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The Need for a Moratorium on Placer Mining Claims and Leases

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Cover Image: Placer gold mining on the lower reach of Otter Creek entering Surprise Lake, near Atlin, BC. (Photo courtesy of Tony Fogarassy)

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EXECUTIVE SUMMARY

The BC placer mining industry has profound negative impacts on streams, fish populations, wildlife, human health, and Indigenous people. Yet placer mining continues to expand across BC – in the face of an outdated regulatory system and a broad disregard for Indigenous rights.

Placer mining seriously disrupts streams and riparian areas, unique ecosystems that are critical to the lives of Indigenous peoples. Placer mining destroys stream channel stability, eliminates pools, spawning beds, wetlands and other key fish habitat, and removes critical streamside shading vegetation. It drastically reduces fish populations. In addition, placer mining devastates riparian habitats – amongst the most productive of all terrestrial wildlife habitats, and a rich source of medicinal plants.

Modern placer mining can mobilize highly toxic mercury from historic placer mining into a watershed – which can have devastating impacts on ecosystem and human health. Placer mining can also have deleterious effects on drinking water quality through increased sediment loads and the release of toxins such as arsenic, iron, lead, and mercury.

The cumulative impacts of placer mining on a watershed or ecosystem can be devastating, particularly for Indigenous peoples. By damaging fish and wildlife, placer mining not only impacts Indigenous food supplies, nutrition and health – but a whole galaxy of social, ceremonial, spiritual and cultural values that are essential to community well-being. In particular, the potential health risks posed by mercury in fish weighs disproportionately on Indigenous people, because of their heavy reliance on fish. The catastrophic mercury poisoning that severely damaged the entire population of the Grassy Narrows and Wabaseemoong Independent Nations must not be repeated.

Indeed, placer mining has disproportionately affected Indigenous peoples ever since the gold rush era – when placer mining played a pivotal role in colonization of the province. Yet, the regulation of BC placer mining is still rooted in 19th century gold rush laws which ignored Indigenous rights. The law clearly requires modernization. For example, the law still allows miners to stake placer claims without Indigenous consent. Furthermore, the BC placer mining regulatory framework fails to mitigate the serious environmental harms set out above. Regulatory shortcomings include minimal pre-conditions for placer mining, a dearth of environmental assessments, no accounting of cumulative effects, low government inspection rates, high non-compliance rates, and a lack of effective rules to protect streams and riparian areas from destruction. Additionally, there is a widespread failure across the province to reclaim placer mining sites, due to BC's inadequate reclamation bond regime.

In sum, the harm done by placer mining is not properly regulated or mitigated – and this profoundly impacts Indigenous peoples.

Below we document how the BC placer mining regime is inconsistent with several fundamental rights defined in the *United Nations Declaration on the Rights of Indigenous Peoples*, including:

- the right to enjoy subsistence and engage freely in traditional activities;
- the right to participate in decision making that affects Indigenous rights; and
- the right to require that projects – and laws – affecting Indigenous resources only proceed with the free, prior and informed consent of Indigenous peoples.

Since the current placer mining system is inconsistent with these and other fundamental rights, the *Declaration on the Rights of Indigenous Peoples Act* obliges the BC Government to "take all measures necessary to ensure the laws of British Columbia are consistent" with the UNDRIP rights.

Therefore, we request a moratorium on the issuance of placer mining leases and claims until the *Mineral Tenure Act* has been modernized:

- in accord with the Province's commitment in the *Declaration on the Rights of Indigenous Peoples Act Action Plan*, and
- pursuant to a Crown-First Nations process that aligns with the *UN Declaration on the Rights of Indigenous Peoples*.

INTRODUCTION

Placer mining activity has increased dramatically in recent years, with approved machine-excavation operations almost tripling since 2005.[1] As fully documented below, placer mining – the excavation of ancient and current stream beds to retrieve minerals deposited in sand and gravel by water – poses a serious risk to watersheds across the province. Such mining destroys invaluable riparian areas, severely and permanently damages streams, devastates fish, and threatens human health. Frequently it interferes with traditional hunting, fishing and gathering practices and infringes Indigenous rights.

Yet, the regulation of BC placer mining is rooted in 19th century gold rush laws and has remained hopelessly outdated.[2] The law still allows miners to stake placer claims without Indigenous consent. Recent studies have documented the grievous under-regulation of placer mining in the province.[3] For example, in sharp contrast to the Yukon, BC placer mines do not undergo environmental assessment before they are approved. Government rarely inspects placer mine operations to ensure existing rules are enforced, and rule-breaking has been epidemic. Moreover, placer-mined sites have commonly been left without proper reclamation of the ruined placer-mining barrens.[4] Vast un-reclaimed areas continue to erode and destroy once-pristine riparian

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[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 also 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" (Winter 2017/18) 196 BC Studies 115 at 117.

[3] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>; 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>; 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]; 16 reports on mining found at *Reports*, BC Mining Law Reform <https://reformbcmining.ca/reports/>; and Environmental Law Centre, *Request for an audit and examination of the Government of British Columbia's failure to adequately regulate placer mining* , Victoria, BC, March 30, 2018, <https://elc.uvic.ca/wordpress/wp-content/uploads/2018/04/2017-03-02-Placer-Mining-AG-Submission.pdf>.

[4] For example, see the 2010 MFLNRO Audit, which found that only "one of the twenty-three active placer tenures had adequate reclamation consistent with that reported in the Notice of Work": British Columbia, Ministry of Forests, Lands and Natural Resource Operations, "Cariboo Region Placer Mine Inspection Report" by Michelle Arcand & Joanne McLeod (December 2011),at 19, in FOI Request – FNR-2012-00238, Response Package at 180, online: <docs.openinfo.gov.bc.ca/D10015613A_Response_Package_FNR-2012-00238.PDF>. For a more recent examples of lack of government-required reclamation, see Taku River Tlingit First Nation, "Lands and Resources Newletter," Spring Summer 2020, at 16-17, online: <https://trtfn.com/wp-content/uploads/2020/04/Spring-2020LANDS-Newsletter.pdf>, which discusses the initiative of the Nation in reclaiming long un-reclaimed placer mining barrens at Otter Creek. The Taku River Tlingit inspiring reclamation work at Otter Creek is depicted in detail in the film "TRTFNOtter Creek Restoration," online: <https://youtu.be/x1cg8k2bAMs>.

ecosystems.[5] There has never been a systematic provincial plan to restore the placer barrens – to restore the streamside "ribbon of life" vegetation and restore the fisheries to vibrancy.

Yet the Province has continued to sanction widespread placer mining – without adequate operational rules. As documented below, placer mines have not been subject to environmental assessments *before mining*; not subject to adequate government inspection and regulation *during mining*; and not subject to adequate reclamation requirements *after mining*. Among obvious flaws, the BC Government does not protect critically important riparian areas by enforcing an adequate 'setback' from stream banks.[6]

One egregious example of how bad placer regulation has been is that, until very recently, government had gone to the extraordinary length of legislatively *suspending* its universal province-wide pollution rules around Atlin – solely to allow placer mines to discharge directly into streams instead of into protective tailings ponds. For years, residents of that area were deprived of the rights to rudimentary environmental protection measures that apply everywhere else.[7]

Collectively, these regulatory shortcomings of an inherently destructive activity threaten the public interest. They jeopardize valuable public assets including waterways, fish, riparian habitat and wildlife – and impact human health and Indigenous rights.

Impacts on Indigenous peoples are of particular concern. First Nations feel the industry's effects on ecologically sensitive and productive riparian areas, wildlife and fish most keenly. They are routinely excluded from riparian zones by placer mines, and are not given adequate notice of proposed mines or of proposed placer mining "zones" in their territories. Indigenous rights to consultation, accommodation, and consent are being systematically ignored.[8]

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[5] See "Effects on Riparian Areas and Streams" below, for details of the superordinate importance of the streams and riparian habitats that placer mining damages.

[6] See the discussion of setbacks below and see British Columbia, Ministry of Energy, Mines and Petroleum Resources, "BC Placer Mining Best Management
Practices, Technical Guide" (November 2019), at 18-19, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/exploration/bmps_technical_guide_2019.pdf>, which discusses the riparian setbacks.

[7] In 1985, Atlin-area placer miners successfully lobbied their MLA to deregulate a number of nearby creeks that had already been damaged by un-reclaimed gold rush placer mining. In 1989 regulations restricting pollution discharge directly into streams were specifically suspended in the Atlin area. See Placer Mining Waste Control Regulation, BC Reg 107/89. This retrograde regulation was finally reversed in Sept 2021 in order to re-regulate the Atlin-area creeks and bring them back under the protection of the *Environmental Management Act*. See Placer Mining Waste Control Regulation, B.C. Reg. 107/89, OIC 296/2021.

[8] "Discussions with First Nations in five highly active claim and lease areas indicated significant concerns about environmental impacts and reclamation, lack of compliance and enforcement with existing regulations, regulatory oversight and revenue sharing. Adverse effects related to impaired access, interference with traditional activities and hunting/fishing/gathering and damage to riparian ecosystems were mentioned multiple times in the interviews." Lions Gate Consulting, "British Columbia Placer Mining Socio-Economic Study" (2 Jun 2021) at iv. Also see: BC Ministry, Mines & Low Carbon Innovation and First Nations Energy and Mining Council, *"Placer Mining Engagement Sessions (2021-2022): What We Heard Report"* (March 2022).

Other jurisdictions have already recognized that the environmental costs of placer mining can outweigh the economic benefits. China, Mongolia, El Salvador, Costa Rica, Oregon, California, and the Yukon have all implemented moratoria or bans on some or all types of placer mining activities.

Significantly, there is ample British Columbia precedent for acting to establish a moratorium on harmful mining activities:

- Section 22 of the *Mineral Tenure Act* has been used to establish mineral reserves barring mineral claims or leases for uranium and thorium mining.[9]
- Section 7 of the *Environment and Land Use Act* has been used to:
    - broadly defer the issuance of placer and hardrock jade mining permits;[10]
    - bar mining activity and issuance of permits to work on mines located in the Flathead Valley; and[11]
    - broadly defer the issuance of coal licences, mine permits, and oil and gas permits in caribou habitat areas.[12]

Furthermore, s. 17 of the *Mineral Tenure Act* grants the Minister broad authority to restrict rights and interests in placer minerals in order to protect a cultural heritage resource. Therefore, the Minister is empowered to issue restrictions to protect the key cultural heritage resource of fish – fish that are existentially threatened by unchecked placer mining.

We therefore urge you to place a moratorium on new placer mining claims and leases because of the damage placer mining does to fish and human health, and the deleterious effects on Indigenous lands and waters. A moratorium is necessary to safeguard the natural integrity of sensitive riparian and aquatic ecosystems, and to prevent further damage while the *Mineral Tenure Act* is being updated and other legislation governing placer mining is modernized. A moratorium is necessary to meet the Crown's constitutional duty to consult and accommodate

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[9] In 2008 this legislation was used to bar claims or leases for uranium and thorium mining. See Uranium and Thorium Reserve Regulation, BC Reg 82/2008, online: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/mineral-titles/notices-mineral-placer-titles/82-2008.pdf

[10] Note that s. 7 of the *Environment and Land Use Act* authorized the establishment of a broad deferral of the issuance of placer jade mining permits in 2020. See Placer Jade Permit Deferral Area Order, OIC 234/2020, online: <https://www.bclaws.gov.bc.ca/civix/document/id/oic/arc_oic/0234_2020> which was recently repealed and replaced by the broader Placer and Hardrock Jade Permit Deferral Area Order, OIC 409/2021, online: <https://www.bclaws.gov.bc.ca/civix/document/id/oic/oic_cur/0409_2021#:~:text=Executive%20Council%20Chambers%2C%20Victoria&text=(a)%20the%20Placer%20Jade%20Permit,Deferral%20Area%20Order%20is%20made.&text=(This%20part%20is%20for%20administrative,not%20part%20of%20the%20Order)>.

[11] Section 7 was used to bar mining activity (and to bar issuance of permits to work on mines) in the Flathead Valley in 2010. See British Columbia, OIC 89/2010, online: <https://www.bclaws.gov.bc.ca/civix/document/id/oic/arc_oic/0089_2010>.

[12] Section 7 has also been used recently to broadly defer the issuance of coal licences, mines permits, and oil and gas permits in caribou habitat areas. See British Columbia OIC 266/2019, online: <https://www.bclaws.gov.bc.ca/civix/document/id/oic/arc_oic/0266_2019/search/CIVIX_DOCUMENT_ROOT_STEM:(caribou)?1#hit1> and British Columbia OIC 354/2021, online: <https://www.bclaws.gov.bc.ca/civix/document/id/oic/oic_cur/0354_2021/search/CIVIX_DOCUMENT_ROOT_STEM:(environment%20and%20land%20use%20act)%20AND%20(caribou)?3#hit1>.

Indigenous rights-holders – and to meet the requirements of the *Declaration of the Rights of Indigenous Peoples Act*.

The *Act* explicitly requires the BC Government to "take all measures necessary to ensure the laws of British Columbia are consistent" with UNDRIP. Since placer mining under the current BC legal regime is clearly inconsistent with Indigenous rights enshrined in Articles 18, 19, 20, 24, and 32 of *UNDRIP*, the Province must rectify this inconsistency.[13] Until these matters are rectified, a moratorium on issuing new placer mining leases and claims must be established.

The case for the Premier initiating a moratorium on the issuance of placer mining leases and claims is presented below as follows:

1. The Environmental and Human Effects of Placer Mining
2. Impacts of placer mining on Indigenous Communities and Rights
3. The Under-Regulation of Placer Mining
4. The Placer Mining Regime Clearly Contravenes Indigenous Rights and *UNDRIP*
5. Statements of Concern from Indigenous Leaders
6. Precedents for a Moratorium
7. Conclusion

[13] *Declaration of the Rights of Indigenous Peoples Act,* at s. 3.

1. THE ENVIRONMENTAL AND HUMAN EFFECTS OF PLACER MINING

Placer mining activities have far-reaching negative effects on riparian areas and streams, fish, human health, and Indigenous rights.

Effects on Riparian Areas and Streams

Placer mining commonly involves excavation and shoveling of sand and gravel in and around streams – including current and historical streams, floodplains, and wetlands. The fundamental problem is that such placer mining not only damages streams but also riparian areas – nature's most biologically productive terrestrial systems. These unique waterside zones are critical to wildlife, and harbour almost two thirds of Canada's rare and endangered species. Riparian areas form important corridors for animal movement and plant dispersal and are absolutely essential to healthy streams. Riparian vegetation shades streams, cooling the water and preventing fish kills. Such vegetation provides food inputs for streams, controls erosion and, along with intact soils, filters out water-borne pollutants. In sum, the quality and integrity of streams depends on the critically important 'ribbon of life' found in the riparian zone.[14]

Yet placer mining clears riparian vegetation, disturbs soils and bankside integrity, guts wetlands[15], and often damages the fundamental nature of the stream itself. Insufficient site reclamation can result in perpetual erosion and habitat destruction.[16] For example, a Yukon study concluded that historical placer mining caused "extensive changes to stream channel morphology and instability" and increased the ongoing sediment load of watersheds.[17] Near the gold rush town of Atlin, long-

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[14] Calvin Sandborn, *Green Space and Growth: Conserving Natural Areas in BC Communities* (Victoria: Commission on Resources and Environment, 1996) at 91; Cows and Fish, "Fact Sheet: Biodiversity and Riparian Areas: Life in the Green Zone" (February 2002), online: <cowsandfish.org/pdfs/biodiversity.pdf>; Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017) at 4, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>.

[15] One instructive example of placer mining destruction of wetlands is found In the Yukon's Indian River watershed. The Tr'ondëk Hwëch'in First Nation reports that the watershed's vast wetlands have been nearly destroyed by placer mining. [See: <https://thenarwhal.ca/yukon-wetlands-placer-mining/>]

[16] Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 4-5, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>.

[17] Norecol Environmental Consultants Ltd, "Yukon placer feasibility study" (Vancouver: Yukon Placer Implementation Review Committee, 1989); Seakem Group Ltd, "Yukon Placer Mining Study: Vol 1 Executive Summary" (Sidney, BC: Yukon Placer Mining Implementation Review Committee, 1992); TF Waters, "Sediment in streams: sources, biological effects and control" (Bethesda: Amer Fish Soc, 1995), cited in IK Birtwell, SC Samis, and NY Khan, "Commentary on the management of fish habitat in northern Canada: information requirements and policy considerations regarding diamond, oil sands and placer mining – Summary Report" (DFO 2005) Can. Tech. Rep. Fish. Aquat. Sci. 2607: xii + 65 p. at 17. See also M Miles & Associates, "Restoration of Placer Mined Streams: Identification of Strategies to Expedite Recovery" (May 2003) at 1, online: <https://web.archive.org/web/20151009215734/ yukonriverpanel.com/salmon/wp-

term placer mining has seriously degraded stream health and left riparian scars that are visible from space.[18]

It is important to note that modern placer mining activities often exacerbate the industry's cumulative effects on watersheds still recovering from intensive gold rush-era placer mining.[19]

Effects on Fish

One of the most serious impacts of placer mining is the long-term damage it can inflict on fish populations. It can destroy stream channel stability, eliminate pools and other key habitat, and remove critical streamside shading vegetation.[20] In-stream activities destroy fish spawning grounds – and clearing riparian vegetation releases sediment into streams that devastates fish

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content/uploads/2011/02/cre-86-02-restoration-of-placer-mined-streams-identification-of-strategies-to-expedite-recovery.pdf>.

[18] 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 4, 6; British Columbia, Ministry of Forests, Lands, and Natural Resource Operations, *Water Quality, Stream Sediments, and Hydrology in the Atlin Placer Mining Area – A Pilot Study* by Eric W Smith & Dave Wilford (Smithers, BC: 2013), online: <a100.gov.bc.ca/appsdata/acat/documents/r48553/Smith_Wilford_2013_WaterQualitySedimentandHydrolo_1431727552401_1726872381.pdf>.

[19] For example, between 1858 and 1909, placer mining added approximately 58 million cubic metres of sediment to the Fraser River – more than seven times the solids released by the 2014 Mount Polley mine disaster – with lasting landscape-scale effects. Historical placer mining added even more sediment to the Quesnel River than it did the Fraser. [Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 2, 4, 12 at n 2, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>.] For more information on historical impacts, see R. I. Ferguson, M. Church, C. D. Rennie, and J. G. Venditti, "Reconstructing a sediment pulse: Modeling the effect of placer mining on Fraser River," Journal of Geophysical Research: Earth Surface, Volume 120, Issue 7 (Washington: American Geophysical Union, 2015) at 1, 2; online: <http://onlinelibrary.wiley.com/doi/10.1002/2015JF003491/full>; M. Miles and Associates, "Restoration of Placer Mined Streams: Identification of Strategies to Expedite Recovery," (Victoria: M. Miles and Associates, 2003) at I; online: <http://yukonriverpanel.com/salmon/wp-content/uploads/2011/02/cre-86-02-restoration-of-placer-mined-streams-identification-of-strategies-to-expedite-recovery.pdf>.

[20] Studies have noted that "lack of channel stability and elimination of habitat, including pools, undercut banks and backwater areas, create the greatest limitations to fish habitat recovery in placer-mined streams." Hardy and Associates Ltd, "Fish and wildlife habitat recovery in placer mined areas of the Yukon" (Calgary: Department of Indian and Northern Development, 1981); Alaska Department of Fish and Game "Aquatic habitat and fisheries information for seven drainages affected by placer mining: Chatanika River, Tolovana River, Goldstream Creek, Birch Creek, Fortymile River, Beaver Creek, Minto Flats" (Fairbanks AK: USDI Bureau of Land Management, 1987); B Mossop and MJ Bradford "Importance of large woody debris for juvenile chinook salmon habitat in small boreal forest streams in the upper Yukon River basin" Can. J. For. Res. 34(9): 1955-1966., as cited in IK Birtwell, SC Samis, and NY Khan, "Commentary on the management of fish habitat in northern Canada: information requirements and policy considerations regarding diamond, oil sands and placer mining – Summary Report" (DFO 2005) Can. Tech. Rep. Fish. Aquat. Sci. 2607: xii + 65 p. at 17.

populations.[21] Indeed, a 1992 Yukon study noted that unmined streams "support a standing stock of fish 40 times that of placer-mined streams."[22]

Specific placer mining impacts include the release of massive amounts of sediment and metals -- which harm fish by clogging gills and reducing the ability to locate prey.[23] Multiple studies have shown that even at low levels, suspended sediments have "significant effects on fish health, including decreased fish movement into sediment laden streams, reduced egg survival, reduced numbers of fish, and impaired feeding activity and growth."[24] As one study noted, "[m]ining silt deposited on gravel spawning beds during [fish egg] incubation has been shown to be a serious menace to natural propagation."[25] Studies in Alaska have linked heavy metal pollution from placer mining to impacts on fish.[26]

The effects of historical placer mining in the Fraser River watershed are still felt today – as increased sediment loads continue to affect spawning and rearing habitat and flow regimes, with the potential for escalating negative effects over multiple generations.[27] Justice Cohen's

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[21] Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 4, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>; Seakem Group Ltd, "Yukon Placer Mining Study: Vol 1 Executive Summary" (Sidney, BC: Yukon Placer Mining Implementation Review Committee, 1992), cited in Canada, Department of Fisheries and Oceans, "The Effects of Sediment on Fish and their Habitat" by Ian K Birtwell, Canadian Stock Assessment Secretariat Document 99/139 (West Vancouver: DFO, 1999) at 24, online: <www.dfo-mpo.gc.ca/Library/240698.pdf>.

[22] Seakem Group Ltd, "Yukon Placer Mining Study: Vol 1 Executive Summary" (Sidney, BC: Yukon Placer Mining Implementation Review Committee, 1992), cited in Canada, Department of Fisheries and Oceans, "The Effects of Sediment on Fish and their Habitat" by Ian K Birtwell, Canadian Stock Assessment Secretariat Document 99/139 (West Vancouver: DFO, 1999) at 24, online: <https://publications.gc.ca/collections/collection_2015/mpo-dfo/Fs70-1-1999-139-eng.pdf>.
Note that a recent comprehensive study of salmon in the Pacific Northwest, including BC, concluded that mining practices, including placer mines, "harm salmonid-bearing watersheds" due to introduction of toxic contaminates and changes to the flow regime. [Sergeant, C.J. et al. 2022. Risks of Mining to Salmonid-bearing watersheds. Science Advances Vol 8:26, online at <https://www.science.org/doi/10.1126/sciadv.abn0929#abstract>]

[23] Department of Fisheries and Oceans Canada, "Effects of Sediment on Fish and Their Habitat: Placer Mining Yukon Territory" Habitat Status Report 2000/01 E (January 2000) at p. 7 online: <http://www.dfo-mpo.gc.ca/Library/255660.pdf>.

[24] Yukon Conservation Society, "Fish Are Worth Their Weight in Gold: A Review of The Effectiveness of the Yukon Placer Authorization" (2002) at 7.

[25] P Shaw, and J Magna, "The Effect of Mining Silt on Yield of Fry From Salmon Spawning Beds." California Fish and Game, 29, 29 (1943), cited in Ronald A. Johnson, Jeffrey H. Chapman and Robert M. Lipchak, "Recycling to Reduce Sediment Discharge in Placer Mining Operations," Journal (Water Pollution Control Federation), Vol. 59, No. 5 (May, 1987), at 1, online: <https://www.jstor.org/stable/25043245>.

[26] See Kevin J. Buhl, Steven J. Hamilton, "Comparative toxicity of inorganic contaminants released by placer mining to early life stages of salmonids," *Ecotoxicology and Environmental Safety*, Volume 20, Issue 3, (1990), 325-342,ISSN 0147-6513, online: <https://doi.org/10.1016/0147-6513(90)90010-3>.

[27] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 9, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>. One placer operation that has been carefully analyzed is a Black Creek placer mine, located northeast of Williams Lake. A study reported that the Creek now transports "considerable quantities" of coarse sediment, due in part to the placer mine on its banks. As a result, the creek has been considered a "very high sediment delivery hazard." [Northwest Hydraulic Consultants Ltd. And Coast River Environmental Services Ltd. 1996. Applying CCLUP salmon fisheries targets and strategies: A Hydrologic and Channel Analysis Black Creek Assessment (Draft Landscape) Unit British Columbia – Final Report. Prepared for Department of Fisheries and Oceans Fraser River Action Plan, at pg. 19, 33. Online at

Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River highlighted placer mining's "potentially severe impact on sockeye." The Commission identified placer mining as one of the stressors contributing to the uncertain future of Fraser River sockeye.[28] Over the past two decades, sockeye salmon numbers on the Fraser River have "declined dramatically, with the sockeye crash of 2009 only eclipsed by 2016, which had the lowest returns ever recorded."[29] Numerous experts and authorities have produced evidence indicating that other salmon species – and other freshwater fish species – are also threatened by placer mining.[30]

Unfortunately, as confirmed in a 2010 government 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." Of the 10,734 hectares of critical fish habitat identified in the Cariboo audit area, *63% of this habitat was subject to placer mining tenures.*[31]

Similarly, a recent study found that "59% of the Unuk River Basin is covered by mineral tenures, equaling approximately 88% of the BC portion of the watershed"[32] and "in the Iskut River, the largest tributary to the Stikine River, nearly the entire riparian corridor and 54% of the lower river's watershed are covered by tenures that overlap with rearing, migrating, and spawning habitat for salmonids."[33] Many other BC salmonid-bearing watersheds are at risk of impacts from mining operations.

<https://a100.gov.bc.ca/pub/acat/documents/r14272/hq1861_1215281052076_8e248a8d30d9e338fd91642b4d2f9a1f96d7e61bdc78.pdf>]

[28] Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River, *The Uncertain Future of Fraser River Sockeye, Volume 2 Causes of Decline, October 2012 Final Report,* Chapter 4, p 25.

[29] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 7, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>.

[30] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 9, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>. Note that studies have found that "the net damage to fish habitat from placer mining may be reversible in some areas, but over a long time frame." [Hardy and Associates Ltd, "Fish and wildlife habitat recovery in placer mined areas of the Yukon" (Calgary: Department of Indian and Northern Development, 1981); Alaska Department of Fish and Game "Aquatic habitat and fisheries information for seven drainages affected by placer mining: Chatanika River, Tolovana River, Goldstream Creek, Birch Creek, Fortymile River, Beaver Creek, Minto Flats" (Fairbanks AK: USDI Bureau of Land Management, 1987), as cited in IK Birtwell, SC Samis, and NY Khan, "Commentary on the management of fish habitat in northern Canada: information requirements and policy considerations regarding diamond, oil sands and placer mining – Summary Report" (DFO 2005) Can. Tech. Rep. Fish. Aquat. Sci. 2607: xii + 65 p. at 37]

[31] 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, pp. 7 and 15, online: <docs.openinfo.gov.bc.ca/D10015613A_Response_Package_FNR-2012-00238.PDF>.

[32] Sergeant et al, "Risks of mining to salmonid-bearing watersheds," Sci Adv 8 eabn0929 (2022) at 4.

[33] Sergeant et al, "Risks of mining to salmonid-bearing watersheds," Sci Adv 8 eabn0929 (2022) at 4.

Mobilizing Historical Mercury Pollution – Unique Potential Risks to Human Health

In addition to the above negative effects on fish, modern placer mining can also mobilize highly toxic mercury from historical placer mining operations back into streams – where it can enter the aquatic food chain and potentially affect human health.[34]

Mercury from placer mining poses a risk to human health by contaminating fish and other things people consume.[35] The World Health Organization lists mercury as one of the world's ten most harmful chemicals, causing significant fetal harm and serious human health problems, especially in young children.[36] Methylmercury ("MeHg") is recognized as "one of the most toxic forms of mercury due to its capacity to cross the placenta and blood-brain barrier"[37] – and the major route of exposure is through consumption of fish and other wildlife. MeHg toxicity is associated with nervous system damage in adults and impaired neurological development in infants and children.[38] In Ontario, the Grassy Narrows and Wabaseemoong Independent Nations of Ontario have suffered generations of serious neurological impairment caused by consumption of fish contaminated with industrial mercury.[39]

Gold rush-era placer miners used up to 25lbs (11 kg) of mercury **a day** to increase gold particle recovery in their sluice boxes – depositing massive amounts of mercury into BC waterways in the process.[40] A 2020 study of Gold-rush era mercury loss at Fraser Basin mine sites calculated that

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[34] Tara Lamothe-Ammerlaan et al, "The New Gold Rush: Placer Mining in the Fraser Watershed" (Winter 2017/18) 196 *BC Studies*.

[35] See, e.g., ED Bidone et al, "Fish Contamination and Human Exposure to Mercury in the Tapajós River Basin, Pará State, Amazon, Brazil: A Screening Approach" (1997) 59:2 Bull Environmental Contamination & Toxicology 194; ED Bidone et al, "Fish Contamination and Human Exposure to Mercury in Tartarugalzinho River, Amapa State, Northern Amazon, Brazil: A Screening Approach" (1997) 97 Water, Air & Soil Pollution 9; Note that a 2018 study of human mercury exposure in Yanomami Indigenous villages in the Brazilian Amazon (where mercury is still regularly used in artisanal small-scale gold mining practices, such as were used during the BC gold rush) suggests that "there is an association between human mercury exposure and mining locations." KM Rice et al, "Environmental mercury and its toxic effects" J Prev Med Public Health 2014, 47, 74–83 [CrossRef] [PubMed], cited in Claudia M. Vega et al, "Human Mercury Exposure in Yanomami Indigenous Villages from the Brazilian Amazon," Int J Environ Res Public Health 2018, 15, 1051, at 1.

[36] World Health Organization, "Mercury and Health" (March 2017), online: <www.who.int/mediacentre/factsheets/fs361/en/>.

[37] KM Rice et al, "Environmental mercury and its toxic effects" J Prev Med Public Health 2014, 47, 74–83 [CrossRef] [PubMed], cited in Claudia M. Vega et al, "Human Mercury Exposure in Yanomami Indigenous Villages from the Brazilian Amazon," Int J Environ Res Public Health 2018, 15, 1051 at 2.

[38] KM Rice et al, "Environmental mercury and its toxic effects" J Prev Med Public Health 2014, 47, 74–83 [CrossRef] [PubMed], cited in Claudia M. Vega et al, "Human Mercury Exposure in Yanomami Indigenous Villages from the Brazilian Amazon," Int J Environ Res Public Health 2018, 15, 1051 at 2.

[39] C Linnitt, "Former Grassy Narrows Chief endures hunger strike in face of ongoing mercury poisoning tragedy," online: The Narwhal <https://thenarwhal.ca/former-grassy-narrows-chief-endures-hunger-strike-face-ongoing-mercury-poisoning-tragedy/>.

[40] Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 6-7, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>; Marcello M Veiga & J A Meech, "A Brief History of Amalgamation Practices in the Americas" (Paper delivered at the 16th Brazilian Symposium on Ore Processing and Hydrometallurgy, Rio de Janeiro, 17-22 September 1995), vol 1, at 581-594, cited in

"an estimated 17,768 to 247,665 kg of mercury was lost in the Fraser Basin between 1858 and 1910."[41] Even today, approximately 2090kg of mercury flows out of the Fraser River each year, a portion of which is likely from historical placer mining.[42]

Although BC has prohibited mercury use in BC sluice boxes since at least 1989,[43] immense mercury contamination has already taken place. Modern BC placer miners routinely recover mercury along with gold in some areas.[44] 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 historical placer mining pollution.[45] There is a lack of good BC research into mercury contamination in historical placer mine areas[46] – but one such study of the Lillooet River near Port Douglas documented elevated levels of mercury in the water, including a level 200 times higher than expected at one site.[47] Indeed, a 2002 guidebook noted the "likelihood of finding mercury along with gold at Granite Creek, near Princeton" in the Similkameen region.[48] Other gold rush-era mercury "is likely trapped in the sediment" of waterways in the Fraser, Cariboo, and Atlin regions, posing an ongoing risk to fish and fish-consuming species.[49]

In recent years, scientists have identified that eating fish from such Gold Rush mercury-contaminated waterways can pose risks to human health. In the Bear River and Yuba River watersheds in California, the US Geological Service has extensively documented the human health threat posed today by mercury from historical gold mining (including placer mining). After fish in those watersheds were proven to have "bioaccumulated sufficient mercury to pose a risk to

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Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 7, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf> .

[41] Tara Lamothe-Ammerlaan, "Mercury Loss from Gold Rush Era Placer Mines in the Fraser Basin" (Burnaby: Simon Fraser University, 2020) at iv.

49 Sophia C Johannessen, Robie W MacDonald & K Magnus Eek, "Historical Trends in Mercury Sedimentation and Mixing in the Strait of Georgia, Canada" (2005) 39:12 Environmental Science & Technology, at 4361-4368.

[43] *Regulations* have prohibited mercury use in BC sluice boxes since 1989. See: *Placer Mining Waste Control Regulation*, BC Reg 107/89, ss 3(b)-(c). Note that Canada is a party to the *Minamata Convention on Mercury* Minimata Convention on Mercury, online: <https://www.mercuryconvention.org/en/parties/overview>.

[44] Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 7, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf> .

[45] Ministry of Forests, Lands and Natural Resource Operations, "2017-2019 Freshwater Fishing Regulations Synopsis - Region 5 – Cariboo" (2017) at 51, online: <www.env.gov.bc.ca/fw/fish/regulations/docs/1719/fishing_synopsis_2017-19_region5.pdf>.

[46] Indeed, Justice Cohen pointed out that government does not monitor the Fraser River or other BC waterbodies for pollutants like mercury. Bruce I. Cohen, "The Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River" Vol 1, Chapter 6, Habitat Management (Vancouver: Queen's Printer, October 2012) at 322.

[47] Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 7, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>; Marcello M Veiga & J A Meech, "A Brief History of Amalgamation Practices in the Americas" (Paper delivered at the 16th Brazilian Symposium on Ore Processing and Hydrometallurgy, Rio de Janeiro, 17-22 September 1995), vol 1, at 581-594, cited in Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 7, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>.

[48] Cam Bacon, *Gem Trails of British Columbia* (Surrey, BC: Hancock House, 2002) at 26.

[49] Tara Lamothe-Ammerlaan et al, "The New Gold Rush: Placer Mining in the Fraser Watershed" (Winter 2017/18) 196 BC Studies 115 at 7.

human health," fish consumption advisory warnings were issued for numerous other California rivers "affected by historical gold mining." [50]

Clearly, there is reason to be cautious about modern placer mining that can exacerbate this risk by re-mobilizing historical mercury pollution created by the Gold Rush.[51] Far more Canadian investigation of this issue needs to take place **before** new placer mines are developed in BC.

The worrisome problem is that modern placer mining often takes place in the very same areas as historic placer mining. Health risks rise when the modern mining disturbs sediment containing mercury from historical mining – and distributes it in the water column and then up the food chain.[52] Thus, the recent growth in placer mining activities raises significant health concerns.

The risk from this is particularly significant for Indigenous peoples, who consume far more fish than other Canadians. For example, studies in the Columbia River Basin revealed that tribal people, on average, eat six to 11 times more fish than non-tribal members.[53] Some US estimates have run even higher.[54] This is consistent with BC research. A Metlakatla Nation study found that

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[50] Charles N Alpers et al, "Mercury Contamination from Historical Gold Mining in California: Fact Sheet 2005-3014," US Geological Survey (October 2005), pp. 2-5, online: <https://pubs.usgs.gov/fs/2005/3014/fs2005_3014_v1.1.pdf>.

[51] See the documentation of the massive contamination of California watersheds by historical gold mining at: Singer MB, Aalto R, James LA, Kilham NE, Higson JL, Ghoshal S. Enduring legacy of a toxic fan via episodic redistribution of California gold mining debris. Proc Natl Acad Sci U S A. 2013;110(46):18436–18441. [PMC free article] [PubMed] [Google Scholar] Note that in addition to risk to the general public and Indigenous peoples, placer miners themselves may also be in danger due to mercury exposure -- and measures should be considered to protect them. [BC has previously amended the Health, Safety and Reclamation Code concerning exploration for minerals where dangerous minerals (e.g. uranium or thorium) are incidentally encountered in order to "enhance the protection of workers and the public during exploration-related activities." [British Columbia, Ministry of Energy, Mines and Low-Carbon Innovation, "News Release: Government Confirms Position on Uranium Development" (April 24, 2008) online: <https://archive.news.gov.bc.ca/releases/news_releases_2005-2009/2008EMPR0029-000624.htm>.] The Province should consider taking similar steps to protect miners from the deleterious effects of mercury exposure in previously mined sites.

[52] Bacteria can convert small particles of elemental mercury into highly toxic 'methylmercury', which is easily ingested by organisms at the bottom of the food chain and causes harm at much lower levels. [Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 6-7, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf> ; Marcello M Veiga & J A Meech, "A Brief History of Amalgamation Practices in the Americas" (Paper delivered at the 16th Brazilian Symposium on Ore Processing and Hydrometallurgy, Rio de Janeiro, 17-22 September 1995), vol 1, at 581-594, cited in Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 7, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>.]
Once consumed, methylmercury 'biomagnifies' up the food chain, leaving fish species near the top with much higher methylmercury loads than organisms at the bottom. [Randy F Baker, Gary Seymour Mann & PJ Allard, "Temporal changes of fish mercury concentrations in mining-affected Pinchi Lake, BC" (2014) British Columbia Mine Reclamation Symposium at 3, online: <https://open.library.ubc.ca/cIRcle/collections/59367/items/1.0042660>.]

[53] United States Environmental Protection Agency, "Columbia River Basin Fish Contaminant Survey 1996-1998," online: summary <https://19january2017snapshot.epa.gov/columbiariver/columbia-river-fish-contaminant-survey_.html> or full report: <https://www.epa.gov/sites/default/files/documents/columbia_fish_contaminant_survey_1996-1998.pdf>.

[54]Estimates have ranged even higher than the 6-11 times ratio -- with one observer in Washington state claiming that Indigenous people eat "more than 20 times the amount of fish compared to the average American." See Jamie Donatuto & Barbara L Harper, "Issues in Evaluating Fish Consumption Rates for Native American Tribes," Risk Analysis, 28:6 (2008), at 1499, online: <https://www7.nau.edu/itep/main/iteps/ORCA/3821_ORCA.pdf>, citing Columbia River Inter-Tribal Fish Commission, "A Fish Consumption Survey of the Umatilla, Nez Perce, Yakama, and Warm Springs Tribes of the Columbia River Basin," (1994), Technical Report no. 94-3, Oregon: Columbia River Intertribal Fish Commission (CRITFC); K. A. Toy,

members ate approximately five times the amount of fish eaten by non-Indigenous people. [55] Other Canadian studies have found similar high levels of Indigenous fish consumption.[56]

As a result, when modern placer mining threatens to contaminate the fish central to Indigenous diets, this can present Indigenous people with an impossible health decision. They are faced with the possibility that continuing to eat the traditional amounts of fish could create serious health risks from mercury pollution.[57] On the other hand, there is a well-documented health risk when Indigenous people *stop* consuming traditional country foods. As one expert has noted:

N. L. Polissar, S. Liao, & G. D. Mittelstaedt, "A Fish Consumption Survey of the Tulalip and Squaxin Island Tribes of the Puget Sound Region" (1996), Marysville, WA: Department of Environment, Tulalip Tribes; Suquamish Tribe, "Fish Consumption Survey of the Suquamish Indian Tribe of the Port Madison Indian Reservation, Puget Sound Region," (2000), Suquamish, WA: Suquamish Fishers Department, Suquamish Tribe].].

[55] A Metlakatla Traditional Marine Food Survey found an average consumption of fish by band members of 93g/person/day, and found that traditional marine food accounted for more than 10% of the diet of Metlakatla adults [Karen Fediuk & Lindsay Mickelson, "Metlakatla Traditional Marine Food Survey," (2010), at 8]. In comparison, an estimate of average finfish consumption in Canada in the early 1990s was 22g/person/day amongst adults who eat fish [Health Canada, "Human Health Risk Assessment of Mercury in Fish and Health Benefits of Fish Consumption," (Ottawa: 2007), at 19, online: <https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/fn-an/alt_formats/hpfb-dgpsa/pdf/nutrition/merc_fish_poisson-eng.pdf>]. Another study that sought to verify and update this data found that daily consumption per capita for the average adult was 17.66g in 2004 and 17.33g in 2015 [Xue Feng Hu and King Man Chan, "Seafood Consumption and Its Contribution to Nutrients Intake among Canadians in 2004 and 2015," *Nutrients* (2021) 13:77, online: <https://www.researchgate.net/publication/348052278_Seafood_Consumption_and_Its_Contribution_to_Nutrients_Intake_among_Canadians_in_2004_and_2015>].

[56] See Laurie Chan, Olivier Receveur, Donald Sharp, Harold Schwartz, Amy Ing and Constantine Tikhonov. "First Nations Food, Nutrition and Environment Study (FNFNES): Results from British Columbia (2008/2009)," (Prince George: University of Northern British Columbia, 2011. See also Sergeant et al, "Risks of mining to salmonid-bearing watersheds," Sci Adv 8 eabn0929 (2022) at 3.

[57] The First Nations Food Nutrition and Environment Study compared First Nations and general population participants and cited the relatively high levels of exposure to mercury in subgroups of First Nations populations in BC (and Quebec), which are close to twice that of the Canadian average. The study discussed the need for increased public health attention to this. [See Laurie Chan et al, "FNFNES Final Report for Eight Assembly of First Nations Regions: Draft Comprehensive Technical Report" (2019) at 131, online: <https://www.fnfnes.ca/docs/CRA/FNFNES_draft_technical_report_Nov_2__2019.pdf>].
In an analogous finding, research has demonstrated elevated exposure to POPs and mercury in the Inuit whose diet greatly relies on marine mammals, and among "First Nations in Northern Ontario, POPs and mercury blood concentrations were on average 3.5 times higher among those consuming wild foods compared to non-consumers" [See Lesya Marushka "Fish Consumption and Nutritional Health among First Nations in Canada" (2018) at 32, online: <https://ruor.uottawa.ca/bitstream/10393/38453/5/Marushka_Lesya_2018_Thesis.pdf>, citing Brian D. Laird, Alexey B. Goncharov, and Hing Man Chan, "Body Burden of Metals and Persistent Organic Pollutants among Inuit in the Canadian Arctic." (2013) Environment International 59:33–40. Retrieved (http://dx.doi.org/10.1016/j.envint.2013.05.010); Timothy A. Seabert et al, "Elevated Contaminants Contrasted with Potential Benefits of N-3 Fatty Acids in Wild Food Consumers of Two Remote First Nations Communities in Northern Ontario, Canada." (2014) PLoS ONE 9(3); S.G. Donaldson et al, "Environmental Contaminants and Human Health in the Canadian Arctic" (2010) Science of the Total Environment 408(22):5165–5234, online: <http://dx.doi.org/10.1016/j.scitotenv.2010.04.059>; Brian D. Laird, Alexey B. Goncharov, Grace M. Egeland, and Hing Man Chan, "Dietary Advice on Inuit Traditional Food Use Needs to Balance Benefits and Risks of Mercury, Selenium, and N3 Fatty Acids." (2013) The Journal of Nutrition 143(6):923–30. Online: <http://www.ncbi.nlm.nih.gov/pubmed/23616502>; J. Van Oostdam, et al, "Human Health Implications of Environmental Contaminants in Arctic Canada : A Review" (2005) 352:165–246.].

> *Research across the globe has connected the loss of traditional diets with spikes in health problems for Indigenous populations. In one West Coast tribe, the Karuk of Northern California, researchers found a direct link between families' loss of access to salmon and increased prevalence of diabetes and heart disease.*[58]

As BC physician Dr. Maki Ikemura has testified, this leaves many Indigenous people with the dilemma of choosing between the risks of potential pollutants – and the known benefits of consuming fish and other traditional foods. [59]

To avoid presenting Indigenous people with such an impossible choice, the BC Government must stop authorizing activity that will likely increase the pollution problem. Government must realize that a healthy fish harvest provides far more than just food – but a whole galaxy of social, ceremonial, spiritual and cultural values that are essential to inter-generational bonding and community well-being.[60] For Indigenous communities that rely on fish for all of these facets of health, fish are more than a source of food and nutrition, they are a cultural keystone species.[61] For these communities, impacts on fish that force limitations on their consumption also have serious social and cultural impacts.[62]

The answer is not to mandate that Indigenous people stop eating the fish. The answer is to prevent industrial activity that could contaminate the fish. There must be a moratorium on new placer development until the risks of new placer development are identified and properly regulated. The catastrophic mercury poisoning that severely damaged the entire population of the Grassy Narrows and Wabaseemoong Independent Nations must not be repeated.[63]

Drinking Water Issues

Placer mining poses a risk to drinking water when placer mining-related sediment releases other contaminants into waterways. A study of streams near placer mines found an association between

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[58] See Tony Schick and Maya Miller, "Unchecked Pollution is contaminating the salmon that Pacific Northwest tribes eat," (November 22, 2022), *Oregon Public Broadcasting*, online: <https://www.opb.org/article/2022/11/22/pollution-contamination-threat-salmon-columbia-basin-pacific-northwest-tribes/>.

[59] See the testimony of Dr. Maki Ikemura, *Joint Review Panel for the Enbridge Northern Gateway Project* – National Energy Board (2012 April 4 – Bella Bella, British Columbia) – Volume 38 at paras 28225-28231, online: <https://iaac-aeic.gc.ca/050/documents/p21799/85674E.pdf>.

[60] Jamie Donatuto & Barbara L Harper, "Issues in Evaluating Fish Consumption Rates for Native American Tribes," *Risk Analysis,* 28:6 (2008), at 1499-1500, online: <https://www7.nau.edu/itep/main/iteps/ORCA/3821_ORCA.pdf>. See the Environmental Law Centre's upcoming series of publications on restoring Indigenous Shellfish Harvests.

[61] Jamie Donatuto & Barbara L Harper, "Issues in Evaluating Fish Consumption Rates for Native American Tribes," *Risk Analysis,* 28:6 (2008), at 1499-1500, online: <https://www7.nau.edu/itep/main/iteps/ORCA/3821_ORCA.pdf>.

[62] Jamie Donatuto & Barbara L Harper, "Issues in Evaluating Fish Consumption Rates for Native American Tribes," *Risk Analysis,* 28:6 (2008), at 1499-1500, online: <https://www7.nau.edu/itep/main/iteps/ORCA/3821_ORCA.pdf>.

[63] Linnitt, C., "Former Grassy Narrows Chief endures hunger strike in face of ongoing mercury poisoning tragedy (29 July 2014), online: The Narwhal <https://thenarwhal.ca/former-grassy-narrows-chief-endures-hunger-strike-face-ongoing-mercury-poisoning-tragedy/>.

the increased sediment caused by placer mining and a decrease in the density and biomass of invertebrates – a key indicator of water quality.[64] In one specific example, two traditional water sources of Yukon's Tr'ondëk Hwëch'in people had to be abandoned due to placer mining contamination.[65]

In the Atlin BC region, water tests downstream of placer mines have found levels of aluminum, arsenic, barium, cadmium, chromium, copper, iron, lead, manganese, vanadium, and nickel that exceeded drinking water guidelines.[66] A 2013 Ministry of Environment study found that aluminum levels on lower Otter Creek exceeded drinking water guidelines by a factor of 624, while samples taken farther away revealed aluminum levels seven times the recommended maximum.[67] Many of these creeks feed into Atlin Lake, which has jeopardized the health of Taku River Tlingit First Nation members and other Atlin residents who use it as a drinking water source.[68] A recent upgrade in regulations for the area may reduce the risk, but much of the damage has already been done.[69]

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[64] Wagener, S.M., and J.D. LaPerriere. 1985. Effects of placer mining on the invertebrate communities of interior Alaska streams. Freshwater Invertebrate Biology. 4:208-214, pg. 213.

[65] Wilson, N. et al. 2019. Water is medicine: reimagining water security through Tr'ondëk Hwëch'in relationships to treated and traditional water sources in Yukon, Canada. Water, Vol 11:624 at pg. 11.

[66] British Columbia, Ministry of Forests, Lands, and Natural Resource Operations, *Water Quality, Stream Sediments, and Hydrology in the Atlin Placer Mining Area – A Pilot Study* by Eric W Smith & Dave Wilford (Smithers, BC: 2013), at 58-70, online: <a100.gov.bc.ca/appsdata/acat/documents/r48553/Smith_Wilford_2013_WaterQualitySedimentandHydrolo_1431727552401_1726872381.pdf>, as cited in Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 5, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>;

[67] 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 6; British Columbia, Ministry of Forests, Lands, and Natural Resource Operations, *Water Quality, Stream Sediments, and Hydrology in the Atlin Placer Mining Area – A Pilot Study* by Eric W Smith & Dave Wilford (Smithers, BC: 2013), at 14, 58-72, online: <a100.gov.bc.ca/appsdata/acat/documents/r48553/Smith_Wilford_2013_WaterQualitySedimentandHydrolo_1431727552401_1726872381.pdf> .

[68] 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 6; British Columbia, Ministry of Forests, Lands, and Natural Resource Operations, *Water Quality, Stream Sediments, and Hydrology in the Atlin Placer Mining Area – A Pilot Study* by Eric W Smith & Dave Wilford (Smithers, BC: 2013), at 14, 58-72, online: <a100.gov.bc.ca/appsdata/acat/documents/r48553/Smith_Wilford_2013_WaterQualitySedimentandHydrolo_1431727552401_1726872381.pdf>.

[69] Modern placer mining regulations normally require miners to "divert 'process' water into a settling pond and allow the water to seep into the ground, or reuse it, rather than releasing it directly into the stream," but some BC waterways had been exempt until recently. [Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 4-5, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>; *Placer Mining Waste Control Regulation*, BC Reg 107/89, ss 3(b)-(c) at ss 2-3 (previous version valid until September 2021).] In 1985, Atlin-area placer miners successfully lobbied their MLA to deregulate a number of nearby creeks that had already been damaged by un-reclaimed gold rush placer mining. [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 5.] The *Placer Mining Waste Control Regulation* was updated in Sept 2021 to re-regulate these creeks and bring them back under the protection of the *Environmental Management Act*. [Placer Mining Waste Control Regulation, B.C. Reg. 107/89, OIC 296/2021 (present version). However, the damage to these creeks has been done. For three decades, the previous

2. PLACER MINING IMPACTS ON INDIGENOUS COMMUNITIES

Globally, placer mining has often been linked with violations of Indigenous rights. As one scholar has put it:

> *There is a well-documented link between these extractive industry operations [including placer mining] and human rights violations, in particular with regard to local Indigenous communities.*[70]

In BC, placer mining has disproportionately affected Indigenous peoples since the gold rush era. It "played a pivotal role in the colonization of British Columbia," sparked a smallpox epidemic that killed at least half the Indigenous population of BC, and led to significant Indigenous-settler clashes in the Chilcotin and Fraser Canyon Wars.[71] Nineteenth-century placer mining laws and regulations were crafted without regard for Indigenous livelihoods that relied on traditional uses of fish, wildlife, and plants.[72] This "set the stage for modern day land use laws, which hold mining as the highest and best use of land, pushing aside Indigenous peoples and creating wide-spread environmental and cultural impacts."[73]

Modern placer mining activities continue to:

- profoundly degrade streams and other riparian ecosystems and

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version of the *Placer Mining Waste Control Regulation* had allowed placer miners to dump wastewater directly into Birch, Boulder, Ruby, Otter, Wright, Quartz, Spruce, Pine, McKee, Snowy, and Dease Creeks, compounding gold rush-era problems. [*Placer Mining Waste Control Regulation*, BC Reg 107/89, ss 3(b)-(c) at s 3(c)(i) (previous version).]

[70] Kate R. Finn & Christina A. W. Stanton, "The (Un)just Use of Transition Minerals: How Efforts to Achieve a Low-Carbon Economy Continue to Violate Indigenous Rights," 33 Colo. Env't L.J. 341 (2022) at pp. 344-345. <https://heinonline.org/HOL/Page?handle=hein.journals/colenvlp33&id=365&collection=journals&index=>.

[71] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 3, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>. On the devastating impact of the 1862 smallpox epidemic, see Joshua Ostroff, "How a smallpox epidemic forged modern British Columbia" *Macleans* (1 August 2017), online: <www.macleans.ca/news/canada/how-a-smallpox-epidemic-forged-modern-british-columbia/>; Dene Moore, "BC First Nations mark small pox anniversary" Vancouver Metro (6 August 2012), online: <www.metronews.ca/news/canada/2012/08/06/b-c-first-nations-mark-small-pox-anniversary.html>.

[72] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 3, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>. On the devastating impact of the 1862 smallpox epidemic, see Joshua Ostroff, "How a smallpox epidemic forged modern British Columbia" *Macleans* (1 August 2017), online: <www.macleans.ca/news/canada/how-a-smallpox-epidemic-forged-modern-british-columbia/>; Dene Moore, "BC First Nations mark small pox anniversary" Vancouver Metro (6 August 2012), online: <www.metronews.ca/news/canada/2012/08/06/b-c-first-nations-mark-small-pox-anniversary.html>.

[73] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 3, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>. On the devastating impact of the 1862 smallpox epidemic, see Joshua Ostroff, "How a smallpox epidemic forged modern British Columbia" *Macleans* (1 August 2017), online: <www.macleans.ca/news/canada/how-a-smallpox-epidemic-forged-modern-british-columbia/>; Dene Moore, "BC First Nations mark small pox anniversary" Vancouver Metro (6 August 2012), online: <www.metronews.ca/news/canada/2012/08/06/b-c-first-nations-mark-small-pox-anniversary.html>.

- reduce Indigenous access to traditional territories and resources.

This undermines the meaningful exercise of constitutionally protected Aboriginal rights. A 2021 socio-economic study on placer mining – conducted for the Ministry of Energy, Mines and Low Carbon Innovation – found that "placer titles intersect with 115 First Nations Consultative Areas, which is roughly half of all bands and tribal councils in the province."[74] Discussions for this study with First Nations in five highly active claim and lease areas indicated:

> *…significant concerns about environmental impacts and reclamation, lack of compliance and enforcement with existing regulations, regulatory oversight and revenue sharing. Adverse effects related to impaired access, interference with traditional activities and hunting/fishing/gathering and damage to riparian ecosystems were mentioned multiple times in the interviews.*[75]

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.[76] This blocked access interferes with Indigenous fishing, hunting, and gathering activities.[77] Placer miners' removal of riparian vegetation also reduces local biodiversity, and forces Indigenous harvesters to travel much farther to access traditional foods and medicines.[78] When Indigenous peoples do secure access to fish, wildlife, and plants for traditional use, placer mining-related contamination may lead to negative health effects – or to understandable reluctance/concern about the safety of using the traditional harvest.

As discussed above, placer mining destroys fish habitat, and fish have central cultural and spiritual value to Indigenous peoples in BC. As *Science Advances* has recently noted:

> *Salmonids are a cultural keystone species to many people in northwestern North America. Indigenous peoples have harvested migratory anadromous salmon for millennia, and this reliable source of food contributes to the cultural stability of their communities. Salmon*

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[74] HR GISolutions 2021, "GIS of Mineral, Placer and Coal Tenures by Mining Divisions, Mining Regions, Treaty Lands, Indian Reserves and Consultative Areas" (unpublished - on file at Lions Gate Consulting Inc), as cited in Lions Gate Consulting, "British Columbia Placer Mining Socio-Economic Study" (2 Jun 2021) at i.

[75] Lions Gate Consulting, "British Columbia Placer Mining Socio-Economic Study" (2 Jun 2021) at iv.

[76] For example, 1400 placer mine sites have been established in the Fraser Watershed since 1980, and over 4000 Notice of Work permits have been issued. See Tara Lamothe-Ammerlaan et al, "The New Gold Rush: Placer Mining in the Fraser Watershed" (Winter 2017/18) 196 BC Studies 115 at 126. Note that by law the Mine Manager controls entry to placer sites and mines – and is required to post notices to this effect at all mine entrances. [See Calvin Sandborn letter to Premier Clark "Request for Establishment of a Judicial Commission of Public Inquiry to Rectify and Improve BC Mining Regulation," March 8, 2017, p. 56.]

[77] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 7, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>.

[78] 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 4.

> *fisheries are critically important to the food security and identity of coastal peoples.*[79]

Yet, placer mining activities are steadily destroying this cultural heritage resource.

During the recent BC Government – FNEMC Placer Mining Engagement series, the Province heard strong feedback from Indigenous peoples that First Nations want government to halt placer mining operations until the environmental concerns can be adequately addressed.[80]

Similar sentiments were heard during the recent BC Government engagement sessions on modernizing land planning. Indigenous participants noted that "further work is needed to update policies related to mineral tenuring in BC, to define 'no-go' areas in advance, and to ensure that there is free, prior and informed consent (FPIC) before third party rights or interests are established."[81] Additionally, a number of participants commented the current "'two-zone' model for mineral exploration and mining is out of date in the context of [DRIPA], environmental and social consideration and cumulative effects."[82]

As discussed below, BC's current approach to placer mining consultation is inconsistent with the provincial Crown's constitutional duty to consult and accommodate Indigenous rights-holders. It is also clearly inconsistent with the rights enshrined in the *United Nations Declaration on the Rights of Indigenous Peoples*[83] – and the DRIPA legislation requires the BC Government to "take all measures necessary to ensure the laws of British Columbia are consistent" with those enshrined rights.[84]

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[79] Sergeant et al, "Risks of mining to salmonid-bearing watersheds," Sci Adv 8 eabn0929 (2022) at 1.

[80] For example, see the comments from participants in the FNEMC-Government placer engagement series: "A participant recommended government could potentially halt operations until environmental concerns could be adequately addressed. Participants voiced concerns regarding the environmental and regulatory oversight, as some participants felt that some smaller operations are rubber-stamped." For larger placer mining operations, participants discussed the cumulative impacts these operations are having on the environment, the water, and animals. There were also some other participants that agreed that environmental concerns raised by First Nations should be adequately addressed, this included the impact to the salmon stocks and the uptake in the revenue sharing model." BC Ministry, Mines & Low Carbon Innovation and First Nations Energy and Mining Council, "Placer Mining Engagement Sessions (2021-2022): What We Heard Report" (March 2022) at 5.
When the Tla-o-qui-aht tried to implement their own mining moratoria in their ancestral territories, the Province claimed the moratorium had no legal enforceability, and moratoria "require a decision by the legislature." [J Chadwick, "We Visited the First Nations Community That's Standing Up to Mining Companies by Turning Their Land Into a Tribal Park." (2014) Vice, online: <https://www.vice.com/en/article/gqkmg9/tlaoquiaht-gold-mine>, cited in Fair Mining Collaborative, "BC Fails to Meet Indigenous Consent Standard for Mining – 8 Recent Cases" (November 2021) at 10, online: <https://reformbcmining.ca/wp-content/uploads/2021/11/BCMLR-failing-FPIC-report.pdf>.] The Province has clearly asserted jurisdiction over this issue, and it is therefore the Province's responsibility to protect First Nations interests and rights in this matter by issuing a moratorium on new placer mining claims and leases.

[81] Dovetail Consulting Group, "What we Heard: Indigenous engagement process on modernized land use planning BC" (17 April 2020), at pg. 9, DRAFT.

[82] Stevens, R., Filipchuk, V. and Tanguay, M., "Integrating mining into land use planning what we heard report – summary of engagement session September 2021 – January 2022" (1 March 2022), at pg. 10.

[83] *United Nations Declaration on the Rights of Indigenous Peoples,* GA Res 61/295, Sess 61, Plen 107 (13 September 2017), online: <www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf>.

[84] See the detailed discussion of the *Declaration on the Rights of Indigenous Peoples Act,* SBC 2019, c. 44 ["*DRIPA*"], below.

3. THE UNDER-REGULATION OF PLACER MINING

There are clearly serious questions about whether the damage inflicted by placer mining on the ribbons of life is worth it at all. But at the very least, no new placer activity should be approved without a revolution in the current abject regulation of the industry.

At each stage of the placer mining process, BC's current regulatory framework fails to prevent or adequately mitigate the harms detailed above. Insufficient and poorly enforced laws and regulations jeopardize British Columbia's natural assets and the health of British Columbians. If placer mining is to continue, the regulatory regime needs to be transformed.

Regulatory Shortcomings at the Pre-Mining Stage

The BC Government places very few restrictions on those who wish to initiate placer mining activity. Placer miners are allowed to begin excavating around streams and riparian areas without environmental assessment or adequate Indigenous consultation – and without the precautionary constraints those processes might place on their activities. Some forms of placer mining do not even require a claim, permit, or water authorization.

MINIMAL PRECONDITIONS FOR PLACER MINING

Placer mining activity can take the form of:

- 'hand panning' with a shovel and hand-held pan;
- 'placer hand mining' with hand tools and a sluice or shaker box; or
- 'placer mines' that use excavation machinery.

BC classifies hand panning as a recreational activity and has made it almost completely exempt from regulatory oversight – so long as it does not take place on heritage or conservation lands or without permission from private landowners or mineral title holders.[85] Hand panning placer

[85] British Columbia, Mineral Titles Branch, "Information Update No 2 - Recreational Hand Panning for Placer Minerals" (revised June 9, 2020), online: <www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/mineral-titles/notices-mineral-placer-titles/information-updates/infoupdate2.pdf>.

miners do not need to stake a claim, apply for a permit, or obtain a *Water Sustainability Act* authorization,[86] and the province does not appear to track their activities.

Placer hand mining requires prospective miners to stake a claim online, and maintain it by performing work each year or by paying an annual fee per hectare.[87] Claims must be converted to a lease if the miner intends to process more than 20,000 m^3 of pay-dirt a year.[88] Provincial data and communications with provincial officials suggest that while placer hand mining activity has more than doubled since 2005, it has attracted little government oversight and been imprecisely tracked.[89] Like hand panners, placer hand miners do not need to obtain a *Water Sustainability Act* authorization to divert and beneficially use unrecorded water in BC streams or aquifers for prospecting for a mineral.[90] Placer hand miners have not typically needed a *Mines Act* permit either, as these activities are seen by the Province as causing "nil or negligible disturbance," with a few exceptions.[91]

Placer mines that use machinery for riparian excavation are subject to the same claim and lease requirements as placer hand mines. They also require a Notice of Work permit to operate, which

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[86] British Columbia, Mineral Titles Branch, "Information Update No 2 - Recreational Hand Panning for Placer Minerals" (revised June 9, 2020), online: <www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/mineral-titles/notices-mineral-placer-titles/information-updates/infoupdate2.pdf>; *Water Sustainability Act*, SBC 2014, c 15, s 6(3).

[87] *Mineral Tenure Act,* RSBC 1996, c 292, s 29.

[88] See British Columbia, Mineral Titles Branch, "Information Update No 6 – Applying for a Placer Lease" (revised Nov 4, 2015), online: <www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/mineral-titles/notices-mineral-placer-titles/information-updates/infoupdate6.pdf>; See also *Mineral Tax Act,* RSBC 1996, c 291, s 45; *Mineral Tenure Act Regulation,* BC Reg 529/2004, ss. 17(2). While the conversion process allows the chief gold conditioner to attach conditions to the lease, they have no discretion to reject a properly completed lease application.

[89] British Columbia, Ministry of Energy and Mines, "Physical Work on Mineral and Placer Claims 2014"; online: <http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/mineral-titles/mineral-placer-titles-getting-started/forms-maps-publications/maps/2014_physical_24x36.pdf>; Messmer, M. Chief Gold Commissioner, Mineral Titles Branch, Personal E-mail Communication to Fair Mining Collaborative, British Columbia Ministry of Energy and Mines, April 26, 2016; Meade, Laurie, Sr. Inspector of Mines Health & Safety, Personal E-mail Communication to FMC, British Columbia Ministry of Energy and Mines, June 17, 2016.

[90] *Water Sustainability Act*, SBC 2014, c 15 at s 6(3).

[91] See British Columbia, Mineral Titles Branch, "Information Update No 38 – Permissible Activities without a Mines Act Permit (Interim Guidance)" (4 October 2019, revised December 3, 2019), at 2-4, online: <https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/mineral-titles/news-notices-announcements/information-updates>; See also *Mines Act*, RSBC 1996, c 293, s 10, which allows the Chief Inspector to designate a mine in instances where disturbance is found to be excessive and thereby require a Mines Act permit or written exemption before work on the site can continue; Ministry of Energy, Mines & Low-Carbon Innovation personnel claim that, since November 2017, they have directed prospective placer hand miners to submit an online Notice of Work application for review by the Regional Inspector of Mines, to determine whether a permit is required in the circumstances [Personal communication (phone call 1 February 2018 and email 29 June 2022) with Tracy Martin, Mineral Lands Administrator, Ministry of Energy, Mines and Low-Carbon Innovation.]; The Mineral Titles office also directs prospective miners to their Information update 38 "Permissible Activities without a Mines Act Permit (Interim Guidance)" [cited fully above], which outlines the activities that can be undertaken without a Mines Act permit or written exemption.

can be obtained via an online application and is valid for up to 5 years.[92] The fee for this permit is extremely nominal, typically running between zero and $4,000.[93]

In order to serve the public interest, a moratorium on placer claim staking and Notice of Work permit issuance is necessary – until the above *laissez-faire* system is analyzed and reformed to protect the environment and respect Indigenous rights.[94] At a minimum, the free-entry system for filing claims must be totally revised to recognize Indigenous rights, as argued by the Gitxaala Nation and Ehattesaht First Nation in recent litigation.[95]

LACK OF ENVIRONMENTAL ASSESSMENT OR ACCOUNTING FOR CUMULATIVE EFFECTS

A key problem is that all placer mining has been essentially exempt from environmental assessment in BC. Under the *Reviewable Projects Regulation*, new placer mines only trigger an assessment if they will have a production capacity of at least 250,000 tonnes of pay-dirt a year. [96] By comparison, BC requires hard rock mineral mines to undergo environmental assessment if they produce more than 75,000 tonnes of ore a year. As a result, placer mines in BC can process three times the amount of material as a mineral mine without triggering an environmental assessment. The previous placer threshold of 500,000 tonnes of pay-dirt[97] per year was "so high that it has excluded every single placer mine" in the province.[98]

In our research, we have not found any record of a BC placer mine undergoing a federal or provincial Environmental Assessment.[99]

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[92] Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 7, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>; Ministry of Energy and Mines, *Health, Safety and Reclamation Code for Mines in British Columbia* (Victoria: Ministry of Energy & Mines, rev April 2021), s 10.1.1; *Mines Act*, RSBC 1996, c 293, s 10.

[93] The fee increases if a placer mine moves more than 60,000 m^3 of pay-dirt per year. See *Mines Fee Regulation,* BC Reg 54/2015, s 4 at: <https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/54_2015>.

[94] Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 2, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>.

[95] See *Gitxaala v British Columbia (Chief Gold Commissioner),* 2023 BCSC 29.; see also Gitxaala Nation, "Hearings begin in Gitxaala Nation's legal challenge to BC's Mineral Tenure Act" (3 April 2023), online: <https://gitxaalanation.com/hearings-begin-in-gitxaala-nations-legal-challenge-to-bcs-mineral-tenure-act/>.

[96] *Reviewable Projects Regulation*, BC Reg 243/2019, s 10(2) & Table 6, s 4(1).

[97] Note that the use of the metric "pay-dirt" is also problematic, as it is not well defined. Yet this old measuring unit remains in the *Reviewable Projects Regulation* 243/2019 list for placer mining -- despite it being hard to measure and regulate.

[98] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 10, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>.

[99] We searched the provincial (<https://projects.eao.gov.bc.ca>) and federal (<https://iaac-aeic.gc.ca>) databases for environmental assessments; our failure to find a placer mining assessment is also supported by extensive research of the Fair Mining Collective in 2017, see Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>. Section 43 of the *Mineral Tenure Act* required any placer miner wishing to convert a claim into a lease to obtain an environmental

Contrast this with the law in a place such as Zimbabwe, which prohibits placer mining without an environmental impact assessment process.[100] Closer to home, BC's failure to assess the environmental effects of placer mining contrasts sharply with Yukon's comparatively robust environmental assessment regime. The Yukon Environmental and Socio-Economic Assessment Board "conducts more environmental assessments on placer mines than on any other kind of development," and it assessed 592 placer projects between 2008 and 2017.[101] Its Designated Offices must notify affected First Nations and the public of upcoming assessments, and must "give equal consideration to scientific and traditional Indigenous knowledge" it receives.[102] Yukon decision-makers are also required to consider "adverse cumulative environmental and socio-economic effects that have occurred or might occur in connection with the project…in combination with the effects of other projects."[103]

Indeed, the high numbers of small mines scattered across historically mined watersheds makes *cumulative* environmental assessment the most efficient, cost-effective way to measure and control the industry's overall environmental effects.[104] Indeed the nature of numerous placer operations functioning the length of entire watersheds makes cumulative assessment imperative. *If British Columbia wants to protect its natural resources, it must begin to systematically conduct environmental assessments of placer mining operations – and systematically include cumulative assessment of impacts.*[105]

This is particularly necessary after the BC Supreme Court decision in *Yahey v. British Columbia* – which found that cumulative impacts of provincially approved developments had significantly infringed the Blueberry River First Nation's treaty rights to hunt and fish. [106]

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assessment certificate, but this provision was repealed in 2003. *Mineral Tenure Act,* RSBC 1996, c 292 at s 43, as repealed by *Energy and Mines Statute Amendment* Act, SBC 2003, c 1, s 5.

[100] See Environmental Management (Control of Alluvial Mining) (Amendment) Regulations, 2021 (No. 2) (available at <https://www.cfuzim.com/wp-content/uploads/2021/05/si10421mine.pdf>), sections 3(1)-(3)..

[101] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 10, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>; Yukon Environmental and Socio-economic Assessment Board, "Project Statistics" (1 August 2014), online: <www.yesab.ca/about-yesab/assessment-statistics/>.

[102] Yukon Environmental and Socio-economic Assessment Board, "Rules for Evaluations Conducted by Designated Offices" (1 June 2010), ss 25 & 55, online: <www.yesab.ca/wp/wp-content/uploads/2013/04/DO-Rules-English-as-approved-June-1-10.pdf>.

[103] *Yukon Environmental and Socio-economic Assessment Act,* SC 2003, c 7, s 42(1)(d).

[104] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 4, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>.

[105] Although BC's environmental assessment process did not mandatorily require environmental assessments to take into account cumulative effects until recently [per s. 25(2)(a) of the Environmental Assessment Act (2018)], the placer mining industry is a prime example of the need for cumulative effects assessment. All significant current placer mines should undergo a cumulative effects environmental assessment to rectify this past oversight.[For discussion of the former lack of cumulative effects requirements during environmental assessments, see Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 10, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>.]

[106] Yahey v British Columbia, 2021 BCSC 1287, online: <https://canlii.ca/t/jgpbr>. The Court found that the Province over many years approved and oversaw development and uses of land and water that resulted in adverse cumulative impacts that "significantly diminished" the Blueberry River Nation's exercise of treaty rights to hunt, fish, and trap in their territory. The Court provided a remedy to the Nation to stop further cumulative impacts that were diminishing the Nation's rights to hunt, fish and trap.

The current lack of environmental assessment over placer mining operations in BC results in grave environmental risks. Those risks must be mitigated by thorough environmental assessments that take into account cumulative impacts.

There must be a moratorium on the issuance of placer claims and leases until fulsome environmental assessment of placer mines is required by law – and other serious gaps in environmental assessment legislation are addressed. [107]

Other Serious Regulatory Shortcomings

After a placer mine is approved, BC's approach to active placer mining continues to be riddled with regulatory gaps. BC does not regularly inspect placer mines or placer hand mining sites, and typical penalties for environmental violations are too low to effectively incentivize compliance – often just a few hundred dollars for serous contraventions.[108] In some cases, the Province's limited restrictions on particularly damaging practices lack clarity or are waived entirely.

LOW INSPECTION RATES

BC placer mining sites are rarely inspected by government. Between approximately 2007 to 2017, the average number of provincial inspections per year was equal to *only 26% of the total number of placer mines with active notice of work permits.*[109] On first blush, that would work out to roughly one inspection for every four placer mines in the province each year. However, in reality,

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[107] For example, the general environmental assessment regime must be amended to eliminate the loophole that allows Environmental Assessment Certificate requirements to be unilaterally weakened by subsequent officials. At issue is the habit that BC decision makers have of weakening the requirements imposed by the environmental assessment certificate, *after* a project has been given initial approval. A regulatory provision allows officials to subsequently loosen conditions designed to protect the environment – without the same level of scientific and public scrutiny applied during an environmental assessment. [B. R. Collison, P. A. Reid, H. Dvorski, M. J. Lopez, A. R. Westwood, N. Skuce, "Undermining environmental assessment laws: Post-assessment amendments for mines in British Columbia, Canada, and potential impacts on water resources," *Facets* 7, 611–638 (2022), cited in Sergeant et al, "Risks of mining to salmonid-bearing watersheds," Sci Adv 8 eabn0929 (2022) at 12.]
A recent study found that "65% [of approved and operating mines] requested amendments after approval, with 98% of requests approved," and "Almost half of the amendments were assessed as having the potential to harm aquatic ecosystems, such as increasing the authorized amount of harm to fish habitat or increasing water extraction." [Sergeant et al, "Risks of mining to salmonid-bearing watersheds," Sci Adv 8 eabn0929 (2022) at 12.]
Furthermore, Government needs to fundamentally address an issue raised by parties in the recent government engagement on modernizing land use planning: that the lack of data on the "extent and nature" of the current cumulative effects of mining is a significant challenge. [Stevens, R., Filipchuk, V. and Tanguay, M., "Integrating mining into land use planning what we heard report – summary of engagement session September 2021 – January 2022" (1 March 2022), at pg. 13.]
[108] Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 7, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>
[109] Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 7-9, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>.

the percentage of mines inspected each year is significantly lower than that – because inspectors 'inspect' the *same mines* several times a year and 'inspect' some mine sites twice in a single day.[110]

While the rate of inspection for other types of mines has increased in recent years, the low inspection rate appears to have not increased significantly for placer mining. The Chief Inspector of Mines 2020/2021 Annual Report[111] records 923 placer mines permitted in the province. While not all were in active operation and many are seasonal, the rate of inspections did not follow the increasing trend of mine inspections generally. There were only 161 inspections of placer mining in 2019, and 147 placer inspections in 2021.[112]

Inspecting only a small minority of mines means non-compliance at other placer mines is likely to go unnoticed. Annual comprehensive inspections of all permitted placer mines would be a first step to rectifying this lack of oversight.

First Nations have already asked the Province to stop issuing more placer mining permits than government has the capacity to monitor.[113] However, so far that request has not been honoured.

HIGH NON-COMPLIANCE RATES

Lack of government enforcement and compliance effort has been a major problem in the mining industry. The Auditor General's shocking 2016 finding of government's *systemic* failure to carry out enforcement and compliance at major mine appears to be equally true in the placer mining context.[114] For example, a 2010 Ministry audit of twenty-three active placer mines in the Cariboo area found that 74% were not in compliance with their Notice of Work permit requirements.[115]

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[110] For example, in 2015 and 2016, 58% of the inspections took place at only 17% of permitted placer mines, and 6% of mines received 3 or more inspections, making up 34% of all inspections. In addition, the inspection numbers apparently included inspections of abandoned and non-operational placer mines. Fair Mining Collaborative, "Additional comments on distribution and frequency of placer mine inspections" (2017) [unpublished draft report, on file with the University of Victoria Environmental Law Centre; Data from FOI Request - EGM-2017-70745, online: <www2.gov.bc.ca/enSearch/detail?id=7AFDBC16F15F42E289E9F7DDB0F80C40&recorduid=EGM-2017-70745&keyword=EGM-2017-70745>.

[111] B.C. Ministry of Energy, Mines and Low Carbon Innovation. *Chief Inspector of Mines 2020/2021 Annual Report.* <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/directives-alerts-incidents/chief-inspector-s-report-page/21-22_cim_annual_report.pdf>.

[112] B.C. Ministry of Energy, Mines and Low Carbon Innovation. Correspondence between Nikki Skuce and Andrew Rollo, June 21, 2023.

[113] BC Ministry of Energy, Mines and Low-Carbon Innovation, "2018 Placer Mining Forum Summary Report" (Jan 2019) at 30.

[114] British Columbia, Office of the Auditor General, *An Audit of Compliance and Enforcement of the Mining Sector* (Victoria: Queen's Printer, May 2016) at 6; online: <www.bcauditor.com/pubs/2016/audit-compliance-and-enforcement-mining-sector>. The Auditor General specifically found: "Ministry of Energy and Mines and Ministry of Environment's compliance and enforcement activities of the mining sector are inadequate to protect the province from significant environmental risks."

[115] British Columbia, Ministry of Forests, Lands and Natural Resource Operations, "Cariboo Region Placer Mine Inspection Report" by Michelle Arcand & Joanne McLeod (December 2011) at 1, in FOI Request – FNR-2012-00238, Response Package at 161, online: <docs.openinfo.gov.bc.ca/D10015613A_Response_Package_FNR-2012-00238.PDF>.

More than half of the audited placer mines were operating too close to the stream bank, and 26% were doing so in areas identified as critical fish habitat.[116] Forty-three percent of mines audited had unauthorized in-stream works, and 35% were illegally discharging wastewater into bodies of water.[117]

Significantly, the even less-regulated placer hand mining sites were not included in the audit.[118] In the absence of significantly enhanced comprehensive inspection, compliance rates in the Cariboo and other placer mining regions likely continue to be low.

LACK OF LEGISLATED CLARITY AND ENFORCEMENT FOR RIPARIAN SETBACKS

Riparian setbacks, which require potentially damaging activities to take place a specified minimum distance from the high-water mark, can reduce damage to streams and riparian habitat. However, BC has long lacked an enforced "clear legislative standard regarding riparian setbacks" for placer mining.[119] The 2010 Ministry audit referenced a 10 metre riparian setback requirement – supposedly "the standard reserve zone" set out in placer mine Notice of Work permits and a 1997 interdepartmental Memorandum of Understanding – and found it was widely ignored, **with less than half of placer mines actually respecting it.**[120] The audit found three mines operating in "critical fish habitat areas" were actually mining in the stream itself.[121] The legal status of this minimal supposed requirement remains unclear. The 2014 *Atlin Placer Mining Best Management Practices Guidebook* identified it as a mere policy requirement, and a 2015 Fair Mining

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[116] British Columbia, Ministry of Forests, Lands and Natural Resource Operations, "Cariboo Region Placer Mine Inspection Report" by Michelle Arcand & Joanne McLeod (December 2011) at 1, in FOI Request – FNR-2012-00238, Response Package at 161 at 11, online: <docs.openinfo.gov.bc.ca/D10015613A_Response_Package_FNR-2012-00238.PDF>.

[117] British Columbia, Ministry of Forests, Lands and Natural Resource Operations, "Cariboo Region Placer Mine Inspection Report" by Michelle Arcand & Joanne McLeod (December 2011) at 1, in FOI Request – FNR-2012-00238, Response Package at 161 at 10-11, online: <docs.openinfo.gov.bc.ca/D10015613A_Response_Package_FNR-2012-00238.PDF>.

[118] British Columbia, Ministry of Forests, Lands and Natural Resource Operations, "Cariboo Region Placer Mine Inspection Report" by Michelle Arcand & Joanne McLeod (December 2011), in FOI Request – FNR-2012-00238, Response Package at 161, online: <docs.openinfo.gov.bc.ca/D10015613A_Response_Package_FNR-2012-00238.PDF>.

[119] Fair Mining Collaborative, "The Path to Zero Failures: Health, Safety and Reclamation Code Review" (2015) at 9, online: <www.fairmining.ca/wp-content/uploads/2016/01/The_Path_To_Zero_Failures.pdf>.

[120] A British Columbia, Ministry of Forests, Lands and Natural Resource Operations, "Cariboo Region Placer Mine Inspection Report" by Michelle Arcand & Joanne McLeod (December 2011) at 1, in FOI Request – FNR-2012-00238, Response Package at 161, at 1, 4, 6, online: <docs.openinfo.gov.bc.ca/D10015613A_Response_Package_FNR-2012-00238.PDF> .

[121] British Columbia, Ministry of Environment, 2010 Placer Mining Audit, July & August 2010, s 4.1; online: <https://cariboominingassociation.com/2012/11/19/b-c-ministry-of-environment-doesclandestine-audit-of-cariboo-placer-miners/>.

Collaborative report characterized it as "something more akin to a word-of-mouth practice among placer miners," with "low adherence."[122]

As recently as 2019, the BC Government's *Guide for Placer Miners* acknowledged that "Provincial **policy** is to maintain a 10 metre riparian setback on all streams, [and that these are] minimum widths intended to protect surface water, based on the size of the watercourse, lake or wetland."[123] However, this minimum 10-metre riparian setback appears to remain a matter of policy "encouragement" – without appropriate legislative, regulatory, or enforcement backing.[124]

Even if a 10-metre setback requirement were to be systematically enforced for some types of placer mining activity, this distance itself is inadequate. One need only compare a 10-metre setback to BC setbacks for other industrial activities to see the inadequacy of this distance. Hard-rock mineral exploration can only take place 10-70 metres away from the water – and most municipalities in BC require default minimum of a 30-metre setback for development activities.[125]

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[122] Taku River Tlingit First Nation et al, *Atlin Placer Mining Best Management Practices Guidebook* (June 2014) at 25, online: <www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/standards-guidelines/best-management-practices/atlin_placer_mining_bmp_guidebook_final_june_30_2014.pdf> [*Best Management Practices Guidebook*]; Fair Mining Collaborative, "The Path to Zero Failures: Health, Safety and Reclamation Code Review" (2015) at 9, online: <www.fairmining.ca/wp-content/uploads/2016/01/The_Path_To_Zero_Failures.pdf>.

[123] British Columbia, Ministry of Energy, Mines and Petroleum Resources, "BC Placer Mining Best Management Practices, Technical Guide" (November 2019), at 19, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/exploration/bmps_technical_guide_2019.pdf>, [emphasis added]. The Guide recommends in practice that "riparian setbacks and vegetation buffers should be established with the objective of preventing the introduction of sediment-laden water or other pollution mechanisms to surface waters and habitats. This means that wider setbacks may be required as a matter of best practice."

[124] We do know that the 2019 Mineral Titles Branch Information Update 38 on "Permissible Activities without a Mines Act Permit (Interim Guidance)" indicated that activity could only take place "10 horizontal metres out from the high water mark of any watercourse, wetland or waterbody" or "on a gravel bar within a watercourse…3 metres from the edge of the water." [British Columbia, Mineral Titles Branch, "Information Update No 38 – Permissible Activities without a Mines Act Permit (Interim Guidance)" (4 October 2019), revised 3 December 2019, at 2, online: <https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/mineral-titles/news-notices-announcements/information-updates>.] However, the Ministry only "encourages" recorded holders and free miners to read the information updates to become educated about these requirements, and only "encourages" hand panners or recorded holders to contact the Mineral Titles Branch with questions about riparian setbacks. [Personal communication (email June 30, 2022) with Garth Thomson, Director of Policy, Mines, Competitiveness and Authorizations Division, Ministry of Energy, Mines and Low Carbon Innovation.]
The enforcement of riparian setbacks seems to be an unsystematic process. Ministry personnel claim that recorded holders must submit a report with a map showing work locations, and they must submit photos of completed work, which could result in an inspection if any work appears to have been done in the riparian setback. [Personal communication (email June 30, 2022) with Garth Thomson, Director of Policy, Mines, Competitiveness and Authorizations Division, Ministry of Energy, Mines and Low Carbon Innovation.] However, there seems to be no way to monitor or inspect unreported work – this is essentially an "honour system." It remains unclear exactly how these setbacks are being enforced in situations where the claim holders may not be disclosing the true extent of their mining activities, or if there is no complaint made to the Mineral Titles Branch.

[125] Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 5-6, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>; Ministry of Energy and Mines, *Health, Safety and Reclamation Code for Mines in British Columbia* (Victoria: Ministry of Energy & Mines, rev June 2017), s 10.1.1 at Table 9.1 & s 9.5.1; *Riparian Areas Protection Regulation*, BC Reg 178/2019, s 8.

Indeed, scientific studies support a setback of at least 30 metres to protect streams and riparian habitat.[126]

To keep this in perspective, it may be useful to note that Mongolia invalidated thousands of placer mining licences in 2009 when it passed a bill that set aside protective buffer zones 500-1000 metres along rivers and large land tracts at river headwaters.[127] Consider also that in Zimbabwe, regulations prohibit placer mining within 200 metres of the banks of a stream or wetland.[128]

The problem is that a 10-metre setback still allows placer mining activity to take place in vitally important fish and wildlife areas that are off-limits to other industries and activities.[129] Worse, Ministry auditing suggests that a majority of operators may be violating even these minimal 10 metre standards.

A moratorium on the issuance of placer claims and leases is required until sufficient safeguards to protect streams and wetlands is implemented.

Widespread Failure to Reclaim Mining Sites

LOW RECLAMATION RATES

Proper reclamation of placer mining sites is critical to ensure that exposed areas are not endlessly eroded, and to re-establish stable banks and critical riparian vegetation. Such reclamation is critical to restoration of stripped riparian ecosystems – and the re-establishment of important plant communities and fish and wildlife habitat. Otherwise, un-reclaimed placer sites can become permanent ecological barrens. See an example of the critical difference reclamation cam make in the dramatic documentary about the Taku River Tlingit reclaiming the devastation of Otter Creek – where the Nation finally carried out the reclamation that government should have required the company to carry out long before.[130]

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[126] Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 6, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>; Seth Wenger, "A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation" (Athens: University of Georgia Institute of Ecology, March, 1999) at 3, online: <www.memphremagog.org/FCKeditor/ckfinder/userfiles/files/Centre_de_documents/EN/Review-scientific-literature.pdf>.

[127] Eugene Simonov, "Placer Gold Mining a Major Threat to Russia's Rivers," Earth Island Journal, (23 July 2021), online: <https://www.earthisland.org/journal/index.php/articles/entry/placer-gold-mining-major-threat-russias-rivers/>.

[128] See Environmental Management (Control of Alluvial Mining) (Amendment) Regulations, 2021 (No. 2) (available at https://www.cfuzim.com/wp-content/uploads/2021/05/si10421mine.pdf), and particularly sections 3(1)-(3).

[129] Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 6, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>.

[130] "TRTFNOtter Creek Restoration," online: <https://youtu.be/x1cg8k2bAMs>. Also see Taku River Tlingit First Nation, "Lands and Resources Newletter," Spring Summer 2020, at 16-17, online: <https://trtfn.com/wp-content/uploads/2020/04/Spring-2020LANDS-Newsletter.pdf>.

The unique reclamation at Otter Creek was supported by the Habitat Conservation Trust Foundation, but is more the exception than the rule. It is alarming that Government findings indicate that large numbers of placer mines are not being reclaimed. Indeed, one major government audit found that only one out of 23 mines audited had adequate reclamation. [131] Data from 2007-2017 suggested that 21% of 'closed' placer mines in the Atlin region and 14% of 'closed' placer mines across the Province lacked even a clear record of reclamation.[132]

In general, the Government of BC has failed to ensure that placer mines are adequately reclaimed – leaving vast areas subject to ongoing erosion, sedimentation, and loss of critical riparian habitat. The lack of adequate reclamation requirements is a profound problem. For example, a 2017 study of post-mining sites near Atlin extrapolated that without any reclamation, "a mean of 101 years would be needed for disturbed sites to return to mean undisturbed conditions."[133]

Therefore, reclamation standards consistent with global best practices need to be implemented, along with bonding requirements that ensure reclamation actually takes place.[134] Otherwise, the Provincial Government, BC taxpayers and First Nations will bear either the financial burden of reclaiming such sites – or the cumulative environmental cost of leaving them un-reclaimed.[135]

Until the regime is reformed to ensure that all necessary reclamation work is done across the Province, a moratorium on issuance of placer claims and leases is required.

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[131] For discussion of lack of effective reclamation, see the 2010 MFLNRO Audit, which found that only "one of the twenty-three active placer tenures had adequate reclamation consistent with that reported in the NoW": British Columbia, Ministry of Forests, Lands and Natural Resource Operations, "Cariboo Region Placer Mine Inspection Report" by Michelle Arcand & Joanne McLeod (December 2011),at 19, in FOI Request – FNR-2012-00238, Response Package at 180, online: <docs.openinfo.gov.bc.ca/D10015613A_Response_Package_FNR-2012-00238.PDF>; for more recent examples, see Taku River Tlingit First Nation, "Lands and Resources Newletter," Spring Summer 2020, at 16-17, online: <https://trtfn.com/wp-content/uploads/2020/04/Spring-2020LANDS-Newsletter.pdf>, which describes the enormous job the Nation has taken on to reclaim mining barrens that had been long abandoned by the company and government. The same newsletter also discusses the lack of requirement for replanting during reclamation and the reclamation prescription that the Taku River Tlingit have taken on; for more on this reclamation prescription, see Stantec Consulting, "Placer Site Revegetation Report: Taku River Tlingit First Nation Placer Site Revegetation Prescriptions" (November 2021), online: <https://trtfn.com/wp-content/uploads/2022/05/Report_Stantec_Placer-Site-Revegetation_Nov-5-2021-1.pdf>.

[132] 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].

[133] Jose Haig, "Factors Affecting Ecosystem Recovery After Placer Mining in Northwestern BC" (Prince George: University of Northern British Columbia, 2017) at ii.

[134] For an overview of possible best practices, see Taku River Tlingit First Nation et al, *Atlin Placer Mining Best Management Practices Guidebook* (June 2014) at 25, online: <www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/standards-guidelines/best-management-practices/atlin_placer_mining_bmp_guidebook_final_june_30_2014.pdf>.

[135] For egregious examples where taxpayers ended up paying for reclamation see BC Mining Law Reform, "Closure, Reclamation and Abandoned Mines" https://reformbcmining.ca/wp-content/uploads/2019/05/BCMLR-Closure-Reclamation-Abandoned-Mines.pdf and "Polluter Pays" https://reformbcmining.ca/wp-content/uploads/2019/05/BCMLR-Polluter-Pays.pdf

BC'S INADEQUATE RECLAMATION BOND/SECURITY REGIME

Fair Mining Collaborative research has suggested that BC's inadequate reclamation bond regime is one reason for the Province's low placer mine reclamation rates.[136] Reclamation bonds are a primary means of ensuring mine cleanup. Setting security deposits commensurate with the scale of potential damage would incentivize miners to reclaim their sites properly – rather than leaving environmental destruction that taxpayers, First Nations and the Provincial Government will have to pay to remediate.[137] When a mine company goes bankrupt, the bond is the only assurance that reclamation will actually be performed. Without an adequate reclamation bond, too often miners simply abandon the mine rather than perform the required reclamation work.[138]

BC has a long history of failing to obtain adequate reclamation bonds for placer mines. Under the *Mines Act*, the Chief Inspector of Mines and inspector-delegates can choose whether to make a Notice of Work permit conditional upon provision of a reclamation bond, and the "amount and form" of any such security is also at their discretion.[139] Up until 2017 numerous placer mines were allowed to operate without a reclamation bond at all. In that year it was estimated that 15% of BC placer mines with permits to operate in the previous decade had inadequate security.[140] Since then, the Ministry of Mines has introduced a "bond calculator" that was supposed to address the bonding shortfall.[141] This has resulted in some improvements. In 2018, the Ministry's introduction of a regional bond calculator increased bonding for regional sites "from approximately $59.9M at the end of FY16/17 to approximately $95.5M at the end of FY20/21" ($10.2M of which was from regional placer mines).

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[136] Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 5, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>.

[137] 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 1, 13. For a more recent example, see Taku River Tlingit First Nation, "Lands and Resources Newletter," Spring Summer 2020, at 16-17, online: <https://trtfn.com/wp-content/uploads/2020/04/Spring-2020LANDS-Newsletter.pdf>, which describes the enormous job the Nation has taken on to reclaim mining barrens that had been long abandoned by the company and government. The same newsletter also discusses the lack of requirement for replanting during reclamation and the reclamation prescription that the Taku River Tlingit have taken on; for more on this reclamation prescription, see Stantec Consulting, "Placer Site Revegetation Report: Taku River Tlingit First Nation Placer Site Revegetation Prescriptions" (November 2021), online: <https://trtfn.com/wp-content/uploads/2022/05/Report_Stantec_Placer-Site-Revegetation_Nov-5-2021-1.pdf>.

[138] See: Fair Mining Collaborative, "BC Placer Mining: High Environmental Impacts vs Low Economic Return" (March 2017), at 5, online: <www.fairmining.ca/wp-content/uploads/2018/03/BCPlacer_Environment_Economic.pdf>.

[139] *Mines Act*, RSBC 1996, c 293 at 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 8; D Howe, T Demchuk & A Rollo, "BC Mines Act Permitting: Update on Government Structure, Roles, Responsibilities and Requirements" (2012) British Columbia Mine Reclamation Symposium at 3, online: <https://open.library.ubc.ca/cIRcle/collections/59367/items/1.0042628>.

[140] 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 13 and 2.

[141] BC Ministry of Energy, Mines, and Low Carbon Innovation, "Chief Inspector of Mines 2020/2021 Annual Report" at 23-24, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reports/cim_report_final_dec_15_2021.pdf>.

However, full bonding has still not been established for BC mines generally. The 2020 differential between the total bond amounts paid by major mining companies and the actual liability estimates was still $1.1 billion short.[142] Unfortunately, the specific bonding shortfall information for placer mining is not available – because the Ministry neither collects this information nor reports on it.[143] (Additionally, the annual reporting requirements for placer mines do not include total expected costs of outstanding reclamation obligations over the planned life of the mine.[144])

With 923 placer mines currently operating in BC, it is a serious oversight on the part of the Ministry to not carefully track the shortfalls of placer mining bonds for permitted placer mines.[145]

Until a system of full bonding for current mines is established – as well as a fund to reclaim abandoned mines – a moratorium is required on the issuance of placer claims and leases.

4. THE PLACER MINING REGIME CLEARLY CONTRAVENES INDIGENOUS RIGHTS AND UNDRIP

As previously noted, placer mining has the potential to jeopardize Indigenous peoples' rights in a number of ways. Consequently, any placer mining activity allowed by the BC Government may trigger its constitutional duty to consult and accommodate Indigenous peoples – which arises whenever the Crown contemplates conduct that might adversely affect an asserted or established Aboriginal right.[146]

However, the entire BC mining framework has scant mechanisms for consultation with First Nations. The *Mineral Tenure Act* purports to authorize mining claims to be registered across Indigenous territories without the consent of First Nations.

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[142] BC Ministry of Energy, Mines, and Low Carbon Innovation, "Chief Inspector of Mines 2020/2021 Annual Report" Appendix E: Reclamation Liabilities at 40, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reports/cim_report_final_dec_15_2021.pdf>.

[143] Personal communication (email 18 July 2022) with Eva Armstrong, Resource Technologist, Abandoned Mines Branch, Ministry of Energy, Mines, and Low Carbon Innovation, via Cheryl Pocklington.

[144] BC Ministry of Energy, Mines, and Low Carbon Innovation, "Annual Summary of Placer Activities," online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/annual_summary_for_placer_activities.pdf>. (N.B. Regional mineral and coal mines also do not require as part of their annual reports that reclamation cost shortfalls be declared. BC Ministry of Energy, Mines, and Low Carbon Innovation, "Mineral and Coal Annual Summary of Exploration Activities," online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/exploration/annual_summary_exploration_activities_mineral_coal.pdf>.

[145] BC Ministry of Energy, Mines, and Low Carbon Innovation, "Chief Inspector of Mines 2020-2021 Annual Report," at 8, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reports/cim_report_final_dec_15_2021.pdf>.

[146] *Haida Nation v British Columbia (Minister of Forests)*, 2004 SCC 73, [2004] 3 SCR 511.

From the top down, BC designates entire sections of the Province as "placer mining zones"[147] and allows proposed placer mines to go ahead with only the Notice of Work application as the sole "de facto" instrument of consultation for the whole process.[148] This stands in contrast to the practice in New Zealand, where government requires Maori consultation before designating "Placer Mining Zones."[149]

In BC, absent an environmental assessment or other statutorily mandated consultation process, sole reliance on a single Notice of Work permit application fails to recognize the due importance of the duty to consult.[150]

The BC Government purports to fulfil its duty to consult by giving First Nations mere months to respond to complex mining applications and as little as 15 days to respond to deemed authorizations (see Appendix B for more detail on how little time is allowed to Nations). The response period allowed is unreasonably short, particularly "in light of the administrative capacity of many First Nations" that are already overburdened with consultation referrals from other resource sectors.[151] Indeed, the recent government engagement sessions for modernizing land planning heard "a number of Indigenous participants" emphasize the "need for capacity to effectively participate in land planning activities and the challenge of competing activities and consultations."[152]

As a result, First Nations are denied a meaningful opportunity to obtain accommodations to avoid or properly mitigate placer mining's impact on their access to traditional sites -- and the health of the waterways, fish, plants, and animals that sustain them.

The Mineral Title Branch's 2019 *Information Update Permissible Activities without a Mines Act Permit (Interim Guidance)* suggests that placer miners who don't hold a permit are "encouraged [but not required] to engage with Indigenous Nations with overlapping interests before undertaking any activities on the record holder's mineral…titles."[153] Similarly, according to

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[147] British Columbia, Ministry of Energy and Mines, "Placer Designations" (3 January 2014), online: <www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/mineral-titles/mineral-placer-titles-getting-started/forms-maps-publications/maps/placer_designated_areas.pdf>.

[148] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 7, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>.

[149] Fair Mining Collaborative, Stirring Up the Sentiment: An Overview of Placer Mining in British Columbia (Unpublished Draft, July 2016) pp. 7 and 10.

[150] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 7, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>.

[151] Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 7, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>; Fair Mining Collaborative, "The Path to Zero Failures: Health, Safety and Reclamation Code Review" (2015) at 36, online: <www.fairmining.ca/wp-content/uploads/2016/01/The_Path_To_Zero_Failures.pdf>. The Fair Mining Collaborative has recommended Notice of Work consultation periods be extended to 90-120 days.

[152] Stevens, R., Filipchuk, V. and Tanguay, M., "Integrating mining into land use planning what we heard report – summary of engagement session September 2021 – January 2022" (1 March 2022), at pg. 5.

[153] British Columbia, Mineral Titles Branch, "Information Update No 38 – Permissible Activities without a Mines Act Permit (Interim Guidance)" (4 October 2019), revised 3 December 2019, at 2, online: <https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/mineral-titles/news-notices-announcements/information-updates>.

Ministry personnel, the Mineral Titles Branch "encourages" claim holders to run a Title Overlap Report for their claim.[154] It is unclear if there are any enforcement mechanisms or consequences for record holders or their agents who do not comply with this suggestion.[155]

The Province's recent Ministry of Energy, Mines and Low Carbon Innovation ("EMLI") – First Nations Energy and Mining Council ("FNEMC") engagement series has attempted to 'check the consultation box' and get First Nations 'on board' with placer mining. However, accommodation of First Nations land interests has not been demonstrated, and consent in keeping with UNDRIP has still not been obtained. The only result from this engagement series appears to be proposed revisions to the *Mineral Tax Act* and inspection and permitting fees for the placer sector.[156]

BC's current approach to placer mining consultation is inconsistent with the provincial Crown's constitutional duty to consult and accommodate Indigenous rights-holders.[157] It also falls far short of the requirements set out in the *UN Declaration on the Rights of Indigenous Peoples* (UNDRIP).[158] The *Declaration on the Rights of Indigenous Peoples Act* creates obligations that the Province consult and cooperate with the Indigenous peoples in BC to align provincial laws with UNDRIP.[159] In order to align provincial law with UNDRIP, the Province must address the UNDRIP rights being breached by BC placer mining under the current regulatory system.

We call on the Government of BC to address the ways that the current approach to placer mining is breaching the rights of Indigenous peoples.[160] Key examples of breach of Indigenous rights enshrined in the specific Articles of UNDRIP include:

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[154] Personal communication (email June 30, 2022) with Garth Thomson, Director of Policy, Mines, Competitiveness and Authorizations Division, Ministry of Energy, Mines and Low Carbon Innovation.

[155] In September 2020 the Association for Mineral Exploration published an "Indigenous Engagement Guidebook" which, although a step in the right direction, still does not ensure or provide an enforcement mechanism for meaningful consultation between mineral developers and Indigenous peoples. (See Association for Mineral Exploration, "Indigenous Engagement Guidebook" (September 2020), online: <https://amebc.ca/wp-content/uploads/2020/09/AME-Indigenous-Engagement-Guidebook-Sept-2020.pdf>).

[156] See Ministry of Energy, Mines and Low Carbon Innovation, "What we heard: fee and mineral tax models for British Columbia's placer mining industry" (26 November 2021), online: <https://engage.gov.bc.ca/app/uploads/sites/121/2021/11/What-We-Heard-Placer-Revenue-Discussion-Paper.pdf>.

[157] See generally *Haida Nation v BC (Minister of Forests)*, 2004 SCC 73.

[158] *United Nations Declaration on the Rights of Indigenous Peoples,* GA Res 61/295, Sess 61, Plen 107 (13 September 2017), online: <www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf>.

[159] *DRIPA,* at s. 3.

[160] These include, amongst other things, the right to be free from discrimination (article 2), to self-determination (article 3), to self-government (article 4), to not be removed from their lands (article 10), to participate in decision-making (article 18), to good-faith consultation and cooperation towards free, prior and informed consent (article 19), to maintain "political, economic and social systems or institutions "(article 20), to improve economic and social conditions (article 21), to pay special attention in the implementation of the declaration to the needs of indigenous elders, women, youth, children and persons with disabilities (article 22), to determine and develop priorities and strategies for exercising their right to development (article 23), to access traditional medicines, access social and health services, maintain health practices, and enjoy the highest attainable standard of physical and mental health (article 24), to maintain relationships with "lands, territories, waters and coastal seas and other resources to uphold their responsibilities to future generations" (article 25), to "lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired" (article 26), to "own, use, develop and control the lands, territories and resources" (article 26), to have their "laws, traditions, customs and land tenure systems" recognized by the State (article 27), to redress or just fair and equitable compensation for damage to lands, territories and resources (article 28), to conservation and protection

1. Article 18 states that:

> Indigenous peoples have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own indigenous decision-making institutions.

Placer mining and the decisions about how, when, where, and whether it occurs profoundly affect the rights of First Nations in BC. The current regime – which allows placer claims to be staked without prior Indigenous consent and provides inadequate consultation on other decisions (e.g., the decision on approving a Notice of Work permit) – is a clear violation of this right. Until there are appropriate procedures for the full participation of First Nations in the decision-making regarding placer mining where it affects their rights, the Government of BC is actively breaching the rights of Indigenous peoples by continuing to authorize new placer mining.

2. Article 19 states that:

> States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them.

As above, placer mining and the decisions about how, when, where, and whether it happens affect the rights of First Nations in BC. The regulation of placer mining in BC is done through the implementation of the *Mines Act* and the *Mineral Tenure Act,* and through administrative measures of the Provincial Government. Any of these actions that are done without the free, prior and informed consent of First Nations in BC (obtained through consultation and cooperation in good faith through their own representative institutions), are done in violation of the rights of Indigenous peoples. Perhaps the most egregious violation is the "free entry" system for staking claims, where government allows claims to be staked without prior Indigenous consent.

The International Initiative for Responsible Mining Assurance certification regime provides an instructive alternative model – as IRMA will not certify a new mine unless the proponent has obtained the free, prior and informed consent of potentially affected Indigenous peoples.[161]

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of the environment and productive capacity of their lands or territories and resources, and to effective measures to monitor, maintain, and restore the health of indigenous peoples (article 29), to determine and develop priorities and strategies for the development or use of their lands or territories and other resources (article 32), and to determine the responsibilities of individuals to their communities (article 35). States are obligated to take measures to achieve the ends of the Declaration (article 38), and these rights are considered minimum standards (article 43). Declaration on the Rights of Indigenous Peoples Act, SBC 2019, c 44, Schedule arts 2-4, 8, 10, 18-29, 32, 35, 38, and 43, online: BC Laws <https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/19044> [https://perma.cc/R4UV-CQG6]. The most relevant Articles from the Declaration are discussed above, and other Articles are discussed in Appendix A, below.

[161] Initiative for Responsible Mining Assurance. IRMA Standard for Responsible Mining IRMA-STD-001 (2018), at 2.2.2.2 and 2.2.6.1, online: <http://www.responsiblemining.net/images/uploads/IRMA_STANDARD_v.1.0_FINAL_2018.pdf>. The IRMA Standard is clear that a company must abandon a proposal if they do not obtain free, prior and informed consent ("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

British Columbia's promise in the *Declaration on the Rights of Indigenous Peoples Act Action Plan 2022-2027 ("*DRIPA Action Plan") to "Modernize the Mineral Tenure Act in consultation and cooperation with First Nations and First Nations organizations"[162] must be fulfilled in good faith prior to issuance of any new placer mining leases or claims.

3. Article 20 states that:

> 1. Indigenous peoples have the right to maintain and develop their political, economic and social systems or institutions, to be secure in the enjoyment of their own means of subsistence and development, and to engage freely in all their traditional and other economic activities.

Currently, government-authorized placer mining activities undermine Indigenous enjoyment of "means of subsistence and development" and free engagement with "traditional…activities." Subsistence and traditional activities are harmed as current state-approved mining:

- devastates fish populations,
- contaminates remaining fish,
- impacts riparian medicinal plants, and
- destroys the most productive wildlife habitat in the territories.

Under the current regulatory regime, placer mines unduly damage and contaminate streams, fish, wildlife and plants. Current rules also legally reduce Indigenous access to fish, wildlife, and medicinal plants that are essential to subsistence and traditional activities.

Article 20 also states that:

> 2. Indigenous peoples deprived of their means of subsistence and development are entitled to just and fair redress.

Given the profound impacts of placer mining on Indigenous subsistence, "traditional and other economic activities," and community health, "just and fair redress" must include an immediate moratorium on the issuance of new placer mining leases and claims until more comprehensive redress is agreed to by Nations.

4. Article 24 states that:

> 1. Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals. Indigenous individuals also have the right to access, without any discrimination, to all social and health services.
>
> 2. Indigenous individuals have an equal right to the enjoyment of the highest attainable standard of physical and mental health. States shall take the necessary steps with a view to achieving progressively the full realization of this right.

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interests of the Indigenous peoples. The company may approach indigenous peoples to renew discussions only if agreed to by the Indigenous peoples' representatives.

[162] Government of British Columbia, "Declaration on the Rights of Indigenous Peoples Act Action Plan 2022-2027," (2022), at 2.14, online: <https://www2.gov.bc.ca/assets/gov/government/ministries-organizations/ministries/indigenous-relations-reconciliation/declaration_act_action_plan.pdf>.

The current approach to placer mining contributes to the inaccessibility of traditional medicines located within the riparian zones where placer mines are operating. First the plants are destroyed by clearing for placer mining. Then access is denied under authority of provincial permits. This is a violation of "the right [of Indigenous peoples] to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals."

The right to "the enjoyment of the highest attainable standard of physical and mental health" is at risk. The current inadequate regulation of placer mining poses a significant risk to Indigenous health, by allowing destruction of the fish, wildlife, and medicinal plants that support healthy Indigenous communities. Inadequate regulation of placer mining also potentially places additional health burdens on Indigenous peoples due to consumption of fish contaminated with mercury, methylmercury and other pollutants – which is particularly worrisome for pregnant women and children.[163]

For Nations that rely heavily on fish, the requested placer mining moratorium is necessary to enjoy "the highest attainable standard of physical and mental health."

5. Article 32 states that:

> 1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.
>
> 2. States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.
>
> 3. States shall provide effective mechanisms for just and fair redress for any such activities, and appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact.

Until the Province of BC collaborates in good faith with Indigenous peoples to develop new strategic legislation and policy governing placer mining, the Province is violating Article 32(1) rights. To comply with Article 32(2), the legal regime must require Indigenous free, prior and informed consent before any placer mining project is approved.

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[163] The impacts of these contaminants are additionally pronounced in women, specifically pregnant women or women of childbearing age. Not that Articles 21 and 22 further articulate rights that government is endangering, by failing to address health impacts from mercury-contaminated fish that weigh disproportionately upon Indigenous women and children. [Article 21 states that: "Particular attention shall be paid to the rights and special needs of indigenous elders, women, youth, children and persons with disabilities." Article 22 further states that: "1. Particular attention shall be paid to the rights and special needs of indigenous elders, women, youth, children and persons with disabilities in the implementation of this Declaration. 2. States shall take measures, in conjunction with indigenous peoples, to ensure that indigenous women and children enjoy the full protection and guarantees against all forms of violence and discrimination." See Appendix A.]

At this time the "effective mechanism for just and fair redress" and "appropriate measure… to mitigate adverse environmental, economic, social, cultural, or spiritual impact" is for the BC Government to establish a moratorium on issuing placer mining tenures until:

- First Nations have determined and developed strategies for the use of those resources and
- the appropriate measures are taken to mitigate adverse environmental, economic, social, cultural, and spiritual impacts.

5. STATEMENTS OF CONCERN FROM INDIGENOUS LEADERS

First Nations leaders have repeatedly stated their concerns about placer mining and its effect on fish and Indigenous rights. In 2017, the First Nations Women Advocating Responsible Mining called for a moratorium on new placer-mining claims due to pollution concerns and damage to fish habitat – and called for BC law to be amended to align with UNDRIP.[164] The March 2022 *What We Heard* Report from the EMLI-FNEMC Placer Mining Engagement Series acknowledges that Dave Porter, the CEO of FNEMC, recommended publicly that the Province should create a moratorium of "new placer exploration claims and placer mining leases until the establishment of a Crown-First Nations process that aligns with the UN Declaration and the Declaration Act."[165]

The Province and former Mines Minister Ralston have been given notice of the need for a moratorium on government issuance of new placer claims and placer mining leases until there is a Crown-First Nations process that aligns with UNDRIP. Notice has included the 2022 First Nations Summit Resolution calling for a placer moratorium.[166] The First Nations Energy and Mining Council has clearly articulated to government the need for a process aligned with UNDRIP and the need to align existing and future placer mining policies and legislation with UNDRIP. The Council has previously highlighted the importance of this alignment and the requirement of real and meaningful systemic change.[167]

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[164] Derrick Penner, "First Nations group calls for moratorium on new placer mining claims" Vancouver Sun, March 29, 2017, <https://vancouversun.com/news/local-news/first-nations-group-calls-for-moratorium-on-new-placer-mining-claims>.
[165] BC Ministry, Mines & Low Carbon Innovation and First Nations Energy and Mining Council, "Placer Mining Engagement Sessions (2021-2022): What We Heard Report" (March 2022) at 13.
[166] First Nations Summit Resolution # 0622.16 passed in June 2022.
[167] Dave Porter, CEO of BCFNEMC made these remarks to the Ministry of Mines and Low Carbon Innovation in Placer Mining Engagement Sessions (2021-2022). See: BC Ministry, Mines & Low Carbon Innovation and First Nations Energy and Mining Council, *"Placer Mining Engagement Sessions (2021-2022): What We Heard Report"* (March 2022), at 13-14.

6. PRECEDENTS FOR A MORATORIUM

Several jurisdictions around the world have recognized the harmful effects of placer mining on the environment, fish, and people, and have instigated moratoriums or bans on placer mining.

In Asia, where like in BC the mining sector has done immense environmental damage and remained largely unregulated, several jurisdictions are taking drastic steps to protect the environment. For example:

- The Kamchatka region in Russia has negotiated an agreement with Moscow for a moratorium on mining licenses until the region legalizes a network of protected areas and conservation zones to protect valuable rivers and salmon runs.[168]
- The Chinese Government issued a total ban on placer mining in forest landscapes in 1999.[169]
- Mongolia invalidated thousands of placer mining licences in 2009 when it passed a bill that set aside protective buffer zones 500-1000 metres along rivers and large land tracts at river headwaters.[170]
- Malaysia and Uttarakhand, India, issued moratoria on mining due to concerns about mining effects on water.[171]

Countries in Central America are increasingly concerned about the dangers of mining activity:

- In 2010, a unanimous vote of the Costa Rican congress banned all gold mining, and mechanized mining equipment is not permitted anywhere in the country.[172]
- In 2012, Panama banned mining and cancelled existing mineral concessions in Indigenous lands and territories of the Ngäbe-Buglé communities including placer mining.[173]

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[168] Eugene Simonov, "Placer Gold Mining a Major Threat to Russia's Rivers," Earth Island Journal, (23 July 2021), online: <https://www.earthisland.org/journal/index.php/articles/entry/placer-gold-mining-major-threat-russias-rivers/>.

[169] Eugene Simonov, "Placer Gold Mining a Major Threat to Russia's Rivers," Earth Island Journal, (23 July 2021), online: <https://www.earthisland.org/journal/index.php/articles/entry/placer-gold-mining-major-threat-russias-rivers/>.

[170] Eugene Simonov, "Placer Gold Mining a Major Threat to Russia's Rivers," Earth Island Journal, (23 July 2021), online: <https://www.earthisland.org/journal/index.php/articles/entry/placer-gold-mining-major-threat-russias-rivers/>.

[171] Nora Mardirossian "Does El Salvador's Metal Mining Ban Suggest a Global Trend?" Columbia Climate School: Columbia Water Centre (2 May 2017), online: <https://news.climate.columbia.edu/2017/05/02/does-el-salvadors-metal-mining-ban-suggest-a-global-trend/>.

[172] Rare Gold Nuggets, "Costa Rica Gold Mining History and Current Ban" online: <https://raregoldnuggets.com/?p=1566>.

[173] See Ley Nº 11 (de lunes 26 de marzo de 2012), Arts. 3, 4, online: (in Spanish) <https://www.gacetaoficial.gob.pa/pdfTemp/27001/GacetaNo_27001_20120326.pdf>. The law recognizes the right of the comarca to the traditional sustainable use, management, and exploitation of renewable resources (at Art. 2). For a brief explanation (in English) see *New Panama law bans mining on native land* (2012), online: <https://phys.org/news/2012-03-panama-law-native.html>.

- In 2017, El Salvador became the first country to impose a nationwide ban on metal mining to protect their clean water supply.[174]

Closer to home, the Oregon Legislature passed legislation imposing a five-year moratorium, beginning in 2016, on motorized mining for precious metals in streams and upland of rivers and tributaries with essential Indigenous salmon habitat.[175] In 2017, Oregon formalized their ban on motorized in-stream placer mining up to the line of ordinary high water in any river that provides "essential salmonid habitat."[176] In 2017, Oregon established a 20-year mining ban for North Fork Smith and other Kalimiopsis wild rivers.[177]

Precedents for mining moratoria exist in Canada as well. Several Canadian jurisdictions have previously instigated moratoriums and bans on a variety of mining activities:

- From 2013 to present day, the Yukon Government has enacted temporary moratoria on all new mineral staking in Kaska territory.[178]
- BC previously instigated a 7-year moratorium on uranium mining in 1980,[179] then a total ban on uranium mining in 2008 under section 22 of the *Mineral Tenure Act*.[180]
- BC placed a moratorium on regional placer jade mining in 2020 under section 7 of the *Environment and Land Use Act*[181] – which was extended to include 'hardrock' jade in 2021.[182]

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[174] El Salvador banned all metal mining in 2017. See Decreto No. 639, art. 1, Abril 4, 2017, Diario Oficial [D.O.], at 6 (El Sal.)(available at https://www.diariooficial.gob.sv/seleccion/29510) . See also:.Nora Mardirossian "Does El Salvador's Metal Mining Ban Suggest a Global Trend?" Columbia Climate School: Columbia Water Centre (2 May 2017), online: <https://news.climate.columbia.edu/2017/05/02/does-el-salvadors-metal-mining-ban-suggest-a-global-trend/>.

[175] Tracy Loew, "Suction dredge miners recast themselves as aquatic health technicians, seek Oregon funds," online: <https://www.statesmanjournal.com/story/news/2019/02/11/oregon-suction-dredge-miners-seek-state-funds-streamsavers/2807374002/>.

[176] Or. Rev. Stat. § 468B.114(2), online: <https://www.oregonlegislature.gov/bills_laws/ors/ors468b.html>; this ban does not apply to non-motorized methods, such as gravity dredges or syphon dredges. The U.S. Court of Appeals for the Ninth Circuit upheld the law, declaring that the provisions are not preempted by federal mining laws: *Bohmker v. State of Oregon*, 903 F.3d 1029 (9th Cir. 2018), online: <https://westernlaw.org/wp-content/uploads/2018/09/2018.09.12-OR-Suction-Dredge-Ninth-Circuit-Opinion.pdf>.

[177] Smith River Alliance, "Secure Mining Ban," online: <https://smithriveralliance.org/secure-mining-ban/>.

[178] Government of Yukon press release, "Government of Yukon extends staking prohibition for Kaska asserted traditional territory" (28 Apr 2017), online: <https://open.yukon.ca/sites/default/files/17-090.pdf>; Order Prohibiting Entry on Certain lands in Yukon (the Kaska asserted Traditional Territory outside the Ross River Area), OIC 2017/026, online: <https://laws.yukon.ca/cms/images/LEGISLATION/SUBORDINATE/2017/2017-0026/2017-0026.pdf>.

[179] Public Inquiry Act, Order 442/1980, online: <https://www.bclaws.gov.bc.ca/civix/document/id/oic/arc_oic/0442_1980/search/CIVIX_DOCUMENT_ROOT_STEM:(uranium)%20AND%20CIVIX_DOCUMENT_ANCESTORS:1989_10_1980?2#hit1>.

[180] Uranium and Thorium Reserve Regulation, BC Reg 82/2008, online: <https://www.bclaws.gov.bc.ca/civix/document/id/lc/bcgaz2/v51n09_082-2008>.

[181] Placer Jade Permit Deferral Area Order, OIC 234/2020, online: <https://www.bclaws.gov.bc.ca/civix/document/id/oic/arc_oic/0234_2020>.

[182] Placer and Hardrock Jade Permit Deferral Area Order, OIC 409/2021, online: <https://www.bclaws.gov.bc.ca/civix/document/id/oic/oic_cur/0409_2021#:~:text=Executive%20Council%20Chambers%2C%20Victoria&text=(a)%20the%20Placer%20Jade%20Permit,Deferral%20Area%20Order%20is%20made.&text=(This%20part%20is%20for%20administrative,not%20part%20of%20the%20Order)>. "Hardrock jade" is mineral *in situ*.

It is time for BC to join the ranks of jurisdictions that are moving to protect their fish, waters, and Indigenous peoples from the deleterious effects of placer mining and other mining.

7. CONCLUSION

The BC placer mining industry has far-reaching negative effects on riparian areas and streams, fish, human health, and Indigenous rights. The Province's current regulatory approach to placer mining is unequal to the task of preventing or mitigating these harms – and fails to respect Indigenous rights.

The Province began to acknowledge part of the problem when it made the commitment to update the *Mineral Tenure Act,* in the DRIPA Action Plan. However, it is imperative that while these long overdue updates are being made, no further damage to the environment, fish, or human health be allowed to continue from placer mining.

In these circumstances, it is incumbent on the provincial government to institute a moratorium on the issuance of placer mining leases and claims until the establishment of a Crown-First Nations process that aligns with UNDRIP and the *Declaration on the Rights of Indigenous Peoples Act*. Such a moratorium can be established pursuant to section 22 of the *Mineral Tenure Act,* section 7 of the *Environmental and Land Use Act*, and/or section 17 of the *Mineral Tenure Act.*

APPENDIX A

In the text of our above submission, we state that the current BC legal regime governing placer mining infringes rights articulated in Articles 18, 19, 20, 24 and 32 of the *UN Declaration of the Rights of Indigenous Peoples* ("UNDRIP").

In addition to those Articles, the current BC placer mining regulatory regime may also infringe the rights articulated in following Articles of the *Declaration of the Rights of Indigenous Peoples*:

1. Article 2 states that:

   > *Indigenous peoples and individuals are free and equal to all other peoples and individuals and have the right to be free from any kind of discrimination, in the exercise of their rights, in particular that based on their indigenous origin or identity.*

   The inequitable distribution of the impacts of placer mining, which have an increased negative effect on many First Nations in BC due to their greater consumption of fish, could be interpreted as discrimination, especially when one considers the ways that these impacts threaten their community well-being and Indigenous identity attached to fish. Change is needed to align BC placer mining law with this right.

2. Article 3 states that:

   > *Indigenous peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.*

- The economic, social, and cultural development of many Indigenous peoples are threatened and impacted by placer mining through the deleterious effects on fish. For First ations in BC with economic, social and cultural ties to fish, this is an infringement of this right.

3. Article 4 states that:

   > *Indigenous peoples, in exercising their right to self-determination, have the right to autonomy or self-government in matters relating to their internal and local affairs, as well as ways and means for financing their autonomous functions.*

- The lack of inclusion of First Nations in the decisions regarding placer mining within their territories is a breach of this right to self-government. Placer mining is a local "affair," in which Indigenous peoples have the right to decision-making authority.

4. Article 8 states that:

> *1. Indigenous peoples and individuals have the right not to be subjected to forced assimilation or destruction of their culture.*

For First Nations in BC whose culture is intricately tied to fish, the limitation of fish consumption due to environmental contaminants caused by placer mining is a violation of this right.

5. Article 10 states that:

> *Indigenous peoples shall not be forcibly removed from their lands or territories. No relocation shall take place without the free, prior and informed consent of the indigenous peoples concerned and after agreement on just and fair compensation and, where possible, with the option of return.*

Placer mines interfere with Indigenous peoples' access to their territory, as the mine manager controls entry to the mine site.[183] This interference can amount to the forcible removal of Indigenous peoples from their lands or territories.

6. Article 18 states that:

> *Indigenous peoples have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own indigenous decision-making institutions.*

Placer mining and the decisions about how, when, where, and whether it happens affect the rights of First Nations in BC. Until there are appropriate procedures for the participation of First Nations in the decision-making regarding placer mining where it affects their rights, the Government of BC is actively breaching the rights of Indigenous peoples and the honour of the Crown by continuing to allow placer mining.

7. Article 19 states that:

> *States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting*

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[183] See Fair Mining Collaborative, "The New Gold Rush: Placer Mining in the Fraser Watershed" (April 2017), at 7, online: <www.fairmining.ca/wp-content/uploads/2018/03/NewGoldRush.pdf>; citing Fair Mining Collaborative, personal communication, Bev Sellers, former Chief, Xat'sull First Nation, June 11, 2015; and Health, Safety and Reclamation Code for Mines in British Columbia, s 1.3.1, online: <http://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/health-safety/health-safety-and-reclamation-code-for-mines-in-british-columbia>.

and implementing legislative or administrative measures that may affect them.

As above, placer mining and the decisions about how, when, where, and whether it happens affect the rights of First Nations in BC. The regulation of placer mining in BC is done through the implementation of the *Mines Act* and the *Mineral Tenure Act,* and through administrative measures of the Provincial Government. Any of these actions that are done without the free, prior and informed consent of First Nations in BC (obtained through consultation and cooperation in good faith through their own representative institutions), are done in violation of the rights of Indigenous peoples.

8. Article 20 states that:

> *1. Indigenous peoples have the right to maintain and develop their political, economic and social systems or institutions, to be secure in the enjoyment of their own means of subsistence and development, and to engage freely in all their traditional and other economic activities.*

The current approach to placer mining in BC threatens the enjoyment of many First Nations means of subsistence and development. Placer mines have created lasting environmental impacts and continue to impact the enjoyment of First Nations through the perceived and real threat of environmental contamination, especially in fish.

Article 20 also states that:

> *2. Indigenous peoples deprived of their means of subsistence and development are entitled to just and fair redress.*

Given the breadth of impacts from placer mining on the subsistence and development of First Nations in BC who rely upon fish for the health of their communities, the just and fair redress to which those First Nations are entitled must include an immediate moratorium on placer exploration and mining.

9. Article 21 states that:

> *1. Indigenous peoples have the right, without discrimination, to the improvement of their economic and social conditions, including, inter alia, in the areas of education, employment, vocational training and retraining, housing, sanitation, health and social security.*
>
> *2. States shall take effective measures and, where appropriate, special measures to ensure continuing improvement of their economic and social conditions. Particular attention shall be paid to the rights and*

special needs of indigenous elders, women, youth, children and persons with disabilities.

The current approach to placer mining regulation places additional health burdens on Indigenous peoples through the consumption of fish that are contaminated with mercury and methylmercury. The impacts of these contaminants are additionally pronounced in women, specifically pregnant women or women of childbearing age. A placer mining moratorium is critical to ensure the continued improvement of the health of Indigenous women and children.

10. Article 22 further states that:

1. Particular attention shall be paid to the rights and special needs of indigenous elders, women, youth, children and persons with disabilities in the implementation of this Declaration.

2. States shall take measures, in conjunction with indigenous peoples, to ensure that indigenous women and children enjoy the full protection and guarantees against all forms of violence and discrimination.

This article further underscores the need for a moratorium on placer mining to protect Indigenous women and children, as detailed above.

11. Article 23 states that:

Indigenous peoples have the right to determine and develop priorities and strategies for exercising their right to development. In particular, indigenous peoples have the right to be actively involved in developing and determining health, housing and other economic and social programmes affecting them and, as far as possible, to administer such programmes through their own institutions.

- The Province's current regulatory approach infringes the Indigenous right to develop priorities and strategies for development. In particular, this is apparent through the deleterious impacts on fish and on the health of Indigenous peoples through ingestion of contaminated fish. Lack of involvement of Indigenous peoples in the decisions that lead to fish contamination in the first place is a breach of this right to determine and develop priorities and strategies for exercising the right to development == as that right might never be fully exercised so long as fish continue to be contaminated.

12. Article 24 states that:

1. Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals. Indigenous individuals

also have the right to access, without any discrimination, to all social and health services.

2. Indigenous individuals have an equal right to the enjoyment of the highest attainable standard of physical and mental health. States shall take the necessary steps with a view to achieving progressively the full realization of this right.

- For First Nations in BC who rely on fish for the health of their communities, the immediate implementation of a moratorium on placer mining is a necessary step to achieve the full realization of this right.

13. Article 25 states that:

Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard.

- For the First Nations in BC with cultural and spiritual ties to fish, the impacts of placer mining on the consumption rates of fish have the potential to threaten their spiritual relationships with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas, and other resources. These impacts amount to a breach of this right.

14. Article 26 states that:

1. Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired.

2. Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired.

3. States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned

- First Nations in BC hold rights to the lands, territories and resources that are impacted by placer mining. Until these underlying rights have been given adequate legal recognition and

protection, the allocation of placer mining tenures and subsequent authorizations by the Province is a continuing breach of these rights.

15. Article 27 states that:

> *States shall establish and implement, in conjunction with indigenous peoples concerned, a fair, independent, impartial, open and transparent process, giving due recognition to indigenous peoples' laws, traditions, customs and land tenure systems, to recognize and adjudicate the rights of indigenous peoples pertaining to their lands, territories and resources, including those which were traditionally owned or otherwise occupied or used. Indigenous peoples shall have the right to participate in this process.*

- Until such a process is in place, we call on the Province to address the ongoing impingements of Indigenous rights from placer mining through a moratorium on the issuance of placer claims and leases.

16. Article 28 states that:

> *1. Indigenous peoples have the right to redress, by means that can include restitution or, when this is not possible, just, fair and equitable compensation, for the lands, territories and resources which they have traditionally owned or otherwise occupied or used, and which have been confiscated, taken, occupied, used or damaged without their free, prior and informed consent.*
>
> *2. Unless otherwise freely agreed upon by the peoples concerned, compensation shall take the form of lands, territories and resources equal in quality, size and legal status or of monetary compensation or other appropriate redress.*

- The ongoing damage of placer mining calls for redress and restitution for the damage it has caused without the free, prior and informed consent of affected Indigenous peoples.

17. Article 29 states that:

> *1. Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources. States shall establish and implement assistance programmes for indigenous peoples for such conservation and protection, without discrimination.*

2. States shall take effective measures to ensure that no storage or disposal of hazardous materials shall take place in the lands or territories of indigenous peoples without their free, prior and informed consent.

3. States shall also take effective measures to ensure, as needed, that programmes for monitoring, maintaining and restoring the health of indigenous peoples, as developed and implemented by the peoples affected by such materials, are duly implemented.

- Placer mining threatens the environment and productive capacity of the rivers and watershed where it takes place. The imposition of a moratorium on placer mining is a conservation measure, and this article mandates the Province to give assistance to Indigenous people for the implementation of such a moratorium. Further, placer mining includes the storage and disposal of hazardous materials, which necessitates the free, prior and informed consent of Indigenous peoples. The Province should also take effective measures to ensure that programs for the monitoring, maintaining, and restoring of ecosystem health in watersheds affected by placer mining, are duly implemented.

18. Article 32 states that:

1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.

2. States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.

3. States shall provide effective mechanisms for just and fair redress for any such activities, and appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact.

- Until the Province of BC consults and cooperates in good faith with the Indigenous peoples concerned with placer mining, and obtains their free, prior and informed consent for such activities, the Province is breaching the rights of those Indigenous peoples, and is required to provide just and fair redress. The appropriate measure at this time, to mitigate the adverse environmental, economic, social, cultural, and spiritual impacts of placer mining, is a moratorium on the issuance of placer claims and leases, until at least such time as

individual First Nations have determined and developed strategies for the use of those resources and the appropriate measures are taken to mitigate adverse environmental, economic, social, cultural, and spiritual impacts.

19. Article 35 states that:

> *Indigenous peoples have the right to determine the responsibilities of individuals to their communities.*

- This Article should be interpreted within the context of the rest of UNDRIP to include determining responsibilities of people or corporations engaging in placer mining toward Indigenous communities. Until such time as those responsibilities are established and followed, this right is being breached through the continuation of placer mining in BC.

20. Article 38 states that:

> *States, in consultation and cooperation with indigenous peoples, shall take the appropriate measures, including legislative measures, to achieve the ends of this Declaration.*

- One such "appropriate measure" is the reversal and redress of the negative impacts of all placer mining in the Province of BC. The first step in doing that work in a good way should be to implement a moratorium on placer mining.

21. Article 43 states that:

> *The rights recognized herein constitute the minimum standards for the survival, dignity and well-being of the indigenous peoples of the world*

- Until these minimum standards are met, we urge the Province to strive for domestic standards that go beyond this minimum, in recognition of the reality that Indigenous people not only have the right to survive, but also the right to thrive, and the actions of the Province of BC can limit the ways that Indigenous peoples exercise that right. The Province should look to the International Initiative for Responsible Mining Assurance (IRMA) for guidance.

APPENDIX B

Inadequate Time Provided for Nations to Engage Under Various Mine Permitting Processes.

Notice of Work – Exploration Permits

Notice of Work applications are required for various mining exploration activities and involve both site-specific and multi-year area-based authorizations.[184] The process for Notice of Work applications involves a 150-day technical review and referrals/consultation period, which involves Indigenous consultation.[185] This period of review is governed by the Mines Inspector, who involves the Indigenous groups they determine have an interest in the process by providing them "with all NOW [Notice of Work] application materials" and a request to provide comments or questions "by a certain date."[186] The Provincial Government states that the timeline for Indigenous consultation varies and is based on many factors, including:

- *"[T]he scale and complexity of proposed activities;*
- *[T]he nature of an Indigenous group's interest in the area; and*
- *[A]ny agreements between the Indigenous group and provincial government regarding timelines for consultation…"*[187]

The engagement and timing of such engagement with Indigenous groups is at the discretion of the Mines Inspector.

Mines Act Permits

Permits for construction and operation activities are governed by the *Mines Act* (*"Mines Act* Permits"). The Province states that "Indigenous nations are also invited to review permit applications" and that the level of engagement "ranges from notification to deep level consultation, and potentially joint decision making, depending on the nature and location of the project and any

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[184] BC Ministry of Energy, Mines and Low Carbon Innovation, "Major Mines Authorizations Guide Version 1.1" (January 2023), at pg. 12, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/mmpo/major_mines_auth_guide.pdf>.
[185] BC Ministry of Energy, Mines and Low Carbon Innovation, "Mineral and coal exploration notice of work application companion" (March 2021), at pg. 80, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/exploration/now_companion_mar_2021_v5.pdf>.
[186] BC Ministry of Energy, Mines and Low Carbon Innovation, "Mineral and coal exploration notice of work application companion" (March 2021), at pg. 80, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/exploration/now_companion_mar_2021_v5.pdf>.
[187] BC Ministry of Energy, Mines and Low Carbon Innovation, "Mineral and coal exploration notice of work application companion" (March 2021), at pg. 80, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/exploration/now_companion_mar_2021_v5.pdf>.

applicable agreements or treaties."[188] Should the Chief Permitting Officer require the proponent to publish a notice in the BC Gazette and local newspaper regarding the application, the "public then has 30 days to view the application and to submit written comments."

The typical service timing for *Mines Act* permit applications (coordinated and non-coordinated) is 3-12 months and depends on the complexity of the project and the number of rounds of review. Coordinated authorizations processes are reserved for particularly complex Mines Act permits.[189] Stage 3 is the Review process which lasts between 4-8 months and involves the sharing of the application "formally" with Indigenous Nations.[190] The amount of time for each Indigenous Nation to respond is not clearly outlined; however this process usually undergoes "two to three rounds of review," which involves the coordinating body eliciting questions from Indigenous Nations and sending them to the proponent. It is unlikely that the timelines for Indigenous Nations to respond are much longer than 2 months at best.

Deemed Authorizations

Deemed authorizations are used to "allow activities that pose very low health, safety or environmental risk when carried out under an existing *Mines Act* permit…."[191] The BC Ministry of Energy, Mines and Low Carbon Innovation oversees these applications and will refer any applications to Indigenous Nations "at least 15 business days (21 calendar days) prior to the end of the 30-day notification period."[192] This means that Indigenous Nations would have between 30 and 15 days to respond to a deemed authorization application. In this case Indigenous Nations simply receive notification, with no real consultation or accommodation.

Summary

Unless Indigenous Nations are engaged directly by the statutory decision makers carrying out the review processes, they would be limited to the 30 days public review timeline for *Mines Act* permits and would not be considered for Notice of Work applications. Indigenous Nations are also limited to only notification and between 30 and 15 days to respond to deemed authorization applications.

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[188] BC Ministry of Energy, Mines and Low Carbon Innovation, "Major Mines Authorizations Guide Version 1.1" (January 2023), at pg. 14, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/mmpo/major_mines_auth_guide.pdf>.
[189] BC Ministry of Energy, Mines and Low Carbon Innovation, "Major Mines Authorizations Guide Version 1.1" (January 2023), at pg. 50, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/mmpo/major_mines_auth_guide.pdf>.
[190] BC Ministry of Energy, Mines and Low Carbon Innovation, "Major Mines Authorizations Guide Version 1.1" (January 2023), at pg. 56, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/mmpo/major_mines_auth_guide.pdf>.
[191] BC Ministry of Energy, Mines and Low Carbon Innovation, "Major Mines Authorizations Guide Version 1.1" (January 2023), at pg. 15, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/mmpo/major_mines_auth_guide.pdf>.
[192] BC Ministry of Energy, Mines and Low Carbon Innovation, "Major Mines Authorizations Guide Version 1.1" (January 2023), at pg. 15, online: <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/mmpo/major_mines_auth_guide.pdf>.

If Indigenous Nations are engaged directly by the Chief Permitting Officer or the Mines Inspector in permitting processes, the multiple rounds of review and complexity of the review process (i.e. coordination with multiple interest holders) likely results in limited response time for Indigenous Nations.

ADDITIONAL PHOTOGRAPHS OF PLACER MINING

Image 1: Placer gold mining on Pine Creek, near Atlin, BC (Photo courtesy of Tony Fogarassy)

Image 2: Recent placer mining operations remining legacy placer gold tailings on Spruce Creek, near Atlin, BC (Photo courtesy of Tony Fogarassy)

Image 3: Placer gold mining on Otter Creek, near Atlin, BC (Photo courtesy of Tony Fogarassy)