awry. Again, the efforts of the delegation are duly noted, and much appreciated. ATA anticipates the Walker Administration will work in tandem with you on next steps and we look forward to providing whatever support we can for those efforts.

It is ATA's hope that the delegation and state will build on your efforts to convince the Administration, Secretary Kerry and DOS that the U.S. and Canada must undertake diligent project reviews, like the IJC, and establish meaningful, enforceable rules and commitments to protect Alaska's interests and mitigate the region's losses that could occur as a result of development in transboundary watersheds.

Again, thank you for your staunch, personal support and energy on this matter. If I can be of assistance on this or other issues of concern to the seafood industry, please don't hesitate to contact me.

Best regards,

Dale Kelley
Executive Director

July 8, 2014

Commissioner Cora Campbell
1255 West 8th St.
P.O. Box 25526
Juneau, Alaska 99802-5526

Dear Cora:

Numerous groups and individuals in Southeast, including PVOA and ATA, have raised concerns about downstream fisheries and water quality impacts from existing and proposed mining projects in northwest British Columbia (BC). Many concerns have not been adequately addressed, particularly with regard to the proposed Kerr Sulphurets Mitchell Mine (KSM), slated for the headwaters of the Unuk River. We are hoping that the state will consider requesting a Panel Review of this project.

Canada provides for three levels of environmental review. In order of increasing rigorousness they are: Screening, Comprehensive, and Panel. KSM is currently undergoing a Comprehensive review, but there is some chance of elevating this to a Panel Review, particularly if it provides a way to better address Alaska concerns.

Although Alaska is involved in the KSM permitting workgroup, many of Alaska stakeholders' concerns have not been addressed, in part due to the nature of the permit review process Canada has selected. The Comprehensive Review process is fast, with tight deadlines and inadequate time to review and respond to proposals like KSM, which included over 35,000 pages of technical information. The Canadian permitting process has some significant differences when compared to Alaska's. For instance, it appears that many details, such as bonding, are not dealt with up front, but are instead negotiated by the agencies and the proponent after project approval.

Most importantly, the provincial and federal governments are under no obligation to address our concerns. A prime example where this is already been problematic for Alaska is the Tulsequah Chief mine, where Canada promised that longstanding acid mine drainage would be dealt with, yet it still continues.

Some of the unaddressed concerns about KSM include:

- Lack of bonding provisions for long-term water treatment, maintenance and monitoring of the tailings and waste rock dams, and any needed cleanup;
- Ensuring long-term stability of tailings and waste rock dams;
- Identification of the who and how's of clean up after accidents;
- Lack of adequate selenium treatment; and,
- The effects on the Nass River system from two tailings dams that could negatively impact salmon subject to the Pacific Salmon Treaty. These holding dams will have to be in place for perpetuity and the operator states the need 250 years of treatment and monitoring. Alaska's previous comments did not even address the issue of tailings, and conversations with DNR's Kyle Moselle indicate that he was unaware of the importance of the Nass River to Alaskan fishermen.

During the workgroup process Alaska obtained commitments from Canadian representatives to address water quantity issues, but it should be re-emphasized that Canada is currently under no legal obligation to follow through with any commitments made in the workgroup process. It might be wise for the state to more clearly document its concerns, and any commitments that were made, prior to the Canadian government permitting this project.

KSM and the slate of mining projects anticipated to be developed along the Alaska/BC border in the near term is of concern to many sectors of the public and industry in Southeast Alaska. We are working with commercial fishing, sport fishing, and tribal groups, as well as local businesses and environmental groups. We have taken our collective concerns to the AK congressional delegation, US federal agencies, and the International Joint Commission (IJC).

Fortunately, the delegation shares these concerns and has requested the State Department engage with Canada on the matter.

As mentioned above, one way for Alaska to help address local concerns, and also boost the delegations efforts, would be to more fully document the state's questions and concerns through a request for the enhanced Panel Review of the KSM mine proposal.

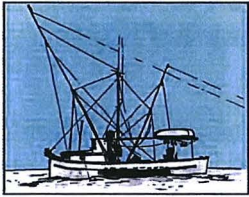
The Canadian federal review process for KSM is nearing its conclusion; a public comment period will begin on or about July 21. Given potential risks fish and wildlife and water quality on both sides of the border, and the concerns of Alaska stakeholders that stand to be affected by any negative impacts of the KSM mine, we respectfully ask that the State of Alaska submit comments and also request a Panel Review of the proposal.

Thank you for consideration of our request. We would be happy to meet with you and provide additional information or assistance.

Best regards,

Brian Lynch
Executive Director
Petersburg Vessel Owners Association

Dale Kelley
Executive Director
Alaska Trollers Association



Alaska Trollers Association

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ata@gci.net

October 21, 2013

Garrett Cooper, Project Manager
Canadian Environmental Assessment Agency
410-710 West Georgia Street
Vancouver, B.C. V7Y 1C6
Sent via email: KSM.Project@ceaa-acee.gc.ca

RE: Kerr-Sulphurets-Mitchell (KSM) Mine Proposal EIS

Dear Mr. Cooper:

The Alaska Trollers Association's (ATA) is concerned about the potential permitting of the large scale Kerr-Sulphurets-Mitchell Mine (KSM) in the Unuk River watershed. We offer these brief comments, but note that the comment period was far too short, and not well-timed, for those who could be negatively impacted by the KSM Mine.

ATA and other associations whose members may have concerns about this project had inadequate time to review the voluminous Environmental Assessment, because the comment period has been held during the heart of the fishing season. While hearings were conducted and obvious care was taken to discuss the project with select Canadian communities and tribal nations, there has been no outreach to the Alaskan fishing communities most likely to suffer the downstream effects of KSM mine.

ATA represents a fleet of commercial hook and line salmon fishermen who fish for Chinook, coho, and chum salmon off the coast of Southeast Alaska. There are over 2,000 troll permits and about half are fished each year. The Unuk River and its tributaries provide an important component of the season's harvest for our fleet and many others along the coast. The troll fleet is known for delivering fine quality salmon from nearly pristine watersheds. Our concerns with projects like KSM include protection of critical habitat and fish populations and market implications for Alaska seafood, which is widely recognized for its sustainability and wholesomeness. Healthy salmon equates to thousands of jobs each year for families in Alaska's coastal communities.

ATA works to sustain fisheries stocks and is an active participant in both state and federal resource management arenas and Pacific Salmon Treaty (Treaty) negotiations. The Treaty addresses issues relative to salmon stocks shared by fishermen from the US and Canada. Each country invests a tremendous amount of money and energy into protecting habitat, conducting research, and managing fisheries, domestically and under the auspices of the implementing body of the Treaty, the Pacific Salmon Commission. This commitment must be supported by sound habitat decisions, on each side of the border, to maintain a sustainable environment for fish and wildlife and those who live, work, and recreate in the region. Despite Unuk River stocks being subject to the Treaty, it appears that little work has been done to analyze the impact of KSM on these salmon or the fishermen that harvest them.

It is our understanding that the State of Alaska has been participating in a technical working group for at least one portion of the EA review, but to my knowledge this work has not yet been made available to the public. Our association's inability to muster the resources necessary to adequately analyze the full set of assessment documents, in addition to a short comment period, makes it exceedingly difficult to provide a proper set of comments.

It is shocking to think that a mine of this magnitude could sit at the headwaters of an important salmon watershed. At 130,000 tons of ore per day, for 55 or more years, this mine would dwarf the production seen at any of the mines we are familiar with in Alaska. To help put that into perspective, consider Green's Creek Mine near Juneau. The

recent expansion for tailings disposal made room for an additional 20 million tons of tailings and waste rock. This expansion is anticipated to increase the life of the mine by about 10 years. If I understand the proposal correctly, 20 million tons would take KSM contractors just 154 days to amass.

At the scale envisioned, the KSM mine is likely to have far reaching impacts. However, you also need to factor in the additive effect of related infrastructure and necessary land preparation. Couple that with the cumulative impacts of the numerous mine and development permits that are pending for the surrounding area. It's hard to imagine what all this will ultimately mean to the critical habitat that supports the region's bounty of fish. All anticipated and cumulative impacts must be analyzed.

KSM has detailed plans to carve up a portion of Mitchell Glacier should it not recede according to the mine's timeline. As fishermen, we see first-hand significant signs of climate change and, regardless the reasons, it's obvious that we are in a time of transition. Glaciers are crucial to the physical and biogeochemical make-up of our region's streams. Prompting early glacial recession and interfering with important nutrient, temperature, and water volume control mechanisms could have devastating effects on fish and wildlife populations.

A 1,000 year dam is envisioned for the containment of waste water from KSM, along with a treatment plan that will be needed for another 200 years after the mine is exhausted. Will this structure stay sound and withstand significant geophysical events? If the system design fails at one or multiple stages, is there a detailed back up plan to handle the sheer volume of water that KSM intends to process and store each day? Are there robust risk analyses and substantial liability coverage planned for treatment plants and the dam? What happens after 200 years?

History shows that mines change hands frequently and clean-up issues haunt most, if not all, states and countries that have permitted acidic mines of this scale. Who will be responsible for securing this site over time? Who is liable for future problems? Is there significant bonding attached to the project, or will Canadian's and Alaskan's be left holding the bag in the end?

Our members have far more questions than time to seek answers. So, setting environmental risk aside, why is this mine needed? It's obvious that speculators are interested, but while forecasts suggest demand will grow and boost copper prices, this metal has always been subject to boom and bust cycles and appears to be down about 9.7% in the current calendar year. With several other large scale mines about to start up in China and elsewhere, will the production at KSM be profitable and sustain jobs over time?

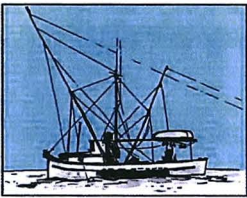
Many supporters point to substantial employment for communities near the mine. Alaskan's understand well the need for good paying jobs in small, often disconnected communities. What the caliber of KSM jobs will be is a question worth asking for Canadian's, since here in Alaska we've often find it difficult to find skilled labor locally and folks are brought in from outside. Again, we understand the quest for jobs, but urge you to also consider the array of possible outcomes that could result from the development envisioned here.

In Alaska, we rely on healthy salmon and other species of fish to fuel both our rural and urban communities. Commercial fishing is the largest private sector employer in Alaska. In Southeast Alaska there are well over 6,000 permit holders who provide revenue for the state, crew members and support sector businesses. Guided sportfishing contributes significantly to the jobs base, and sport fishing and subsistence/personal use fisheries are critical to Alaskan's sustenance and quality of life. Large scale development in sensitive terrestrial and marine habitats does not, on its face, seem conducive to productive ecosystems that feed our families and towns.

We encourage you to conduct a better analysis of downstream effects and more outreach with the affected public, no matter where they live, as you move forward in the decision process. It is our hope that the government of Canada will work closely with the State of Alaska and the United States government, to protect our natural resources and citizens of both countries from any ill-effects stemming from this project.

Best regards,

Dale Kelley
Executive Director



Alaska Trollers Association

130 Seward #205
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July 27, 2010

The Honorable Gordon Campbell PO Box 9041
Stn Prov Govt Victoria, BC V8W9E1 Fax 250 387-0087

Dear Premier Campbell:

It is Alaska Trollers Association's (ATA) understanding that the Trustees for Redfern Resources, Ltd. (Redfern) have requested a transfer of the Environmental Assessment Certificate MO2-01 for the Tulsequah Chief Project (Tulsequah) to Chieftain Metals (Chieftain).

Given the Transboundary nature of the Taku River watershed, and the significance of its bounty of fish and wildlife to both countries, we request that the Government of British Columbia postpone transfer of Certificate M02-01 to Chieftain, or any other potential buyer, pending a thorough review of both the company and the anticipated impacts of its plans to re-open the mine.

ATA has monitored the Tulsequah and participated in permitting and public hearings for many years. However, we were only recently advised of the pending transfer request. While it appears that the British Columbia Environmental Assessment Office is no longer soliciting comments on the transfer, ATA respectfully requests that this letter be incorporated into the record of decision.

The Alaska Trollers Association (ATA) represents commercial hook and line salmon fishermen in Alaska. The Taku River provides an important component of the season's harvest for our fleet and many others. As you know, Canadian fishermen also rely on salmon produced in the Taku River.

ATA is an active participant in both state and federal resource management arenas and Pacific Salmon Treaty negotiations relative to Transboundary Rivers. The US and Canada put a tremendous amount of money and energy into protecting habitat, researching salmon stocks, and managing fisheries, both domestically and under the auspices of the Pacific Salmon Commission. This commitment should be furthered through sound habitat decisions, on each side of the border, to maintain a sustainable environment for fish and wildlife and those who live, work, and recreate in the region.

Significant environmental, transportation, and financial questions have plagued the Tulsequah project. Most of those questions remain unresolved and are of concern to our members and fishermen of both countries, all who rely on a healthy and productive Taku River watershed.

The poor track record of previous Tulsequah contractors, along with an array of impractical and potentially harmful proposals, have heightened concerns about rejuvenating a large scale mine at the headwaters of the Taku River. Some of ATA's concerns include:

- Acidic mine drainage and metal leaching from the mine workings and waste materials is a longstanding problem that has yet to be resolved.
- Groundings of conventional barges and tugs have occurred under relatively good conditions, heightening concerns about industrial barging and potential harms to water quality and spawning and rearing habitat.
- There appears to be no body of research developing on changing climactic conditions we are

witnessing in the watershed, or how that could affect various transportation proposals.

- Sufficient bonding with assignment of liabilities, and an arm's length analysis of the company's emergency and mediation plans should be a matter of large concern to both countries. Does Chieftain have the financial wherewithal and commitment to adequately address, correct, and mitigate any damage done?

A series of letters from the state of Alaska and the US State Department was sent to the British Columbia Minister of the Environment and Environmental Assessment Office. To our knowledge, those letters have not yet been answered. ATA endorses those comments and would greatly appreciate receiving your responses when they become available. Additionally, we ask to be kept informed of your ongoing decision-making process. Hopefully those most affected will be given reasonable opportunities to weigh in. For the record, fishing season would not be considered reasonable to ATA.

In order to best serve the interests of residents on both sides of the border, ATA urges the government of British Columbia to work cooperatively with the State of Alaska and Taku River stakeholders on all outstanding issues and future proposals related to the Tulsequah. It is essential that a diligent review of Chieftain and its development and operational plans and anticipated impacts be part of that cooperative effort, before any permits are issued to a new Tulsequah contractor.

In conclusion, ATA requests your assistance to protect instream and shoreside habitat and water quality in the Taku River by using extreme caution when permitting mining or any other development activity in this vital watershed. Healthy and productive fisheries resources will continue to provide intrinsic value and economic opportunity for communities in both nations for many years to come.

If I can answer questions regarding ATA's position on this or other related issues, please don't hesitate to contact me.

Sincerely,

Dale Kelley
Executive Director

Testimony from Chris Zimmer, Rivers Without Borders, in support of HJR9

I am Chris Zimmer, Alaska Campaign Director for Rivers Without Borders. I have been working in Juneau on transboundary river issues for the past 16 years. I want to support HJR 9, CANADIAN MINES ON TRANSBOUNDARY RIVERS, and thank Representatives Ortiz, Kreiss-Tomkins, Tuck, Tarr, and Parish for sponsoring its introduction. Direct engagement between the U.S. and Canadian federal governments on this issue is absolutely necessary and long overdue.

I find it disappointing that such a resolution is needed. Commercial fishermen and local leaders began calling for federal intervention through the Boundary Waters Treaty (BWT) and the associated International Joint Commission (IJC) for the Taku watershed nearly 20 years ago. More recently, thousands of Alaskans, including leaders, fishermen and fishing groups, tribes, and citizens, have expressed a strong lack of confidence in the way mining is managed in northwest British Columbia (B.C.) and are demanding stronger measures to protect our water quality, salmon and jobs.¹ Poll results show strong public support in Alaska and B.C. for an international solution in the transboundary region and grave concerns about acid mine drainage and tailings dam disasters. Yet, neither the U.S. federal government nor the State of Alaska is supporting such a solution or working closely together. Given the significant threats to our water quality and fisheries posed by upstream development in B.C., why are leaders not using all available tools to protect Southeast Alaska's interests from a foreign threat?

1. Southeast Alaska Values at Risk

The Taku, Stikine and Unuk are world-class transboundary rivers that originate in northwest B.C. and flow into Southeast Alaska. The three watersheds span almost 30,000 square miles, an area roughly the size of Maine, and are the cultural and economic lifeblood of Southeast Alaska. The Taku is usually the most productive salmon river in Southeast Alaska, with the Stikine a close second and the Unuk a major producer of king salmon and eulachon.

Combined, the Taku, Stikine, and Unuk River Watersheds account for \$48 million in economic activity annually. This includes \$34 million in direct spending, 400 jobs, and almost \$20 million in labor income. With appropriate management, Southeast Alaska's transboundary watersheds can generate economic benefits in perpetuity. One measure of that perpetual benefit, the present value of the three watersheds combined, when considering a 30-year horizon, totals just under \$1 billion.²

These values are dependent on clean water, healthy salmon and game populations, and maintaining productive habitat. Alaska has generally been a good manager of our portions of transboundary rivers. But we need B.C. to do the same, which is not happening.

2. The Threats

At least ten large-scale open-pit and underground mines are in some stage of proposal, permitting or operation in the B.C. headwaters of or close to the transboundary Taku, Stikine and Unuk Rivers. And more mines are sure to come. These mines, during construction and operation and long after closure, pose threats to water quality, salmon and wildlife, and those who depend on these resources. Many will

¹ <http://www.salmonbeyondborders.org/resolutions--letters-of-support.html>

² [Economic Impact Analysis Southeast Alaska Transboundary Watersheds](#), McDowell Group, October 2016

have huge tailings dams to contain billions of tons of toxic tailings that will need monitoring, maintenance and water treatment in perpetuity, which is not provided for. After the tailing dam failure at the Mount Polley Mine, the design and performance of tailings dams is in question. There is no mechanism in place guaranteeing the long-term monitoring and maintenance of these tailing facilities. There is no mechanism for Alaskans to obtain compensation in the event of an industrial accident in B.C. damaging Alaska water quality, fish or customary and traditional interests.

Tens of thousands of Alaskans and a growing number of Canadians fear that the sheer scale and number of these mining projects will result in irreparable harm to our way of life, clean water, fisheries, culture, and jobs in these shared transboundary watersheds. And we have no enforceable way to address these threats.

3. B.C. Processes Inadequate

B.C., and to a large extent many Alaska and U.S. officials, believe the B.C. mine review and regulatory processes are adequate to protect Alaska's interests. However, the B.C. system is not designed to address the potential long-term threats to water quality, fisheries, wildlife and those who depend on these resources across the transboundary region. Regardless of how well they are implemented the B.C. processes cannot:

- Provide a mechanism or funds to ensure proper cleanup of events like the catastrophic 2014 Mount Polley mine tailings dam failure and compensation to people affected by such events;
- Ensure the federal Boundary Waters Treaty will be honored, specifically articles IV and IX;³
- Assess the long-term cumulative impacts from existing and future B.C. mining projects; or
- Fund and implement a robust monitoring and maintenance network to operate in perpetuity.

No matter how rigorous a process is on paper, the real test is how that process is carried out and what the real world results are. Some recent examples provide cause for concern:

- A 2016 [B.C. Auditor General's scathing review](#) of B.C.'s mine regulatory processes found, "almost every one of our expectations for a robust compliance and enforcement program within the [Ministry of Energy and Mines] and the [Ministry of Environment] were not met";⁴
- A [report by the Union of B.C. Indian Chiefs](#) found significant weaknesses in B.C.'s financial assurances regime for mine reclamation and noted an inadequate mine bonding process has resulted in \$1.3 billion in unfunded mine reclamation needs;⁵
- Recommendations made by the Mount Polley Expert Panel that reported on the failures leading up to the catastrophic tailings dam break at this mine in 2014 have not been implemented by the B.C. government. This is especially concerning given the [expert findings that tailings dam failures are increasing](#) in frequency and magnitude;⁶
- The abandoned Tulsequah Chief mine in the transboundary Taku watershed has been leaking acid mine drainage since 1957, without any significant efforts by B.C. to stop the pollution,

³ <http://www.ijc.org/en /BWT>

⁴ <http://www.B.C.auditor.com/pubs/2016/audit-compliance-and-enforcement-mining-sector>

⁵ https://d3n8a8pro7vhmx.cloudfront.net/uB.C.ic/pages/1290/attachments/original/1463347826/Toward_Financial_Responsibility.pdf

⁶ <https://www.mountpolleyreviewpanel.ca/> and REPORT ON "7" RECOMMENDATIONS TO THE B.C. GOVERNMENT RESULTING FROM THE MT POLLEY TAILINGS DAM FAILURE David M Chambers, Ph.D., P. Geop, Center for Science in Public Participation, August 15, 2016

which is in violation of the Canadian federal Fisheries Act, B.C. mine permits and an agreement with the Taku River Tlingit First Nation;

- B.C. permitted a hoverbarge access plan for the Tulsequah Chief despite strong opposition from Alaskans;
- The proposed Kerr-Sulphurets-Mitchell mine, one of the most ambitious open-pit mine projects ever attempted, was subject to only a screening level review and not a more rigorous panel level review, even after numerous requests to the Canadian federal government from the U.S. Environmental Protection Agency, Alaskan citizens and community leaders, and B.C. citizens for the most stringent environmental assessment of this project;
- The current mine plan allows Imperial Metals' Red Chris mine to use unsafe dam designs, which were specifically recommended against by the Mount Polley independent review; and
- There are no funds to compensate those harmed by a tailings dam failure, such as occurred at the Mount Polley mine in August 2014, or ongoing pollution, such as at the Tulsequah Chief.

4. Federal Engagement is Needed

There is an international border, several sovereign governments, and international treaties in play, thus this is inherently a federal issue. The BWT states “the waters herein defined as boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other.” The IJC—a body created by the BWT to resolve transboundary disputes—is tailor-made to provide a forum for Alaska and B.C. to examine whether current and proposed development in the transboundary region has the potential to violate Article IV. The BWT has productively guided U.S.-Canada cooperation and provided solutions to transboundary issues for over 100 years. In the example of Montana’s concerns about upstream coal mining in B.C., the state did not make progress until it joined with the U.S. federal government and engaged with Canada under the BWT.

There are extensive state/federal processes governing the harvest of fish in the region, such as the Pacific Salmon Treaty and the associated Pacific Salmon Commission but there is no similar entity or process designed to address mining and fish habitat issues across the broad international transboundary region; clearly, there is a need for one.

The size of the region, its value, and the threats posed to it are beyond the ability of the State of Alaska to address on its own with B.C. Alaska lacks the financial resources to engage in transboundary issues in the manner they deserve. DNR staff told the Taku River Task Force, established by the Juneau legislative delegation, on January 5, 2012, that DNR “does not have dedicated funding for Canadian mine project coordination.” Federal financial and human resources can be used to help defray some of the costs associated with transboundary watershed monitoring, assist in cumulative effects analyses, help identify best practices and best technologies, and outline dispute settlement and mitigation options.

Alaska and B.C. lack the authority and mechanisms to create an international system of financial assurances. In the wake of catastrophic tailings dam failure at Mount, it is essential that financial guarantees are developed that ensure losses to downstream U.S. interests are compensated in a disaster.

The IJC is the best mechanism to address transboundary concerns. However, whether or not this matter is referred to the IJC soon, we urge the State of Alaska to work directly with the U.S. federal government to engage B.C. and Canada in a process that would:

- Comprehensively address Alaska concerns about the short and long-term potential impacts of the B.C. mines, singly and in combination, on Alaskan downstream resources in a forum that gives Alaska “an equal seat at the table.” In other words, Alaska is allowed to make its concerns known as the downstream riparian state protected under Article IV of the BWT and not merely as part of B.C.’s environmental assessment processes;
- Ensure Best Available technologies and Practices are employed in the construction and operation of the mines;
- Fund and implement independent baseline water quality data collection and analyses;
- Fund and implement a system for long-term water quality monitoring;
- Create a financial assurances regime to ensure full clean up and full compensation to affected parties after a pollution event;
- Ensure adequate bonding prior to mine development;
- Meaningful inclusion of Indigenous governments on both sides of the border;
- Include increased opportunities for public hearings and general public involvement;
- Analysis by independent scientists of the long-term cumulative effects across the transboundary from B.C.’s mining activities; and
- Independent scientific analysis to determine if B.C. is carrying out its mining plans in a way that complies with the Boundary Waters Treaty.

5. State of Alaska and U.S. Federal Government Approaches Inherently Flawed

Despite a near-consensus in Southeast Alaska that federal engagement is needed and significant criticisms about why a State/Provincial approach cannot work on its own, the State of Alaska is focusing on a non-binding and unfunded Statement of Cooperation (SOC) signed with B.C. in October 2016 and has so far not specifically asked for federal engagement. The SOC is largely focused on more agency participation in the B.C. Environmental Assessment process, a process that is clearly flawed.

This is an international situation that warrants international agreements, consistent with the BWT, with enforceable protections for salmon, rivers, jobs, and ways of life. The development, management and protection of transboundary resources involve an international border and treaties that are beyond state and provincial authority and financial resources. The State/Provincial process cannot accomplish:

- A requirement for an assessment of the potential cumulative impacts from existing and proposed transboundary mining projects;
- The creation and funding of a monitoring and maintenance network to operate in perpetuity;
- Binding, enforceable measures such as the determination of a financial surety mechanism to guarantee any pollution is fully cleaned up and affected parties are compensated;
- The requirement and implementation of Best Available Practices and Technologies;
- A meaningful inclusion of Indigenous governments on both sides of the border; or
- Enhanced opportunities for public participation in both countries, including a meaningful “seat at the table” for decisions concerning development in shared watersheds.

While it is true that U.S. federal and Alaska state officials do participate in B.C. mine assessments, this engagement and the permitting, compliance, and enforcement process in B.C. are woefully inadequate to ensure that downstream water quality, fisheries and livelihoods of B.C. and Alaska residents are not harmed by B.C. mining activities. The bilateral U.S./Canada meetings, which occur twice per year, do not adequately address the numerous concerns across the broad transboundary region.

While we appreciate Lt. Governor Mallott's statements that the SOC does not prejudice the chance of IJC involvement, in fact that is what is happening. Letters from the State Department to Senator Sullivan and from Canadian Minister of Foreign Affairs Dion and Minister of Environment McKenna to MiningWatch Canada indicate federal agencies see this as a local issue for Alaska and B.C. to work out, in large part due to the SOC and to a lack of requests for federal engagement from the State of Alaska.

We strongly agree with Representative Ortiz's statement in a February 22 Juneau Empire oped, "a first order of business is for the state of Alaska to join with our congressional delegation, tribal governments, and tens of thousands of residents in asking the U.S. federal government to secure immediate and enforceable protections and financial assurances for Alaskans who depend on the rivers of Southeast."

6. A Combined State/Federal Approach is Needed

Common sense would indicate that we in Alaska are responsible for protecting our own interests, and we should not rely on B.C., Canada or B.C. mining companies. Instead of expecting/hoping that B.C. will do the right thing, we must obtain real guarantees, enforceable policies, and other binding commitments to ensure our resources will not be threatened by upstream development in B.C.

A coordinated state/federal approach, is reasonable, has the support of thousands of Alaskans, including businesses, fishermen, leaders, tribes and our congressional delegation, and will better respond to concerns than an approach based solely on the SOC. Without adequate funding and a binding regulatory mechanism, the SOC is reduced to a largely technical exercise that fails to protect many of our legitimate interests. Such an approach also reinforces the status quo, in which Alaska's only mechanism to engage with B.C. is via the B.C. mine review process, a process that is not designed to protect Alaska's downstream interests and which foregoes the use of the most powerful tools we have, the BWT and IJC. The State of Alaska's current approach means that the basis for Alaska to engage with B.C. is a short-term, voluntary, and unfunded agreement. We suggest that the basis for Alaska to engage with B.C. and Canada should be the Boundary Waters Treaty. Specifically, we urge the State of Alaska to:

- As soon as possible join with the Alaska and Washington State congressional delegations and explicitly urge the U.S. State Department to as soon as possible use all possible measures to protect Alaska/U.S. interests in the transboundary region. The lack of this explicit request and the focus on the SOC is preventing State Department from making decisive asks of Canada.
- Urge the U.S. State Department to as soon as possible formally communicate with Canada the desire to invoke the Boundary Waters Treaty in the transboundary region.

7. Recommended Revisions to HJR9

We have three specific suggestions to strengthen the resolution:

- Revise line 14 on page 1 with the following language in italics: "WHEREAS proposed and operating mines in the transboundary area include, *but are not limited to...*"
- In lines 23-25 on page 2 the resolution should specifically reference the value of an IJC; and
- Add a second "Be It Resolved" to specifically urge the State of Alaska to formally ask the U.S. federal government for assistance and to support action under the BWT.

Thank you very much for sponsoring this important resolution and for this opportunity to testify in support of HJR9. Please contact me at Zimmer@riverswithoutborders.org if you have any questions.

March 14, 2017

State of Alaska
House of Representatives Fisheries Committee

Support for House Joint Resolution 9

I am writing to express my enthusiastic support for HJR9 which seeks cooperation between the United States and Canada to perform appropriate assessments of the risks to fisheries, water, wildlife, and people of ongoing mining development on transboundary rivers.

The transboundary rivers that drain to Southeast Alaska produce some of the most prolific salmon runs in the world. Commercial fisheries in Southeast Alaska, alone, currently generate well over 1 billion \$US of economic activity annually, requiring only minor investments in management, supplementation, and habitat protection. Much of this sustainable economic activity is garnered from harvest of species that rely critically on the healthy estuaries and rivers of this region. Intact salmon watersheds such as the transboundary rivers have become globally rare and only paralleled in scale, novelty, and productivity by systems such as Bristol Bay in southwest Alaska.

Erosion of environmental regulation in Canada during the last decade is enabling development within the transboundary watersheds of what would be the world's largest new mining district. This development is proceeding without credible scientific assessment of risks to ecosystems and economies of the region. There is no legitimate excuse for this oversight. The environmental and economic risks are potentially enormous and restoration from future impacts may not be possible within several human lifetimes. Proper assessment needs to be done before further development occurs.

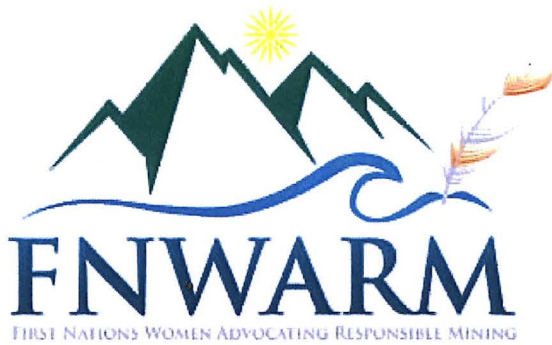
There is a long history of sound assessment and even-handed mediation between Canada and the US over trans-boundary environmental conflicts. For example, the actions of the International Joint Commission have always emphasized science based decision-making that encourages perspectives from Canada and the US to respond to emerging threats. It has been remarkably successful at guiding efforts such as the restoration of water quality in the Great Lakes.

I commend you for considering HJR9 as a first step towards seriously protecting the fisheries and waters of Southeast Alaska. Supporting this resolution would fall in line with Alaska's stellar history and global reputation for protecting and properly managing its fishery resources.

Sincerely,



Daniel E. Schindler
Professor, Aquatic and Fishery Sciences



13 March 2017

To: House of Representatives Fisheries Committee
c/o Caroline Hamp
Legislative Staff
Office of Rep. Ortiz
Caroline.Hamp@akleg.gov

Re: FNWARM support for Hearing for House Joint Resolution 9

To Whom It May Concern:

First Nations Women Advocating Responsible Mining (FNWARM) is an indigenous coalition of community-based leaders in British Columbia, Canada. Our work supports initiatives to reform unsafe mining practices and address laws that may cause harm to water, fisheries, and surrounding communities.

Transboundary mining issues between Alaska and British Columbia are of critical importance to us all, and must be addressed.

Therefore, FNWARM supports the House Joint Resolution #9:

HJR 9: Urging the United States government to continue to work with the government of Canada to investigate the long-term, region-wide downstream effects of proposed and existing industrial development and to develop measures to ensure that state resources are not harmed by upstream development in British Columbia.

We appreciate the work and leadership demonstrated by Alaskans on this critical issue. Please contact me if you require further information or support.

Sincerely,

A handwritten signature in black ink that reads 'Bev Sellars'. The signature is written in a cursive, flowing style.

Bev Sellars, FNWARM Chair
E-mail: bev.ann.sellars@gmail.com
Phone: 250-302-9134

March 14, 2017



Dear Alaska State Legislators,

Salmon Beyond Borders is a Juneau-based campaign driven by sport and commercial fishermen, community leaders, tourism and recreation business owners, and concerned citizens united across the Alaska/British Columbia border to defend and sustain the “transboundary” rivers—and the jobs and way of life dependent on them. For over three years, those of us involved with Salmon Beyond Borders have pushed for an international solution to the international situation of Canadian large-scale mining development in or near the headwaters of the Taku, Stikine and Unuk Rivers that originate in British Columbia (B.C.) and flow into Southeast Alaska. Thus, **Salmon Beyond Borders wholeheartedly supports House Joint Resolution 9 (HJR9)** that “urges the United States government to continue to work with the government of Canada...to develop measures to ensure that state resources are not harmed by upstream development in British Columbia.”

In the last several years, thousands of individual Alaskans, Alaska organizations and businesses, and Alaska municipalities, as well as the Alaska congressional delegation, have requested (multiple times) for the U.S. federal government to work with the Canadian federal government to take action under the U.S.-Canada Boundary Waters Treaty and develop enforceable protections and financial assurances to ensure Alaska downstream interests are not harmed by upstream Canadian mining development. Additionally, in a letter to Lieutenant Governor Byron Mallott on September 20, 2016, more than 6,000 Alaskans called on the State of Alaska to explicitly ask the U.S. federal government to engage in the evolving Alaska-B.C. transboundary rivers issue. Finally, the Alaska congressional delegation wrote in their May 12, 2016 letter to Secretary of State John Kerry: “...utilize all measures at your disposal to address this issue at the international level.”

It is now time for the Alaska State Legislature and the State of Alaska to join with Alaskans and the Alaska congressional delegation in calling on the U.S. federal government to stand up for U.S. jobs and resources under threat by upstream mining development in Canada. The Alaska-B.C. Statement of Cooperation on Protection of Transboundary Waters is a step but it cannot lead to binding protections and financial assurances that Alaskans want and need to protect our way of life.

Thank you for your consideration of our comments, and thank you for supporting HJR 9.

Sincerely,

Heather Hardcastle, Salmon Beyond Borders Campaign Director

From: tasha.elizarde@gmail.com

Subject: HJR 9 Testimony, Tasha Elizarde (Juneau)

Good afternoon,

My name is Tasha Elizarde and I am a high school senior from Juneau, submitting testimony supporting HJR9 on behalf of myself. I live in House District 33 (Rep. Kito) and Senate District P (Sen. Egan). I would like to start off by thanking you all for supporting HJR9. It is necessary that the U.S. government take the extra precautions needed to make sure our resources stay safe from outside economic excursions (e.g. transboundary mines) that will not benefit either the U.S. or the state of Alaska. Alaska's resources are undoubtedly vital to our state and its functions, and we need to make sure our resources are not hurt accidentally because Canada chooses to build a faulty mine. Canada has had problems with its projects before: in 2014, a dam from the Mt. Polley mine in British Columbia burst, releasing 6 billion gallons of waste into a nearby river. We do not want a similar accident to occur near Alaska, pushing waste into the rivers many Alaskan communities rely on for fishing. It's important our legislature take initiative now and show our Congress this is a problem that deserves to be addressed before it is too late.

Thank you again for supporting this resolution, in whatever capacity your office is supporting it. I hope to see the resolution pass the Alaska Legislature for our congressional delegation to see soon.

Tasha Elizarde

From: childrenofthetaku@gmail.com
Sent: Monday, March 27, 2017 10:40 AM
To: Caroline.Hamp@akleg.gov
Subject: HJR9

SAY NO, PROTECT TAKU

I am a Taku River Tlingit (TRT) woman from Atlin BC and I have lived my entire life in fear of “the mine” that might come to my home territory and cause disastrous impacts to my community and the surrounding environmental areas. Even as a young child, I lived with terror and unarticulated fury over the various investors that have come to capitalize off the Tulsequah Chief mine. First there was Redfern (later called Redcorp Ventures), and they went bankrupt – but the long and drawn out legal battles my First Nation became embroiled in was a tremendous financial sacrifice we have not yet recovered from. My people have never been able to breathe easy for long, because there is always a wolf at the door, attracted by the possibility of profit.

Chieftain Metals was the next company to try to re-open the mine, and they even went so far as to build a water treatment plant that could help with the acid drainage problem left by the original mining company six decades earlier, which stands in disuse now after Chieftain also went into receivership last year. My nation is opposed to the proposal of development in the Taku Watershed, which is the largest totally intact watershed on North America’s Pacific coast, and the region’s primary salmon producing river system. I am opposed as a TRT member, but I am not opposed to other forms of sustainable development in the area, possibilities related to tourism, or eco-friendly projects that are not designated to override the vulnerable populations and mandate of my nation.

I have watched the wolves at the door with increasing fear as I grew from childhood to adulthood and felt that my voice had been strangled from my throat, and this led me to become one of the founders of *Children of the Taku*, a small non-profit land protection society that was created to help give me the voice I need to advocate for the territory of my ancestors and our future generations. There will always be a big, dark shadow on the front door of my nation, sniffing around to find a way in to make money with a careless disregard for the environment around it. And I am not fooled by the BC government’s weak assurances and their misguided environmental studies – as a TRT woman who has watched from the sidelines while my land is parceled out to anyone holding a dollar sign, the BC government is smiling at the Taku River Tlingit people from under a big, shiny wolf skin.

Today, long after my grandparents and many elders from my nation have passed on after fighting the same battle I am now continuing, this issue remains contentious across borders and has stirred up a great deal of conflicting views. Despite the growing opposition, the big, bad wolf is still trying to close in on their prey, paving the way for new investors to set up shop at the Tulsequah Chief Mine site.

And I will be on the other side of the door, grimly pushing back with all my strength, drawing on the memories of my people before me and calling to action anyone who can help the Taku River Tlingit people keep the Taku Watershed from falling prey to the wolves at the door.

Chantelle Hart

Children of the Taku
Land Protection Society
(867) 668-4278
ChildrenoftheTaku@gmail.com

Petersburg enjoys a ranking as one of the top 20 commercial fishing ports in the Nation, and as such is acutely aware of and concerned about threats to our clean water and healthy fish stocks. We noted during the first convening of the Lt. Governor's Transboundary Working Group that large scale mining in Canada is of primary concern to us; however, it was recognized that numerous historical and small scale mining activity--both past and present--add to the potential cumulative impacts happening in B.C. and downstream.

As Mayor Jensen stated in a September, 2016 open letter to the Juneau Empire, Alaskans bear all of the risk and none of the economic benefits for the many large mine projects occurring just over our border. For we downstream users, impacts to our fisheries are potentially catastrophic.

Alaska not only lacks the authority to investigate and mitigate impacts that may occur on these transboundary rivers, whether from past, active or proposed activities, it also does not have the financial resources to do so. This is not of concern only to Alaskans, however. Users on both sides of the border, be they commercial, subsistence or recreational, all have a stake in maintaining healthy river systems and fisheries.

To that end, Petersburg Borough supports HJR 9 and encourages urgent attention and continued involvement of the United States government in ongoing work with the government of Canada to insure adequate monitoring, minimization of and mitigation of any downstream impacts resulting from existing and any new industrial development along our transboundary river systems. Clean water and healthy fisheries are our lifeblood, and our legacy for future generations of Alaskans and Canadians.

Thank you,

Cindi Lagoudakis

Vice-Mayor, Petersburg

Transboundary Mining and the risks associated to our citizens and our way of life is Central Council's priority. We continue advocating for our direct participation, for the need for a sustained environmental study of the transboundary ecosystem, for best practices in mine permitting and operations that is enforced for compliance and with strict liability and a fund for state responsibility. Central Council supports the enactment of HJR 9 as an important step towards full collaboration of all affected governments necessary to hold the province of British Columbia and Dominion of Canada accountable for their mining industry with transboundary effect.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard J. Peterson". The signature is fluid and cursive, with a long horizontal stroke at the end.

Richard J. Peterson
President

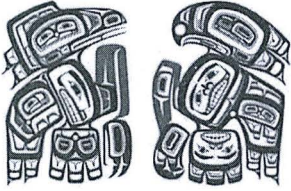
Central Council's advocacy for an effective agreement with the Province of British Columbia recalls the model proven successful in the Memorandums of Understanding between British Columbia and the State of Washington dated April 12, 1996, pursuant to the Environmental Cooperation Agreement of May 7, 1992, that established consultation and information sharing on environmental matters of mutual concern, and which specifically included tribal and First Nations rights and participation. Prior consultation and information sharing, in the context of free, prior and informed consent, as well as specific measures of coordination, cooperation, and consultation for tribes and First Nations must be included for any agreement to be effective. Central Council is the sole government collecting baseline water quality data on the major transboundary rivers in our region. Central Council has called upon the United States Environmental Protection Agency to fund a sustained environmental study of the transboundary ecosystem, including its watersheds, basins, acquirers and fisheries in order to establish an environmental baseline and key indicators for the ecosystem.

Central Council supports HJ9's call for international action on a federal level. Central Council has also called upon the US Department of State to provide for the participation of southeast Alaska tribes in relations with the Dominion of Canada and Provinces of British Columbia and Yukon on transboundary issues. The State of Alaska does not and cannot speak for tribal governments and cannot represent tribal interests in any agreements. There is no substitute for our direct participation.

The Province of British Columbia's Auditor General Report of May 2016 reported that provincial environmental standards and enforcement of mining development is significantly deficient and places their environment at risk of pollution and environmental catastrophe, such as the Mt Polley disaster of 2014. This risks Southeast Alaska's tourism and fishing industries, the largest percentage of the regional economy, which provides for the livelihoods for families and communities. The economic industries our communities depend upon must be protected.

The environmental degradation caused by the persistent discharge of pollutants at the Talsequah Chief mine, and the devastating 2014 Mt Polley tailings pond collapse, foreshadows a fraction of the catastrophe that would result from an accident at the much larger mines threatening southeast Alaska. Central Council is concerned that Draft Principles Allocating Loss Arising from Hazardous Activities not a part of the Statement of Cooperation. The State of Alaska must ensure that, in the event of a mining disaster, compensation is funded and is paid to the victims of transboundary damage that may well persist over many generations if not be irreparable. Central Council is petitioning the US and Canada governments to ensure the operator's strict liability and state responsibility by establishment of funds for this purpose. To date, British Columbia still has not established any such policy despite the evidence that watersheds and fisheries have already sustained significant damage.

Tlingit and Haida tribe's traditional ways of life of Alaskan Natives are at risk of extinction. Traditional language, culture, art, song, and dance have continued in our traditional territories occupied by our ancestors since time beyond memory. The generational trauma our communities now face with the threat of destruction of our way of life is real, and is manifest in socioeconomic affects in addition to pervasive illnesses that may be rooted in environmental pollutants.



CENTRAL COUNCIL
Tlingit and Haida Indian Tribes of Alaska
Edward K. Thomas Building
9097 Glacier Highway • Juneau, Alaska 99801

March 14, 2017

State Legislature
House Fisheries Committee
Room 120
4th Ave and Main Street
Juneau, AK 99801

Re: In Support of House Joint Resolution 9

Dear House Fishery Committee Members,

Central Council Tlingit and Haida Indian Tribes of Alaska is a federally recognized tribal government serving its tribal citizens who are primarily rural residents in Southeast Alaska, which is within the aboriginal territory of our Tlingit and Haida tribes. Tlingits and Haidas have been stewards of our land and waters since time immemorial. Our tribal citizens possess a right to our native foods, water, and cultural resources, and many continue to earn a living as commercial fishermen and other livelihoods that depend upon a healthy ecosystem. Protecting Southeast economies, cultures, and traditional ways of life in our traditional homeland from the potential of significant, adverse impacts of transboundary mining in British Columbia is essential and urgent to Central Council. We are grateful the committee is hearing House Joint Resolution 9. Central Council believes that the State of Alaska's Statement of Cooperation with the Province of British Columbia was an important first step, but does not adequately address our significant concerns, and does not protect the Central Council's or Alaskan's interests. We urge the committee to continue to monitor and discuss this controversy with all governments and stakeholders.

Central Council, therefore, supports House Joint Resolution 9 as an effective action to address transboundary concerns because 1) the Statement of Cooperation between the State of Alaska and Province of British Columbia does not provide a seat at the table for tribes or First Nations and, therefore, we are unable to formally represent our tribal interests, 2) the non-binding agreement provides no mechanism to ensure application of strict liability on mine owners and operators or state responsibility on the province of British Columbia for the effects of persistent pollution or impacts of catastrophic accident, which means the resident of southeast Alaskan shoulders the risk and burden of all the environmental risks, and results in externalizing the avoided cost of adequate environmental safeguards to us, and by this provides for windfall profits to these mine owners, and 3) violates the Boundary Waters Treaty of 1909 by permitting Canada to pollute the waters of the United States in southeast Alaska. Both Central Council and the State of Alaska has a duty to protect our citizens from existing and potential future risks inherent to transboundary mining development without adequate environmental safeguards.

HJR9 calls for international action on a federal level and therefore provides more opportunity for tribes to be included.

Alaska Bares All the Environmental Risks and Receives No Economic Benefits from Transboundary Mining

Central Council does not oppose resource development in Southeast Alaska. Mining is a significant contributor to our rural economies. However, transboundary mining poses no economic benefit to Alaskans. In fact, the permitting policies of British Columbia is a detriment to Alaskan opportunities for competitive investments.

Southeast Alaska's tourism and fishing industries provides for the livelihoods for families in the urban and rural communities in our region. The economic industries our communities depend upon must be protected. While the Canadian government may benefit, Alaska continues to carry the environmental risks associated with mines built and operating on relaxed permitting measures.

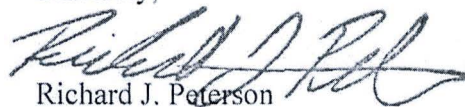
The State of Alaska has a Duty to Protect Citizens from the Potential Risks from Transboundary Development.

There are already significant examples of environmental degradation due to the mine permitting practices of British Columbia, as recent 2014 with the Mt Polley tailings dam failure. It is concerning to Central Council that draft "Principles Allocating Loss Arising from Hazardous Activities" is lacking within the Statement of Cooperation. Alaska must ensure that the compensation is paid to the victims of transboundary damage by activities on its territory. The governments must ensure the operator's liability and establish an additional fund, but British Columbia still has not established any policy despite the fact there has already been significant damage to watersheds.

As environmental degradation continues to happen in British Columbia mining cites such as Mt Polley and the Tulsequah Chief, the subsistence and traditional ways of life of Alaskan Natives and Canadian First Nations are at risk of extinction. Traditional language, culture, art, song, and dance were established on the traditional territories our ancestors inhabited since time immemorial. The trauma our societies face with the destruction of entire watersheds will be significant, and will manifest in the common socioeconomic effects of historical and colonial trauma.

Transboundary Mining and the risks associated to the land and our way of life will continue to be Central Council's priority. We will continue advocating on the need for sustainable mine permitting practices, build relationships with First Nations and other tribes facing transboundary issues, and urging our federal delegation and administration to hold British Columbia and Canada accountable.

Sincerely,



Richard J. Peterson
President



CENTRAL COUNCIL
Tlingit and Haida Indian Tribes of Alaska
Edward K. Thomas Building
9097 Glacier Highway • Juneau, Alaska 99801

March 14, 2017

Alaska State Legislature
House Fisheries Committee
Room 120
4th Ave and Main Street
Juneau, AK 99801

Re: In Support of House Joint Resolution 9

Dear House Fishery Committee Members,

Central Council Tlingit and Haida Indian Tribes of Alaska (Central Council) is a federally recognized tribal government that provides services to rural residents in Southeast Alaska, the ancestral territory of Tlingit and Haida nations whom we serve and represent. The Tlingit and Haida people have lived off these lands and waters since time immemorial, and many tribal citizens also earn a living as commercial fishermen and other water-dependent livelihoods. Protecting Southeast economies, cultures, and traditional ways of life in our traditional homeland from the negative impacts of transboundary mining is of the utmost importance to Central Council. I appreciate the committee hearing House Joint Resolution 9. Central Council believes that the State of Alaska's Statement of Cooperation with British Columbia does not address serious concerns of Alaskans' interest. We hope that this issue continues to be monitored and discussed with all governments and stakeholders.

We therefore support House Joint Resolution 9 as a way to enhance ongoing efforts to address transboundary mining concerns because 1) the Statement of Cooperation between Alaska and British Columbia does not include tribal governments in government to government negotiations and cannot speak for or protect tribal interests, 2) Alaskans bare all the environmental risks and no economic benefits from transboundary mining and 3) State of Alaska has a duty to protect citizens from potential risks such as transboundary environmental degradation.

Statement of Cooperation Between Alaska and British Columbia Does Not Include Tribal Governments and Cannot Speak for Tribal Interests

The State of Alaska's Statement of Cooperation doesn't include the beneficial processes proven successful in Memorandums of Understanding between British Columbia and the State of Washington. Prior consultation and information sharing, as well as specific measures of coordination, cooperation, and consultation for federal recognized tribes is not included. This is a significant detriment to the scientific study of transboundary watersheds, as Central Council is the sole government collecting baseline water quality data on the major transboundary rivers in our region. In addition, since the State of Alaska does not recognize tribal governments, the State does not speak for tribes and cannot provide neither opposition nor support on any agreements.



September 20, 2016

Dear Lt. Governor Mallott,

Included in this packet are the signatures of a diverse group of 6,000 Alaskans who, for the last two years, have together called for the strongest federal protections of the Taku, Stikine, and Unuk transboundary rivers, upon which their families and communities depend. As you know, these rivers are of the most productive in the State and contribute to the annual multi-billion dollar fishing and tourism industries of Southeast Alaska. In the face of detrimental mining-related impacts from large-scale Canadian mining projects, these 6,000 Alaskans rely upon your leadership to defend and protect the health and safety of Southeast Alaska's communities – and the globally significant fisheries these rivers support.

Below, please find a sample letter addressed to you and Senator Murkowski that thousands of Alaskans from across the political and economic spectrum have come together to sign:

-- Dear Lt. Governor Mallott and Senator Murkowski,

Like you, I am concerned about the threats posed by British Columbia mining at the headwaters of the Taku, Stikine and Unuk Rivers. Thank you for your ingenuity regarding this complex issue.

The current Statement of Cooperation (SOC) with British Columbia, although a step in the right direction, is not enough on its own to protect our rivers, salmon, jobs and culture. We demand enforceable protections – and we know that such protections can only be established between the United States and Canadian federal governments.

Please stand strong for Alaskan interests and work together with United States and Canadian officials to solve this issue and ensure our waters will be safe for generations to come.

Thank you, --

Please continue to defend what keeps Alaska strong and united – our salmon – by working with the federal government to obtain enforceable, funded protections for our rivers.

Regards,

SALMON BEYOND BORDERS, a campaign driven by sport and commercial fishermen, community leaders, tourism and recreation business owners and concerned citizens, in collaboration with Tribes and First Nations, united across the Alaska/British Columbia border to defend and sustain our transboundary rivers, jobs and way of life.



ALASKA MINERS
ASSOCIATION

121 W. FIREWEED SUITE 120 | ANCHORAGE, ALASKA | 99503 | 907.563.9229 | ALASKAMINERS.ORG

March 15, 2017

Representative Louise Stutes
Chair, House Fisheries Committee
State Capitol
Juneau, AK 99801

Re: HJR9 Canadian Mines on Transboundary Rivers

Dear Representative Stutes:

The Alaska Miners Association (AMA) writes to express comment on HJR9, "Urging the United States government to continue to work with the government of Canada to investigate the long-term, region-wide downstream effects of proposed and existing industrial development and to develop measures to ensure that state resources are not harmed by upstream development in British Columbia."

AMA is a non-profit membership organization established in 1939 to represent the mining industry in Alaska. We are composed of more than 1,400 members that come from eight statewide branches: Anchorage, Denali, Fairbanks, Haines, Juneau, Kenai, Ketchikan/Prince of Wales, and Nome. Our members include individual prospectors, geologists, engineers, vendors, suction dredge miners, small family mines, junior mining companies, and major mining companies. We look for and produce gold, silver, platinum, molybdenum, lead, zinc, copper, coal, limestone, sand and gravel, crushed stone, armor rock, and other materials.

Beginning in early 2015, Governor Walker appointed Lt. Governor Mallott to lead collaboration and stakeholder engagement between the State of Alaska and the Province of British Columbia regarding mining development on rivers the two jurisdictions share. This dialogue has resulted in the Memorandum of Understanding (MOU) and the Statement of Cooperation (SOC) agreed upon by both the State and Province, and technical work has already begun to further this collaboration. The State of Alaska and the Province of British Columbia are responsible for the management of resources in their jurisdictions, therefore, management by these entities is far more appropriate, and effective, than federal involvement as HJR9 urges. Staff at Alaska's regulatory agencies at the Departments of Fish and Game, Natural Resources, and Environmental Conservation have extensive technical expertise and familiarity with our environment, waters, fish, and wildlife. The Legislature should support their regulatory mission, and the efforts on behalf of the Lt. Governor, rather than encouraging federal intervention and potentially compromising the cooperative relationship formalized in the Alaska/British Columbia agreements.

We urge your Committee to amend this resolution to support the State of Alaska's efforts to protect state resources through continued collaboration with the Province of British Columbia through the terms of the MOU and SOC.

Thank you for the opportunity to comment.

Sincerely,



Deantha Crockett
Executive Director



Council of
Alaska Producers

**Comments on HJR9
Canadian Mines on Transboundary Rivers**

March 9, 2017

Representative Louise Stutes
Chair, House Fisheries Committee
State Capitol
Juneau, AK 99801

Dear Representative Stutes,

The Council of Alaska Producers (CAP) is writing to provide comments on HJR9 “Urging the United States government to continue to work with the government of Canada to investigate the long-term, region-wide downstream effects of proposed and existing industrial development and to develop measures to ensure that state resources are not harmed by upstream development in British Columbia.”

CAP is a non-profit trade association formed in 1992 and serves as a spokesperson for the large metal mines and major metal developmental projects in the state. Bringing together mining companies with interest in Alaska, the Council represents and informs members on legislative and regulatory issues, supports and advances the mining industry, educates members, the media, and the general public on mining related issues, and promotes economic opportunity and environmentally sound mining practices.

CAP supports collaboration and dialogue between the State of Alaska and the Province of British Columbia on mining development in British Columbia along rivers that flow from Canada into Alaska. This is the most appropriate means of ensuring that the interests of both jurisdictions and their citizens are understood and protected

For more than two years, Lt. Governor Mallott has shown great leadership in deepening the existing levels of communication and cooperation between the State of Alaska and the Province of British Columbia on this issue. This work has included an unprecedented level of outreach to stakeholder groups.

The 2015 Memorandum of Understanding and Cooperation between the State of Alaska and the Province of British Columbia and the 2016 Statement of Cooperation on Protection of Transboundary Waters are both the results of this effort and the starting point for greater collaboration between the province and the state. In fact, the technical work has already begun.

The State of Alaska and the Province of British Columbia are the jurisdictions responsible for managing natural resources under the laws of the United States and Canada, respectively. As such, the state and province are the appropriate governmental entities to address transboundary natural resource issues. Seeking federal involvement through the Treaty would be contrary to the primary jurisdiction of Alaska and British Columbia over natural resources and would unnecessarily burden the cooperative relationship formalized in the Memorandum of Understanding and the Statement of Cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read 'K. Matthias', with a stylized flourish at the end.

Karen Matthias
Executive Director