BC MINING LAW REFORM

A Plan of Action for Change

University of Victoria Environmental Law Centre

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Context

Mining has a long history in British Columbia, and it continues to play an important role in many BC communities. Mining can, however, also cause catastrophic and long-lasting impacts to fish, water, wildlife and human health. The industry can also impose massive economic liabilities on taxpayers if mining laws are not strong enough. Mines in BC need careful regulation to ensure that mining companies adopt sound environmental practices and pay for their pollution costs.

In recent years, it has become clear that BC's regulatory system for mining is in urgent need of comprehensive reform. A growing volume of evidence of systemic failures in the current system includes:

- The 2014 Mount Polley Mine disaster—which deposited an estimated **10 thousand Olympic-sized swimming pools-worth of mine waste** into one of the most productive salmon systems in the Fraser Watershed—and has resulted in zero fines or charges against the company;
- The Auditor General's devastating 2016 report that highlighted **critical systemic shortcomings in BC's compliance and enforcement system** for mining;
- Confirmation that **taxpayers are liable for more than $1 billion** in mine cleanup costs across BC;
- The discovery that **government did not inspect** a closed Jordan River mine for over 20 years—allowing the undetected ongoing destruction of a once-productive salmon river;
- Growing public awareness of the **devastating impact mining has on fisheries** in various BC watersheds, threatening entire aquatic ecosystems and Indigenous cultures;
- New research showing BC's **placer mining rules endanger rivers and streams**; and
- Growing discontent with **laws based on antiquated colonial thinking** that still prioritizes mining over other land uses and interests by authorizing prospectors to stake mining claims in environmentally sensitive areas, on private land without landowner permission, and in First Nations' traditional territories without their free, prior and informed consent.

The serious shortcomings of British Columbia's mining regulatory regime are now clearly established. These regulatory problems undermine public confidence in government's ability to protect the public interest and to ensure that companies pay the costs of their pollution. The time for reform is now—we cannot afford to wait while environmental and financial risks multiply.

The following set of recommendations for reform of BC's mining laws are intended to inform those who are concerned about mine impacts, and to spark discussion and debate about how to improve regulation of this industry. We hope that they serve as a resource to support these critical discussions and debates amongst Indigenous and non-Indigenous governments, the mining industry, community groups and environmental organizations.

Summary Recommendations

Environmental Assessment

1. **RECOMMENDATION: Fully implement and legislate A Blueprint for Revitalizing Environmental Assessment in British Columbia**

2. **RECOMMENDATION: Require environmental assessments for all mines; for mining exploration activities when requested by First Nations or local communities; and for major expansions of existing mines.**

3. **RECOMMENDATION: Implement regulations to ensure that the evidence in the environmental assessment process is balanced, objective, and thoroughly peer-reviewed; that funding for participants in environmental assessments is ample and stable; that needed Regional and Strategic Assessments are effectively implemented; and that perpetual-care costs are fully considered in the assessment of all mines.**

Mineral Tenure

4. **RECOMMENDATION: Adopt a discretionary mineral tenure regime that incorporates a broad suite of values and interests, and ensures that in issuing tenures, decision-makers:**
   - **Uphold Indigenous title, rights and interests;**
   - **Respect community and regional land-use designations and planning processes;**
   - **Consider the cumulative watershed impacts of industrial activities; whether lands are likely to be protected in the future; the track records of applicants; and other relevant factors.**

5. **RECOMMENDATION: Require landowner consent for mining activities on private property and enable landowners to place requirements on exploration or mining activities as conditions of their consent.**

6. **RECOMMENDATION: Require that mining exploration and development activities conform with Indigenous, local, and regional land-use plans and restrict mining activity where there is no such plan in place.**

7. **RECOMMENDATION: Enable (at the request of Indigenous or local governments) revocation of exploration and mineral development rights that are inconsistent with land-use plan designations.**

8. **RECOMMENDATION: Mandate "no-go zones" to protect all designated Old Growth Management Areas, Wildlife Habitat Areas, domestic-use watersheds, fisheries-sensitive watersheds, and other sensitive areas from mining activities.**

9. **RECOMMENDATION: Ensure that no mining or exploration activities can be approved without the free, prior, and informed consent of affected Indigenous peoples.**

Indigenous Governance & Mining

10. **RECOMMENDATION: Ensure that no mineral tenuring, mining exploration, siting, or other activities occur without the free, prior, and informed consent of affected Indigenous communities.**

11. **RECOMMENDATION: Establish consent-based government-to-government processes for determining the appropriateness of specific locations for mineral development *prior* to environmental assessment.**

12. **RECOMMENDATION: Establish government-to-government relationships for seeking, evaluating and earning the continued consent of First Nations governments for any mining activities, including staking claims, within their traditional territories.**

13. **RECOMMENDATION: Co-develop processes with Indigenous Nations to seek agreement on ecological standards, watershed plans, cumulative watershed assessments, and community-based monitoring for their territories.**

14. **RECOMMENDATION: Pursuant to government-to-government agreements, establish legally enforceable ecological and social standards or targets for each watershed or traditional territory based on the Indigenous Nations' priorities, knowledge and values.**

15. **RECOMMENDATION: Embed those standards in watershed plans, cumulative watershed assessments, and provincial laws, orders, permits and approvals.**

16. **RECOMMENDATION: Enable Indigenous Nations to undertake comprehensive watershed planning that includes zoning, land and water use parameters, connected protected areas, and no go and buffer zones.**

17. **RECOMMENDATION: Adopt Indigenous Nations' watershed plans into operating agreements and the provincial regulatory regime to ensure that mining and other natural resource activities are only approved if they align with these plans.**

18. **RECOMMENDATION: Create provisions in provincial law to retire mineral rights if they are inconsistent with Indigenous Nations' land use plan designations.**

19. **RECOMMENDATION: Partner with Indigenous Nations to create joint assessment and monitoring procedures and forums that generate standards for data and a venue for ongoing adaptive management of traditional territories.**

20. **RECOMMENDATION: Ensure that BC's new Environmental Assessment regime, regulations and approach include scoping for all new proposed activities and cumulative environmental and social impact of all activities in a watershed—so that parties can evaluate both the project-specific incremental effects and cumulative load on the watershed.**

21. **RECOMMENDATION: Link cumulative effects' assessments to land use plans and ecological standards for Indigenous Nations' territories so projects will be rejected at the outset if they would offend established watershed zoning and standards.**

22. RECOMMENDATION: Establish and fund Indigenous-led community-based watershed monitoring programs through government-to-government agreements.

23. RECOMMENDATION: Develop data collection protocols and train community-based monitoring staff so that data generated locally can be used for management, governance, and statutory decision making.

Waste Disposal & Management

24. RECOMMENDATION: Establish a comprehensive plan to safely retire at least 60 active mine tailings dams, as recommended by government's Expert Panel.

25. RECOMMENDATION: Prohibit wet tailings impoundment unless it can be demonstrated through a risk assessment process that wet tailings impoundment poses less long-term risk (environmental, financial, and public safety) than a dry tailings approach.

26. RECOMMENDATION: Where wet tailings impoundments are in use, require dry closure (e.g. draining) when mining operations cease—unless it can be demonstrated through a risk assessment process that long-term maintenance of a wet tailings impoundment poses less risk (environmental, financial, and public safety).

27. RECOMMENDATION: Ensure that public safety, environmental safety, and economic safety are the determinative factors in governing what tailings disposal system will be implemented.

28. **RECOMMENDATION: Require that financial feasibility studies conducted for proposed mines and waste disposal systems take into account the full long-term life cycle costs of facilities—and include externalities such as long-term costs/risks to the environment, industry and taxpayers, and public safety.**

29. **RECOMMENDATION: Require and apply the strictest and most rigorous standards when tailings dams are unavoidable.**

30. **RECOMMENDATION: Require that all mines in BC comply with the IRMA standards, or better, for Waste and Materials Management.**

31. **RECOMMENDATION: Prohibit disposal of mining wastes into rivers, lakes and oceans.**

Closure, Reclamation & Abandoned Mines

32. **RECOMMENDATION: Require that companies provide full security for independently reviewed reclamation costs before permits are issued to begin mining operations. For existing mines, require full security for reclamation costs within two years.**

33. **RECOMMENDATION: Enact measurable and enforceable reclamation criteria that meet or exceed the international standards set in IRMA's Standard for Responsible Mining.**

34. **RECOMMENDATION: Ensure timely independent review of the adequacy of site reclamation and regular public reporting of review findings.**

35. **RECOMMENDATION: Require at least annual inspection of all closed mines for geotechnical issues, ground and surface water contamination and revegetation.**

36. **RECOMMENDATION: Require and support local and stakeholder engagement on the content of mine closure and reclamation plans, including proposed changes to those plans and the monitoring of their effectiveness.**

37. **RECOMMENDATION: Establish a rehabilitation fund for old polluting mines that active mining companies contribute to proportionally, based on the relative size of their total cleanup and reclamation liabilities.**

Water Protection

38. **RECOMMENDATION: Adopt the *IRMA Standard for Responsible Mining* water management standards as minimum requirements in BC's mining laws, including full consultation with communities and stakeholders on critical water-related issues, with third party independent reviews.**

39. **RECOMMENDATION: Prohibit mines that are likely to require perpetual water treatment unless the mine meets the exceptional circumstances set out in the *IRMA Standard for Responsible Mining*.**

40. **RECOMMENDATION: Strengthen mining exploration rules to protect water.**

Monitoring & Enforcement

41. **RECOMMENDATION: Establish an independent mining compliance and enforcement unit outside the jurisdiction of the Ministry of Energy, Mines and Petroleum Resources with a mandate to protect the environment.**

42. **RECOMMENDATION: Require regular public posting of all mine environmental monitoring data and compliance and enforcement information in easily understandable formats.**

43. **RECOMMENDATION: Require that the responsible minister(s) provide written reasons for decisions to deny or approve mining activities.**

44. **RECOMMENDATION: Ensure sufficient resources, staff and expertise to effectively enforce the law at BC mines.**

45. **RECOMMENDATION: Implement a funding mechanism that ensures mining companies contribute their fair share towards a robust monitoring and enforcement regime.**

46. **RECOMMENDATION: Mandate clear risk-based inspection policies for all mines (including closed and abandoned mines) – and legislate mandatory minimum inspection schedules and standards that meet or exceed international best practices.**

47. **RECOMMENDATION: Develop policies, procedures, and tools to systematically track compliance with regulations, permit conditions, environmental assessment certificate conditions and other regulatory requirements.**

48. **RECOMMENDATION: Establish a modern, progressive regime of fines and penalties to deter illegal and environmentally damaging mining practices.**

49. **RECOMMENDATION: Mandate cumulative fines for repeat non-compliance, a prohibition on future authorizations for serial offenders, and daily fines for continuing offences.**

50. **RECOMMENDATION: Enable and fund Indigenous-led monitoring and enforcement programs for mining activities.**

51. **RECOMMENDATION: Require the establishment of citizens' advisory councils for proposed and existing mining projects; and empower the councils to develop, implement, and monitor long term health, safety and environmental plans.**

52. **RECOMMENDATION: Enact robust whistleblower protections to protect private sector whistleblowers, including mineworkers, contractors and others who report unlawful or unethical actions that endanger public health, safety, and the environment.**

53. **RECOMMENDATION: Enable private prosecutions and/or enact citizen suit provisions for environmental violations.**

Placer Mining

54. **RECOMMENDATION: Enact a clear minimum riparian setback requirement of at least 30 metres for any placer mining activities.**

55. **RECOMMENDATION: Ensure placer mining development proceeds only if it has the free, prior and informed consent of affected First Nations.**

56. **RECOMMENDATION: Require environmental assessments for proposed placer mining operations, including the assessment of cumulative impacts of multiple placer mines within the same watershed.**

57. **RECOMMENDATION: Require effective monitoring, inspection, enforcement, and reporting for placer mining, including:**
    - **government tracking of mercury and other placer-related contaminants in BC's placer-mined watersheds;**
    - **annual inspections of all operating placer mines, and biennial inspections of closed mines until reclamation is complete and independently verified;**
    - **increased penalties to deter illegal practices, including escalating penalties for repeat offenders;**
    - **the collection and annual publication of relevant placer mining statistics, such as number and location of mines permitted, production volumes, reclamation and closure costs, the number of inspections and inspection results, and enforcement actions taken.**

58. **RECOMMENDATION: Remove the Chief Inspector's discretion over security requirements and require that all placer mines post full security that is based on defensible and independently verified calculations.**

59. **RECOMMENDATION: Repeal section 3(c)(i) of the *Placer Mining Waste Control Regulation* to give the Atlin region the same minimum protections from placer mining that the rest of the province enjoys.**

60. RECOMMENDATION: Require assessment of the sedimentation and toxic chemical profile of BC watersheds where placer mining has occurred and designate areas where levels are below provincial health standards 'off-limits' to placer mining until a remediation plan is in place.

61. RECOMMENDATION: Develop strong rules to control the specific impacts of jade mining, including large boulder removal from streambeds and riparian areas.

Polluter Pays

62. RECOMMENDATION: Require mining companies to provide security for 100% of independently verified cleanup and reclamation cost estimates before operations begin.

63. RECOMMENDATION: Protect against the premature return of securities by mandating holdbacks and providing for public input and appeal opportunities for security release decisions.

64. RECOMMENDATION: Mandate regular public disclosure of the estimated liability and corresponding security amounts held by the province for each mine in BC.

65. RECOMMENDATION: Require that mining companies carry private insurance to fully cover the cost of unplanned but probabilistic events like tailings spills (i.e. beyond required securities for predicted cleanup and reclamation costs).

66. RECOMMENDATION: Establish a pooled industry fund to cover the costs of disasters that private insurers won't cover.

67. **RECOMMENDATION: Establish an independent claims process to adjudicate disputes over third-party compensation for mine pollution impacts.**

68. **RECOMMENDATION: Expand the civil liability of mining companies to ensure that they pay the full cost of their pollution by:**
    - **Liberalizing the rules on legal standing to enable citizens to bring public nuisance cases without having to prove a personal, proprietary or pecuniary interest, or special damage—and without needing permission from the Attorney General; and**
    - **Enabling "citizen suits" where individuals can sue companies civilly to compel compliance from polluters who are violating the law—and can sue government bodies directly for failing to perform their statutory duties to protect the environment.**

69. **RECOMMENDATION: Revise pollution discharge fees so that they are defensibly proportionate to the environmental impacts and ecosystem costs associated with the discharge of specific pollutants.**

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Note: the content and the recommendations of the following briefs do not necessarily reflect the position or opinion of each individual, organization, or funder listed above.

BC MINING LAW REFORM

A note about Environmental Assessment

University of Victoria Environmental Law Centre

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Strong environmental assessment laws are essential in order to protect the environment from mining.

The original draft of this publication contained a section on environmental assessment, which incorporated *A Blueprint for Revitalizing Environmental Assessment in British Columbia*—a joint policy statement issued by the Environmental Law Centre, West Coast Environmental Law, Ecojustice and Pacific Centre for Environmental Law and Litigation.

The *Blueprint* called for the new law to include the following components:

- BC's assessment regime establishes and meets substantive sustainability objectives;
- BC's assessment regime ensures climate targets are achieved;
- First Nations' jurisdictional authority is recognized and reflected in assessment process and outcomes;
- Jurisdictions collaborate in discharging their assessment responsibilities to the highest standard;
- Robust and informed public participation is established as a key component of assessment;
- Assessments contribute to the protection of human rights and environmental justice;
- Higher-level assessment and planning are tiered with project assessment to address strategic issues and manage cumulative effects;
- An independent body provides oversight and guidance to ensure BC's assessment regime meets its purposes;
- All projects and activities with implications for sustainability are assessed and tracked;
- New requirements strengthen the information base and ensure evidence-based decision-making;
- New decision-making requirements promote transparent, accountable assessment decisions;
- A right to appeal decisions provides a safety mechanism to ensure accountability;
- Strengthened monitoring and enforcement ensures sustainability after the assessment; and
- Appropriate funding enables the new assessment structure and processes to succeed.

The entire *Blueprint* statement is found at: http://www.elc.uvic.ca/wordpress/wp-content/uploads/2018/04/2018-04-BlueprintForRevitalizingEAinBC-FINAL-v2.pdf.

After the Blueprint was developed, the Province passed a new Environmental Assessment Act (Bill 51) which incorporated some—but not all—of the recommendations above. Government is currently developing new regulations for the Act. West Coast Environmental Law, the Environmental Law Centre, and members of the Mining Law Reform partnership are currently working on the evolving regulations, which will determine, to a great measure, how effective the Act will ultimately be. West Coast Environmental Law is taking a lead role in advocating regulations that could come closer to meeting the proposals in the *Blueprint*.

In particular, a new **Reviewable Projects Regulation** is being developed that will define the type of projects that must be assessed under the new law. That new Regulation must require:

- Environmental assessments for all mines, including placer mines;
- Environmental assessments for mining exploration activities when requested by First Nations or local communities;
- A new environmental assessment when a mine undergoes a major expansion such as the expansion at Mount Polley Mine before the disaster.

Environmental advocates are also making submissions to Government on the need for additional Environmental Assessment Act regulations, including:

- A **Balanced Evidence Regulation**, to reform the traditional corporate bias of the bulk of evidence considered in assessments -- and ensure that the body of evidence considered is objective and thoroughly peer-reviewed;
- A **Participant Funding Regulation**, to enable communities to participate fully and fairly in the environmental assessment process; and
- An effective **Regional and Strategic Assessment Regulation**.

Environmental advocates are in the process of developing a number of additional proposals for progressive regulations. To follow the latest proposals for regulations environmental assessment reform, see the websites of West Coast Environmental Law and the Environmental Law Centre.

1. **RECOMMENDATION: Fully implement and legislate A Blueprint for Revitalizing Environmental Assessment in British Columbia.**

2. **RECOMMENDATION: Require environmental assessments for all mines; for mining exploration activities when requested by First Nations or local communities; and for major expansions of existing mines.**

3. **RECOMMENDATION: Implement regulations to ensure that the evidence in the environmental assessment process is balanced, objective, and thoroughly peer-reviewed; that funding for participants in environmental assessments is ample and stable; that needed Regional and Strategic Assessments are effectively implemented; and that perpetual-care costs are fully considered in the assessment of all mines.**

BC MINING LAW REFORM

Mineral Tenure

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Introduction

BC's mineral tenure rules—which determine where mining can occur—are rooted in a 19th century gold rush-era approach that gives unique priority to mineral development over other land uses and rights. Under our outdated system, only a small portion of the provincial land base is designated "off-limits" to mining.[1] Across most of the province, our mining laws create confusion and conflict by claiming to give mining rights preference over private property rights, Indigenous rights, local bylaws, land-use planning, and the protection of sensitive areas.

Under the current system, mining companies can stake and develop claims in sensitive watersheds, valuable ecological areas, First Nations' traditional territories, and other people's private property. Miners are not governed by zoning bylaws—or by land-use plans that apply to other industries. As a result, mines are often proposed in areas where they may have significant negative environmental, cultural, social and economic impacts—and unduly impact other land uses and industries such as tourism and fishing.[2]

In recent years, other jurisdictions have reformed their mining laws—and done away with the antiquated colonial rules that enabled miners to illegitimately stake claims on Indigenous lands and in sensitive ecosystems. In contrast, in recent years British Columbia has made the process for miners to secure mineral claims even easier. Since 2005, BC has operated an online claim registration system where an individual or a company can fill out a basic Free Miner's application, pay a small fee and click an online map to register a claim.[3]

Once a claim has been registered, the recorded claim holder obtains the right to "use, enter and occupy" the claim area for the exploration and development of mineral resources.[4] Significantly, these rights even extend to mineral claims registered on private land. While private landowners are entitled to notice of any mining activities on their property and compensation for any damage incurred, private landowners cannot prevent claimholders from entering their land.[5] What little protection landowners had was further reduced by the provincial government in the early 2000s when it amended the *Mineral Tenure Act* to eliminate a prohibition on miners interfering with private landowners.[6]

Beyond rights of access, a claim holder also has the right to develop minerals on a claimed property, up to a specific volume.[7] If they want to expand and start producing minerals, they must convert their claim into a mineral lease. However, if the claim holder meets the application information requirements, government cannot refuse to grant a mineral lease.[8] In other words, under our current laws the provincial government cannot deny mineral rights to anybody who meets the basic requirements.

This mining-first approach creates problems because, in many parts of BC, Indigenous peoples and British Columbians would elevate other land and water values over mining. We need to reform our mining laws to protect these values and to:

- implement the UN Declaration on the Rights of Indigenous Peoples (UNDRIP);
- give private landowners control over the activities that take place on their property;
- enable communities to designate local lands for a diverse range of uses, including drinking water source protection;
- ensure the integrity of land and water plans across the province;
- provide certainty to industry regarding which areas can be staked and developed;
- protect the rich natural heritage of the province; and
- reduce the risk of having to compensate private claims holders with public money for prohibiting mining in ecologically or culturally significant areas.

There are examples that BC can look to inform needed changes in our mining laws. Ontario, for example, has traditionally had a similar system to BC, but recently (2009) reformed its mining laws in the areas of mineral tenure, private property rights, Indigenous engagement and the permitting of exploration and development. Quebec changed its Mining Act in 2013 and now requires written consent from landowners before mineral exploration can take place. Quebec's updated laws also enable municipalities to designate 'no-go zones' for mining activities for various purposes (e.g. drinking water source protection). Notably, mining in these provinces has continued to enjoy record levels of investment.[9]

Discretionary mineral rights

BC should follow the example of other jurisdictions and reform its system of automatically issuing mineral rights to applicants. BC's current mineral rights regime *requires* government to issue mineral tenures to any applicant that meet the basic requirements. This is sometimes referred to as a 'non-discretionary' system. 'Non-discretionary' means that government is unable to consider and balance different interests before deciding whether to grant mining rights. In contrast, a discretionary system for mineral rights would allow BC to require "both prior consideration of other interests in the area as well as the environmental sensitivity and significance of the claimed areas."[10]

A discretionary system could help avoid having taxpayers pay out compensation to miners who file claims in areas that government eventually decides to protect. When BC banned mining in the Flathead River Valley (near the Waterton Lakes-Glacier National Park World

Heritage Site), Cline Mining sued the province for half a billion dollars compensation for the mining claim they lost for a mountaintop removal coal mine. British Columbians had to pay $30 million to a uranium company that staked a claim before BC's decision to ban uranium mining.[11] A discretionary system would allow government to deny tenure applications in areas that are likely to be protected in the future—thus avoiding public payouts for privately held tenures that have little prospect of ever being mined.

A variety of considerations could be built into a discretionary system. For example, the ability to acquire mineral rights could be contingent on the applicant first "securing access agreements with landowners, including First Nations" in the area.[12] Government could have the ability to protect the public by denying mineral rights to applicants with poor environmental or compliance records or without technical or financial capacity. Further, mineral claim-holders would no longer have an automatic right to a mining lease and their rights could be made conditional on Indigenous and landowner consent, land use planning and other factors.[13]

Outside BC, there are numerous mining jurisdictions that have some kind of discretionary system in place for allocating mineral rights:

- Three Canadian jurisdictions feature a "Crown discretion" system for granting mining leases: Alberta,[14] Nova Scotia,[15] and Prince Edward Island.[16]
- New Mexico will deny an exploration permit application if the applicant's past conduct (because of failure to comply with *Mining Act* provisions or regulations) "has resulted in the forfeiture of financial assurance."[17]
- New South Wales, Australia grants discretion to government decision makers to refuse tenure applications for a suite of reasons.[18]

1. **RECOMMENDATION: Adopt a discretionary mineral tenure regime that incorporates a broad suite of values and interests, and ensures that in issuing tenures, decision-makers:**
   • Uphold Indigenous title, rights and interests;
   • Respect community and regional land-use designations and planning processes;
   • Consider the cumulative watershed impacts of industrial activities; whether lands are likely to be protected in the future; the track records of applicants; and other relevant factors.

Landowner consent for mining activities

Many landowners would be surprised to discover that BC's *Mineral Tenure Act* still allows a mining claim to be registered and developed on their private land—without their consent. This type of incursion still happens—for example, the Bepple family near Kamloops was unable to stop a company from strip-mining their land.[19] In 2018, the Robinson family near Quesnel watched in shock as a foreign-owned mining company destroyed three hectares of their land and excavated huge pits near the Quesnel River.[20] Current mineral tenure laws offend the public ideal that people should be able to protect their private land from trespass and destruction.[21]

Reforming the mineral tenure system to respect the rights of private landowners would not unduly restrict mining in BC. Some owners would consent to certain mining activities on their properties if fairly compensated and, in any case, less than 5% of BC's total land is privately owned.[22] As a result, requiring landowner consent for mining activities on private lands would have a minimal impact on the total amount of land available for staking.

Furthermore, much of the province's private land is clustered in communities; a majority of private land is located in river valleys and riparian areas;[23] and a third of it is agricultural and range land.[24] As a result, a landowner consent rule would curb the potential for disruptive mining operations in precisely those areas where other interests or values *should* be considered—areas where mining conflicts with human settlement, disrupts agricultural productivity, or adversely impacts sensitive riparian habitats or drinking water sources.

Several jurisdictions have enacted legislation that protects private property rights and the reasonable expectations of owners by requiring landowner consent for mining activities. For example:

- Alberta's *Surface Rights Act* requires "the consent of the owner and the occupant of the surface of the land," or an order of the Surface Rights Board;[25]
- Ontario's recently reformed mining laws deem all mining rights to be "withdrawn" on privately owned land in Southern Ontario where there is no landowner consent;[26]
- New Brunswick's *Mining Act* requires that miners provide proof that the landowner "consents to the work being done on the land";[27] and
- Outside of Canada, the Northern Territory of Australia's *Mineral Titles Act* requires written consent from the landowner prior to any "preliminary exploration on the relevant land." If the landowner does consent, they "may impose reasonable conditions on the entry and use of the land."[28]

2. **RECOMMENDATION: Require landowner consent for mining activities on private property and enable landowners to place requirements on exploration or mining activities as conditions of their consent.**[29]

Mining activities and land-use designations

Indigenous and non-Indigenous communities across BC have developed land-use and watershed plans to ensure that important values are protected; that industrial activities occur in appropriate areas; and that no one resource user unreasonably interferes with others. However, BC's current mining laws purport to allow companies to disregard the official plans developed by First Nations, the province, and local governments.[30] Carefully thought out land use and watershed plans that designate optimal uses of land and water can be unilaterally upended by an individual miner filing a claim.

This undermines rational land use based on 'highest and best use' and 'multiple use' principles. It also runs counter to the UNDRIP principle of free, prior and informed consent that the provincial government has vowed to implement (see "Indigenous Governance and Mining"). It is important to note that BC's local governments have called for reform of mineral tenure laws to better respect local planning.[31]

Other jurisdictions have refined their regulatory regimes to ensure that the important strategic work of land-use planning is not undermined by out-of-date mining laws. Ontario, for example, has adopted specific rules to ensure mining is consistent with community-based land-use plans in the province's north.[32] In that region, claims may not be staked if a community-based land-use plan designates the area for uses "inconsistent with mineral exploration and development."[33] The relevant minister also has the power to withdraw mineral rights if a withdrawal would be consistent with a "prescribed land use designation."[34] Finally, the Ontario *Far North Act* further protects against mining in inappropriate places by barring the opening of a mine when there is no community-based land-use plan in place for the area.[35]

In the NWT, mining regulations have been updated so that claim staking and prospecting must respect land use plans;[36] and in the Yukon, all proposed mining activity must be evaluated to determine conformity with land-use plans.[37]

In Quebec, the *Land Use Planning and Development Act* allows municipalities and regional county governments to "delimit any mining-incompatible territory" as part of their land-use plans.[38] "Mining-incompatible territory"[39] can include inhabited areas, heritage sites, agricultural areas, recreational and tourism areas, areas with biodiversity and conservation potential, and drinking water sources. The relevant minister also has the power to

withdraw lands from mining for any purpose that the minister considers to be in the public interest.[40]

In addition to respecting land-use plans, the law should be changed to ensure that sensitive areas currently subject to mining claims receive general province-wide protection from mining activity. For example, designated Old Growth Management Areas, Wildlife Habitat Areas, and sensitive watersheds should be exempt from mining activity.

By following the recommendations below, BC could avoid the problem of inappropriately sited mines—and move towards a mining regime that is consistent with UNDRIP's principle of free, prior and informed consent.

3. **RECOMMENDATION: Require that mining exploration and development activities conform with Indigenous, local, and regional land-use plans and restrict mining activity where there is no such plan in place.**

4. **RECOMMENDATION: Enable (at the request of Indigenous or local governments) revocation of exploration and mineral development rights that are inconsistent with land-use plan designations.**

5. **RECOMMENDATION: Mandate "no-go zones" to protect all designated Old Growth Management Areas, Wildlife Habitat Areas, domestic-use watersheds, fisheries-sensitive watersheds, and other sensitive areas from mining activities.**

Indigenous consent and consultation

British Columbia has a history of authorizing mining activities that impact Indigenous peoples and infringe their constitutionally protected rights. Moreover, despite relatively recent commitments from the provincial government to acknowledge Indigenous rights and to implement UNDRIP, the province's *Mineral Tenure Act* still does not even require that miners *engage* with First Nations prior to entering or staking a claim on their territories.[41] BC needs mineral tenure reform that explicitly acknowledges Indigenous rights and jurisdictions and gives substance to the province's commitments.

BC can look to several other jurisdictions for examples of how state governments have adjusted their laws to require Indigenous consent for mineral tenure and mining activities.[42] For example, in Australia's Northern Territory, written consent from Aboriginal landowners is required before any preliminary exploration takes place on their land.[43] In the United States, federal law generally requires the "authority of the tribal council or other authorized spokesmen" and the approval of the Secretary of the Interior before any federally administered Indigenous land is leased for mining.[44] Finally, Ontario's *Mining Act* specifies specific regions where no new mines will be permitted if they are not consistent with a community-based land-use plan that has been approved by the local First Nation.[45]

6. **RECOMMENDATION: Ensure that no mining or exploration activities can be approved without the free, prior, and informed consent of affected Indigenous peoples.**

Endnotes

1 Judah Harrison, *Too Much at Stake: The Need for Mineral Tenure Reform in British Columbia* (Ecojustice, 2010) at p. 5 online: https://www.ecojustice.ca/wp-content/uploads/2014/11/Ecojustice_BC_Mining_Tenures_web_final.pdf) states that "only about 13 per cent" of BC's land is off-limits to mining (without citing a source) (5). The AME Report calculates that 18.59% of BC's land base falls under the "Prohibited Access" category that Hemmera uses. This number includes the 14.97% that is "under conservation or park-related land use designations where no forestry, mining or industrial development is allowed," plus the 4.49% on which the chief gold commissioner has established mineral reserves under section 22 of the MTA, and the 0.65% that is either treaty settlement land or Indian Reserve land (Hemmera, *Framing the Future of Mineral Exploration in British Columbia: AME BC Mineral Land Access and Use Report* (Vancouver: AME BC, 2016), at p. ii and 5 online: http://amebc.ca/wp-content/uploads/2017/06/AME-BC-Mineral-Land-Access-and-Use-Report-2015-No-AppF-1.pdf.

2 Jessica Clogg, *Modernizing BC's Free Entry Mining Laws for a Vibrant, Sustainable Mining Sector* (Vancouver: West Coast Environmental Law & Fair Mining Collaborative, 2013) online: http://wcel.org/sites/default/files/publications/WCEL_Mining_report_web.pdf.

3 Maya Stano and Emma Lehrer, *Fair Mining Practices: A New Mining Code for British Columbia* (Vancouver: Fair Mining Collaborative, March 2013), at p. 89 online: https://www.fairmining.ca/wp-content/uploads/2018/05/Fair-Mining-Practices-A-New-Mining-Code-for-BC-Web-Copy.pdf.

4 BC Ministry of Energy and Mines, *Mineral Titles Information Update No. 7 - A Guide to Surface and Subsurface Rights and Responsibilities in British Columbia* (2015 March 1) at p. 6; *Mineral Tenure Act*, RSBC 1996, c. 292, s. 14(2); *Mines Act*, RSBC 1996, c. 293, s.10; BC Ministry of Energy, Mines and Petroleum Resources, *Mineral Titles Branch—Title Overlap Report*; Jessica Clogg, *Modernizing BC's Free Entry Mining Laws for a Vibrant, Sustainable Mining Sector* (Vancouver: West Coast Environmental Law & Fair Mining Collaborative, 2013) at p. 4 online: http://wcel.org/sites/default/files/publications/WCEL_Mining_report_web.pdf.

5 Although the claim holder must stay 75 metres away from a residence. *Mineral Tenure Act Regulation*, B.C. Reg. 529/2004, s. 2.1; *Mineral Tenure Act*, RSBC 1996, c. 292, ss. 19 & 11(2).

6 Monte Paulsen. "Company Grabs Mining Rights to Premier's Land." The Tyee. April 19, 2005. Online at: https://thetyee.ca/News/2005/04/19/CompanyGrabsMining/.

7 BC Ministry of Energy and Mines, *Mineral Titles Information Update No. 40 - Mining and Placer Leases Explained* (2017 March 28) at p. 1; *Mineral Tenure Act Regulation*, B.C. Reg. 529/2004, s. 17.

8 *Mineral Tenure Act*, RSBC 1996, c. 292, s 42(4): "If the chief gold commissioner is satisfied that the recorded holder has met all of the requirements…the chief gold commissioner must issue a mining lease." See also *MTA*, ss 42(5), 48(2).

9 "Investing in Quebec's Mining Sector." Government of Quebec. Ministere de l'Energie et des Ressources Naturelles. 2018.

10 Judah Harrison, *Too Much at Stake: The Need for Mineral Tenure Reform in British Columbia* (Ecojustice, 2010) at p. 38 online: https://www.ecojustice.ca/wp-content/uploads/2014/11/Ecojustice_BC_Mining_Tenures_web_final.pdf.

11 Jessica Clogg, *Modernizing BC's Free Entry Mining Laws for a Vibrant, Sustainable Mining Sector* (Vancouver: West Coast Environmental Law & Fair Mining Collaborative, 2013) p. 24-26 online: http://wcel.org/sites/default/files/publications/WCEL_Mining_report_web.pdf.

12 Jessica Clogg, *Modernizing BC's Free Entry Mining Laws for a Vibrant, Sustainable Mining Sector* (Vancouver: West Coast Environmental Law & Fair Mining Collaborative, 2013) at p. 23.

13 Jessica Clogg, *Modernizing BC's Free Entry Mining Laws for a Vibrant, Sustainable Mining Sector* (Vancouver: West Coast Environmental Law & Fair Mining Collaborative, 2013) See suggestions made at pp. 21 and 29.

14 See the *Mines and Minerals Act*, RSA 2000 c M-17, ss 8(1)(b) and (c), which allow the relevant minister to expropriate "any estate or interest in minerals," and to "cancel or refuse to renew" a lease agreement where she determines that further activity is "not in the public interest."

15 *Mineral Resources Act*, SNS 1990 c 18 s 22(8) gives the relevant minister discretion *not* to grant a mining lease if "the Minister deems that it would not be in the best interest of the Province to do so."

16 *Mineral Resources Act*, RSPEI 1988 c M-7 s 23 gives the relevant minister discretion to refuse to accept or defer the acceptance of an application for a mining lease if "the acceptance of the application is not in the best interests of the province or would hinder mineral development of any area."

17 The New Mexico Mining Act 1978. § 69-36-13(B) states, "[a] person shall not be issued a permit to conduct exploration if that person's failure to comply with the provisions of the New Mexico Mining Act, the regulations … or a permit issued under that act has

resulted in the forfeiture of financial assurance."

18 *Mining Act 1992* (NSW), s 22 [Australia].

19 Jessica Clogg, *Modernizing BC's Free Entry Mining Laws for a Vibrant, Sustainable Mining Sector* (Vancouver: West Coast Environmental Law & Fair Mining Collaborative, 2013) at pp. 4-5 online: http://wcel.org/sites/default/files/publications/WCEL_Mining_report_web.pdf.

20 Personal communication of Glenn Grande with Keith Robinson, October 27, 2018. For a number of other examples, see Kendyl Salcito, "War Brewing Over Mining Rights in Rural BC (The Tyee, June 14, 2006).

21 Jessica Clogg, *Modernizing BC's Free Entry Mining Laws for a Vibrant, Sustainable Mining Sector* (Vancouver: West Coast Environmental Law & Fair Mining Collaborative, 2013) at pp. 4-5.

22 BC Ministry of Forests, Lands and Natural Resource Operations, *Crown Land: Indicators and Statistics Report 2010* (2011), at p. 12.

23 BC Ministry of Forests, Lands and Natural Resource Operations, *Crown Land: Indicators and Statistics Report 2010* (2011), at p. 15.

24 BC Ministry of Forests, Lands and Natural Resource Operations, *Crown Land: Indicators and Statistics Report 2010* (2011) at iii.

25 *Surface Rights Act*, RSA 2000, c S-24, s. 12.

26 *Mining Act* RSO 1990, c M-14, s. 35.1(2).

27 *Mining Act* SNB 1985, c M-14.1, s. 68(1)(c)(iv)(B)(II); however, clause 68(1)(c)(iv)(C) allows security from the mining lease applicant instead of consent from the landowner.

28 *Mining Act* SNB 1985, c M-14.1, s. 68(1)(c)(iv)(B)(II).

29 Maya Stano and Emma Lehrer, *Fair Mining Practices: A New Mining Code for British Columbia* (Vancouver: Fair Mining Collaborative, March 2013), at p. 96.

30 See for example *Mineral Tenure Act*, RSBC 1996, c. 292 s. 14(5).

31 Resolution B80, 2013 Union of BC Municipalities Convention.

32 "Far North" in the ON *Mining Act* has the meaning defined in section 2 of Ontario's *Far North Act*, 2010, SO 2010 c. 18.

33 *Mining Act*, RSO 1990 c. M 14, s. 30.

34 *Mining Act*, RSO 1990 c. M 14, s. 35.

35 *Far North Act*, 2010, SO 2010 c. 18, s. 12(1).

36 *Northwest Territories Mining Regulations,* SOR/2014-68, s 5(d).

37 *Yukon Environmental and Socio-economic Assessment Act*, SC 2003, c 7, s 44.

38 *Land Use Planning and Development Act*, CQLR 2017, c. A-19.1, s. 6(7).

39 *Mining Act*, CQLR 2013, c M-13.1, s 304.1.1.

40 *Mining Act*, CQLR 2013, c M-13.1, s 304.

41 Jessica Clogg, *Modernizing BC's Free Entry Mining Laws for a Vibrant, Sustainable Mining Sector* (Vancouver: West Coast Environmental Law & Fair Mining Collaborative, 2013) at p. 16 online: http://wcel.org/sites/default/files/publications/WCEL_Mining_report_web.pdf.

Also see Robin M Junger, "Aboriginal Title and Mining in Canada—More Questions than Answers," *61st Annual Rocky Mountain Mineral Law Institute Proceedings* (Rocky Mountain Mineral Law Foundation, 2015).

42 Jessica Clogg, *Modernizing BC's Free Entry Mining Laws for a Vibrant, Sustainable Mining Sector* (Vancouver: West Coast Environmental Law & Fair Mining Collaborative, 2013) at p. 18 online: http://wcel.org/sites/default/files/publications/WCEL_Mining_report_web.pdf.

43 *Mineral Titles Act 2010* (NT), s 21 [Australia]; however, landowners (including Aboriginal landowners) "must not unreasonably withhold consent" (paragraph 21(5)(a)).

44 25 USC Ch 12, §396a.

45 *Mining Act* RSO 1990, c M.14, s 204(2)(a).

BC MINING LAW REFORM

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Introduction

Most Indigenous peoples in British Columbia have never ceded or surrendered their traditional territories. Their inherent rights to self-government and self-determination are expressed through their laws and customs, and are dictated through oral histories and acts of governance. Since 1982, the Canadian Constitution has acknowledged and affirmed aboriginal and treaty rights,[1] and the Truth and Reconciliation Commission (TRC) of Canada made 94 Calls to Action, largely aimed at state governments, for decolonizing Canadian society.[2] From international law, the United Nations Declaration on the Rights of Indigenous Peoples ("UNDRIP") affirms the rights of Indigenous peoples to participate in decision making about their traditional territories, and be entitled to give free, prior and informed consent before development can occur.[3] In this modern Indigenous rights landscape,[4] British Columbia's mining regime still reflects a 19th century approach. While all lands in BC are a First Nation's traditional territory, mining law makes virtually all of the province available for mining[5] as if traditional territories are still "waste lands of the Crown."[6]

Many of the longstanding disputes between the provincial government and Indigenous communities relate to the siting, operation, or historical impacts of a mine. For example, the Tsilhqot'in National Government has opposed the proposed Prosperity Mine through three assessment processes, maintaining the position that the proposals to either drain or permanently contaminate Teztan Biny (Fish Lake) is contrary to their laws. The proposed mine's location at the headwaters of the Taseko, Chilko, Chilcotin and Fraser River systems is a "cultural keystone place" for the Tsilhqot'in people. Likewise, the Stk'emlúpsemc te Secwépemc Nation undertook a community assessment of the proposed Ajax Mine near Kamloops using its own Indigenous decision-making process. In rejecting the project as proposed, the Stk'emlúpsemc te Secwépemc Nation concluded that it had not given its free, prior and informed consent for the project, in particular because its proposed location would cause irreparable harm to Pipsell (Jacko Lake). Finally, when the provincial government took no punitive action after the Mount Polley mine tailings pond collapse released 24 million cubic metres of mine tailings into Hazeltine Creek and Quesnel Lake, a member and former Chief of the Xat'sull First Nation felt compelled to bring charges against the mining company via private prosecution. Five months later, the BC Prosecution Service took over, and soon after dropped the charges.

These examples underscore the fundamental conflict between Indigenous rights and the mining regime in BC—a conflict that even the BC Auditor General's audit of compliance and enforcement in the mining sector failed to address.[7] This conflict is rooted in the provincial government's lack of recognition of the inherent legal rights of First Nations and a regulatory regime that has continued to allow significant ecological impacts to First Nations' lands and waters. In an era of constitutionally acknowledged Aboriginal rights and government commitment to implementing the UNDRIP, the allocation of mineral tenures,

mine siting and mine impacts continue without government-to-government processes for establishing ecological standards, watershed planning, cumulative watershed assessments and community-based monitoring.

Indigenous rights and mining

Courts have interpreted the purpose of section 35 of the Constitution Act, 1982, which acknowledges and affirms Aboriginal and treaty rights, as the "reconciliation of the pre-existence of Aboriginal societies with the sovereignty of the Crown."[8] Colonial court cases that address reconciliation focus more on its process than on substantive principles or ultimate outcomes. Reconciliation is viewed as the result of "negotiated settlements, with good faith and give and take on all sides, reinforced by judgments of this Court."[9] These negotiations should include all affected First Nations,[10] and are a process not a final legal remedy.[11] The routine framework for principled reconciliation of Aboriginal rights with the interests of Canadian society is the Crown's duty to consult and accommodate First Nations.[12] As expressed by common law courts, the "best way" to achieve reconciliation is to require provincial and federal governments to justify activities that infringe or deny Aboriginal rights.[13]

It is important to note that section 35 does not "protect" Aboriginal rights. Most of the contemporary court cases dealing with section 35 address whether or not the Crown has fulfilled its procedural duty to consult and accommodate, and accept infringement of Aboriginal rights as justified.[14] Courts will rarely direct specific consultation and accommodation procedures, nor will they give substantive direction on reconciliation efforts. Since this procedural requirement provides few substantive remedies or limitations on Crown approvals in traditional territories,[15] the application of section 35 has been criticized as discriminatory in approach. Courts have limited its interpretation to historic realities, rather than allowing it to develop organically like other areas of constitutional law.[16] In traditional territories, overarching provincial jurisdiction for lands and water continues—except in a few pockets[17]—and development of natural resources continues apace.[18]

The underlying problem with focusing on the process and not the substance of land development is twofold. First, environmental assessment becomes the vehicle through which mine tenure, which occurs well before any assessment and mine siting, is discussed. However, environmental assessment is not designed to address the fundamental question of whether it is ever appropriate to locate a mine on a specific site; it asks instead under what conditions it would be acceptable to operate a mine in the proposed location. To respect Indigenous rights, the yes/no question of mine tenures and location needs to be grounded in the Indigenous value of land as the basis of life and law and must occur well before an environmental assessment for a specific proposal. The appropriate vehicle for

identifying appropriate areas for mining—if any—is through land or watershed planning led or co-led with the Indigenous communities whose traditional territory is involved. Second, there are no ongoing processes through which First Nations experiencing the impact of operating, closed or abandoned mines can monitor and communicate those impacts to the provincial government—and put in place adaptive strategies for addressing negative effects.

The Truth and Reconciliation Commission of Canada's interpretation of reconciliation includes developing new relationships between Indigenous peoples and the state, because the economic sustainability of Canada depends on accommodating the rights of Indigenous peoples.[19] For Indigenous peoples, natural resource development is entwined with reconciliation,[20] and "sustainable reconciliation involves realizing the economic potential of Indigenous communities in a fair, just, and equitable manner that respects their right to self-determination."[21] The TRC calls on governments to reconcile Indigenous and state legal orders.[22] It also points to UNDRIP as the appropriate framework for reconciliation and calls for its implementation by all levels of government.[23]

The United Nations Declaration on the Rights Of Indigenous Peoples: Free, prior and informed consent

The Declaration sets out many important principles for redressing the structures of colonization and promoting inherent Indigenous jurisdiction. Most relevant for mining on traditional territories is UNDRIP's focus on participation in decision making, and processes for assessing and giving ongoing consent. It states that Indigenous people have the right to participate in and adjudicate decision-making processes using their own procedures, institutions, laws and land tenure systems.[24] It also establishes the critically important requirement that Indigenous peoples must give "free, prior and informed consent" (FPIC) before any activity takes place in their traditional territories. "Any activity" would include staking claims. The FPIC aspect of UNDRIP is the principle that Indigenous peoples have adopted most strongly as a precondition for Crown-approved activities in their traditional territories. For example, the Northern Secwepemc te Qelmucw Leadership Council adopted the Northern Secwepemc te Qelmucw Mining Policy in 2014, and its first guiding principle prohibits mining without the free, prior and informed consent of the Northern Secwepemc te Qelmucw.[25] Other examples include the Stk'emlúpsemc te Secwépemc Nation explicitly not giving consent for the Ajax mine to operate in their territory, and the Tsleil-Waututh Nation's Stewardship Policy which requires consultation activities to seek to achieve informed consent.[26] Finally, the international Initiative for Responsible Mining Assurance (IRMA) will not certify a new mine unless the proponent has obtained the free,

prior and informed consent of potentially affected Indigenous peoples.[27]

In September 2017, the Province of BC made reconciliation a cross-government priority and indicated that Cabinet Ministers were "reviewing policies, programs and legislation to determine how to bring the principles of UNDRIP to action in British Columbia."[28] The provincial government followed this commitment with draft principles to guide the BC public service on relationships with Indigenous people, which included acknowledging "[t]he right of Indigenous peoples to self-determination and self-government, and the responsibility of government to change operating practices and processes to recognize these rights" and FPIC.[29]

Expressions of these commitments began emerging in provincial government policy and government-to-government agreements in 2018. For example, as a condition of tenure renewal, the provincial government committed to requiring fish farm operators to negotiate agreements with First Nations in whose territory they propose to continue operating.[30] The memorandum of understanding between the First Nations in the Nicola Valley and the provincial government also includes a clause in the preamble that "both Parties are committed to the implementation of the United Nations Declaration on the Rights of Indigenous Peoples."[31]

Operationalizing FPIC requires ongoing decision-making processes that can address the siting of mines and their effects throughout the entire life of the mine—including closure as well as the impacts of orphaned and abandoned mines. As exploration and siting mines within traditional territories are "yes/no" questions, those questions must be set in a planning and regulatory structure that recognizes, respects and protects Indigenous interests. As discussed below, watershed plans can identify those areas that may be appropriate for mining, while ecological standards and cumulative effects assessment can address the ecological consequences of mining activities. Finally, Indigenous community-based monitoring can generate watershed-specific data, informed by traditional knowledge, that can support decision making that recognizes that ongoing consent may be withdrawn at anytime, and the government-to-government relationships on which continued consent rests.

1. **RECOMMENDATION: Ensure that no mineral tenuring, mining exploration, siting, or other activities occur without the free, prior, and informed consent of affected Indigenous communities.**

2. **RECOMMENDATION: Establish consent-based government-to-government processes for determining the appropriateness of specific locations for mineral development *prior* to environmental assessment.**

Government-to-government agreements

For over a decade, Indigenous Nations and the Province of BC have entered into government-to-government agreements that establish the processes by which they will make decisions about a specific matter or within a designated area.[32] These "reconciliation" or "protocol" agreements typically address enhanced decision making through consultation or joint management boards, ecosystem-based management, land and water use planning, management objectives, forestry, revenue sharing, and dispute resolution.[33] In establishing a medium-to-long-term relationship, they set out both:

- how the parties will make decisions; and
- on what they will seek ongoing agreement.

Courts are beginning to recognize that these government-to-government agreements bind the parties in actions they take related to the agreement's subject matter. For example, in 2015 the Haida Nation challenged the federal Minister of Fisheries and Oceans' decision to permit a commercial herring fishery in Haida marine territory.[34] In overturning that decision, the federal court found, in part, that the Haida would suffer irreparable harm because the parties had not yet completed a marine area management plan, the development of which they had agreed to through government-to-government agreements.

Government-to-government agreements can address many mining issues: communication and negotiation protocols and procedures; mineral tenure allocation; entry requirements for exploration; processes for siting and developing mines; royalties, revenue-sharing and capacity funding; monitoring and enforcement standards; and closure, reclamation and remediation standards. The details of these agreements can also establish:

- A comprehensive ecosystem-based approach to free-entry and mine management, based on traditional knowledge from which land use plans, watershed plans, and mining policies are drawn;
- An agreement that the basis for mining activities is the free, prior and informed consent (FPIC) of the affected Indigenous Nations and that FPIC will be grounded in the land use or watershed plans developed and adopted by those Nations;
- Baseline ecological standards for different ecological elements (such as the standard of 80% old growth over a 250-year timeframe found in the Great Bear Rainforest agreements);[35]
- Operating and monitoring standards that adhere to community-based plans such as the Northern Secwepemc te Qelmucw Mining Policy, Taku River Tlingit Mining Policy, and others described in *Fair Mining Practices: A New Mining Code for British Columbia*;[36]

- Social monitoring and built-in contingencies to prevent and/or abate negative social consequences brought about by the presence of a transient, male-dominant workforce;
- The monitoring and enforcement roles and responsibilities between Indigenous Nations (e.g. Indigenous Guardians), the Ministry of Energy and Mines, and an independent compliance and enforcement unit;
- A framework for tracking and publicly posting all mining compliance and enforcement information, as well as Environmental Assessment Certificates, permit conditions and other regulatory requirements in easily understandable formats;
- A commitment to developing risk-based inspection regimes for all mining activities, with clear inspection; and
- Mechanisms for enabling and funding Indigenous-led and community-based monitoring programs for mining activities.

3. **RECOMMENDATION: Establish government-to-government relationships for seeking, evaluating and earning the continued consent of First Nations governments for any mining activities, including staking claims, within their traditional territories.**

4. **RECOMMENDATION: Co-develop processes with Indigenous Nations to seek agreement on ecological standards, watershed plans, cumulative watershed assessments, and community-based monitoring for their territories.**

Ecological, social and mining standards

Absent standards that mandate a specific ecological goal or operations criteria, all decisions about activities in traditional territories are open to wide discretion in decision making. Yet, the ultimate goal in any region, traditional territory or watershed is good ecological and social function. Definition of that function in ecological and social terms is a prerequisite to mine exploration and operations, and ecological or cultural sensitivity will preclude mining activities in some areas. Likewise, continued licence for those operations depends on monitoring and adaptive management as data is generated and the impacts of mine activities are better understood.

When an adaptive, purposeful ecological framework for decision making is in place, decisions are limited by community-endorsed ecosystem-based standards and procedures. This narrowing of discretion makes decision making simpler, but not necessarily easier, because decisions must adhere to watershed-specific standards. There is less discretion for decision makers because the foundation of the decision—ecological and community health—is predetermined. This is the case in the Great Bear Rainforest where the Reconciliation Protocol sets out the procedures for enhanced decision making,[37] and the various agreements and Orders under forestry legislation operationalize the commitment to return 80% of the region to old growth forest over a 250-year timeframe.[38] Other examples include the Haida Gwaii Management Council composed equally of Haida and provincial appointees making forestry decisions[39] and the Northern Secwepemc Te Qelmucw Mining Policy, which is grounded in traditional values, community health and ecological balance.[40]

5. **RECOMMENDATION: Pursuant to government-to-government agreements, establish legally enforceable ecological and social standards or targets for each watershed or traditional territory based on the Indigenous Nations' priorities, knowledge and values.**

6. **RECOMMENDATION: Embed those standards in watershed plans, cumulative watershed assessments, and provincial laws, orders, permits and approvals.**

Watershed plans (land and water use plans)

The question of whether a location within a traditional territory or watershed is appropriate for mining comes before environmental assessment. There are locations in traditional territories where it will never be appropriate to undertake natural resource extraction due to the important cultural or ecological status of that location. However, appropriate locations for mining may be determined through comprehensive watershed planning.[41] (The term watershed planning includes both land and water use plans, as terrestrial and aquatic ecosystems are intertwined.) Indigenous communities may develop watershed plans as expressions of their jurisdiction—and such plans will be more comprehensive than traditional use studies—establishing both land and water use parameters. For example, watershed plans would designate protected areas, emphasizing connectivity between representative ecosystems—as well as create "no go" zones for important cultural sites, communities, and sensitive ecological areas. Watershed plans

would incorporate zoning—what types of activities can occur in which locations—and buffer zones with special rules around protected areas.

For example, the Great Bear Rainforest agreements are based on the land use plans developed by the First Nations of the Central Coast.[42] These land use plans were the basis of land conservation and zoning decisions that created new land use designations in colonial law, creating conservancies, biodiversity, mining and tourism areas, and ecosystem-based management operating areas.[43] Likewise, the Gitanyow Hereditary Chiefs used their Indigenous laws to create their comprehensive land use plan that is the basis of their government-to-government discussions with the provincial government about forestry and other activities in their *Wilps* (traditional territories).[44]

7. **RECOMMENDATION: Enable Indigenous Nations to undertake comprehensive watershed planning that includes zoning, land and water use parameters, connected protected areas, and no go and buffer zones.**

8. **RECOMMENDATION: Adopt Indigenous Nations' watershed plans into operating agreements and the provincial regulatory regime to ensure that mining and other natural resource activities are only approved if they align with these plans.**

9. **RECOMMENDATION: Create provisions in provincial law to retire mineral rights if they are inconsistent with Indigenous Nations' land use plan designations.**

Cumulative watershed assessments

In a context where the provincial government has reformed environmental assessment laws with the aim of "ensuring the legal rights of First Nations are respected, and the public's expectation of a strong transparent process is met,"[45] project assessment must clearly include socio-ecological cumulative effects.[46] Each watershed is subject to multiple activities that change its ecological status, and each community feels the impact of different industries. The total effect of all activities in a First Nations' traditional territory must be evaluated each time a new project is proposed in a watershed, while the project-specific impacts must meet provincial and community standards.[47]

While not well-implemented in Canada, scientists and scholars across disciplines point to the necessity of cumulative effects assessment.[48]

Like land and watershed planning, assessment is a key governance activity for Indigenous communities. For example, First Nations can exercise their jurisdiction and inform their decision making through cumulative impacts assessment. Both the Stk'emlúpsemc te Secwépemc and Tsleil-Waututh Nations undertook their own assessments of proposed industrial projects as part of exercising their Indigenous laws and governance, an approach that can be broadened to include cumulative effects assessment.

10. **RECOMMENDATION: Partner with Indigenous Nations to create joint assessment and monitoring procedures and forums that generate standards for data and a venue for ongoing adaptive management of traditional territories.**

11. **RECOMMENDATION: Ensure that BC's new Environmental Assessment regime, regulations and approach include scoping for all new proposed activities and cumulative environmental and social impact of all activities in a watershed—so that parties can evaluate both the project-specific incremental effects and cumulative load on the watershed.**

12. **RECOMMENDATION: Link cumulative effects' assessments to land use plans and ecological standards for Indigenous Nations' territories so projects will be rejected at the outset if they would offend established watershed zoning and standards.**

Community-based monitoring

In most watersheds, particularly in remotely populated BC, there is little real time environmental and social data that can be used in decision making and adaptive management. Community-based monitoring can generate credible data to fill gaps in industry and government monitoring, and provide Indigenous communities with the data they need to exercise their inherent jurisdiction in watershed governance. Local community members are more often on-the-ground to engage in data collection, and the results can inform baseline studies, monitoring reports, adaptive management and enforcement

decisions. Citizen's Advisory Councils in Alaska are a good example of the important role that community-based programs can play in ensuring adequate monitoring and enforcement of environmental standards.[49]

For First Nations, community-based monitoring can be an expression of their territorial jurisdiction and self-governance. In addition to traditional knowledge, generating scientific data that will be used for monitoring, adaptive management, and enforcement decisions creates a platform for making operational decisions. Examples of Indigenous-led community-based monitoring programs include the Guardian Watchmen programs of the Coastal First Nations, the staff of which monitor, protect, and restore cultural and ecological values.[50] In Australia, the Indigenous Rangers program empowers Indigenous people to combine traditional knowledge with conservation training to protect and manage their land, sea and culture. In 2016, nearly 800 rangers were active, developing partnerships with research and educational organizations, engaging with youth, and generating additional income and jobs in the environment, biosecurity and heritage sectors.[51]

13. **RECOMMENDATION: Establish and fund Indigenous-led community-based watershed monitoring programs through government-to-government agreements.**

14. **RECOMMENDATION: Develop data collection protocols and train community-based monitoring staff so that data generated locally can be used for management, governance, and statutory decision making.**

Endnotes

1 *Constitution Act,* 1982, s 35.

2 Truth and Reconciliation Commission of Canada, *Canada's Residential Schools: The Final Report of the Truth and Reconciliation Commission of Canada Volume 6: Reconciliation* (Winnipeg: McGill-Queens University Press, 2015) at 202-212. ("TRC Reconciliation")

3 UN General Assembly, *United Nations Declaration on the Rights of Indigenous Peoples*, resolution/adopted by the General Assembly, 2 October 2007, A/RES/61/29, art 19, online: https://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf.

4 For an in-depth discussion of implementation of the Declaration, see the chapters by John Borrows, Gordon Christie and Sarah Morales in Centre for International Governance Innovation. *UNDRIP Implementation: Braiding International, Domestic and Indigenous Laws* (Waterloo, ON: CIGI, 2017).

5 The AME Report calculates that only 18.59% of BC's land base falls under a "Prohibited Access" category, of which only 0.65% that is either treaty settlement land or Indian Reserve land. Hemmera, *Framing the Future of Mineral Exploration in British Columbia: AME BC Mineral Land Access and Use Report* (AME BC, 2016), online, at 5.

6 This is a term that appears from *Gold Fields Act, 1859*, s V; through the *Gold Mining Ordinance, 1867*, s 22; and many mining (and other) statutes, up to and including the *Mineral Act*, RS 1936, c 181, s 14(1): "Every free miner shall, during the continuance of his certificate, but not longer, have the right to enter, locate, prospect, and mine: (a) Upon any waste lands of the Crown ...".

7 First Nations are mentioned only as interviewees for the audit and in reference to consultation in the Response from Government; Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector* (Victoria: Office of the Auditor General, 2016), at pp. 104, 18, 27, online: http://www.bcauditor.com/sites/default/files/publications/reports/OAGBC%20Mining%20Report%20FINAL.pdf.

8 *R v Van der Peet*, [1996] 2 SCR 507, 137 DLR (4th) 289 at para 31 and affirmed in *Delgamuukw v BC*, [1997] 3 SCR 1010, [1997] SCJ No 108 at para 186.

9 *Delgamuukw*, at para 186.

10 *Delgamuukw*, at para 186.

11 *Haida Nation v BC*, 2004 SCC 73 at para 32 ("Haida Nation").

12 Haida Nation, *ibid* at paras 20, 25, 32, and 35, and *Mikisew Cree First Nation v Canada (Minister of Canadian Heritage)* 2005 SCC 69 at paras 54 and 63 ("Mikisew Cree").

13 *R. v Sparrow*, [1990] 1 SCR 1075, 70 DLR (4th) 385 at 1109 and affirmed in *Tsilhqot'in Nation v. British Columbia*, 2014 SCC 44 at para 119.

14 A blunt example of this is the BC Court of Appeal's ruling that the establishment of a municipality had, at best, a minimal impact on claimed Aboriginal rights and title: *Adams Lake Indian Band v BC*, 2012 BCCA 333. Kaitlin Ritchie argues that this focus on consultation and accommodation is undermining reconciliation as a goal with three areas of risk being delegation, lack of capacity and the cumulative effects of consultation: Kaitlin Ritchie, "Issues Associated with the Implementation of the Duty to Consult and Accommodate Aboriginal Peoples: Threatening the Goals of Reconciliation and Meaningful Consultation" (2013) 43 UBC Law Review 397.

15 The notable exception is Tsilhqot'in Nation, where the Supreme Court of Canada found Aboriginal title in the claim area; *Tsilhqot'in Nation v. British Columbia*, 2014 SCC 44. There are a few appeal board or court decisions that overturn a permit, licence or other provincial entitlement, such as *Chief Sharleen Gale and Fort Nelson First Nation v Assistant Regional Water Manager*, 2012-WAT-013(c) (BC EAB 2015) where the BC Environmental Appeal Board cancelled a permit to take water for hydraulic fracturing due to inadequate consultation and accommodation, as well as inadequate factual scientific basis on which to issue the permit. See also *Mikisew Cree* where the Supreme Court of Canada overturned a federal permit and sent the decision back to the Minister for further consultation; *Mikisew Cree First Nation v Canada* (Minister of Canadian Heritage) 2005 SCC 69.

16 John Borrows, *Freedom and Indigenous Constitutionalism* (Toronto: University of Toronto Press, 2016) at pp. 129-131.

17 See, for example, the *Haida Gwaii Reconciliation Act*, SBC 2010, c 17.

18 The decision *Grassy Narrows First Nation v Ontario* (Natural Resources) 2014 SCC 48 at para 50 confirmed provincial governments' primary role in managing natural resources in the context of Aboriginal rights.

19 Truth and Reconciliation Commission of Canada, *Canada's Residential Schools: The Final Report of the Truth and Reconciliation Commission of Canada Volume 6: Reconciliation* (Winnipeg: McGill-Queens University Press, 2015) at pp. 202-212.

20 Truth and Reconciliation Commission of Canada, *Canada's Residential Schools: The Final Report of the Truth and Reconciliation Commission of Canada Volume 6: Reconciliation* (Winnipeg: McGill-Queens University Press, 2015) at pp. 206.

21 Truth and Reconciliation Commission of Canada, *Canada's Residential Schools: The Final Report of the Truth and Reconciliation Commission of Canada Volume 6: Reconciliation* (Winnipeg: McGill-Queens University Press, 2015) at p. 207.

22 Truth and Reconciliation Commission of Canada, *Canada's Residential Schools: The Final Report of the Truth and Reconciliation Commission of Canada Volume 6: Reconciliation* (Winnipeg: McGill-Queens University Press, 2015) at Call to Action 45.

23 Truth and Reconciliation Commission of Canada, *Canada's Residential Schools: The Final Report of the Truth and Reconciliation Commission of Canada Volume 6: Reconciliation* (Winnipeg: McGill-Queens University Press, 2015) at p. 15.

24 UN General Assembly, *United Nations Declaration on the Rights of Indigenous Peoples*, resolution/adopted by the General Assembly, 2 October 2007, A/RES/61/29, at Articles 18 and 27, online: https://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf. See also Hannah Askew et al, *Between Law and Action: Assessing the State of Knowledge on Indigenous Law, UNDRIP and Free, Prior and Informed Consent with reference to Fresh Water Resources*, (West Coast Environmental Law, 2017), online: https://www.wcel.org/sites/default/files/publications/betweenlawandaction-undrip-fpic-freshwater-report-wcel-ubc.pdf; David Szablowski. "Operationalizing Free, Prior, and Informed Consent in the Extractive Industry Sector? Examining the Challenges of a Negotiated Model of Justice." *Canadian Journal of Development Studies* 30, 1-2 (2011): 111-130.

25 Northern Secwepemc te Qelmucw Leadership Council. *Northern Secwepemc te Qelmucw Mining Policy* (November 19 2014) at 4.1.1, online: https://www.fairmining.ca/wp-content/uploads/2014/12/NStQ-Mining-Policy_Nov19.20141.pdf.

26 Tsleil-Waututh Nation. Tsleil-Waututh Stewardship Policy (2009), online: https://www.bcuc.com/Documents/Proceedings/2009/DOC_22571_D-29_Tsleil-Waututh-Nation-funding-comments.pdf.

27 Initiative for Responsible Mining Assurance. IRMA Standard for Responsible Mining IRMA-STD-001 (2018), online: http://www.responsiblemining.net/images/uploads/IRMA_STANDARD_v.1.0_FINAL_2018.pdf at 2.2.2.2 and 2.2.6.1. The IRMA Standard is clear that a company must abandon a proposal if they do not obtain FPIC: 2.2.2.4. If Indigenous peoples' representatives clearly communicate, at any point during engagement with the operating company, that they do not wish to proceed with FPIC-related discussions, the company shall recognize that it does not have consent, and shall cease to pursue any proposed activities affecting the rights or interests of the Indigenous peoples. The company may approach indigenous peoples to renew discussions only if agreed to by the Indigenous peoples' representatives;

Beyond requiring FPIC, the IRMA Standard also requires mining companies to comply with Human Rights Due Diligence Requirements. These Requirements include obligations placed upon mining companies themselves to: "adopt a policy commitment" to "respect all internationally recognized human rights;" conduct periodically updated human right impacts assessments and respond to any impact findings; monitor any

impact indicators, and; "report publicly on the effectiveness of its human rights due diligence activities." Further, the provincial government must respond to IRMA's standards by ensuring that "mining project stakeholders…have access…to grievance mechanisms through which they can raise concerns and seek recourse" for human rights grievances; Initiative for Responsible Mining Assurance, *IRMA Standard for Responsible Mining* IRMA-STD-001 (2018), at p. 26-28.

28 Province of BC. Statement of Premier John Horgan on the 10th Anniversary on the UN Declaration on the Rights of Indigenous Peoples. (September 13 2017), online: https://news.gov.bc.ca/releases/2017PREM0083-001562.

29 Province of BC. Draft Principles Guide B.C. Public Service on relationships with Indigenous peoples (May 22 2018), online: https://news.gov.bc.ca/releases/2018PREM0033-000978.

30 Mike Laanela. "BC fish farms to require First Nations approval starting in 2022," (2018 June 20), online: https://www.cbc.ca/news/canada/british-columbia/bc-fish-farms-first-nations-approval-1.4714036; Province of BC. "BC government announces new approach to salmon farm tenures." News Archives. (2018, June 20) online: https://news.gov.bc.ca/releases/2018AGRI0046-001248. See also the consent-based processes outlined in the Letter of Understanding British Columbia-First Nations Collaborative Solutions for Finfish Aquaculture Farms in the Broughton Area. (June 27 2018), online: https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/consulting-with-first-nations/agreements/lou_broughtonfn_27june2018.pdf.

31 Nicola Watershed Pilot Memorandum of Understanding (March 23, 2018), online: https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/consulting-with-first-nations/agreements/nicola_watershed_pilot_mou_-_signed_2018.pdf.

32 The Province of BC lists Reconciliation and Other Agreements at https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/reconciliation-other-agreements. See also the extensive orders, plans an data emanating from the government-to-government agreements relating to the Great Bear Rainforest: https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/land-use/land-use-plans-objectives/west-coast-region/great-bear-rainforest/great-bear-rainforest-legal-direction-agreements.

33 See, for example, the older land and resources protocol agreement with the Coastal First Nations at https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/land-use-plans-and-objectives/westcoast-region/great-bear-rainforest/great-bear-rainforest-first-nations-agreements/turning_point_protocol_agreement_signed_optimized.pdf.

34 *Haida Nation v Canada* (Fisheries and Oceans), No. T-73-15 (FC March 6, 2015).

35 Curran, Deborah. "'Legalizing' the Great Bear Rainforest Agreements: Colonial Adaptations Toward Reconciliation and Conservation" (2017) 62:3 McGill Law Journal 813.

36 Maya Stano & Emma Lehrer. *Fair Mining Practices: A New Mining Code for British Columbia* (Victoria: Fair Mining Collaborative, 2013).

37 Wuikinuxv Nation, Metlakatla First Nation, Kitasoo Indian Band, Heiltsuk Nation, Haisla Nation, Gitga'at First Nation, and the Province of British Columbia as Represented by the Minister of Aboriginal Relations and Reconciliation. Documents include "Reconciliation Protocol, 2009" (10 December 2009); "Amending Agreement, 2010" (7 December 2010); and Haisla Nation, "Amending Agreement, 2011" (October 25-November 21 2011) http://www2.gov.bc.ca/gov/DownloadAsset?assetId=65D0CE9AEA1B4C3DA033DEC0FA51D6CC.

38 Curran, Deborah. "'Legalizing' the Great Bear Rainforest Agreements: Colonial Adaptations Toward Reconciliation and Conservation" (2017) 62:3 McGill Law Journal 813; Nanwakolis Council, Coastal First Nations & Ministry of Forest, Lands and Natural Resource Operations. *Ecosystem-Based Management on BC's Central and North Coast (Great Bear Rainforest): Implementation Update Report July 2012* (2012).

39 Haida Nation and British Columbia, Kunst'aa guu—Kunst'aayaa Reconciliation Protocol (11 December 2009), online: http://www.haidanation.ca/Pages/Agreements/pdfs/Kunstaa%20guu_Kunstaayah_Agreement.pdf; *Haida Gwaii Reconciliation Act*, SBC 2010, c 17.

40 Northern Secwepemc te Qelmucw Leadership Council. Northern Secwepemc te Qelmucw Mining Policy (November 19 2014) at 11.1.1, online: https://www.fairmining.ca/wp-content/uploads/2014/12/NStQ-Mining-Policy_Nov19.20141.pdf.

41 For more in-depth treatment of watershed planning, see Maya Stano & Emma Lehrer. *Fair Mining Practices: A New Mining Code for British Columbia* (Victoria: Fair Mining Collaborative, 2013) at pp. 96-114.

42 See the multiple strategic land use planning agreements between the Province of BC and each First Nation online: https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/land-use/land-use-plans-objectives/west-coast-region/great-bear-rainforest/great-bear-rainforest-legal-direction-agreements.

43 Merran Smith and Art Sterritt. "Towards a Shared Vision: Lessons Learned from Collaboration Between First Nations and Environmental Organizations to Protect the Great Bear Rainforest and Coastal First Nations Communities" in Lynn Davis (ed.), *Alliances: Re/Envisioning Indigenous-non-Indigenous Relationships* (Toronto: University of Toronto Press, 2010) at pp. 131-148; Justin Page, *Tracking the great bear: how environmentalists recreated British Columbia's coastal rainforest, Nature, history, society* (Vancouver: UBC Press, 2014).

44 Gitanyow Hereditary Chiefs Land Use Plan Maps, online: http://www.gitanyowchiefs.com/media/maps/.

45 Province of BC. Environmental Assessment Revitalization Discussion Paper. (Victoria: Province of BC, 2018), online: https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/environmental-assessments/environmental-assessment-revitalization/documents/ea_revitalization_discussion_paper_final.pdf at 3.

46 For more in-depth treatment of assessment in the mining context, see Maya Stano & Emma Lehrer. *Fair Mining Practices: A New Mining Code for British Columbia* (Victoria: Fair Mining Collaborative, 2013) at Chapter 6. See also the consensus statement on environmental assessment from environmental law organizations in BC: West Coast Environmental Law Association, Ecojustice and Environmental Law Centre (University of Victoria). *A Blueprint for Revitalizing Environmental Assessment in British Columbia*. (April 1 2018), online: https://www.wcel.org/sites/default/files/publications/2018-04-blueprintforrevitalizingeainbc-final-v2.pdf.

47 The IRMA standard calls for both social and cumulative impact assessment: Initiative for Responsible Mining Assurance, *IRMA Standard for Responsible Mining IRMA-STD-001* (2018), at 2.1.3.3.

48 See, for example, Cole Atlin & Robert Gibson. "Lasting regional gains from non-renewable resource extraction: The role of sustainability-based cumulative effects assessment and regional planning for mining development in Canada" (2017) 4:1 The Extractive Industries and Society 36; John Sinclair, Meinhard Doelle & Peter N Duinker. "Looking up, down, and sideways: Reconceiving cumulative effects assessment as a mindset" (2017) 62: Journal Article Environmental Impact Assessment Review 183.

49 Environmental Law Centre. "Citizen's Advisory Councils and the Prince Rupert area." p 5.

50 See the Coastal First Nations Regional Monitoring System, online: https://coastalfirstnations.ca/our-environment/programs/regional-monitoring-system/.

51 Australian Government, "Indigenous Rangers—Working on Country" (2016) Department of the Prime Minister and Cabinet, online: https://www.pmc.gov.au/indigenous-affairs/environment/indigenous-rangers-working-country.

BC MINING LAW REFORM

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Introduction

The pressing need to improve tailings storage and waste management at BC mines became apparent on August 4, 2014. On that day, in one of the greatest environmental disasters in Canadian mining history, the Mount Polley Mine tailings pond dam collapsed—abruptly draining a massive volume of contaminated mining waste into Hazeltine Creek and Quesnel Lake. Seventeen million cubic meters of wastewater and eight million cubic meters of tailings blasted the stream below from five metres to 100 metres in width and deposited the waste into the salmon-spawning Quesnel Lake.[1] The incident forced a temporary drinking water ban for area residents and raised concerns about long-term impacts on fish, wildlife and Indigenous cultures.[2]

The government-appointed panel of independent expert engineers investigating the incident predicted that many similar events could be expected in the future. Noting the 123 active tailings dams across the province, the Expert Panel stated:

> *If the inventory of active tailings dams in the province remains unchanged, and performance in the future reflects that in the past, then on average there will be two failures every 10 years and six every 30. In the face of these prospects, the Panel firmly rejects any notion that business as usual can continue.*[3]

Those 123 dams pose significant risks. A study that mapped potential paths of contaminants from dam failures at just 35 northern tailings ponds estimated that 33 Indigenous communities and 208 cities and settlements could be affected. In the study area, 80% of all chinook and sockeye salmon habitat lies downstream from a tailings facility—or requires migration through a potential contamination path.[4] This risk to fish poses a particularly serious threat to Indigenous rights and the livelihoods of communities that depend on healthy fisheries.[5]

The Mount Polley disaster spotlighted BC's flawed rules governing mine tailing dams and offered an opportunity to make significant improvements. In January 2015, the Expert Panel concluded their investigation and issued a number of recommendations for change. While the BC government agreed to implement many of these recommendations,[6] key Expert Panel recommendations have still not been fully implemented. Government has yet to adopt state-of-the-art standards for managing tailings and other mine wastes.[7]

This is not prudent, in light of potential consequences. One year after the Mount Polley disaster, a large tailings dam in Brazil collapsed. Brazil's government did not tighten regulations. In January 2019, yet another tailings dam in Brazil collapsed—this time leaving 110 people dead, 238 missing and an environmental disaster of "epic proportions."[8]

Reduce the number of existing tailings dams

The government's Expert Panel criticized construction of tailings water impoundments as "century old technology," and noted that "tailings dams…are unforgiving systems, in terms of the number of things that have to go right [for years]… Simply put, dam failures are reduced by reducing the number of dams that can fail."[9]

Therefore, the Panel called for action on the existing 123 active facilities, and recommended that government adopt best available technology to "reduce the number of tailings dams subject to failure."[10] The Panel suggested that, "to meet safety goals," the Province should take steps to both reduce the failure frequency of active tailings dams (i.e. through best available technology), *as well as* "halve the active dam inventory from 120 to 60."[11] Unfortunately, there is no evidence to suggest the provincial government has a strategy in place to achieve that goal and eliminate anywhere close to half of the existing dams.[12] This must be remedied.

1. **RECOMMENDATION: Establish a comprehensive plan to safely retire at least 60 active mine tailings dams, as recommended by government's Expert Panel.**

Move away from wet tailings impoundments

Currently, many mines in BC use the same type of waste storage facility that Mount Polley used. These wet tailings impoundments store water in massive disposal lakes, mixed with a cocktail of mine waste materials. In addition to suggesting that the number of active facilities be cut in half, the Expert Panel also recommended that government move to eliminate the use of this type waste storage facilities altogether. In line with its Best Available Technology recommendations, the Panel called on the province to "aggressively pursue" alternatives to wet tailings impoundments.[13]

Despite these post-Mount Polley recommendations, industry continues to propose—and government continues to approve—wet tailings impoundments. British Columbia is not currently doing enough to encourage and require dry disposal of mine waste—and these safer types of operations are seldom proposed by industry.[14] There are a number of new and proposed mines throughout BC that plan to rely on wet tailings impoundments.[15] For example, in northwest BC the new Red Chris mine and the proposed Schaft Creek, KSM, and Galore Creek mines all continue to rely on this problematic technology. Each of these mines is designed to generate far more waste than Mount Polley—six to 27 times more

tailings, by volume. Compounding the threats posed by their sheer size and use of risky technology is the fact that much of the wastes at these projects has a greater potential to generate acid drainage than at Mount Polley. The potential for higher toxicity in the waste means the impacts of a Mount Polley-type collapse could be much more severe.[16]

Although government has, since the 2014 Mount Polley disaster, responded with some improvements to mining rules (e.g., requiring that mines have an Engineer of Record, a tailings storage facility Qualified Person, and an Independent Tailings Review Board),[17] the changes still fall short of what the Expert Panel recommended.[18] Tailings storage facility expert Dr. David Chambers has noted that changes to BC's Mining Code in response to Mount Polley have not gone far enough to implement the tailings dam recommendations from the Expert Panel.[19] Instead of moving to eliminate surface water impoundments, government is only requiring that companies "make efforts" to reduce water and "consider" progressive alternatives to water impoundments. As Dr. Chambers notes:

> *This leaves the door wide open for site-specific considerations, which inevitably will include cost, to trump real change to present practices... Other than the Code's requirement for an 'effort to reduce and remove water' and to 'consider' alternatives to water covers, the discussion in the Code is on how to manage saturated tailings, not on how to eliminate saturation.*[20]

While drier tailings management may not always be appropriate, it should be required whenever practicable and demonstrably safer than the risky wet-storage approach that the Expert Panel criticized.

2. **RECOMMENDATION: Prohibit wet tailings impoundment unless it can be demonstrated through a risk assessment process that wet tailings impoundment poses less long-term risk (environmental, financial, and public safety) than a dry tailings approach.**

3. **RECOMMENDATION: Where wet tailings impoundments are in use, require dry closure (e.g. draining) when mining operations cease—unless it can be demonstrated through a risk assessment process that long-term maintenance of a wet tailings impoundment poses less risk (environmental, financial, and public safety).**

Make safety the priority

Government's post-Mount Polley rule changes do not adequately address the Expert Panel's crucial recommendation that *safety*—not short-term cost—considerations must determine what type of tailings disposal is approved. The Panel noted that the main reason industry had not adopted a drystack/filtered tailings approach is because it would increase their costs. However, while this approach may be more costly than tailings ponds for companies to implement, it can result in lower long-term costs to the public by reducing the risk of catastrophic failures like Mount Polley.[21] Therefore, the Panel recommended that financial feasibility studies for tailings storage approaches include long-term externalities (including environmental impacts) and full life-cycle costs that take into account the increased risks associated with massive tailings ponds and dams.[22]

Unfortunately, when Dr. Chambers analyzed one new and three proposed mines in the northwest of the province, he concluded that *none* of them met the recommendations of the Expert Panel to reduce the risk of tailings dam failure and prioritize long-term public safety. Dr. Chambers concludes that the new BC rules do not make safety—as opposed to short term economic considerations—a paramount factor in decisions around what type of tailings storage approach will be approved.[23]

4. **RECOMMENDATION: Ensure that public safety, environmental safety, and economic safety are the determinative factors in governing what tailings disposal system will be implemented.**

5. **RECOMMENDATION: Require that financial feasibility studies conducted for proposed mines and waste disposal systems take into account the full long-term life cycle costs of facilities—and include externalities such as long-term costs/risks to the environment, industry and taxpayers, and public safety.**

6. **RECOMMENDATION: Require and apply the strictest and most rigorous standards when tailings dams are unavoidable.**[24]

Meet IRMA (Initiative for Responsible Mining Assurance) standards for waste management

Globally, some of the most practical and progressive environmental standards for mining are being developed in the IRMA certification process. Similar to the Forest Stewardship Council and Marine Stewardship Council, IRMA is working to establish a mine-level certification program for responsible mining. Under this initiative, environmental and human rights organizations are working with mining companies, labour unions, community organizations and downstream users of mining products to produce a set of standards that mining companies must meet if they want to be certified by IRMA. The aim is to create an independently verified, responsible mining assurance system that improves social and environmental performance—and to create value for those mines that take a lead in socially and environmentally responsible mining.

7. **RECOMMENDATION: Require that all mines in BC comply with the IRMA standards, or better, for Waste and Materials Management.**[25]

Ban disposal of mine wastes into lakes, rivers or oceans

British Columbia still permits companies to discharge waste materials directly into lakes, rivers and oceans. This dumping of mine tailings, process water and waste rock into water bodies can damage aquatic life and ecosystems, and threaten drinking water and human health.

While companies may insist that disposal into a natural water body is necessary for a project to proceed, there is often a better approach. For example, when Taseko Mines first proposed an open-pit mine project near Williams Lake (Prosperity Mine), its project description included plans to drain nearby culturally and ecologically significant Fish Lake for use as a dump for waste rock.[26] Taseko told the federal environmental review panel that, based on its conclusions from "one of the most comprehensive alternatives assessments" ever undertaken, the destruction of Fish Lake for waste management "was the only viable option." Other methods were, according to the company, uneconomical and cost prohibitive.[27] However, after this proposal was rejected by the federal panel in 2010, Taseko Mines found another option, and came forward with a new proposal in 2011. This new proposal would preserve Fish Lake by "relocating the tailings storage facility 2.5 km upstream of the lake and by introducing a lake recirculation water management

scheme"—a new plan that apparently became economically viable after the original 2010 project rejection.[28]

When natural water bodies are used for disposal of mining waste, reclamation may not be possible and the impacts can go on for decades. To protect against the significant public costs associated with long-term degradation of lakes, rivers and oceans, a number of jurisdictions have acted to restrict or prohibit the direct disposal of mine waste into these natural water bodies.[29] Similarly, the international Initiative for Responsible Mining Assurance (IRMA) will not certify mine sites that use river, submarine and lake disposal of mine waste materials under its Standard for Responsible Mining.[30]

8. **RECOMMENDATION: Prohibit disposal of mining wastes into rivers, lakes and oceans.**

Endnotes

1 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector* (Victoria: Office of the Auditor General, 2016) at p. 66.

2 Ian Bailey, "Mount Polley Mine Still at Risk for Future Tailings Breach," *Globe and Mail* (2016 August 4).

3 Independent Expert Engineering Investigation and Review Panel, *Report on Mount Polley Tailings Storage Facility Breach* (Province of British Columbia, 2015) at p. 118.

4 Robyn Allan, *Toward Financial Responsibility in British Columbia's Mining Industry* (Union of BC Indian Chiefs, 2016) at p. 53.

5 As exemplified by the major losses suffered by First Nations deprived of access to the salmon runs impacted by the Mount Polley dam failure. See Ellen L. Petticrew *et al.*, "The impact of a catastrophic mine tailings impoundment spill into one of North America's largest fjord lakes: Quesnel Lake, British Columbia, Canada" (Geophysical Research Letters, 2015). As documented by Amnesty International, several lawsuits have been filed by various First Nations for damage done to their fisheries and traditional uses, including *Tsilhqot'in National Government et al. v. Imperial Metals Corporation et al.*; *Chief Ann Louie and the Williams Lake Indian Band v. Mount Polley Mining Corporation et al.*; and *St'at'imc Chiefs Council et al. v. Mount Polley Mining Corporation et al; Amnesty International, "Mount Polley Litigation Summary"* (2017).

6 For example, "on July 20, 2016, the Health, Safety and Reclamation Code for Mines in British Columbia was updated to increase design standards for tailing storage facilities (TSFs). These updates included the introduction of new criteria for steepness of dam slopes, earthquake and flood design; additional responsibilities for the engineer of record, and; the establishment of an Independent Tailings Review Boards;" The Environmental Law Club & Environmental Law Centre, *Digging up a Legislative History,* (Victoria: 2018) at p. 48, citing British Columbia, Ministry of Energy and Mines, "Government actions renew B.C. as a leader in mining" (February 28, 2017) at "Backgrounder 3," p. 8.

7 In addition to the deficient rules on tailings/waste management discussed below, Mount Polley Mine is still discharging effluent into Quesnel Lake over the opposition of local residents. Those residents are challenging the legality of BC's permit, arguing that management of the effluent falls far short of Best Achievable Technology.

8 Editorial Board, "Brazil's Lethal Environmental Negligence," *New York Times*, January 31, 2019.

9 Independent Expert Engineering Investigation and Review Panel, *Report on Mount Polley Tailings Storage Facility Breach* (Province of British Columbia, 2015) at pp. 119-120.

10 Independent Expert Engineering Investigation and Review Panel, *Report on Mount Polley Tailings Storage Facility Breach* (Province of British Columbia, 2015) at p. 122.

11 Independent Expert Engineering Investigation and Review Panel, *Report on Mount Polley Tailings Storage Facility Breach*, Appendix I, B.C. Tailings Dam Failure Frequency and Portfolio Risk, 5.3.3 Combined Approach (Province of British Columbia, 2015) at p. 11.

12 See Letter. David Chambers, Ph.D., Center for Science in Public Participation, "Comments on the Code Review Changes to Part 10, Mine Health Safety and Reclamation Code for Mines in British Columbia." Received by Secretariat for the Code Review (July 27, 2016) (Bozeman: Montana).

13 Independent Expert Engineering Investigation and Review Panel, *Report on Mount Polley Tailings Storage Facility Breach* (Province of British Columbia, 2015) at p. 125.

14 This is happening, in spite of the fact that the Panel stated that the Best Available Technology (BAT) recommendations could be accomplished through underground disposal, along with filtered (dry-stack) technology. Note, however, that BruceJack Mine on the Unuk watershed, under construction, is planning to backfill some of their tailings underground and cement pasting tailings to neutralize some of the acid. However, "due to space limitations," in addition to backfilling into the mine, the project would require "disposal into Brucejack Lake… throughout the mine life;" Canadian Environmental Assessment Agency, Bluejack Gold Mine Project: Environmental Assessment Report (Ottawa: 2015) at pp. 7, 12.

15 For other examples of continuing water impoundment systems, see the proposed Blackwater and Underground Kemess mine projects. Both propose conventional tailings management. Although the Kemess project proposes tailings to be deposited in an existing pit, it still requires a 35m high dam, similar to the dam at Mount Polley.

16 Letter. "Request for Establishment of a Judicial Commission of Public Inquiry to Rectify and Improve BC Mining Regulation." Calvin Sandborn & Kristy Broadhead. Received by the Honourable Christy Clark (8 March 2017) (Victoria: BC) at Appendix C. Note that under the Ministry's "Consequence of Failure Rating," Mount Polley was not in the category of most dangerous tailings dams. It was rated as having a "significant" consequence of failure—not as serious as the facilities rated as having "extreme," "very high," or "high" consequence of failure. See G. Hoekstra, "Little Impact was Expected from Mount Polley Dam Collapse: Failure Ranking," *The Vancouver Sun*. (2014, September 7).

17 Province of British Columbia, Ministry of Energy and Mines, Health, Safety and Reclamation Code for Mines in British Columbia (Victoria: 2017) at Part 10, But note that the TSF Qualified Person is employed by the company.

18 Letter. "Request for Establishment of a Judicial Commission of Public Inquiry to Rectify and Improve BC Mining Regulation." Calvin Sandborn & Kristy Broadhead. Received by the Honourable Christy Clark (8 March 2017) (Victoria: BC) at Appendix C.

19 Letter. "Request for Establishment of a Judicial Commission of Public Inquiry to Rectify and Improve BC Mining Regulation." Calvin Sandborn & Kristy Broadhead. Received by the Honourable Christy Clark (8 March 2017) (Victoria: BC) at Appendix C; and Ian Bailey, "Mount Polley Mine Still at Risk for Future Tailings Breach," *Globe and Mail* (August 4, 2016).

20 Letter. David Chambers, Ph.D., Center for Science in Public Participation, "Comments on the Code Review Changes to Part 10, Mine Health Safety and Reclamation Code for Mines in British Columbia." Received by Secretariat for the Code Review (July 27, 2016) (Bozeman: Montana) at p. 4.

21 See the discussion on perpetual water treatment below. Also see "Polluter Pays."

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BC MINING LAW REFORM

Closure, Reclamation & Abandoned Mines

University of Victoria Environmental Law Centre

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Introduction

Improperly closed mines can create serious long-term environmental and health impacts and can impose economic burdens on communities, governments, and other businesses. For example, the closed Britannia Mine on Howe Sound remained one of Canada's most contaminated sites for decades, leaching pollution that decimated the unique ecology of North America's southernmost fjord.[1] Similarly, a now-defunct copper mine on Vancouver Island wiped out food, recreational and economic fisheries on the Tsolum River, while the un-remediated Tulsequah Chief Mine in the northwest has contaminated the region's most productive salmon watershed for many decades. Poor reclamation at the Pinchi Lake mercury mine in the interior meant that generations of Tl'azt'en people faced the risks of mercury contamination in their traditional food supply.[2]

Water pollution from acid rock drainage and metal leaching is a major concern at these and many other closed mines—particularly where old mines lie upstream of sensitive ecosystems or important water sources. Inadequate closure and cleanup creates other risks, such as hazards left at abandoned mine sites, constraints on future land use, and costs for long-term reclamation and water treatment.[3] Moreover, when proper mine closure does not occur in a timely way, these negative impacts are more likely to become permanent and more expensive to address[4]—with these larger costs often left to taxpayers. For example, the public paid $46 million to control acid rock drainage at the Britannia mine—and will continue to pay $3 million annually to maintain treatment in perpetuity.[5]

Historically, there was minimal regulation to ensure proper closure and decommissioning of BC mines. In recent decades, however, it has become widely understood that cost-effective prevention of environmental harm is best achieved by addressing these issues when mines are being planned and designed, not after the fact.[6] This is why BC requires that mine proponents prepare detailed mine closure plans *before* starting work on a mine.

Unfortunately, despite requirements for detailed closure plans, the current regulatory approach does not ensure that mines are properly cleaned up by the companies that profited from them.[7] BC's laws do not adequately protect taxpayers from the costs of existing and proposed mines that may be abandoned. Compounding the problem, the province has a large legacy liability from old mines that were developed and abandoned when regulations were even looser. There are more than 1,100 closed mines in the province,[8] and many of these were developed in an era where closure planning was less than an afterthought. Addressing the ongoing impacts from these sites can be particularly costly.[9]

BC's laws should require world-leading practices for mine closure and reclamation, and must ensure that the responsible companies, not taxpayers, pay for these clean-up

activities. Government also needs to ensure adequate monitoring of closed mines and implement a comprehensive program for prioritizing and funding the cleanup of old polluting mines based on relative risk.

Reclamation funding

Mining is a cyclical industry where the fate of individual projects is subject to a suite of unpredictable factors—for example, changes in commodity prices, extreme weather events, accidents, and labour disputes can shutter mines abruptly. Mining companies are also often highly speculative enterprises and bankruptcy is common. When government has not secured enough financial assurance from companies ahead of time, these bankruptcies result in unpaid cleanup bills that often fall to taxpayers.[10]

The Tulsequah Chief Mine, for example, has been polluting continuously since 1957, when it was abandoned by Cominco. Attempts to reopen the mine have resulted in two bankruptcies in the last decade: Redfern Resources in 2009, and Chieftain Metals in 2016. After the 2016 bankruptcy, BC tried unsuccessfully to have Chieftain Metals' receiver comply with cleanup orders, but government recently had to launch its own cleanup initiative.[11]

Given how common these premature closures are in the industry, requiring full reclamation security at the beginning of mine operations is a common-sense approach to avoid regularly having the public pay the cleanup bill.

BC's stated goal is to make sure that modern mine sites "do not leave an ongoing legacy or require public funds for clean-up activities,"[12] and section 10 of the *Mines Act* provides the authority for the Minister to act on that intention. Specifically, subsection 10(4) of the *Act* allows the Chief Inspector to make a mine permit conditional on the company providing security:

(a) For mine reclamation, and

(b) To provide for protection of, and mitigation of damage to, watercourses and cultural heritage resources affected by the mine.

Subsection 10(5) of the *Act* provides further powers that allow government to require security top-ups throughout the life of the mine as liabilities increase; but this, too, is optional and at the Chief Inspector's discretion.[13] The province's 2016 "Factsheet" on mine reclamation security clearly sets out the toothlessness of the legislation when it comes to taking adequate full security:

> *As a condition of the Mines Act… a financial security is required for **all or part** of the outstanding costs associated with the mine reclamation and the protection of land, watercourses and cultural resources.*
> [emphasis added]

As the provincial factsheet describes, the *Mines Act* requires that companies post security for somewhere between 0% and 100% of planned cleanup costs. Whether that amount is closer to 0% or 100% is a discretionary decision to be made by the Chief Inspector.

In practice, this discretionary approach has not protected British Columbians from covering the costs of routine cleanup that should have been paid by the mining company. Government—as represented by the Chief Inspector—has regularly chosen to require that companies provide security for only part of the projected cleanup costs. In 2016, the Auditor General warned that BC's failure to require adequate security to pay for expected cleanup costs had produced a $1.2 billion unfunded taxpayer liability.[14] By the end of 2017, this liability had already climbed to $1.4 billion, according to the BC Chief Inspector of Mines.[15] In 2018, Canada's Ecofiscal Commission confirmed that this massive public liability for routine mine cleanup costs continues to rise.[16] As the Commission concluded, BC's "low-stringency" approach to taking full security for projected cleanup costs means "financial assurance in British Columbia is stronger in theory than in practice."[17]

Criticism of BC's approach on cleanup security has mounted on the international stage. In October 2018, the Governor of Alaska wrote to BC's Premier, criticising our discretionary mine security rules.[18] The Governor noted BC's failure to obtain adequate financial assurances from the owners of the Red Chris and Tulsequah Chief mines, which continue to pollute waters on both sides of the border. Alaska's concerns arise, the Governor stated,

> *…because statutory decision-makers in British Columbia may accept less than full security based on a company's financial strength, and the public has less access to the data and analyses used to set the amount of financial assurances.*

In Canada, Quebec provides an example of a more rigorous mine reclamation security policy. In that province, the total security amount has to be deposited with the government over a two-year period after approval of a mine's reclamation plan. The international standard set by the Initiative for Responsible Mining Assurance ("IRMA") goes further still, requiring that companies provide financial assurance for independently reviewed cleanup cost estimates *before initial development permits are issued*. The IRMA standard also requires that financial security amounts be reviewed by third parties at least every five years or when there is a significant change to a mine plan.[19]

In addition to protecting the taxpayers' purse, requiring full security for cleanup incentivizes better environmental performance. As economist Robyn Allan has noted,

when a company knows that it will not necessarily have to bear the full costs of cleanup (because it is not required to post full security), it has less incentive to manage the mine in a way that minimizes long-term remediation or water treatment costs. In contrast, when a company has provided full security at the outset, it has additional motivation to conduct its overall operations to facilitate proper cleanup—and the return of its security deposit.[20]

1. **RECOMMENDATION: Require that companies provide full security for independently reviewed reclamation costs before permits are issued to begin mining operations. For existing mines, require full security for reclamation costs within two years.**

Mine reclamation standards and timelines

Most mining jurisdictions require that companies restore mined lands to some sort of natural or otherwise usable state—this is often referred to as 'reclamation' and is part of the overall process of properly closing a mine.

To ensure that reclamation goals are achieved, a clear set of measurable and enforceable reclamation criteria is needed.[21] Currently, BC's laws generally do not set adequate standards for reclamation, and government inspection procedures "are broad and include vague statements without clear guidance for staff or contractors."[22] For example, policy guidance regarding old mines includes that they "should be inspected from time to time as practical."

In other jurisdictions, like California, government sets clear reclamation standards for different types of post-closure land uses.[23] In Washington State, the government mandates an enforceable schedule to ensure that reclamation activities are undertaken as soon as possible.[24] This protects the public from growing reclamation liabilities that would fall to taxpayers in the event of a company default. Whereas mineral exploration sites in BC must generally be reclaimed within one year,[25] there are no mandated reclamation timelines for mines. BC can reduce risk to the public by mandating clear reclamation standards and timelines that meet or exceed IRMA requirements, and by ensuring independent and ongoing inspection of reclamation efforts.[26]

2. **RECOMMENDATION: Enact measurable and enforceable reclamation criteria that meet or exceed the international standards set in IRMA's Standard for Responsible Mining.**

3. **RECOMMENDATION: Ensure timely independent review of the adequacy of site reclamation and regular public reporting of review findings.**

4. **RECOMMENDATION: Require at least annual inspection of all closed mines for geotechnical issues, ground and surface water contamination and revegetation.**

Community and stakeholder involvement

Community input and engagement in the process is a key aspect of proper mine closure. According to the 2018 Asia-Pacific Economic Cooperation (APEC) Mining Task Force's *Mine Closure Checklist for Governments*, the "desired results of closure should be defined by key stakeholders in concert with overarching policy."[27] IRMA's Responsible Mining Standard echoes this approach and requires that reclamation and closure plans contain clear descriptions of the "role of the community in reviewing the reclamation and closure plan."[28]

Public and stakeholder involvement is equally important in reviews and updates of existing closure plans—because, over time, communities and local authorities may identify unforeseen impacts that require attention. In Colorado, local authorities must be consulted before changes to an existing closure and reclamation plan are approved. To be compliant with the IRMA standards, companies must also provide interim reclamation progress reports at the request of stakeholders.[29]

Finally, in order to effectively engage and provide valuable input to the closure planning process, the public needs access to good information and may also require independent expert support. BC has recently moved to require the posting of Annual Reclamation Reports online, but there is no requirement that closure plans be reviewed by interested parties during their initial development or their review and amendment. There is also no requirement that government or the company provide resources to enable the public or affected groups and individuals to engage. Other jurisdictions ensure support for community participation in the review of closure plans by requiring proponent companies to pay for the review costs of third parties.[30] The IRMA standard requires that, if necessary, the company must provide resources for "capacity building and training to enable meaningful stakeholder engagement."[31]

5. **RECOMMENDATION: Require and support local and stakeholder engagement on the content of mine closure and reclamation plans, including proposed changes to those plans and the monitoring of their effectiveness.**

Comprehensive approach to old mines

The Sunro Mine at Jordan River on Vancouver Island is the perfect example of why BC needs to ensure that old mine sites are monitored, especially when sensitive ecosystems or water sources are located downstream. The Sunro mine operated from 1950–1974 and the BC government deemed the mine 'reclaimed' in the 1990s and stopped monitoring it. The poorly remediated site continued to leach metals, poisoning the river and confounding the efforts of local volunteers and other partners working to re-establish salmon populations. BC, with no comprehensive monitoring program for former mine sites, did not identify the ongoing contamination of the river and action was taken only after a citizen complained.[32] Unfortunately, Jordan River is just one example of a much larger problem. In fact, MiningWatch Canada has estimated that, collectively, old mine sites in BC contribute to over $3 billion in unfunded cleanup liabilities for taxpayers.[33]

Despite this significant public risk, BC is not keeping close tabs on these old and potentially polluting sites. In her 2016 audit of compliance and enforcement in the sector, the Auditor General found that, of the four closed mines that were audited, only one reclamation inspection was performed over the three-year audit period. The Auditor General found it particularly troubling that the closed Shasta mine in northern BC received no inspections during the audit period despite its history of serious non-compliance with reclamation requirements. She concluded that the number of inspections of closed mines in BC was inadequate, given the financial and environmental risks they pose.[34]

With a legacy of many old mine sites that continue to pollute and the constraints of finite public resources for cleanup, BC needs an effective approach to prioritize which sites receive attention first.[35] For this, the province could look to jurisdictions where laws require prioritizing abandoned mine remediation projects through consultation with local agencies—and promote community involvement in restoration activities.[36] To effectively tackle the problem of abandoned mines with constrained public resources, APEC's *Mining Closure Checklist for Governments* recommends prioritization of cleanup of old sites based on the relative cost and estimated environmental and public health benefits of specific cleanup projects.[37]

In developing a prioritization approach for cleaning up old polluting mines, BC could take lessons from its Crown Contaminated Sites Program (CCSP), which is intended to identify

and remediate high risk contaminated sites on Crown land where no responsible person can be identified. This program has operated on a small budget and has only remediated a total of 19 sites as of March 2018.[38] However, despite its limitations, there are positive aspects of the CCSP's approach that could be scaled up and adopted as part of a larger program to ensure adequate monitoring and cleanup of old polluting mines. For example, the program has developed a risk-ranking methodology to prioritize the cleanup of those sites that pose the greatest estimated risk to human health and the environment.[39] The CCSP has also demonstrated the value of partnerships with local communities and Indigenous Nations in cleanup planning and implementation. For example, the CSSP undertook a joint planning process with the Takla Lake First Nation through which the province and the First Nations agreed on a final remediation approach.[40]

While the estimated unfunded cleanup liabilities for old mines in BC are large, there are feasible options for raising the funds needed to comprehensively address the problem. For example, a leading approach to funding cleanup of polluting legacy sites is to require current operators to pay into an orphaned and abandoned mine site cleanup fund. In Western Australia, the state government established a Mining Rehabilitation Fund in 2012 that addresses future and past abandoned mines. It is a pooled fund that current operators contribute to and is held by government. The capital funds are to be used for restoration of any mine site that becomes abandoned, while interest earned on the capital in the fund is used for restoration of past abandoned sites.[41] BC also has its own experience to draw from—in 2018 the province announced a levy on oil and gas permit holders to be paid into an Orphan Site Reclamation Fund to deal with old and abandoned wells. Current operators pay a levy amount based on the estimated amount of future cleanup liability for their operations in relation to the industry-wide future liability amount.[42] A similar levy regime for current mine operators in would help BC pay for necessary cleanup at priority legacy sites that continue to pollute important ecosystems and put public health at risk.

6. **RECOMMENDATION: Establish a rehabilitation fund for old polluting mines that active mining companies contribute to proportionally, based on the relative size of their total cleanup and reclamation liabilities.**

Endnotes

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Introduction

In addition to the water contamination that tailings storage creates (see "Waste Disposal and Management"), mines can degrade water in a multitude of other ways. Exploration and drilling can lead to erosion, hydrocarbon pollution and acid rock drainage from abandoned drill holes. Mine operations themselves not only produce mine waste residues (tailings), but also remove rock that is not processed for minerals, as well as spent "heap leach" materials.[1] Water flowing across and through these waste materials can leach and carry toxic metals and other contaminants into ground and surface water. Other pollution occurs when water used in the mining process is discharged into the environment. Chemicals used in mining and processing (e.g., cyanide, vehicle and machinery fluids) can contaminate water—as can contaminants that escape from water treatment sludge.

There is no doubt that mines seriously impact watersheds on a large scale. In 2017, Environment Canada's third national assessment report of environmental effects monitoring for metal mines indicated that 76% of mines cause effects on fish or fish habitat. Worse, 92% of those mines with effects had significant impacts—effects that "may be indicative of a higher risk to the environment." Although not individually identified, many of these mines are in British Columbia.[2] In 2019, the federal Commissioner on Environment and Sustainable Development found that, despite these troubling findings, there was often "no requirement for companies to fix the problems." The Commissioner recommended fixing these important gaps. In addition, the Commissioner recommended the release of all data, mine-by-mine, to allow the public and communities to make informed decisions about the use of affected waters and fish habitat.[3]

To deal effectively with the threats that mining poses to BC's waters, the provincial government must implement the recommendations set out in "Waste Disposal and Management". In addition, Government must require, at a minimum, that mining companies:

- Identify all uses of water (including ecological uses) that may be affected by a proposed mine;
- Characterize the current baseline state of water quantity, quality and dynamics;
- Identify project-related chemicals, wastes, facilities, and activities that may impact water quality and quantity;
- Scientifically model to predict and quantify significant water quality and quantity impacts; [4]
- Develop options to mitigate significant risks to water—giving priority to proactive prevention and source control;
- Effectively monitor ongoing impacts to water; and

- Plan for effective adaptive management actions, to be implemented when monitoring reveals defined impacts.

The IRMA standard

The Initiative for Responsible Mining Assurance (IRMA) requires all of the above actions. BC laws must be strengthened to require that companies meet or exceed the global best practices found in the IRMA standards. In particular, BC could learn from a number of the IRMA standard provisions on water management.[5]

For example, unlike BC's current regime, IRMA requires full consultation with communities and stakeholders on critical water-related issues, with third party independent reviews.[6] Good water management and public accountability require participation and oversight from Indigenous Nations and members of the public. In recognition of this, IRMA requires that mining companies engage with these groups and individuals on key topics such as:

- Planning long-term water goals and protection provisions;
- Monitoring impacts on water quality and quantity;
- Implementing adaptive management;
- Publishing monitoring data; and
- Notifying communities of imminent threats to water resources.

To comply in a meaningful way with the IRMA Standards, companies must regularly report monitoring results on an easily accessible public website—and be fully accountable to the public for the way they manage water throughout their operations and reclamation activities.[7]

1. **RECOMMENDATION: Adopt the *IRMA Standard for Responsible Mining* water management standards as minimum requirements in BC's mining laws, including full consultation with communities and stakeholders on critical water-related issues, with third party independent reviews.**[8]

Perpetual water treatment

Fourteen major BC mines currently have water treatment facilities. The provincial government estimates that 45 additional mines have moderate-to-high acid rock drainage/leaching potential—and predicts that 12 of these will require perpetual water treatment.[9] This creates a risk that, if water treatment ceases, long-term environmental damage could occur (as has happened with the Tulsequah Chief Mine in the Taku watershed).[10] It also creates a significant financial risk to taxpayers that has been identified as a major concern by the Auditor General.

Yet BC policy allows mines to be developed even if they have acid rock drainage potential and may require perpetual water treatment.[11] This policy is far less conservative than the approach taken in the Northwest Territories, Manitoba, Yukon, New Mexico, and Wisconsin—where taxpayers and the environment are protected by a simple ban on mining operations that will require very long-term water treatment. The BC Auditor General noted that these jurisdictions prohibit such mines "due to the increased risk that taxpayers will ultimately be left with the cost of remediation."[12]

IRMA similarly recognizes these risks, and the IRMA standard generally prohibits mines that will require perpetual water treatment. IRMA begins with the default prohibition of mines requiring long-term water treatment, and only provides for exceptions in strictly defined circumstances.

Under the IRMA standard, reliance on perpetual treatment is only acceptable if all the following exceptional circumstances apply: (1) the company has made all practicable efforts to implement best practices to avoid long-term treatment, including use of independent third-party reviews; (2) the untreated water itself poses no significant risk to health or community livelihoods; (3) the company minimizes the volume of water that must be treated; and (4) the company provides financial assurance to cover the cost of long-term water treatment.[13]

2. **RECOMMENDATION: Prohibit mines that are likely to require perpetual water treatment unless the mine meets the exceptional circumstances set out in the *IRMA Standard for Responsible Mining*.**[14]

Exploration activities

Before full mine operations commence, mining exploration can also seriously impact watersheds. Exploration activities can cause various impacts to water, due to: erosion; camp, airstrip and road activities; line cutting; drilling and drilling fluids; fuel storage; and abandoned boreholes (which may generate acid rock drainage). Current BC rules governing exploration need to be carefully reviewed and strengthened to protect water, as recommended by experts in the field.[15]

3. **RECOMMENDATION: Strengthen mining exploration rules to protect water.**

Endnotes

1 Unprocessed materials include waste rock, unprocessed ore, overburden, etc. In heap leaching, ore is placed on pads and treated with cyanide and other chemicals to remove metals.

2 Eighty-two metal mines were assessed, with 62 showing effects, 19 with inconclusive results, and one with no effect. The report states: "Although the metal mining sector is achieving over 95% compliance with the prescribed discharge limits, a decade of results have shown that impacts do occur on fish and fish habitat downstream from metal mines." See Environment and Climate Change Canada, Third national assessment of environmental effects monitoring data from metal mines (Government of Canada, 2017, online https://www.canada.ca/en/environment-climate-change/services/managing-pollution/publications/third-national-assessment-monitoring-data/chapter-6.html and https://www.ec.gc.ca/esee-eem/default.asp?lang=En&n=F2078C08-1&offset=7&toc=show).

3 The Commissioner also found that up to 35% of the 138 metal mines in Canada were out of compliance by not fully reporting their pollution data to Environment Canada; and that, under the current regulations, 117 of non-metal mines (incl. coal mines) were not subject to mandatory monitoring and reporting of their effects to water and fish habitat. See Commissioner of the Environment and Sustainable Development, Report 2—Protecting Fish From Mining Effluent (Office of the Auditor General of Canada, 2019, online http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201904_02_e_43308.html). See also MiningWatch Canada, Canada Fails To Protect Waters & Fish from Mine Pollution (2019, online https://miningwatch.ca/news/2019/4/2/new-environment-commissioner-audit-canada-fails-properly-protect-waters-fish-mine and https://miningwatch.ca/sites/default/files/2019-04-05-miningwatchcanada-cesdreport_7_0.pdf)

4 Wherever these impacts are potentially significant.

5 Initiative for Responsible Mining Assurance, *IRMA Standard for Responsible Mining IRMA-STD-001* (2018) at Chapter 2.6, "Planning and Financing Reclamation and Closure" and Chapter 4.2, "Water Management." Note that discussion of a number of water issues is also included in Maya Stano & Emma Lehrer, *Fair Mining Practices: A New Mining Code for British Columbia* (Fair Mining Collaborative, 2013). For example, see the discussion on the need to require adequate baseline data on groundwater and surface water collected over minimum time periods, at p. 256.

6 See IRMA Chapter 4.2, table on cross-references to other chapters p.136: "The requirements to consult or collaborate with stakeholders regarding mine water management (in 4.2.1.2, 4.2.1.3, 4.2.4.1) shall conform with IRMA stakeholder engagement

requirements in Chapter 1.2. This includes determining if the stakeholders have the capacity to effectively participate in discussions, and provision for access to independent experts if necessary to ensure meaningful engagement in water monitoring (requirement 4.2.5.3)."

7 Hydrogeologist Dr. Gilles Wendling has recommended that government require that mining companies: (1) On a quarterly basis, update all water quality monitoring data on the provincial Environment Management System database; and (2) Provide adequate funding for independent review of baseline water quality data and proposed monitoring programs—and for regular independent review of provincial government water quality monitoring during and post mining.

8 In particular, IRMA standards set out in IRMA chapters 2.6 and4.2 in relation to water management and post-closure planning and financing. NOTE: IRMA standards have specific provisions on cyanide and mercury that are not detailed under BC law. However, the interim IRMA standard on cyanide is arguably insufficient. See the discussion in: Initiative for Responsible Mining Assurance, *IRMA Standard for Responsible Mining IRMA-STD-001* (2018), at p. 138

9 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector* (Victoria: Office of the Auditor General, 2016) at p. 38.

10 See "Closure, Reclamation and Abandoned Mines" for a discussion of this and other mines with problematic water treatment issues.

11 For an explanation of acid rock drainage, see Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector* (Victoria: Office of the Auditor General, 2016) at p. 35.

12 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector* (Victoria: Office of the Auditor General, 2016) at p. 38. The information about the Yukon, New Mexico and Montana comes from Dave Chambers, Center for Science in Public Participation. For further discussion on this issue see Maya Stano & Emma Lehrer, *Fair Mining Practices: A New Mining Code for British Columbia* (Fair Mining Collaborative, 2013) at pp. 366–367 and 192.

13 In Chapter 2.6, IRMA prohibits long-term water treatment unless: all practicable efforts to implement best practice water and waste management methods to avoid long-term treatment have been made; the company funds an engineering and risk assessment that includes consultations with stakeholders and determines that the contaminated water to be treated perpetually poses no significant risk to human health or to the livelihoods of communities if the discharge were to go untreated; and the company takes all practicable efforts to minimize the volume of water to be treated. Section 2.6.6.1 in IRMA states "If long-term water treatment is required post-closure:

a. The water treatment cost component of the post-closure financial surety shall be calculated conservatively, and cost calculations based on treatment technology proven to be effective under similar climatic conditions and at a similar scale as the proposed operation; and b. When mine construction commences, or whenever the commitment for long-term water treatment is initiated, sufficient funding shall be established in full for long-term water treatment and for conducting post-closure monitoring and maintenance for as long as IRMA Water Quality Criteria are predicted to be exceeded." This is also cross-referenced in IRMA Chapter 4.2: "Chapter 2.6 includes additional requirements for a risk assessment prior to long-term water treatment (see 2.6.6.1), and provision of financial assurance to cover the cost of long-term water treatment (see 2.6.7.2)." See Initiative for Responsible Mining Assurance, *IRMA Standard for Responsible Mining IRMA-STD-001* (2018) at Chapter 2.6.6. On this issue, also see Letter. "A New Mineral Resources Act for the Northwest Territories." Ugo Lapointe, MiningWatch Canada. Received by Honourable Minister Wally Schumann, Government of the Northwest Territories (2017 December 1) (Ottawa: Ontario) at pp. 15–16.

14 See *Ibid*, IRMA, Chapter 2.6.6.

15 For example, the *Fair Mining Practices Code* has made the following recommendations: (1) Require mining companies to comply strictly with commitments to protect water in environmental protection plans, as part of access/exploration agreements; (2) Strengthen rules on exploration drill hole abandonment, to ensure that deleterious substances are not released from or leached from such holes; (3) Prohibit abandonment of drill holes in a way that would permit movement of water from one aquifer or groundwater formation to another; and (4) Increase riparian setbacks for exploration activities. See *Fair Mining Practices Code*, Appendix A, p. 29 and pp. 152–157.

BC MINING LAW REFORM

Monitoring & Enforcement

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Introduction

While mining can provide jobs to communities and revenue to governments, the industry can also have significant negative impacts—like long-term contamination of lakes and rivers, loss of fish and wildlife populations, habitat destruction, and damage to culturally significant areas. There is also of risk of catastrophic failures of tailings dams (e.g. Mount Polley), both during mine operations and in perpetuity after mines close. In light of such hazards, a strong monitoring and enforcement regime is essential to mitigate risks and to maintain public confidence in government oversight. This brief outlines the problem with the current monitoring and enforcement system, and highlights examples of solutions from other jurisdictions.

The provincial Environmental Assessment Office (EAO), the Ministry of Environment (MOE) and the Ministry of Energy, Mines and Petroleum Resources (MEM) are all involved in monitoring and enforcement for the mining sector. However, the evidence suggests that these agencies don't have the resources and authority they need to be effective regulators. Unfortunately, BC's compliance and enforcement regime has been unable to prevent significant environmental consequences.

The BC Auditor General's 2016 report on compliance and enforcement in the mining sector was damning and described a "decade of neglect in compliance and enforcement program activities" within MEM.[1] The Auditor General highlighted the shrinking enforcement activity at MEM and MOE and pointed to insufficient resourcing—noting that "... compliance and enforcement activities of the two ministries are inadequate to protect the province from significant environmental risk."[2] She found, "major gaps in resources, planning and tools" for monitoring and enforcement and that the focus was on permit applications rather than the key regulatory activities of monitoring, compliance, and enforcement.[3] Along with deficits in staffing and resources, the Auditor General attributed substandard enforcement levels to a vague and highly discretionary inspection and enforcement regime. Despite continued growth in the mining sector, actual enforcement against lawbreakers has been rare. The issuance of temporary suspension or shut-down orders to non-compliant companies has been very uncommon, and enforcement tools (such as fines, penalties, court orders, or imprisonment) have seldom been applied.[4]

These findings are consistent with a 2011 West Coast Environmental Law critique, which found that the rate of environmental prosecutions for illegal mining activities had dropped to an historic low of 2.5% of all enforcement actions. The authors noted that hunters and fishers in BC were almost four times more likely to be convicted of an environmental offence than a large industrial mining polluter. When enforcement did occur against non-compliant mining activities, it was generally limited to the issuance of tickets and the imposition of nominal fines too small to deter rule-breaking.[5]

Public concern about oversight of mining has mounted as a result of the lack of enforcement in relation to the 2014 Mount Polley tailings breach, the largest mining disaster in BC's history.[6] Both the independent panel that investigated the breach and the Auditor General found the mine's operation was problematic and yet, still, no company or individual has been charged. This points to a problem of inadequate laws, or inadequate enforcement of the laws, or both.

The following sections offer potential reforms to address the shortcomings in the monitoring and enforcement system. Ultimately, environmental laws are only as good as their enforcement. Therefore, the recommendations below focus on ensuring that public oversight agencies have the powers, resources, and independence they require to effectively monitor and enforce mining rules.

Separation of promotion and compliance

Independent oversight of the mining industry in BC is crucial. The Auditor General's 2016 report on compliance and enforcement called specifically for an "integrated and independent compliance and enforcement unit" outside of MEM. To date, however, this key recommendation remains to be implemented. The Auditor General identified the ministry's dual role of both *promoting* mining and *regulating* mining as a core problem that puts the ministry at risk of regulatory capture.[7] Specifically, her report noted that MEM exhibits most of the qualities that "give rise to a reasonable perception of, and increase the actual risk of, regulatory capture."[8] Independent monitoring and enforcement would significantly mitigate against this risk, and would address the issues created by the "irreconcilable conflict" between MEM's dual mandates.[9]

Other North American jurisdictions with comparable mining sectors have moved to separate promotion of mining from monitoring and enforcement—thereby reducing the risk of public oversight being weakened by a desire to promote the industry. For example, in Ontario the Ministry of Northern Development and Mines promotes mining while the Ministry of the Environment's Investigation and Enforcement Branch enforces environmental protection legislation. With this approach, Ontario achieves a higher conviction rate for environmental offences than BC.[10] In Alaska, industry promotion and environmental protection are separated as well. The state's Department of Environmental Conservation protects human health and the environment[11] while the Department of Natural Resources promotes mining.[12] It is important to note that after the BP Horizon oil rig mega-spill off the US Gulf Coast, the US acted to separate federal enforcement functions from other engagement with industry in order to guard against regulatory capture.[13]

In sharp contrast, the BC government rejected the Auditor General's primary recommendation to reorganize compliance and enforcement functions into a separate unit, independent from MEM. The current government has mandated the establishment of an independent oversight unit to increase worker safety in the industry. Beyond this commitment to independent safety oversight, however, limited action to establish an independent monitoring and enforcement body has been taken.[14]

1. **RECOMMENDATION: Establish an independent mining compliance and enforcement unit outside the jurisdiction of the Ministry of Energy, Mines and Petroleum Resources with a mandate to protect the environment.**

Transparency and public accountability

Transparency and accountability are fundamental to an effective regulatory system. They assist in identifying and correcting deficiencies, maintaining public confidence in the regulatory process, and protecting the environment and local communities. Unfortunately, the public does not have access to transparent data on mining compliance in BC. For example, there are shortcomings in BC's reporting on compliance and enforcement in the sector. As the Auditor General concluded in 2016:

> *MEM's lack of meaningful environmental reporting may mean that the public and the Legislative Assembly do not have a complete understanding of the ministry's performance as a regulator, or of the environmental performance of B.C.'s mining sector.*

The Auditor General went on to recommend the ministry publicly report the results and effectiveness of their activities, as well as the estimated liability and security held for each mine.[15] Traditionally, MEM published only limited data on monitoring and enforcement. After the Mount Polley disaster in 2014, public pressure spurred the creation of a mine information website that provides details about mine permits, inspection reports, site monitoring activities, and compliance oversight.[16] However, updated transparency rules should also require regular public posting of information describing ongoing compliance with Environmental Assessment certificate conditions and permits in an easily understandable format (*e.g.* checklist), as well as all breaches of permits and laws.

Enhanced public access to mining companies' environmental monitoring data would also significantly enhance transparency for the sector. Currently, many companies present their environmental monitoring data in hard to decipher tables and charts.[17] Further, mine

monitoring data is often presented for a single monitoring cycle (i.e. one year) without incorporating data collected from the mine's previous monitoring cycles. As a result, it is extremely difficult for the public to assess how a mine is affecting contaminant levels in their surrounding communities, as well as how these impacts have changed over a mine's life span.

There are several simple regulatory changes that BC could adopt to increase public access to mining information, and thus strengthen accountability and transparency. For example, the province could require environmental monitoring and baseline data for all mines, and could mandate the sharing of that data with the public in understandable formats. Additionally, companies could be required to "make information on community health and safety risks and impacts and monitoring results publicly available," as is required by the 2018 Initiative for Responsible Mining Assurance ("IRMA") Standard for Responsible Mining.[18] At a minimum, companies should be required to routinely release all inspection reports, compliance orders, authorizations, convictions, contraventions and penalties.[19] Compliance with land-use objectives should also be publicly reported.

Beyond making key compliance and enforcement information easily accessible to the public, government should also be required to provide reasons for its decisions to deny or approve mining activities. BC's current mining laws allow for permitting decisions that ignore environmental and community concerns, but provide no explanation. For example, as noted in the Auditor General's 2016 report, in the case of the proposed Line Creek mine expansion project, the statutory decision maker was unable to issue an approval due to environmental concerns with proposed activities. Cabinet, however, stepped in and granted the approval without providing reasons. This opaque decision making on authorizations for activities with significant potential environmental impacts is even more concerning because there is no built-in appeal mechanism through which the public can challenge suspect decisions.[20]

2. **RECOMMENDATION: Require regular public posting of all mine environmental monitoring data and compliance and enforcement information in easily understandable formats.**

3. **RECOMMENDATION: Require that the responsible minister(s) provide written reasons for decisions to deny or approve mining activities.**

Staffing and resourcing

In the last 15 years, cuts to civil service staffing, training and support have hollowed out MEM's inspection, monitoring, and enforcement capacity.[21] Given the inadequacy of internal resources described here, the province has relied heavily on professionals who work for mining companies to ensure that regulatory standards are met and that the public and the environment are protected.[22] This approach has, however, failed to protect the public interest. As the Auditor General concluded in 2016, inadequate resourcing has resulted in a system that is "inadequate to protect the province from significant environmental risks."[23]

Diminished government staffing in monitoring and compliance resulted in large gaps in the province's regulatory regime for mining in the 2000s. The number of inspectors within MEM was reduced by approximately 50% (from 80 to 40) even as the province was seeing a substantial increase in the number and complexity of permit applications.[24] Since the Mount Polley disaster in 2014 and the Auditory General's report in 2016, the province has augmented MEM's compliance and enforcement staff levels and established a 'Deputy Ministers Mining Compliance and Enforcement Board' to oversee compliance and enforcement planning across the province.[25] However, as of January 2018, civil servants still indicate they have insufficient resources to effectively fulfill their mandate of resource management in the public interest.[26] Steady increases in compliance and enforcement personnel and resources will be required to keep pace with the growing complexity and volume of mine-related authorization applications throughout the province.

Effective compliance and enforcement requires funding, but there are options available to BC to ensure adequate resourcing without burdening taxpayers. For example, Quebec allows for the recovery of monitoring and reclamation costs from mining operators.[27] Similarly, in California surface mining operations must be inspected at least once a year and the proponent is legally responsible for the reasonable costs of the inspections.[28] Finally, as highlighted in "Polluter Pays," MOE has not increased its waste discharge fees since 2004—these rates should be brought up-to-date and revenues could be dedicated to monitoring and enforcement.[29]

4. **RECOMMENDATION: Ensure sufficient resources, staff and expertise to effectively enforce the law at BC mines.**

5. **RECOMMENDATION: Implement a funding mechanism that ensures mining companies contribute their fair share towards a robust monitoring and enforcement regime.**

Monitoring and enforcement policy and standards

Monitoring and enforcement for the mining industry in BC suffers not only from staffing and resource shortages, but also from ineffective policies and a lack of robust legislative standards. Guidelines have been overbroad and discretionary, and allowed for inconsistent application. There are also no minimum legal requirements for BC's monitoring and compliance efforts—which enables regulatory authorities to choose when and how they enforce the law.

Significantly, the Auditor General's 2016 Report found that the Mount Polley mine tailings disaster might have been avoided if the mine had been monitored properly. The Auditor General found that government did not follow its own policy for annual geotechnical inspections—with large numbers of policy-mandated inspections never carried out.[30] She concluded that, if inspections had been done, inspectors may have identified problems and avoided the disaster.[31]

Monitoring and enforcement standards for mine reclamation were found similarly wanting, with the Auditor General highlighting a lack of required annual inspections of reclamation work. A survey of four mines over a three-year period found that only four reclamation inspections were done out of the 12 that were required by policy. In particular, the Gibraltar mine had no reclamation inspection at all from 2008 to 2012—and Myra Falls mine did not receive a reclamation inspection from 2006 until 2014. The Auditor General expressed "particular concern" that the MOE had not inspected the Myra Falls mine site in any of the three review years, even though the mine is in a provincial park and close to drinking water sources.[32]

Similar weak policies and standards for inspection and monitoring of closed mines contributed to the disaster at the Sunro Mine at Jordan River. This mine continues to pollute the Jordan River and prevent the re-establishment of fish populations in what was once a productive river. Recently, BC ordered Teck Resources to prepare a remediation plan for the site—but only because a concerned citizen drew attention to the ongoing environmental problem. In fact, pursuant to policy, BC had signed off on the mine's reclamation a quarter century ago and had never inspected it again, missing the continuing and devastating pollution.[33] This case highlights the importance of ongoing monitoring at closed mines and raises the question of how many other closed—but still polluting—mines are escaping inspection and remediation.[34]

MEM has also not systematically tracked mine operators' compliance with permit requirements and their responses to identified non-compliance. This has resulted in some serious unaddressed safety issues—e.g., MEM's documented failure to compel a fix of

seismic safety on one mine tailings dam for over 14 years.[35] Under existing standards and policies, inspectors assess risks informally using metrics such as length of time since last inspection, complaints received, input from other staff, and gaps in knowledge areas.[36] Instead, the Auditor General has recommended that a more rigorous, risk-based approach to monitoring and compliance be adopted—where inspection frequency is based on factors including a company's compliance record, its activities, expansions, financial state, seasonal risks, and the nature of the operations.[37]

6. **RECOMMENDATION: Mandate clear risk-based inspection policies for all mines (including closed and abandoned mines)—and legislate mandatory minimum inspection schedules and standards that meet or exceed international best practices.**

7. **RECOMMENDATION: Develop policies, procedures, and tools to systematically track compliance with regulations, permit conditions, environmental assessment certificate conditions and other regulatory requirements.**

Fines and sanctions

The failure to impose adequate fines and sanctions for breaking environmental/mining laws encourages bad behaviour and undermines public confidence in the regulatory system. Historically, BC has rarely imposed penalties, and the fines against mines for environmental breaches have been too low to ensure compliance. For example, from 2006 to 2010, MOE took only six enforcement actions for coal and metal mine violations—and five of those penalties amounted to less than $600 each.[38] Other studies have demonstrated the inadequacy of BC fines.[39]

For a start, maximum fines should be increased significantly. The provincial Minister of Environment has already acknowledged the stark disparity between the larger fines available under the federal *Fisheries Act* and the much smaller fines that can be imposed under provincial environmental laws.[40] And even those larger *Fisheries Act* fines are far smaller than those available in the US.[41]

In addition, fines should be routinely increased for repeat offenders. Other Canadian jurisdictions have legislated progressive use of substantial fines for repeat offenders. Large corporations who violate Canada's federal environmental laws are liable for minimum fines ranging from $100,000-$500,000 and can face fines of up to $12 million.[42] Repeat corporate

offenders in Ontario are liable for a $500,000 fine for every subsequent conviction[43] while Manitoba authorizes fines of up to $1 million for the same.[44] While BC's *Environmental Management Act* contains provisions for daily penalties,[45] these discretionary provisions appear to be seldom used to levy separate fines for each day of contravention.[46]

Fines and related sanctions should be modernized in other ways. Sanctions used elsewhere include imposing liability for damage to the environment and to Indigenous knowledge systems; cumulative fines for each animal, plant, or object harmed; profit stripping so that fines are equal to the profits made during the offence; and prohibiting offenders from applying for new licenses or permits for a specified period. Creative sentencing options also include reduction in production quotas.[47] Note that, in the context of oil spills, government has already proposed issuance of Environmental Management Orders to compel compensation for damages done to the environment and community.[48]

After Mount Polley, the Minister of Energy and Mines identified one important gap in BC law—the absence of the ability to impose Administrative Monetary Penalties for clear violations of mining rules. This has now been rectified, which is a positive step, as administrative penalties avoid costly prosecutions and allow governments to catch and enforce far more infractions.[49] In February 2017, administrative monetary penalties were introduced as an additional compliance and enforcement tool under the *Mines Act*. However, as of August 2018, this compliance and enforcement tool has not yet been used.[50]

8. **RECOMMENDATION: Establish a modern, progressive regime of fines and penalties to deter illegal and environmentally damaging mining practices.**

9. **RECOMMENDATION: Mandate cumulative fines for repeat non-compliance, a prohibition on future authorizations for serial offenders, and daily fines for continuing offences.**

Indigenous and community-based monitoring

State governments are increasingly recognizing the importance of mobilizing Indigenous peoples and local communities to monitor and enforce environmental laws. Indigenous peoples and local stakeholders have unique knowledge and perspectives that can enhance the ability of government to deliver an effective monitoring and compliance system.[51]

In particular, Indigenous nations have a vital role to play in monitoring and compliance—a role that can complement their territorial jurisdiction. There are many examples of Indigenous-led community-based monitoring programs. Coastal First Nations in BC have created highly effective Guardian Watchmen programs to monitor, protect, and restore cultural and ecological values. They lack enforcement power but can monitor and collect data that can be provided to regulators to take enforcement action.[52] In Australia, the Indigenous Rangers program combines traditional knowledge with conservation training to protect and manage land, sea and culture. In 2018, over 800 rangers received meaningful employment and training while developing partnerships with research and educational organizations, engaging with youth, and generating additional income and jobs in the environment, biosecurity and heritage sectors.[53]

Community monitoring can bolster an environmental regulator's capacity, as it can increase the availability of environmental monitoring data, allowing for more efficient and effective enforcement decisions. In some jurisdictions, community-based monitoring programs have played a significant role in bolstering monitoring efforts and in providing local populations with a meaningful voice in the oversight of mining operations. Citizens Advisory Councils in Alaska offer examples of the important role that community-based programs can play in ensuring adequate monitoring and enforcement of environmental standards. BC can show leadership by requiring companies to engage communities in this way and to integrate their own health and safety monitoring with Indigenous-led and community-based environmental monitoring programs.

10. **RECOMMENDATION: Enable and fund Indigenous-led monitoring and enforcement programs for mining activities.**

11. **RECOMMENDATION: Require the establishment of citizens' advisory councils for proposed and existing mining projects; and empower the councils to develop, implement, and monitor long term health, safety and environmental plans.**

Whistleblower protection

Whistleblower protection is crucial to enforcement and compliance because it encourages people with key knowledge about events in question to disclose information that they otherwise may not. Sometimes people within a company are the best source of information about environmental lawbreaking. However, they may be unlikely to divulge that information unless they are protected from retribution for speaking up. Whistleblowers can play a key role in documenting infractions and risks. Their protection must be an integral element of any environmental law enforcement regime.

Following the Mount Polley mine disaster in 2014, the Environmental Law Centre (ELC) and several unions and First Nations wrote to the Premier to express concern that the investigation into the event would be compromised by a lack of whistleblower protections. These groups worried that government and company employees might withhold essential information from investigators for fear of being disciplined or losing their jobs. In the end, the only employee who voiced concerns about how the tailings dam had been maintained had just won the lottery, and therefore had no reason to fear reprisal or job-loss. No one else spoke up.[54]

In April 2018, the government introduced the *Public Interest Disclosure Act*[55]—a new piece of whistleblower legislation that increases protection for public service employees who report wrongdoings.[56] However, private sector whistleblowers remain relatively unprotected. While most Canadian jurisdictions now have whistleblower protection for public servants,[57] only Saskatchewan and New Brunswick have protections for private sector workers. The federal *Criminal Code* contains some provisions to protect whistleblowers in both sectors,[58] but they are difficult to enforce and do not protect whistleblowers who contact a media source or an outside agency.[59] Citing examples from other jurisdictions, the ELC has recommended a strong whistleblower law with certain key features, including the protection of private sector workers.[60]

12. **RECOMMENDATION: Enact robust whistleblower protections to protect private sector whistleblowers, including mineworkers, contractors and others who report unlawful or unethical actions that endanger public health, safety, and the environment.**

Citizen enforcement—private prosecutions and citizen suits

When government is not able to stop lawbreaking polluters, private citizens and the courts can play an important role in upholding environmental standards and protecting human health. Historically, the common law has allowed 'private prosecutions,' which enable members of the public to bring charges over illegal environmental practices. For example, in the early 1980s, private prosecutions led to convictions of North Vancouver for its landfill operations and the Greater Vancouver Regional District (GVRD) for its Iona sewage plant practices. These suits led to major upgrades of those facilities to improve environmental performance.[61]

Unfortunately, in recent years private prosecutions have generally been barred by the BC Prosecution Service.[62] For example, in 2017 the Attorney General used his discretion to quash the efforts of citizens to seek redress in the courts for the Mount Polley mine disaster.[63] BC's general prohibition of private prosecutions stands in contrast to jurisdictions such as the federal government, Ontario and the Yukon jurisdictions which broadly allow them.[64] Private prosecutions should be restored as a legitimate enforcement tool in BC so that citizens can still act on behalf of the environment even when government does not.

Another way of empowering citizen enforcement would be to legislate "Citizen Suit" rights, as is commonly done in the US. For example, under the US *Clean Water Act*, private citizens are empowered to sue companies civilly for breaking statutes and regulations. Thus, citizens can give teeth to the law when government fails to act. Such citizen suits have been one of the most effective enforcement provisions in the US.[65]

Public enforcement through private prosecutions and citizen suits can guard against government negligence and regulatory capture, lessen the workload for the civil service, reduce public expenditures, and provide citizens an important participatory role in law enforcement.[66] Governments should endeavour to promote this mechanism of enforcement by shielding responsible citizens against adverse cost awards and providing monetary incentives through apportionment of fines when citizens charge environmental offenders.[67]

13. **RECOMMENDATION: Enable private prosecutions and/or enact citizen suit provisions for environmental violations.**

Endnotes

1 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p. 57.

2 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria) at p. 11.

3 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p. 3 and 6.

4 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016), at p. 60.

5 Andrew Gage, "Polluters get off more lightly than hunters", *Environmental Law Alert Blog* (2011 November 26) online: https://www.wcel.org/blog/polluters-get-more-lightly-hunters

6 Just 40 percent approve of the job the government of British Columbia is currently doing when it comes to regulating and monitoring the mines." British Columbians overwhelmingly support mining reforms—poll (October 8, 2015). SkeenaWild and Salmon Beyond Borders, online: https://skeenawild.org/news/british-columbians-overwhelming-support-mining-reforms-poll.

7 Where a regulator serves industry's interests rather than the public's.

8 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p. 44.

9 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p. 4.

10 Maya Stano and Emma Lehrer, *Fair Mining Practices: A New Mining Code for British Columbia* (Vancouver: Fair Mining Collaborative, March 2013), at p. 315 online: https://www.fairmining.ca/wp-content/uploads/2018/05/Fair-Mining-Practices-A-New-Mining-Code-for-BC-Web-Copy.pdf.

11 Alaska Department of Environmental Conservation, *SPAR Annual Report Fiscal Year 2017*, p. 3 online: http://dec.alaska.gov/media/2052/fy17-spar-annual-report.pdf.

12 Alaska Department of Natural Resources, "About Us," online: http://dnr.alaska.gov/mlw/aboutus.htm. The federal Environmental Protection Agency also monitors and enforces, investigating prohibited discharges of mine pollutants into water systems and enforcing penalties under the *Clean Water Act;* see: United States Environmental Protection Agency, "Clean Water Act (WA) Compliance Monitoring", Compliance, online: https://www.epa.gov/compliance/clean-water-act-cwa-compliance-monitoring.

13 Environmental Law Clinic Student, *Oil and Gas Law Reform* (Victoria: Environmental Law Centre, July 2012) at pp. 10-16 online: http://www.elc.uvic.ca/wordpress/wp-content/uploads/2015/02/Oil-and-Gas-Reform_2011-03-12_2012July.pdf

14 Since the Auditor General's Report was released in 2016, the Ministry of Energy, Mines and Petroleum Resources has taken steps to increase compliance and enforcement oversight. In 2016, the Ministry of Energy, Mines and Petroleum Resources created and filled a new 'Deputy Chief Inspector of Mines, Compliance and Enforcement' position, as well as the 'Deputy Ministers Mining Compliance and Enforcement Board'("Board") to oversee compliance and enforcement of mining in the province. The Board includes representatives from the Ministries of Environment and Energy, Mines and Petroleum Resources and the Environmental Assessment Office, and aims to increase monitoring and enforcement coordination between the ministries and access to shared resources: British Columbia, "Deputy Ministers Mining Compliance & Enforcement (C&E) Board," online: https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/compliance-enforcement/board.

However, the province has still not implemented the Auditor General's recommendation for an "integrated and independent compliance and enforcement unit" that exists outside of the Ministry of Energy, Mines and Petroleum Resources. The province has stated that "work is underway to develop options for implementing this commitment": British Columbia, "Recommendations from the Auditor General's Report on Mining" (2018 February 13) at p. 1, online: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/compliance-and-enforcement/oag_recommendationstable_february2018.pdf.

15 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p. 64.

16 British Columbia, "BC Mine Information", online: https://mines.empr.gov.bc.ca.

17 For example, this is the format in which Imperial Metals released its environmental monitoring data to the public in the aftermath of the Mount Polley mine breach; Correspondence with Dr. Gilles Wendling, Ph.D., P.Eng, Senior Hydrogeologist of GW Solutions, October-November, 2018.

18 Initiative for Responsible Mining Assurance, *IRMA Standard for Responsible Mining IRMA-STD-001* (2018), at p. 96.

19 Letter. Sergio Ortega and Calvin Sandborn. Received by Drew McArthur, Acting Commissioner, OIPC (2017 February 24) (Victoria: BC) online: http://www.elc.uvic.ca/wordpress/wp-content/uploads/2017/03/2017Feb24-OIPC-ltr.pdf.

20 Maya Stano and Emma Lehrer, *Fair Mining Practices: A New Mining Code for British Columbia* (Vancouver: Fair Mining Collaborative, March 2013), at p. 274 online: https://www.fairmining.ca/wp-content/uploads/2018/05/Fair-Mining-Practices-A-New-Mining-Code-for-BC-Web-Copy.pdf.

21 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p.11.

22 This professional reliance model raises serious conflict of interest, accountability, and transparency issues. Professionals have conflicting duties and obligations to act in the best interests of mining operators while concurrently guarding the public interest in environmental decision making. Professionals are accountable only to their employers and professional associations while civil service staff are accountable to the minister and the public. As such, delegation to professionals makes the process inaccessible to the public and restricts public participation in natural resource management. See: Mark Haddock, "Reliance on Qualified Professionals in Environmental Regulations" in Calvin Sandborn, ed., *Maintaining Natural BC for Our Children: Selected Law Reform Proposals* (Victoria: Environmental Law Centre, November 2012) online: http://elc.uvic.ca/press/documents/2013-MaintainingNaturalBC_WEB-VERSION.pdf

23 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p. 11.

24 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p. 46.

25 The Ministry of Energy, Mines and Petroleum Resources received a budget lift in 2017/18 focussed on increased staffing to strengthen the compliance and enforcement program. With this budget, 36 full-time equivalent (FTE) positions have been hired to date, 23 of which are delegated as inspectors. See: Email. Deputy Chief Inspector, MEMPR. Received by Articled Student, Environmental Law Centre (September 20, 2018). These new hires included the creation of a new 'Deputy Chief Inspector of Mines, Compliance and Enforcement' position. The Deputy Ministers Mining Compliance and Enforcement Board was established in 2016 and includes representatives from the Ministries of Environment and Energy, Mines and Petroleum Resources and the Environmental Assessment Office. The Board aims to increase monitoring and enforcement coordination between the ministries and access to shared resources;

British Columbia, "Deputy Ministers Mining Compliance & Enforcement (C&E) Board," online: https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/compliance-enforcement/board.

26 Government employee unions representing mining and environmental inspectors have criticized the government for its significant cuts to government professionals and its fettering of natural resource management to industry. A majority of members believe these cutbacks have negatively affected their ability to produce reports and documents. See: Professional Employees Association, *Professional Reliance Review* (2018 January 18) online: https://engage.gov.bc.ca/app/uploads/sites/272/2018/01/Professional-Employees-Association.pdf; BC Government Employees Union, *Submission to the Professional Reliance Review* (2018 January 19), online: https://engage.gov.bc.ca/app/uploads/sites/272/2018/01/BCGEU-Part-2.pdf.

27 Based on the nature and characteristics of their activities and the number and seriousness of any environmental convictions secured against them; Maya Stano and Emma Lehrer, *Fair Mining Practices: A New Mining Code for British Columbia* (Vancouver: Fair Mining Collaborative, March 2013), at p. 312 online: https://www.fairmining.ca/wp-content/uploads/2018/05/Fair-Mining-Practices-A-New-Mining-Code-for-BC-Web-Copy.pdf.

28 Maya Stano and Emma Lehrer, *Fair Mining Practices: A New Mining Code for British Columbia* (Vancouver: Fair Mining Collaborative, March 2013), at p. 304.

29 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p. 6.

30 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p. 56. Similarly, the Ministry Environment fell far short of policy requirements for inspections. That ministry also did not inspect numerous "high priority" mine sites annually, at p. 89.

31 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at pp. 8, 9, 66 and 71.

32 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p. 89.

33 Times Colonist, "Province should clean up mine sites" (2016 October 11), online: http://www.timescolonist.com/opinion/editorials/editorial-province-should-clean-up-mine-sites-1.2362178.

34 Letter. "Request for Establishment of a Judicial Commission of Public Inquiry to Rectify

and Improve BC Mining Regulation." Calvin Sandborn & Kristy Broadhead. Received by the Honourable Christy Clark (2017 March 8) (Victoria: BC) at pp. 12-13.

35 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p. 58.

36 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p. 54.

37 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016 (Victoria: Office of the Auditor General, 2016) at p. 14.

38 Calvin Sandborn and Maya Stano, "Mining and Environmental Protection: The Failure to Inspect and Enforce" in Calvin Sandborn, ed, *Maintaining Natural BC for Our Children: Selected Law Reform Proposals* (Victoria: Environmental Law Centre, November 2012) at p. 35 online: http://elc.uvic.ca/press/documents/2013-MaintainingNaturalBC_WEB-VERSION.pdf.

39 Andrew Gage. West Coast Environmental Law. "Poor mines enforcement undermines social licence." May 30, 2016 and David R. Boyd. "B.C. slow to enforce environmental laws." Times Colonist. April 26, 2016.

40 Minister Heyman has stated that possible charges under the federal Fisheries Act "remain very much in play and, in fact, potential penalties are more significant." Ref: https://www.cbc.ca/news/canada/british-columbia/mount-polley-investigation-ndp-1.4233234. Note that the largest *Fisheries Act* fine against a mine in BC was $3.4 million handed to Teck Metals in 2014. See https://vancouversun.com/business/local-business/clock-ticking-for-environmental-charges-as-mount-polley-dam-failure-hits-four-year-mark.

41 See The Narwhal article at: https://thenarwhal.ca/canada-s-environmental-fines-are-tiny-compared-u-s/.

42 Maya Stano and Emma Lehrer, *Fair Mining Practices: A New Mining Code for British Columbia* (Vancouver: Fair Mining Collaborative, March 2013), at p. 305 online: https://www.fairmining.ca/wp-content/uploads/2018/05/Fair-Mining-Practices-A-New-Mining-Code-for-BC-Web-Copy.pdf.

43 *Environmental Protection Act*, RSO 1990, c E.19, s 187(2).

44 *Environment Act*, CCSM, c E125, s 33.

45 Environmental Management Act, [SBC 2003], c. 53, s. 122; Administrative Penalties (Environmental Management Act) Regulation, BC Reg. 133/2014, s. 7.

46 A review of case law and discussion with civil servants leads to this conclusion. Note that the wording of the EMA appears to default to single penalties, with the option to impose daily fines at the discretion of the Director; in similar statutes, including BC's *Water Sustainability Act*, daily fines appear as the default response to continuing offences. See: Environmental Management Act, [SBC 2003], c. 53, s. 122(2), which states that "separate fines, each not exceeding the maximum fine for that offence, may be imposed for each day the offence continues" [emphasis added]. In comparison, the *Water Sustainability Act*, [SBC 2014], c. 15, s. 6 states that in the case of a continuing offence, an offender "is liable" [emphasis added] for "a fine of not more than $200 000 for each day the offence is continued". See also the US *Clean Water Act*, which states that offenders "shall be subject to a civil penalty not to exceed $25,000 per day for each violation" [emphasis added] (Federal Water Pollution Control Act, 33 USC 1319(d)).

47 Maya Stano and Emma Lehrer, *Fair Mining Practices: A New Mining Code for British Columbia* (Vancouver: Fair Mining Collaborative, March 2013) at pp. 316-319.

48 As proposed in government's recent *Policy Intentions Paper for Engagement: Phase Two Enhancements to Spill Management in British Columbia*. See page 31 and following at: https://engage.gov.bc.ca/app/uploads/sites/342/2018/02/Phase-Two-Intentions-Paper-February-28-2018-FINAL.pdf.

49 In *Bill 8—2016: Mines Amendment Act, 2016,* online: https://www.leg.bc.ca/parliamentary-business/legislation-debates-proceedings/40th-parliament/5th-session/bills/third-reading/gov08-3.

50 Email correspondence. Articled Student, Environmental Law Centre and MEMPR. (2018 August).

51 Mark Haddock, *Final Report of the Review of Professional Reliance in Natural Resource Decision Making* (2018 May 18) pp. 69-73 and Mike Morris, MLA, *Getting the Balance Right: Improving Wildlife Habitat Management in British Columbia* (2015 August).

52 Maya Stano and Emma Lehrer, *Fair Mining Practices: A New Mining Code for British Columbia* (Vancouver: Fair Mining Collaborative, March 2013), at p. 310 online: https://www.fairmining.ca/wp-content/uploads/2018/05/Fair-Mining-Practices-A-New-Mining-Code-for-BC-Web-Copy.pdf.

53 Department of the Prime Minister and Cabinet, "Indigenous Rangers—Working on Country" (Australian Government, 2018), online: https://www.pmc.gov.au/indigenous-affairs/environment/indigenous-rangers-working-country.

54 Letter. "Whistleblower Protection and the Independent Expert Engineering Review Panel Investigation." Calvin Sandborn, Chief Bev Sellars, Chief Ann Louie, Stephanie Smith, Scott McCannell & Stephen Hunt. Received by Premier Christy Clark (2014 November 19).

55 SBC 2018, c. 22.

56 Ministry of Attorney General, "Government introduces public interest disclosure legislation for public service," (Victoria: British Columbia, 2018 April 25) online: https://news.gov.bc.ca/releases/2018AG0026-000729.

57 See BC's new *Public Sector Disclosure Act*, SBC 2018, c. 22, which protects whistleblowers in the provincial public sector.

58 *Criminal Code*, RSC 1985, c C-46, s 425.1.

59 Yosie Saint-Cyr, "The State of Whistleblowing in Canada," *Slaw* (2013 June 6) online: http://www.slaw.ca/2013/06/06/the-state-of-whistleblowing-in-canada.

60 Rachel Forbes and Amanda Macdonald, "The Need to Protect Whistleblowers" in Calvin Sandborn, ed., *Maintaining Natural BC for Our Children: Selected Law Reform Proposals* (Victoria: Environmental Law Centre, November 2012) at p. 157 online: http://elc.uvic.ca/press/documents/2013-MaintainingNaturalBC_WEB-VERSION.pdf.

61 Jennifer Cameron, "Enhancing Citizen Enforcement Powers," in Calvin Sandborn, ed, *Maintaining Natural BC for Our Children: Selected Law Reform Proposals* (Victoria: Environmental Law Centre, November 2012) at p. 130.

62 Keith Ferguson, "Challenging the Intervention and Stay of an Environmental Private Prosecution," *JELP Vol. 13* (2003) at p. 153.

63 CBC News, "Province halts private prosecution against Mount Polley tailings spill" (2018 January 30) online.

64 "Reforming British Columbia's Private Prosecution Policy" February 2018 letter to Attorney General David Eby from Ecojustice, UVic Environmental Law Centre and West Coast Environmental Law. Also see Calvin Sandborn, ed., *Maintaining Natural BC for Our Children: Selected Law Reform Proposals* (Victoria: Environmental Law Centre, November 2012) at p. 131 online: http://elc.uvic.ca/press/documents/2013-MaintainingNaturalBC_WEB-VERSION.pdf.

65 Calvin Sandborn, ed, *Maintaining Natural BC for Our Children: Selected Law Reform Proposals* (Victoria: Environmental Law Centre, November 2012) at p. 130-131.

66 Calvin Sandborn, ed, *Maintaining Natural BC for Our Children: Selected Law Reform Proposals* (Victoria: Environmental Law Centre, November 2012) at p. 130.

67 Note the right of citizens who lay charges to recover a portion of the ultimate penalty under the *Fisheries Act*: *Fishery (General) Regulations*, SOR/93-53, s. 62.

BC MINING LAW REFORM

Placer Mining

University of Victoria Environmental Law Centre

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Introduction

Placer mining—the excavation of both ancient and existing stream beds to retrieve minerals deposited in sand and gravel by water—poses a serious risk to watersheds across British Columbia. It can gut invaluable riparian areas, and permanently damage streams, devastate fish populations, and threaten human health. It can also interfere with hunting, fishing and gathering practices, and infringe Indigenous rights. The amount of placer mining activity in BC has increased dramatically in recent years, with approved machine-excavation operations almost tripling since 2005.[1]

While activity is increasing, regulation of placer mining in BC remains inadequate.[2] For example, in sharp contrast to the Yukon, placer mines in BC do not undergo environmental assessments before they are approved.[3] Further, once operations are underway, government seldom inspects placer mine operations to ensure existing rules are enforced. Rule-breaking is common, and placer-mined areas often go un-reclaimed, leaving long-term scars on the landscape.[4]

Across the province, government is not enforcing adequate 'setback' requirements to keep placer operations out of sensitive streams, lakes, and wetlands. In the Atlin area, government has explicitly sacrificed streams to enable placer mining by suspending pollution rules and allowing miners to discharge waste directly into these natural water bodies.[5]

BC's current regulatory approach to placer mining jeopardizes Indigenous lands, valuable public assets and unique ecosystems—the regime is in urgent need of an overhaul. Critical areas for reform include:

- effective environmental protection for streams, fish, and human health;
- respect for Indigenous rights and adherence to United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) principles;
- assessment of proposed placer mining operations;
- effective monitoring, reporting and enforcement of regulatory compliance; and
- improved mine reclamation policies and security requirements.

Riparian habitats and 'setback' rules

British Columbia currently has lax standards when it comes to keeping placer mines out of sensitive water bodies and riparian areas. Riparian areas—the banks of streams and water bodies—are "nature's most biologically productive terrestrial systems."[6] Such areas provide important habitat for almost two thirds of Canada's rare and endangered species, as well as iconic species like salmon.[7] Riparian vegetation also slows the flow of sediment

into streams and provides a buffer zone for streams and rivers by trapping pathogens and pollutants.[8] Healthy, fish-bearing streams cannot exist without a healthy riparian zone.[9]

Placer mining can release massive amounts of sediment into streams, which harms fish by clogging gills, reducing the ability of predator fish to locate prey, and reducing the survival of eggs and fry in stream beds.[10] When examining the depletion of sockeye salmon in the Fraser River, the Cohen Commission found that:

> *...placer mining has a potentially severe impact on sockeye salmon because many alluvial deposits are closely associated with existing streams, and because water is often used to separate placer minerals from the gravel matrix.*[11]

Even low levels of suspended sediment can have similar consequences for salmon and other fish species.[12] Notably, a study conducted in the Yukon found unmined streams "support a standing stock of fish 40 times that of placer-mined streams."[13]

Placer mining, by its very nature, takes place in and around riparian areas where water and gravity bring minerals (like gold) to streambeds. The placer mining excavation process, poorly designed roads that increase sediment in waterways, and the use of toxic substances like mercury in the mining process can be devastating to these ecologically significant areas.[14] Unfortunately, as confirmed in a 2010 audit of 23 placer mines in the Cariboo, the location of placer mines is "strongly correlated with areas of high value habitat including critical habitat for fish, wildlife habitat areas, ungulate winter ranges, old growth forests and riparian areas."[15] Of the 10,734 hectares of critical fish habitat identified in the audit area, 63% of this habitat was subject to placer mining tenures.[16]

The use of riparian setback requirements to protect important ecological values is a well-established environmental practice.[17] For example, the default setback of urban development from streams is 30 metres, and the setback for forestry activities is commonly 20–50 metres.[18] At the same time, placer mines are only subject to a 10-metre setback policy that has been under-enforced and routinely ignored.[19] The 2010 Cariboo placer mining audit found that more than half of the audited mines were operating within the 10-metre placer riparian reserve setback—while 43% of the mines were conducting in-stream works without authorization.[20]

Establishing stricter regulations and adequate enforcement—even simply increasing and enforcing riparian setbacks to keep placer operations further away from streams—could significantly reduce the risks and impacts of placer mining on BC's riparian areas and everything that depends on them.

1. **RECOMMENDATION: Enact a clear minimum riparian setback requirement of at least 30 metres for any placer mining activities.**

Indigenous rights and placer mining

Placer mining in BC has historically affected Indigenous peoples disproportionately. The 1868 Cariboo gold rush spurred rapid immigration into First Nations' territories in the Interior. This influx of miners sparked a smallpox epidemic that killed at least half the Indigenous population and led to significant Indigenous-settler clashes.[21]

BC's placer mining laws in 2018 still reflect a 19th-century colonial approach to Indigenous rights and lands. In many parts of the province, there is still a lack of recognition of the jurisdiction and authority of Indigenous governments, even as placer mining activities affect the ability to pursue traditional activities and to proactively steward lands and resources. Placer mines routinely prevent Indigenous peoples' access to important sites and can degrade ecosystems that are culturally significant and central to community health.[22] In some parts of the province, streams can host hundreds of active mine sites, each of which is required by law to control public access.[23] The resulting blocked access can interfere with fishing, hunting, gathering, cultural practices and other constitutionally protected rights.[24]

Despite these impacts, the current government's consultation process often involves a 30-day notice-and-response period in which First Nations are asked to respond to placer mining proposals in their territory. This is far from a meaningful process aimed at securing the free, prior and informed consent of those Nations (see "Indigenous Governance and Mining").[25]

2. **RECOMMENDATION: Ensure placer mining development proceeds only if it has the free, prior and informed consent of affected First Nations.**

Assessment of impacts

Placer mining is essentially exempt from environmental assessment in BC. New placer mines only trigger an assessment if they will have a production capacity of at least 500,000 tonnes of pay-dirt a year—a threshold so high that it has excluded every single placer mine in the province.[26] By comparison, proposed mineral mines trigger an environmental assessment at 75,000 tonnes, and coal mines at 250,000 tonnes.[27] Even the laws regulating large-scale placer mining (with excavation machinery) are insufficient to ensure that impacts are assessed as required to ensure that significant environmental damage is averted.[28]

The absence of BC environmental assessments of placer mining contrasts sharply with the Yukon, where 572 placer projects were assessed between 2008 and 2017.[29] Yukon decision makers must also consider the cumulative effects of placer mines in combination with other projects when assessing proposed placer projects.[30] If BC wants to protect its watersheds, it must begin to properly assess the individual and cumulative impacts of hundreds of placer mining operations in sensitive watersheds across BC.

3. **RECOMMENDATION: Require environmental assessments for proposed placer mining operations, including the assessment of cumulative impacts of multiple placer mines within the same watershed.**

Enforcement

The 2016 Auditor General's report found BC has a "limited compliance and enforcement program" for mining and a focus on *permitting* rather than monitoring, compliance or enforcement (see "Monitoring and Enforcement").[31] In the placer mining context specifically, inspection rates are very low. On average over the past decade, the number of annual inspections was equal to only one quarter of the total number of placer mines.[32] Actual annual inspection rates are likely even lower than one in four, because inspectors inspect 'problem' mines several times a year, inspect some mine sites twice in a single day, and include inspections of abandoned and non-operational placer mines in their figures.[33]

The non-compliance rates for placer mining operations are troubling. The 2010 audit of 23 active Cariboo placer mines found that that almost three quarters of them were out of compliance with their Notice of Work permit requirements.[34] More than half of the audited placer mines were operating too close to the stream bank, and 26% were operating in areas identified as critical fish habitat. Forty-three percent of mines audited had unauthorized in-stream works, and 35% were illegally discharging wastewater into natural water bodies. [35]

4. **RECOMMENDATION: Require effective monitoring, inspection, enforcement, and reporting for placer mining, including:**
    - **government tracking of mercury and other placer-related contaminants in BC's placer-mined watersheds;**
    - **annual inspections of all operating placer mines, and biennial inspections of closed mines until reclamation is complete and independently verified;**
    - **increased penalties to deter illegal practices, including escalating penalties for repeat offenders;**[36]
    - **the collection and annual publication of relevant placer mining statistics, such as number and location of mines permitted, production volumes, reclamation and closure costs, the number of inspections and inspection results, and enforcement actions taken.**

Reclamation security

Although mining permit conditions generally require placer miners to carry out reclamation activities, the 2010 Cariboo audit identified only one placer mine that was actually performing the reclamation work required by its permit—all other audited operations were effectively out of compliance with their permits.[37] Further, data from the past decade suggests that a significant number of 'closed' placer mines in the province lack a clear record of reclamation, while many others have not posted adequate security to cover their estimated clean up costs.[38] The provincial government and BC taxpayers will ultimately bear either the financial burden of reclaiming these sites or the cumulative environmental costs of leaving them un-reclaimed.

By legally requiring placer miners to post adequate reclamation security, the province can incentivize placer miners to promptly complete site restoration and protect the public from the cleanup costs associated with abandoned mines.[39] While the Ministry of Energy, Mines and Petroleum Resources (MEM) generally requires placer miners to post reclamation security, the specific dollar amount that is set for each project is left to the discretion of the Chief Inspector of Mines and inspector-delegates. There is no mandatory minimum or legislated requirement that the dollar amount must reflect the project's specific environmental and financial risks.[40] Further, under the *Mines Act*, the Chief Inspector of Mines can choose whether a placer miner is required to post reclamation security before beginning mining activities.[41] Despite the extensive ecological damage that can be left behind by placer mining activities, reclamation security is not yet a mandatory requirement under BC law.[42]

5. **RECOMMENDATION: Remove the Chief Inspector's discretion over security requirements and require that all placer mines post full security that is based on defensible and independently verified calculations.**

Mercury and other toxic chemicals

The World Health Organization lists mercury as one of the world's 10 most harmful chemicals, causing significant fetal harm and serious human health problems, especially in young children.[43] Toxic mercury from historical placer mining is a real concern. Near the gold rush hub of Barkerville, Jack of Clubs Lake has a long-standing mercury advisory ("WARNING: Lake trout over 45 cm may contain elevated mercury levels. Limit your consumption") that may be due in part to historic placer mining pollution.[44] The only BC

study of mercury levels in a historical placer mining area revealed levels up to 200 times higher than expected at some sites on the Lillooet River near Port Douglas.[45]

Although mercury is not legal to use today, modern placer mining can mobilize highly toxic mercury from historical placer mining operations back into streams. Gold rush-era placer miners used mercury to increase gold particle recovery in their sluice boxes, introducing large amounts of the toxic substance into BC waterways in the process.[46] Approximately 2090 kg of mercury flows out of the Fraser River each year, a portion of which is likely attributable to historic placer mining.[47]

Placer mining also poses a risk to drinking water when disturbed sediment releases other contaminants into waterways. Although modern placer mining regulations normally require miners to "divert process water into a settling pond and allow the water to seep into the ground," since 1988 Atlin-area placer miners have been granted a special legal exemption that allows them to dump wastewater directly into creeks. This has compounded gold rush-era impacts in the area.[48] Downstream tests have found "levels of aluminum, arsenic, barium, cadmium, chromium, copper, iron, lead, manganese, vanadium, and nickel that exceed drinking water guidelines."[49] A 2013 Ministry of Environment study found that aluminum levels in one creek exceeded drinking water guidelines by a factor of 624, while samples taken farther away revealed aluminum levels seven times the recommended maximum.[50]

6. **RECOMMENDATION: Repeal section 3(c)(i) of the *Placer Mining Waste Control Regulation* to give the Atlin region the same minimum protections from placer mining that the rest of the province enjoys.**[51]

7. **RECOMMENDATION: Require assessment of the sedimentation and toxic chemical profile of BC watersheds where placer mining has occurred and designate areas where levels are below provincial health standards 'off-limits' to placer mining until a remediation plan is in place.**

Placer jade impacts—an emerging concern

BC's growing placer jade mining industry raises additional issues.[52] Operating in the Cassiar and Tournigan River regions of northern BC, placer jade miners use heavy machinery to extract massive boulders (weighing up to 30 tons) from streambeds and riparian areas.[53] The scale of placer jade extraction and potential consequent

environmental disruption raises unique concerns. Any reform of BC's regulatory approach to placer mining must include rules to properly control impacts of the emerging placer jade mining industry.

8. **RECOMMENDATION: Develop strong rules to control the specific impacts of jade mining, including large boulder removal from streambeds and riparian areas.**

Endnotes

1 Placer mines that use machinery to excavate and require a provincial Notice of Work to operate almost tripled in a decade, from 187 mines with an active permit in 2005 to 542 in 2016. Smaller-scale placer hand mining has also increased, from 1888 claims reporting work in 2005 to 2917 claims reporting work in 2015. The prevalence of hand panning, which requires no mineral claim or permit, is unclear. See: Fair Mining Collaborative, *BC Placer Mining: High Environmental Impacts vs Low Economic Return* (March 2017) online: www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf.

2 Tara Lamothe-Ammerlaan et al, "The New Gold Rush: Placer Mining in the Fraser Watershed," *BC Studies No.196: Perspectives on Gold Rush BC: Winter 2017/18* (2018 February 1) at p. 117. Recent studies by Fair Mining Collaborative document the grievous under-regulation of placer mining in the province. See *ibid;* Fair Mining Collaborative, *The New Gold Rush: Placer Mining in the Fraser Watershed* (April 2017) online: http://www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf; Fair Mining Collaborative, *Stirring Up the Sentiment: An Overview of Placer Mining in British Columbia* (September 2016) [unpublished draft report, on file with the University of Victoria Environmental Law Centre] at p. 1, 7; Fair Mining Collaborative, *Lost Creeks: the Atlin Watershed and Placer Mine Reclamation* (2017) [unpublished draft report, on file with the University of Victoria Environmental Law Centre].

3 Tara Lamothe-Ammerlaan *et al*, "The New Gold Rush: Placer Mining in the Fraser Watershed," *BC Studies No.196: Perspectives on Gold Rush BC: Winter 2017/18* (2018 February 1) at p. 132.

4 Michelle Arcand and Joanne McLeod, *Cariboo Region Placer Mine Inspection Report* (BC Ministry of Forests, Lands and Natural Resource Operations, December 2011) at pp. 1, 4, 6, in FOI Request—FNR-2012-00238, Response Package at Part 4, p. 4 online: docs.openinfo.gov.bc.ca/D10015613A_Response_Package_FNR-2012-00238.PDF.

5 *Placer Mining Waste Control Regulation*, BC Reg 107/89, ss. 2-3. In practice, miners in the Atlin area use tailings ponds, but these ponds may have surface water connections to local streams. See: Eric W Smith & Dave Wilford, *Water Quality, Stream Sediments, and Hydrology in the Atlin Placer Mining Area—A Pilot Study* (Smithers, BC: BC Ministry of Forests, Lands, and Natural Resource Operations, 2013 July 30), at p. 8 online.

6 For more on the importance of riparian areas, see the references at Calvin Sandborn, *Green Space and Growth: Conserving Natural Areas in BC Communities* (Victoria: Commission on Resources and Environment, 1996) at p. 91.

7 Cows and Fish, *Fact Sheet: Biodiversity and Riparian Areas: Life in the Green Zone* (February 2002) at p. 1 online: cowsandfish.org/pdfs/biodiversity.pdf. On salmon's

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17 See, e.g. Michelle Arcand and Joanne McLeod, *Cariboo Region Placer Mine Inspection Report*" (BC Ministry of Forests, Lands and Natural Resource Operations, December 2011) in FOI Request—FNR-2012-00238, Response Package at part 4, p. 10 online: docs.openinfo.gov.bc.ca/D10015613A_Response_Package_FNR-2012-00238.PDF.

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40 Currently, security amounts are set in an "amount and form" acceptable to the Chief Inspector of Mines; *Mines Act*, RSBC 1996, c 293, s 10(5).

41 *Mines Act*, RSBC 1996, c 293, s 10(4); Fair Mining Collaborative, *Lost Creeks: the Atlin Watershed and Placer Mine Reclamation* (2017) [unpublished draft report, on file with the University of Victoria Environmental Law Centre] at p. 8; D Howe, T Demchuk, and A Rollo, *BC Mines Act Permitting: Update on Government Structure, Roles, Responsibilities and Requirements* (Victoria: BC Ministry of Energy and Mines, 2012) at p. 3 online: https://open.library.ubc.ca/media/download/pdf/59367/1.0042628/1.

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51 *Placer Mining Waste Control Regulation*, BC Reg 107/89, s 3(c)(i).

52 The growing popularity of placer jade mining in BC is likely due in part to rising jade prices, but may also be influenced by Discovery Channel Canada's popular reality TV show, Jade Fever, which covers placer and hard rock jade mining operations in northern BC, and is now in its fourth season. See Jeff Desjardins, "The Rush For Jade in British Columbia," *Visual Capitalist* (2015 September 23) online: : www.visualcapitalist.com/the-rush-for-jade-inbritish-columbia/; Discovery, "Jade Fever," (2018) online: www.discovery.ca/Shows/Jade-Fever.

53 Pacific Bay Minerals, "BC Jade," online: www.pacificbayminerals.com/properties/bc-jade/.

BC MINING LAW REFORM

Polluter Pays

University of Victoria Environmental Law Centre

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Introduction

Mining can do long-lasting damage to entire watersheds—and to fish populations, clean water supplies, wildlife habitat and human health. Mining pollution can also impose direct costs on neighbours, Indigenous Nations, industries that rely on a clean environment, and on taxpayers—who often bear the costs of mine cleanup and pollution abatement.

BC's laws have traditionally not required industry to pay for the costs associated with mining pollution. As a result, there has been little incentive for companies to invest in environmentally sound solutions to avoid pollution. Given a choice between spending money on cleaner technology or continuing to pollute for free, many firms have chosen the "free" option of polluting. If BC's mining laws are going to protect our land, air and water, they must require polluters to pay the true costs of their pollution—and motivate them to reduce harmful practices that create environmental costs.

In efforts to reduce pollution and create incentives to improve industry's environmental performance, many countries have now incorporated the polluter pays principle into their legislative and policy frameworks.[1] "Polluter pays" means that whoever causes environmental degradation should bear the full cost. Although this fundamental principle has been widely accepted by BC and Canadian governments,[2] in practice polluters are still not paying for the cost of their pollution.

In BC, the mining industry has never been required to fully pay for the damage it does to the environment. Contaminated streams and vanishing fish runs have been treated as "externalities" for which mining companies have not had to take responsibility. Mines that impose pollution on Indigenous Nations, private landowners, tourism operators and other local businesses rarely provide adequate compensation for those damages, and there are few effective options for affected groups or individuals to seek redress.

The following recommendations are intended to address these problems and to support effective implementation of the "polluter pays" principle in BC's mining laws. Their adoption would help ensure that mining companies in this province pay for, at minimum:

- the full costs of mine cleanup/reclamation; and
- damages caused to the environment, Indigenous Nations and third parties as a result of normal operations, as well as accidents and post-closure events.

In addition, these recommendations would powerfully improve the industry's overall environmental performance.

Full financial security for cleanup/reclamation

To implement the polluter pays principle in mining regulation, companies must be required to provide full financial security for the anticipated costs of cleanup before they begin operations. Mining companies are often highly speculative enterprises and insolvency is common within the industry.[3] As a result, many mining companies have been unable to pay for cleanup and reclamation at polluting mine sites. When governments have not required adequate security amounts from companies, the unpaid mine cleanup bills have fallen to the taxpayer.

For example, federal taxpayers are already on the hook for more than $700 million in remediation costs at Yukon's Faro Mine and $1 billion at the NWT's Giant Mine—with no confirmation yet that these are the full and final costs.[4] In BC, the remediation of Britannia Mine near Squamish cost taxpayers an estimated $46 million but also requires ongoing water treatment at a cost of $3 million per year, payable by the public in perpetuity.[5]

BC's legislation has fallen behind other leading jurisdictions where taxpayers are protected from these risks by requirements that companies provide security for 100% of projected cleanup and reclamation costs.[6] For example, one Canadian mining company has provided full security for estimated reclamation costs ($560 million) at its Alaskan mine because the state government requires it. In contrast, the same company's BC mines have *unsecured* reclamation costs of $700 million dollars because BC's laws are much weaker.[7] The company fully protects Alaskans from the predicted long-term costs of its mining operations, but is not required to protect British Columbians in the same way.

In total, BC's Auditor General estimated that a $1.2 billion unfunded taxpayer liability was produced because the province was not taking full security from mining companies for cleanup costs.[8] This liability rose to almost $1.6 billion by 2016, according to BC's Chief Inspector of Mines.[9]

Underestimating cleanup and reclamation costs

While BC has not required companies to post full security for estimated cleanup costs, there is also reason to fear that our laws are resulting in dramatic underestimates of what those costs will actually be. That is partly because, in our current system, cleanup and reclamation estimates are prepared by mining companies. These companies have clear incentives to minimize predicted costs (the higher their reclamation estimate, the more money the company must spend on security).[10] On top of that, the company-prepared estimates are reviewed by a regulator that the Auditor General has concluded has an inherent conflict of interest that is rooted in its dual mandates of promoting and regulating the industry. This conflict is particularly problematic when the regulator is determining how much security to demand from a company. The ministry's interest in seeing the

mine proceed may result in acceptance of a company's estimates, where an objective assessment would have produced a much higher projected cost. The public needs to have confidence that BC is accurately estimating cleanup costs and not relying on numbers that are skewed by a desire to minimize costs and encourage mining development.

Returning securities too soon

Beyond concerns about the accuracy of cleanup cost estimates, BC laws create additional risks for taxpayers by allowing securities to be released back to companies prematurely. In BC, securities can be released once the mine has been reclaimed to a satisfactory level, as determined by the Chief Inspector.[11] There is, however, a significant risk that environmental conditions will degrade over time after a mine is closed, even where all regulatory and permit conditions are met.[12] By not holding back some security in anticipation of such events, BC exposes taxpayers to all unforeseen long-term costs after a mine has been closed.

Other jurisdictions have laws to protect the public from these potential liabilities. In Wyoming, the *Environmental Quality Act* provides for up to 75% of the security to be released on completion of reclamation, with the remaining 25% held for a minimum additional period of five years to assure proper revegetation and restoration of groundwater. Other jurisdictions like Montana allow public input prior to the release of securities, and some allow affected citizens to appeal security release decisions while the government holds the bond until a decision is made.[13] These provisions provide some protection against the public being burdened with costs because of a premature security return. BC's laws do not provide these safeguards.[14]

Acid rock drainage and security for "forever" cleanup costs

Inadequate security for the costs of remediating acid rock drainage-generating mines is particularly problematic. Acid rock drainage and metal leaching can continue indefinitely and require ongoing water treatment (some European mines from medieval and Roman times continue to pollute today).[15] The province has estimated that approximately 10% of the major mines in BC either have water treatment facilities or will require them in the future.[16] While some jurisdictions (*e.g.* Northwest Territories, New Mexico, Yukon, Wisconsin, and Manitoba)[17] ban any mine that would require long-term water treatment, BC not only permits these types of mines but routinely allows them to operate without full security. In 2016 the Auditor General estimated there was a security shortfall of $730 million in BC for these high-risk operations alone.[18]

1. **RECOMMENDATION: Require mining companies to provide security for 100% of independently verified cleanup and reclamation cost estimates before operations begin.**

2. **RECOMMENDATION: Protect against the premature return of securities by mandating holdbacks and providing for public input and appeal opportunities for security release decisions.**

3. **RECOMMENDATION: Mandate regular public disclosure of the estimated liability and corresponding security amounts held by the province for each mine in BC.**

Coverage for accidents and disasters

While BC is now taking steps to improve the adequacy of securities taken for projected mine reclamation costs, it continues to ignore the need for financial assurance for unplanned but probabilistic accidents (like Mount Polley). Canada's Ecofiscal Commission calls this a "missed opportunity to lower the risk and potential social costs of mining disasters."[19]

Mandatory insurance requirements

Mandatory insurance requirements are one means by which BC could ensure that polluters, not the public, pay for unexpected mining accidents. Insurance requirements can also deter poor environmental behaviour, resulting in fewer accidents and reduced impacts.[20] The risk assessment performed by the insurance underwriter during the insurance policy approval process has a disciplining effect on operators, which results in fewer accidents and lower consequences when accidents do happen.[21] When insurance is required, irresponsible or exemplary behavior is reflected in insurance rates—which strongly incentivizes good behaviour. Overall, mandatory insurance can help reduce pollution and taxpayer cleanup costs.[22]

BC does not currently require that mining companies carry insurance to cover the costs of unintended disasters, and many choose not to.[23] Mount Polley mine owner, Imperial Metals Inc., chose not to hold enough insurance to cover the costs associated with its 2014 tailings dam disaster, where 25 million cubic metres of wastewater and tailings were released into Quesnel Lake, one of BC's most important sockeye salmon-rearing lakes.

Imperial Metals' $25 million in insurance was quickly exhausted, leaving other costs to likely be borne by the public, Indigenous peoples, innocent neighbours and the environment.[24]

Industry-wide funds for large-scale accident and disaster compensation

While mandatory insurance can provide a significant level of protection against unfunded cleanup costs, insurers may not provide coverage high enough to provide full compensation in an extreme event like the Mount Polley disaster. To protect against the costs of a risk of that magnitude, Canada's Ecofiscal Commission recommends pooling risks and costs across companies or sectors.[25] Similarly, a 2016 report for the Union of BC Indian Chiefs recommended the creation of an industry-funded pool to cover catastrophic events if a polluter is unable to pay.[26] The report suggested a possible levy on mine production to create an industry-wide fund to finance clean-up of major accidents when the mine operator cannot carry it out and there is insufficient insurance in place.[27]

There are a number of existing schemes that BC can look to for examples of pooled industry funds to protect the public from large-scale mining disasters—for example, the Canadian Ship-Source Oil Pollution Liability and Compensation Framework sets asides funds raised by a charge on each barrel of oil shipped to cover the cleanup costs of infrequent but massive accidents and spills.[28] Similarly, under the new federal *Pipeline Safety Act* regime, pipeline companies will have to show that they can readily access $1 billion to clean up a spill—and a backup industry fund will be created to further protect taxpayers.[29]

In addition to insulating the public from the costs of mine pollution, BC's laws need to better compensate parties that are directly affected by mining accidents and pollution. An event like Mount Polley can hurt Indigenous cultures and economies that depend on aquatic resources, ruin local tourism businesses, and decrease water quality and property values for residents. Under the existing system, victims must present their claim to the mining company and, if they disagree with the company's compensation decision, their only recourse is to the courts—a time consuming and expensive affair that may fail because of technicalities or bankruptcy.[30]

In contrast, victims of oil tanker spills may simply recover for property damage, cleanup costs and certain loss of income from the industry fund created by the Canadian Ship-Source Oil Pollution Framework.[31]

Other jurisdictions have created efficient and fair legal mechanisms that enable victims to seek redress for impacts efficiently, via an independent process—BC can and should follow suit. More specifically, as recommended by the Union of BC Indian Chiefs in a recent report on financial responsibility in the mining sector, BC should follow leading jurisdictions by establishing an arm's-length body to adjudicate compensation claims for losses associated with mining activities or accidents.[32]

4. **RECOMMENDATION: Require that mining companies carry private insurance to fully cover the cost of unplanned but probabilistic events like tailings spills (i.e. beyond required securities for predicted cleanup and reclamation costs).**

5. **RECOMMENDATION: Establish a pooled industry fund to cover the costs of disasters that private insurers won't cover.**

6. **RECOMMENDATION: Establish an independent claims process to adjudicate disputes over third-party compensation for mine pollution impacts.**

Civil liability

British Columbia's courts could play a significant role in ensuring that polluters pay for the costs of their mining activities in BC. However, existing civil liability options offer little recourse for groups and individuals impacted by mine pollution or accidents.[33]

Theoretically, a company could be sued for "private nuisance" if it pollutes and causes impacts. However, before an individual can sue a company for private nuisance, they have to demonstrate a property interest in damaged land, air or water.[34] Those without a property interest can sometimes sue a company for "public nuisance" but there are formidable barriers to success via this approach.[35] Generally, citizens can't sue for public nuisance unless they suffered "special damage" that is clearly distinguishable from the damage caused to society at large. Otherwise, the Attorney General controls such lawsuits.[36] These strict requirements create significant barriers for citizen plaintiffs and significantly curtail the role of our courts in upholding the polluter pays principle and delivering justice for victims of mining pollution in BC.

Law Reform Commissions in both Ontario and BC have concluded that BC's current approach inappropriately grants the Attorney General control over access to the courts in public nuisance cases involving "public rights."[37] These Commissions have recommended expanding the law of standing for environmental issues and public nuisance cases.[38]

Other jurisdictions provide more public access to civil remedies for environmental damage, and provide examples that BC could follow. In the US, federal laws allow citizens to sue to compel compliance from polluters who are in violation of the law and also allow for suits

against government bodies for failing to perform their duties to protect the environment.[39] For example, under the US *Clean Water Act*, citizens are empowered to bring private suits and many have taken advantage of the opportunity, leading to far more comprehensive enforcement of this key environmental law.[40] Requirements for legal standing are also less strict[41] and citizens have standing to bring claims against violators even after they have come into compliance with the law. This provision promotes justice for victims of industrial pollution and can help in deterring future violations.[42]

7. **RECOMMENDATION: Expand the civil liability of mining companies to ensure that they pay the full cost of their pollution by:**
   - **Liberalizing the rules on legal standing to enable citizens to bring public nuisance cases without having to prove a personal, proprietary or pecuniary interest, or special damage—and without needing permission from the Attorney General; and**
   - **Enabling "citizen suits" where individuals can sue companies civilly to compel compliance from polluters who are violating the law—and can sue government bodies directly for failing to perform their statutory duties to protect the environment.**

Pollution discharge fees

Mining companies in BC are charged a fee for each type of pollutant they discharge onto adjacent lands or into nearby water bodies. These charges are intended to reflect the impact that specific pollutants have on the environment—if done properly they would be an example of the "polluter pay" principle in action. However, current fees are out-of-date and, in many cases, do not reflect the environmental impact or value of ecosystem services harmed by the discharge of specific pollutants.[43]

For example, MOE classifies selenium as a metal and calculates the selenium discharge fee at the *tonnage* level, even though it is now known to be toxic in trace amounts.[44] Studies have found that high selenium concentrations in some portions of the Elk River watershed (an intensive coal-mining district) in southeastern BC are resulting in deformities and reproductive failure in trout and fish mortality of up to 50%. Yet, waste discharge fees remain unchanged.[45]

8. **RECOMMENDATION: Revise pollution discharge fees so that they are defensibly proportionate to the environmental impacts and ecosystem costs associated with the discharge of specific pollutants.**

Endnotes

1 See *United Nations Rio Declaration on Environment and Development*, UN Doc. A/CONF.151/26 (vol. I); 31 ILM 874 (1992) at Principle 16.

2 For example, see Government of Canada, *Canada's Green Plan for a Healthy Environment*, (1990) p. 16; *Canadian Environmental Protection Act*, 1999, S.C. 1999, c. 33; and *J.I Properties Inc. v. PPG Architectural Coatings Canada Ltd.*, 2015 BCCA 472.

3 Letter. "Request for Establishment of a Judicial Commission of Public Inquiry to Rectify and Improve BC Mining Regulation." Calvin Sandborn & Kristy Broadhead. Received by the Honourable Christy Clark (8 March 2017) (Victoria: BC).

4 Letter. "Request for Establishment of a Judicial Commission of Public Inquiry to Rectify and Improve BC Mining Regulation." Calvin Sandborn & Kristy Broadhead. Received by the Honourable Christy Clark (8 March 2017) (Victoria: BC).

5 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector* (Victoria: Office of the Auditor General, 2016) at p. 50.

6 Letter. "Request for Establishment of a Judicial Commission of Public Inquiry to Rectify and Improve BC Mining Regulation." Calvin Sandborn & Kristy Broadhead. Received by the Honourable Christy Clark (8 March 2017) (Victoria: BC) at pp. 13, 43.

7 Letter. "Request for Establishment of a Judicial Commission of Public Inquiry to Rectify and Improve BC Mining Regulation." Calvin Sandborn & Kristy Broadhead. Received by the Honourable Christy Clark (8 March 2017) (Victoria: BC) at p. 13.

8 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector* (Victoria: 2016) at p. 6.

9 Annual Report of the Chief Inspector of Mines of British Columbia, 2016. British Columbia Ministry of Energy, Mines and Petroleum Resources. p. 17.

10 Robyn Allan, *Toward Financial Responsibility in British Columbia's Mining Industry* (Union of British Columbia Indian Chiefs, 2016) at p. 4.

11 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector* (Victoria: Office of the Auditor General, 2016) at p. 42.

12 Maya Stano, *The Raven Mine: A Regulatory & Fiscal Black Hole?* (Victoria: Environmental Law Centre, 2011) at p. 28.

13 Maya Stano, *The Raven Mine: A Regulatory & Fiscal Black Hole?* (Victoria: Environmental Law Centre, 2011) at p. 28.

14 Maya Stano, *The Raven Mine: A Regulatory & Fiscal Black Hole?* (Victoria: Environmental Law Centre, 2011) at p. 28.

15 Letter. "Request for Establishment of a Judicial Commission of Public Inquiry to Rectify and Improve BC Mining Regulation." Calvin Sandborn & Kristy Broadhead. Received by the Honourable Christy Clark (8 March 2017) (Victoria: BC) at p. 7.

16 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector* (Victoria: Office of the Auditor General, 2016) at p. 5.

17 Letter. "Request for Establishment of a Judicial Commission of Public Inquiry to Rectify and Improve BC Mining Regulation." Calvin Sandborn & Kristy Broadhead. Received by the Honourable Christy Clark (8 March 2017) (Victoria: BC) at p. 44.

18 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector* (Victoria: Office of the Auditor General, 2016) at p.44.

19 Canada's Ecofiscal Commission, *Responsible Risk: How putting a price on environmental risk makes disasters less likely* (2018) at v.

20 Robyn Allan, *Toward Financial Responsibility in British Columbia's Mining Industry* (Union of British Columbia Indian Chiefs, 2016) at p. 63.

21 Robyn Allan, *Toward Financial Responsibility in British Columbia's Mining Industry* (Union of British Columbia Indian Chiefs, 2016) at p. 63.

22 Calvin Sandborn, *et al, Preventing Toxic Pollution: Toward a British Columbia Strategy* (Vancouver: Press Gang Printers, 1991) at pp. 124-125.

23 Robyn Allan, *Toward Financial Responsibility in British Columbia's Mining Industry* (Union of British Columbia Indian Chiefs, 2016) at p. 61.

24 Robyn Allan, *Toward Financial Responsibility in British Columbia's Mining Industry* (Union of British Columbia Indian Chiefs, 2016) at p. 62.

25 Canada's Ecofiscal Commission, *Responsible Risk: How putting a price on environmental risk makes disasters less likely* (2018) at p. vii.

26 Robyn Allan, *Toward Financial Responsibility in British Columbia's Mining Industry* (Union of British Columbia Indian Chiefs, 2016); Also, note that under the New Zealand Resource Management Act, security may be required to address "adverse effects on the environment that become apparent during or after the expiry" of the permit. This ensures that costs for unexpected occurrences that are not considered at the initial permit application stage will also be covered by the company rather than by government; New Zealand Resource Management Act 1991, Public Act 1991 No 69, s.108A(2)(d).

27 Robyn Allan, *Toward Financial Responsibility in British Columbia's Mining Industry* (Union of British Columbia Indian Chiefs, 2016) at p. 55.

28 Robyn Allan, *Toward Financial Responsibility in British Columbia's Mining Industry* (Union of British Columbia Indian Chiefs, 2016) at p. 55.

29 Robyn Allan, *Toward Financial Responsibility in British Columbia's Mining Industry* (Union of British Columbia Indian Chiefs, 2016) at p.24.

30 Robyn Allan, *Toward Financial Responsibility in British Columbia's Mining Industry* (Union of British Columbia Indian Chiefs, 2016) at p. 53.

31 *Marine Liability Act*, S.C. 2001, c. 6, ss. 51, 71 and 77.

32 Robyn Allan, *Toward Financial Responsibility in British Columbia's Mining Industry* (Union of British Columbia Indian Chiefs, 2016) at p. 55.

33 Calvin Sandborn, *et al*, *Preventing Toxic Pollution: Toward a British Columbia Strategy* (Vancouver: Press Gang Printers, 1991).

34 Calvin Sandborn, *et al*, *Preventing Toxic Pollution: Toward a British Columbia Strategy* (Vancouver: Press Gang Printers, 1991).

35 Calvin Sandborn, *Law Reform for Sustainable Development in British Columbia*, (British Columbia: Canadian Bar Association, 1990) pp. 173-178.

36 Calvin Sandborn (ed.), *Maintaining Natural BC for Our Children*, (Victoria: Environmental Law Centre, 2012) at, p. 126.

37 Calvin Sandborn, *Law Reform for Sustainable Development in British Columbia*, (British Columbia: Canadian Bar Association, 1990) p. 176.

38 Calvin Sandborn, *Law Reform for Sustainable Development in British Columbia*, (British Columbia: Canadian Bar Association, 1990) p. 176.

39 Karl Coplan, *Citizen Litigants Citizen Regulators: Four Cases Where Citizen Suits Drove Development of Clean Water Law*, (Colorado: Pace Environmental Litigation Clinic) at p. 65.

40 Karl Coplan, *Citizen Litigants Citizen Regulators: Four Cases Where Citizen Suits Drove Development of Clean Water Law*, (Colorado: Pace Environmental Litigation Clinic) at p. 67.

41 Karl Coplan, *Citizen Litigants Citizen Regulators: Four Cases Where Citizen Suits Drove Development of Clean Water Law*, (Colorado: Pace Environmental Litigation Clinic) at p. 66.

42 *Friends of the Earth, Inc. et al. v. Laidlaw Environmental Services Inc.*, 528 U.S. 167 (2000).

43 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector* (Victoria: Office of the Auditor General, 2016), at p. 6, 85.

44 Auditor General of British Columbia, *An Audit of Compliance and Enforcement of the Mining Sector* (Victoria: Office of the Auditor General, 2016) at p. 85.

45 *Waste Discharge Regulation*, BC Reg 320/2004, Schedule 3.