



AN OUNCE OF PREVENTION

HOW STRONG
ENVIRONMENTAL
LAWS CONTRIBUTE
TO A PROSPEROUS
AND RESILIENT
CANADA

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WEST COAST
Environmental Law

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INTRODUCTION

Canada is at a crossroads. Over the last decade, we've made great strides towards strengthening our environmental safety net to promote a healthy and sustainable Canada. Our emissions are going down, we are playing a leadership role in nature protection on the global stage, and support for Indigenous rights and Indigenous-led conservation is on the rise.

But unfortunately, unaffordability and tariff threats are being used as cover by corporations to advocate for fast-tracking risky resource projects in Canada. As the United States walks back climate and environmental protections to further Big Oil's agenda, some politicians in Canada are looking to do the same.

Claims that environmental laws stifle development are not new. Industry has been saying that environmental impact assessment will be the death knell of development since the first federal assessment process was introduced in 1973. In reality, it is infinitesimally rare that environmental impact assessment results in project rejection, and then only in extreme cases where projects pose an unacceptably high risk. Governments rarely if ever want to be on the record saying no to a project.

Natural resources and industrial projects can bring important benefits to communities. But they can also pose risks to those same communities as well as to the environment. Poor project design and lack of regulatory oversight can lead to disasters like the Mount Polley Mine tailings spill in 2014, the biggest environmental disaster in Canadian history. Gaps in our environmental safety net can lead to the accumulation of toxic and even radioactive elements in ecosystems that persist to this day, as is the case of the legacy of uranium mining in Elliot Lake, Ontario. And long-term and under-regulated industrial waste storage can lead to health impacts and risks so severe that people need to be evacuated, as happened with the Sydney Tar Ponds in Nova Scotia.

These are some of the examples illustrated in this report of environmental disasters and significant cumulative effects that have happened in Canada as a result of weak, poorly implemented or badly enforced environmental laws. These stories should serve as a wake-up call to all Canadians about the risks of proposed legislation allowing exemption of so called “national interest” projects from many environmental, health and safety standards, and similar provincial bills.

The report also provides examples of how environmental impact assessments and collaborative governance have helped improve project design to avoid unacceptable risks and deliver better results for communities. Environmental impact assessment and strong environmental laws help prevent environmental problems from occurring in the first place. Without them, disasters happen.

Strong environmental laws do not hurt the economy, they ensure that projects deliver real benefits without leaving Canadians on the hook for costly clean-ups. In this time of economic disruption, the last thing Canadians need is irresponsible deregulation of the laws that protect them. Especially now, as climate change continues to take a growing economic toll – along with the loss of lives and homes – we must not lose sight of what’s at stake.

Now is not the time to dismantle our safety net. It’s time to strengthen it.



PART 1

The Cost of Weak Environmental Laws

Restoration work that was required on the receiving Apetowun Creek following the tailings pond failure at Obed mine | Credit: Joanna Skrajny/Alberta Wilderness Association



DIRECT IMPACTS

Irresponsible development and weak regulatory oversight can lead to leaks, spills and other disasters that have significant environmental effects. This section describes just a few examples of when these accidents have occurred in Canada, and their environmental and economic toll.

The Obed tailings pond that failed | Credit: Joanna Skrajny/Alberta Wilderness Association



On August 4, 2014, a tailings dam at Imperial Metals' Mount Polley mine failed, releasing 25 billion litres of toxic sludge into Polley Lake, Hazeltine Creek and Quesnel Lake. | Credit: Philip N. Owens (UNBC)

Mount Polley Mine Tailings Spill LIKELY, BRITISH COLUMBIA

In 2014, a tailings dam at Imperial Metals' Mount Polley Mine failed, dumping approximately 25 billion litres of mine wastewater and tailings into Polley Lake, Hazeltine Creek and Quesnel Lake. It remains the biggest environmental disaster in Canada's history.



KEY FACTS

- Occurred August 4, 2014.
- 134.1 tonnes of lead, 2.8 tonnes of cadmium and 2.1 tonnes of arsenic released into the environment.
- Metals like copper continue to affect water quality in Quesnel Lake.
- Two bridges destroyed.
- Hazeltine Creek waterway wiped out.
- Cost to Imperial Metals: \$70 million.
- Cost to B.C. taxpayers: almost \$40 million.
- Mount Polley never went through an independent, public environmental assessment.

ABOUT THE DISASTER

Mount Polley is an open pit copper-gold mine located in south-central B.C. near the towns of Likely and Williams Lake, and on the traditional territories of Xat'sull First Nation, Williams Lake First Nation, Whispering Pines, Neskonlith and Northern Secwepemc te Qelmucw First Nations. Operated by the Mount Polley Mining Corporation (a subsidiary of Imperial Metals Ltd.), production began in 1997.

On August 4, 2014, the dam containing the tailings pond – a large slurry of mine waste materials mixed with water – failed catastrophically. The dam released approximately 25 million cubic metres (25 billion litres) of contaminated tailings into Polley Lake, Hazeltine Creek and Quesnel Lake,¹ one of the deepest fjord lakes in the world and important salmon habitat. Physical destruction from the initial water release destroyed two bridges and wiped out the Hazeltine Creek waterway. According to a Harmful Substances Report conducted after the incident, the spill released 134.1 tonnes of lead, 2.8 tonnes of cadmium and 2.1 tonnes of arsenic into the environment.² Heavier elements settled in Quesnel Lake over six kilometres of lakebed in a waste plume between one and two kilometres wide and up to 10 metres deep.³

Terrestrial impacts included erosion, tree loss and widening Hazeltine Creek from one metre to up to 45 metres wide, with most plant species in the “halo” zone dying as a result of suffocation from the deposited tailings sediment.⁴ Long-term impact studies are ongoing, with recent findings indicating that water temperatures and quality in Quesnel Lake are still not back to normal⁵ and that metals from the slurry released into the waterways persist at potentially toxic levels.⁶

The Mount Polley Mine was approved by the B.C. Ministry of Mines in 1992,⁷ four years before B.C. got its first *Environmental Assessment Act*. Imperial Metals had to prepare an Environmental and Socioeconomic Impact Assessment as part of its application, but the process was led by the proponent and its studies were not subject to a public review.

A 2016 investigation by the Auditor General of British Columbia found that the B.C. Ministry of Energy and Mines did not ensure that the tailings dams were designed or operated in accordance with the approved initial plan, nor the approved amendments to the original project certificate.⁸

COST TO REMEDIATE

Imperial Metals reports it paid more than \$70 million toward clean up of the spill, remediation of Hazeltine Creek, environmental impact studies, and monitoring of affected areas.⁹ Independent economist Robyn Allan also found B.C. taxpayers ended up paying almost \$40 million, comprised of “\$23.6 million in tax refunds for Imperial Metals and \$15.5 million in direct costs incurred by government departments” in the two-and-a-half years following the spill.¹⁰

Partial remediation of Upper Hazeltine Creek was completed in May 2018, including creation and installation of new fish habitat. Remediation work in lower Hazeltine Creek was completed in August 2021. There has been no remediation or removal of the spilled tailings slurry that has settled to the bottom of Quesnel Lake, as stirring it up could make the situation worse. A 2020 study found that copper and fine sediments in Quesnel Lake persist at levels that could affect the growth, reproduction and survival of fish species like salmon.¹¹



Mining operations at the Kearl Oil Sands project, belonging to Imperial Oil Ltd. (parent company of Exxon Mobil), near Fort McMurray Alberta on June 13, 2017. | Credit: The Canadian Press Images / Larry MacDougal / CP28409197

Imperial Oil's Kearl Oil Sands Mine Seepage

ATHABASCA OIL SANDS REGION, ALBERTA

In May 2022, Imperial Oil discovered a leak of toxic tailings from a storage pool at its Kearl Oil Sands Mine and reported it to the Alberta Energy Regulator. In February 2023, the company detected and reported a second, more serious leak of an estimated 5.3 million litres of toxic tailings. First Nations and the public were not notified for months.



KEY FACTS

- Approximately 5.3 million litres of toxic oil sands tailings released into muskeg, forest and waterbodies.
- It was the second leak in ten months.
- Hazardous substances released included mercury, benzene, arsenic and naphthenic acids.
- Leaks not disclosed until March 2023.

ABOUT THE DISASTER

In February 2023, an estimated 5.3 million litres of toxic tailings leaked from a tailings storage pond at Imperial Oil's Kearnal Oil Sands Mine into muskeg, forested land and waterbodies, including a fish-bearing waterbody and tributaries of the Firebag and Muskeg Rivers. The leak followed a smaller leak detected and reported in May 2022.¹² The wastewater contained hazardous substances such as mercury, benzene, arsenic, and naphthenic acids, posing serious risks to local ecosystems and communities.

The leak was not disclosed to the public or to downstream Indigenous communities like the Mikisew Cree First Nation and the Athabasca Chipewyan First Nation who rely on the land and water for sustenance and cultural practices until March 2023. The delayed notification meant they were unaware of potential contamination risks for months after the first leak.¹³

Effects of the leakage include:

Toxicity to aquatic life: The chemicals in the wastewater can be harmful or lethal to aquatic organisms such as fish, amphibians, and invertebrates. Even low concentrations of substances that were released, like mercury and arsenic, can accumulate in the food chain, threatening biodiversity and ecosystem health.

Human health and Indigenous rights: The spill occurred in proximity to the Athabasca Chipewyan and the Mikisew Cree First Nations, whose members depend on the land and water for fishing, hunting, and gathering. The contamination of water sources poses a risk to health, food security, and cultural practices, as well as potential long-term effects on well-being. Because neither Imperial Oil nor the Alberta Energy Regulator notified the First Nations of the leakage, they were not able to assess and mitigate potential risks to their health and safety for months after it happened.

While the project underwent a joint assessment by the federal and Alberta governments, experts say the leaks reveal serious flaws in federal and provincial environmental oversight, including lack of oversight over whether and how assessment findings and recommendations are implemented.¹⁴

COST TO REMEDIATE

The cost to remediate the damage remains unknown. In August 2024, the Alberta Energy Regulator imposed an administrative penalty of \$50,000 on Imperial Oil for the tailings leak, citing the company's failure to report the spill promptly and its inadequate response to mitigate environmental impacts.



Apetowun Creek, one kilometre from the Obed dam that was breached, prior to any remediation. | Credit: Joanna Skrajny/Alberta Wilderness Association

Obed Mountain Coal Mine Spill

HINTON, ALBERTA

In 2013, wastewater breached an earth berm at the Obed Mountain Coal Mine near Hinton, Alberta, releasing approximately 670 million litres of contaminated water into Apetowun and Plante creeks. The plume of metals and toxic chemicals travelled all the way to Lake Athabasca, over 500 km away.



KEY FACTS

- Approximately 670 million litres of wastewater released into two watersheds.
- Plume travelled to Lake Athabasca over 500 km away.
- Waters experienced immediate spikes in arsenic, metals, and carcinogenic polycyclic aromatic hydrocarbons.
- Metals and chemicals found in excess of limits for consumption or life along 40 km of the Athabasca River.

ABOUT THE DISASTER

The Obed Mountain Coal Mine is an open-pit bituminous coal mine near Hinton, Alberta that began operations in July 1984. On October 31, 2013, coal mine waste at the mine breached an earth berm, releasing approximately 670 million litres of water containing tonnes of sediment and coal fines into the Apetowun and Plante creeks watersheds. The plume of waste products then joined the Athabasca River, travelling downstream for a month before settling in Lake Athabasca near Fort Chipewyan, over 500 km away.¹⁵

The river's waters experienced immediate spikes in arsenic, metals, and carcinogenic polycyclic aromatic hydrocarbons. In the first month after the spill, water quality tests revealed the presence of metals and chemicals such as cadmium, arsenic, manganese, lead, mercury, and polycyclic aromatic hydrocarbons in excess of limits for consumption or life along the first 40 km of the Athabasca River.¹⁶ The area near Hinton is one of the most sensitive areas for fish species in Alberta and fish populations experienced adverse effects.¹⁷

An investigation by the Alberta Auditor General found that the main regulator, the Department of Environment and Sustainable Resource Development, did “not have adequate systems to regulate dam safety in Alberta,” “[a] number of improvements to dam safety regulatory processes are needed” and “critical elements of a well-functioning regulator are either not being performed or evidence is lacking that processes are being carried out as intended.”¹⁸ It also found that coal mine tailings ponds across Alberta were not being appropriately monitored, and that a 2013 inspection of the Obed mine did not monitor the dam that later failed.¹⁹

COST TO REMEDIATE

The cost to remediate the spill is unknown. The proponent was given monetary penalties of nearly \$4.5 million for the spill: \$3.5 million for two violations of the federal *Fisheries Act* and \$925,000 for one violation of Alberta's *Environmental Protection and Enhancement Act*.²⁰ Of the \$3.5 million *Fisheries Act* penalty, \$1,150,000 was put towards the Alberta East Slopes Fish Habitat and Native Fish Recovery Research Fund and \$2,150,000 was directed into the federal Environmental Damages Fund.²¹ From the provincial penalty, \$363,000 went to fund a dam safety research project related to coal mine water storage and \$370,000 went into an Indigenous youth environmental education project.²²



Aerial photo of the cleanup of the Rainbow pipeline break northeast of Peace River, Alta. on May 4, 2011. | Credit: Canadian Press / Ian Jackson CP2578390

Rainbow Pipeline Oil Spill

LITTLE BUFFALO, ALBERTA

The Rainbow Pipeline in northwestern Alberta released an estimated 4.5 million litres of crude oil into the environment, one of the largest spills in Alberta's history. Some of the oil cannot be cleaned from the muskeg and will persist in the soil and water, continuing to have toxic effects on organisms for years.



KEY FACTS

- 4.5 million litres (28,000 barrels) of crude oil spilled.
- Muskeg, forest and waterways contaminated.
- Pipeline down eight hours after leak first detected.
- Full remediation unlikely.

ABOUT THE DISASTER

In 2011, Plains Midstream Canada, a subsidiary of Plains All American Pipeline, reported a leak from its Rainbow Pipeline. The spill released an estimated 4.5 million litres (28,000 barrels) of crude oil into the environment²³ in the traditional territories of the Lubicon Lake Cree First Nation, contaminating beaver ponds and muskeg in a densely forested area.

Plains Midstream Canada became aware of the leak at 6:32 pm on April 28, 2011. The pipeline was shut down at 7:22 pm, then restarted and shut down another three times before being shut down for good at 2:50 am on April 29. An investigation by Alberta's Energy Resources Conservation Board (now the Alberta Energy Regulator) blamed the magnitude of the spill on the company's "practice of placing higher priority on continued operation of the pipeline over any potential impacts related to a pipeline leak,"²⁴ which the Regulator failed to correct.

Effects of the spill included:

Water contamination: Although the exact extent of water contamination was unclear, the risk to drinking water supplies and aquatic ecosystems was significant. The Government of Alberta identified problems with Plains Midstream's water monitoring and no detailed water contamination report was made public.²⁵

Impact on wildlife: Alberta's Energy Resources Conservation Board reported that the spill killed at least 79 birds, 11 beavers and other small animals.²⁶

Long-term ecological impact: Oil can persist in the soil and water, continuing to have toxic effects on organisms for years. Some of the oil can likely not be cleaned from the muskeg and will remain an ongoing ecological concern.²⁷

Health impacts: While the Government of Alberta claimed that air quality monitoring showed carbon monoxide and carbon dioxide at acceptable levels, members of the Lubicon Lake Cree First Nation community of Little Buffalo 30 kilometres from the spill reported headaches, nausea, burning eyes and feeling faint.²⁸

COST TO REMEDIATE

While the exact total cost of the cleanup was not publicly disclosed, Plains Midstream Canada claimed to have spent around \$110 million to clean up the Rainbow spill and another smaller spill the following year.²⁹ The company was also fined \$1.3 million for safety and regulatory violations associated with the spill.³⁰

Alberta's Ministry of Aboriginal Relations found that "full restoration of the localized area is unlikely."³¹



Crews work to clean up an oil spill on the North Saskatchewan river near Mainstone, Sask on July 22, 2016. | Credit: Jason Franson, Canadian Press

Husky Energy Oil Spill

MAIDSTONE, SASKATCHEWAN

In 2016, a buried pipeline owned by Husky Energy leaked about 225,000 litres of crude oil, with approximately 90,000 litres entering the North Saskatchewan River. The spill affected drinking water and forced several communities to shut down their water intake.



KEY FACTS

- Approximately 225,000 litres of crude oil leaked.
- Roughly 90,000 litres entered the North Saskatchewan River.
- Plume flowed hundreds of kilometres downstream.
- Several communities' water intake shut down.
- Estimated cost to remediate: \$140 million.

ABOUT THE DISASTER

In 2016, Husky Energy experienced a major oil spill when a buried pipeline ruptured and released about 225,000 litres (1,400 barrels) of crude oil, including 90,000 litres that entered the North Saskatchewan River and flowed downstream for hundreds of kilometres.³² Investigations found that the pipeline buckled due to ground movement, leading to the breach.³³

Several communities, including North Battleford, Prince Albert and Melfort were forced to temporarily shut down their water intake from the river due to contamination, affecting about 70,000 thousand people.³⁴ It also posed significant risks to the health of river ecosystems, including fish and migratory birds.³⁵

The pipeline is part of Husky Energy's Saskatchewan Gathering System. The Saskatchewan government granted the system's original two pipelines in 1997 and 1998 without requiring an environmental assessment.³⁶ In 2014, Saskatchewan's Ministry of Environment determined that a 23-kilometre expansion of the system did not require an environmental assessment.³⁷

COST TO REMEDIATE

Husky Energy claims that it cost \$140 million to remediate the spill.³⁸ The company says it recovered 90% of the spilled oil, and for at least two years following the spill First Nations communities stopped fishing, trapping and farming activities in affected lands and waters.³⁹ Husky was fined \$3.8 million for violations of federal and provincial environmental laws.⁴⁰



CUMULATIVE EFFECTS

Not all environmental disasters are caused by one-off events. Some, like the examples in this section, are the cumulative effects resulting from years of mismanagement – or ‘death by a thousand cuts.’

Uranium Tailings #5, Elliot Lake, Ontario, 1995 (detail). | Credit: Photo © Edward Burtynsky, courtesy Paul Kuhn Gallery, Calgary / Nicholas Metivier Gallery, Toronto



The paper mill in Dryden, Ont., is located upstream from Grassy Narrows. A former owner of the mill operated a chemical plant on the site that dumped 9,000 kg of mercury into the water in the 1960s and '70s. | Credit: Ed Ou

Dryden Chemical Plant Mercury Release into the ENGLISH-WABIGOON RIVER, ONTARIO

In 1962 the Dryden Chemical plant began dumping untreated mercury waste into the Wabigoon River, polluting the downstream waters and soil of the English-Wabigoon River system, Winnipeg River and Lake Winnipeg.



KEY FACTS

- Approximately 20,000 pounds of mercury released into the river.
- 90% of the population of Grassy Narrows First Nation suffer symptoms of mercury poisoning.
- Ontario remediation trust fund: \$85 million.
- Estimated federal contribution to a mercury care facility: \$82 million.
- Remediation has yet to begin.

ABOUT THE DISASTER

Dryden Chemical, a subsidiary of Reed International, was a chlor-alkali plant that manufactured paper-bleaching materials for Reed's pulp and paper mill. It was located near the Wabigoon River in Northwestern Ontario, about 200 kilometres from the Manitoba border and upstream of Grassy Narrows and Whitedog First Nations. In 1962, Dryden Chemical began dumping untreated mercury waste into the Wabigoon River in Northwestern Ontario. Over the course of the next fifteen years the plant released an estimated ten metric tonnes (20,000 pounds) of mercury into the river, polluting the downstream waters and soil of the English-Wabigoon River system, eventually spreading through the Winnipeg River to Lake Winnipeg. Following investigations by federal and provincial officials in 1970, Dryden Chemicals stopped dumping waste directly into the river, and instead stored it onsite for later disposal, eventually phasing out the use of mercury and decommissioning the plant in 1975.

The Anishinaabe community of Grassy Narrows First Nation, located approximately 100 km downstream from the Dryden Chemical company, suffered significant adverse effects caused by mercury poisoning, and is still grappling with the long term and intergenerational health, economic, social and cultural impacts. Studies estimate that 90% of Grassy Narrows' population have symptoms of mercury poisoning including neurological problems ranging from numbness in fingers and toes, to seizures and cognitive delays.⁴¹

Current mercury levels in fish remain high and consumption advisories are still in effect in many parts of the river system. Further, industrial discharge from the Dryden Fibre Canada paper mill is exacerbating the mercury contamination in the Wabigoon River.⁴² Remediation has yet to begin,⁴³ and there are concerns of ongoing toxic waste leaks from undisclosed or unknown historic waste storage facilities.⁴⁴

The plan to dump the waste never underwent an environmental assessment.

COST TO REMEDIATE

In 2017 the Ontario government established an \$85 million trust to fund remediation and passed the *English and Wabigoon Rivers Remediation Funding Act*.⁴⁵

In 2020, the federal government committed \$19.5 million for a mercury treatment medical center to be constructed at Grassy Narrows along with \$68.9 million for operations and maintenance in 2021. Since then, construction cost estimations have grown to approximately \$81.6 million.⁴⁶

Grassy Narrows and Whitedog First Nations sued Dryden Chemicals, Ontario and the federal government for damages in 1977. The lawsuit was dismissed, but the governments of Canada and Ontario, as well as Reed Limited and Great Lakes Forest Products, [reached a legal settlement](#) with the Grassy Narrows and Wabaseemoong First Nations, providing nearly \$17 million in compensation (\$34 million in 2016 dollars) for the health effects of mercury in their communities.⁴⁷



Uranium Tailings #12, Elliot Lake, Ontario, 1995. | Credit: Photo © Edward Burtynsky, courtesy Paul Kuhn Gallery, Calgary / Nicholas Metivier Gallery, Toronto

Uranium Mining in the ELLIOT LAKE AREA, ONTARIO

Four decades of poorly managed uranium mining near Elliot Lake, Ontario, coupled with a tailings spill of contaminated water in 1993, caused radioactive elements and other toxins to leach into groundwater and surrounding ecosystems. The toxins have contaminated soil, water, and wildlife, and have affected human health in the area.



KEY FACTS

- Approximately 102 million tonnes of tailings remain stored across 920 hectares.
- Two million litres of contaminated water spilled from the Stanleigh Mine.
- Health impacts include respiratory problems and skin rashes.
- Concerning levels of soil radioactivity and radon in homes continues to be reported.
- Environmental damage is ongoing.
- Remediation will take decades.
- Some areas likely to remain contaminated indefinitely.

ABOUT THE DISASTER

Between the 1950s and 1990s, 12 uranium deposits were exploited near Elliot Lake, Ontario to supply militaries and nuclear power facilities.⁴⁸ By the 1980s global demand for uranium began to decline, and the last operating mines in the region closed in 1996. Together, the mines left around 160 million tonnes of exposed waste rock tailings across 920 hectares.⁴⁹

Uranium mine tailings contain sulphide minerals, which create the potential to generate acid drainage, as well as heavy metals like the radioactive isotopes thorium and radium.⁵⁰ During the uranium boom of the 1950s and 1960s, mining companies at Elliot Lake stored tailings underwater in nearby lakes or in specially constructed containment areas, often in former mining pits or low-lying areas near water bodies. In August 1993, two million litres of contaminated water spilled from a tailings site at Rio Algom's Stanleigh Mine into nearby McCabe Lake.⁵¹ The radioactive elements in the tailings leached into the groundwater and surrounding ecosystems, contaminating soil, water, and wildlife.

While the mines were built before environmental impact assessment processes were in place, in 1996, a panel appointed to assess the decommissioning of four uranium mines in the Elliot Lake region found that together, the contaminants pose “a permanent and significant environmental hazard.”⁵² Environmental effects of the uranium operations include:

- **Health impacts:** Residents reported respiratory problems and skin rashes among children who swam in the rivers. By 1976, Health and Welfare Canada advised residents to stop drinking water from local rivers. Increased levels of cancer and mortality were noted in miners.⁵³
- **Impacts on Indigenous peoples:** Serpent River First Nation reports ongoing environmental damage impacting livelihoods and food and harvest sources, with members unable to use their land or consume local fish.⁵⁴
- **Legacy effects:** To this day, people report high levels of radon in their homes. In some cases, testing has shown radon occurring at more than four times the Health Canada Guideline, and radiation exposure up to 15 times higher than the annual limit.⁵⁵

COST TO REMEDIATE

The cost to remediate the accumulated contamination is unknown. Costs include the management of uranium tailings, groundwater treatment, site clean-up, and long-term monitoring of environmental and health impacts.

In 1988, the federal government provided \$5.7 million to remove debris from a sulphuric acid plant built in Serpent River First Nation territory to process uranium from the mines.⁵⁶ In 2007, remediating two major uranium mines in northwest Saskatchewan cost approximately \$24.6 million, which was shared by the federal and provincial governments.⁵⁷ By 2019, that total had reached \$280 million.⁵⁸

Remediation remains ongoing. Various government agencies have overseen efforts like the removal of uranium tailings, treatment of contaminated water, and capping of contaminated areas to reduce exposure. However, full restoration of the environment is not possible, and some areas will likely remain contaminated forever.⁵⁹ The Canadian Nuclear Safety Commission acknowledges that uranium tailings management around Elliot Lake was inadequate.⁶⁰



This aerial view of Sydney, Nova Scotia taken in 2008 shows part of the infamous “tar ponds” which have been called North America’s worst environmental disaster. The water of Muggah Creek flows by the old coking operations before spilling into the tidal estuary. The ponds contain approximately 700,000 tonnes of toxic sludge. | Credit: Lenn Wagg / Canadian Press

Sydney Tar Ponds

WINTERING COVE, NOVA SCOTIA

The Sydney tar ponds were a toxic waste site in Nova Scotia created by decades of industrial activity, primarily from a steel manufacturing plant and coke ovens. The contamination severely impacted fish and wildlife and local residents suffered increased risks of cancer, respiratory diseases, stillbirths and major birth anomalies due to the air and water pollution.



KEY FACTS

- One of the largest environmental disasters in Canadian history.
- 700,000 tonnes of toxic chemical contaminants.
- Polycyclic aromatic hydrocarbons, benzene, and other carcinogens seeped into soil and groundwater.
- Sydney Harbour closed to lobster fishing due to contamination.
- Residents evacuated due to the health risks of the pollution.
- For a decade, stillbirth and major birth anomaly rates in Sydney were 27% higher than in the rest of Nova Scotia.
- Cost to remediate: \$397.7 million.

ABOUT THE DISASTER

In 1899, the Dominion and Iron Steel Company began building a steel mill in Wintering Cove, Nova Scotia. One of North America's largest steel manufacturers, by 1912 it was producing approximately half the steel produced in Canada.⁶¹ Its coke oven – the chamber where coal is heated until it turns into coke, a key ingredient for making metallurgic iron – produced toxic wastes that included polycyclic aromatic hydrocarbons (PAHs), benzene, kerosene and other carcinogens.⁶²

That waste was then poured into a brook, where it collected in the Muggah Creek tidal estuary that flows into Sydney Harbour.⁶³ The Tar Ponds covered 33 hectares and contained an estimated 700,000 tonnes of contaminated material. An adjacent 72-hectare site where the coke ovens were located contained an additional 300,000 tonnes of contamination.⁶⁴ In total, over one million tonnes of contaminated soil and sediments were deposited in a 20km radius around the Sydney Tar Ponds.⁶⁵ In 1998 residents in Sydney found toxic ooze seeping into their basements, and in 1999 residents had to be evacuated.⁶⁶ The Tar Ponds are considered one of the largest environmental disasters in Canada's history.⁶⁷

Environmental effects included:

Impacts on fish and wildlife: The contamination severely impacted local wildlife, particularly aquatic species in the nearby waterways.⁶⁸ In 1980, the Department of Fisheries and Oceans found high levels of PCB, mercury, lead and polynuclear aromatic hydrocarbons in lobster in Sydney Harbour. Two years later it closed lobster fisheries in the area.⁶⁹ Other species where bioaccumulation of toxins occurred included mussels, crabs, phytoplankton and Winter Flounder.⁷⁰

Human health effects: Local residents faced increased risks of cancers (including lung and skin cancer), respiratory diseases, multiple sclerosis and Alzheimer's due to air and water exposure to the chemicals.⁷¹ One study found that rates of major congenital anomalies in newborns were 25% higher in Sydney than the rest of Nova Scotia.⁷²

COST TO REMEDIATE

Initial plans to remediate failed. In 1986, Canada and Nova Scotia signed a \$34 million agreement to dredge the tar ponds and pump the sediments through a mile-long pipeline to a fluidized bed incinerator and power plant. The incinerator was completed in 1994, but the pipeline system proved unable to handle the thick, debris-laden sediment. It was also discovered that some of the sediments contained PCBs that the incinerator was not approved to burn and the project was terminated in 1995.⁷³

In 2004, the Governments of Canada and Nova Scotia announced a 10-year plan to clean up the Sydney tar ponds and coke ovens. A special operating agency of the Nova Scotia government, the Sydney Tar Ponds Agency, managed the cleanup on behalf of the two governments, in partnership with the Department of Public Works and Government Services. Remediation took nine years and cost \$397.7 million.⁷⁴ The federal government contributed the largest share of the funding, with significant support from the Government of Nova Scotia and the local municipality. The cleanup was completed in 2013.

Neither the steel mill, the coke ovens nor the dumping of the contamination were subject to environmental impact assessments.



Workers standing on top of a tailings pile at Britannia Mine c.a. 1915. | Credit: Vancouver Public Library, Special Collections, VPL 9951B

Britannia Mine Contamination

BRITANNIA BEACH, BRITISH COLUMBIA

For 70 years, lack of effective regulation of mining and waste disposal allowed the Britannia Mine to dump large quantities of toxic tailings and acid mine drainage into unlined pits, as well as directly into Britannia Creek and Howe Sound, causing soil contamination and long-term damage to the aquatic ecosystem.



KEY FACTS

- Considered one of the worst sites of water contamination by metals in North America.
- 44 million tonnes of tailings dumped above Howe Sound.
- 4-40 million litres of acid mine drainage deposited directly into Britannia Creek and Howe Sound daily.
- Canada's worst point source for pollution at the time.
- Acid mine drainage contaminated rivers, creeks and Howe Sound.
- Contamination impacted biodiversity and harmed fish, shellfish, and other marine organisms.
- Total cost of cleanup: approximately \$100 million.

ABOUT THE DISASTER

The Britannia Mine is located at Britannia Beach on the eastern shore of Howe Sound, approximately 50 km north of Vancouver. The project included 80 km of underground workings and five open pits. From 1904 to 1974, it mined and milled approximately 47 million tonnes of copper, zinc, lead, cadmium, silver and gold. It also produced 44 million tonnes of tailings that were deposited on a marine subtidal near Britannia Beach, and every day discharged between four and 40 million litres of acid mine drainage directly into Britannia Creek, where it flowed into Howe Sound.⁷⁵

This unchecked contamination had significant impacts.

Water contamination: In 1999, dissolved copper concentrations at the mouth of Britannia Creek exceeded B.C.'s water quality guidelines by 20 times.⁷⁶ Other contaminants included elevated amounts of zinc and cadmium, with one study estimating that 300 kg per day each of copper and zinc were discharged into Howe Sound.⁷⁷

Impacts on fish and wildlife: The dissolved copper in Howe Sound occurred in such high quantities that it was lethal to caged salmon and mussels. It also affected salmon fry, algae and invertebrates in Howe Sound, was toxic to fish food sources like midge larvae, and impaired sand dollar and blue mussel growth.⁷⁸

Impacts on Indigenous Peoples: Britannia Mine is located on the traditional territories of the Squamish Nation, and its contamination affected the lands and waters of the Musqueam and Tsleil-Waututh Nations. Fish and other marine mammals are an important food source for these First Nations, and contamination from Britannia Mine affected that food supply posing a health risk to the communities that rely on it.⁷⁹

COST TO REMEDIATE

By the 1990s, the seriousness of the contamination and its impact on surrounding ecosystems and communities led to heightened public awareness and increased pressure on government authorities to act. In 1992, the Britannia Mine Preservation Society was formed, and the British Columbia Ministry of Environment and the federal government took on a direct role in the cleanup.⁸⁰ Main remedial actions included the installation of a groundwater management system and a water treatment plant, the relocation of contaminated soils, drainage enhancements and surface water diversions.⁸¹

The total cost of the Britannia Mine cleanup was estimated in 2007 to be \$95 million.⁸² Following negotiations pursuant to B.C.'s Contaminated Sites Regulation, Britannia Mine's owners contributed \$30 million towards the cleanup.⁸³

Despite these remediation efforts, post-remediation monitoring reveals ongoing metal contamination and experts say that full remediation is likely impossible.⁸⁴



Chief Marvin Yahey and members of Blueberry River First Nations outside the Law Courts in Vancouver, BC, Musqueam, Squamish & Tsleil-Waututh Territories. | Credit: Trevor Leach/David Suzuki Foundation

Cumulative Impacts of Industrial Development on Blueberry River First Nation

TREATY 8 TERRITORY, BRITISH COLUMBIA



The unchecked cumulative effects of industrial development in Treaty 8 territory in northeastern British Columbia have become so significant that the Supreme Court of British Columbia found that the province failed to uphold its Treaty obligations to Blueberry River. The Court ordered the province to stop authorizing activities that breach Treaty promises and negotiate timely enforceable mechanisms to manage its cumulative effects in Blueberry River territory.

KEY FACTS

- 73% of Blueberry River territory is within 250 metres of an industrial disturbance.
- 84% is within 500 metres of an industrial disturbance.
- Active petroleum and natural gas tenures cover 69% of Blueberry River's territory.
- Less than 14% forest landscape remaining.
- Since 2013, the British Columbia government has authorized more than:
 - 2,600 oil and gas wells,
 - 1,884 km of petroleum access and permanent roads,
 - 740 km of petroleum development roads,
 - 1,500 km of new pipelines and 9,400 km of seismic lines, and
 - 290 cut blocks.

ABOUT THE DISASTER

Despite numerous laws, regulations and policies purporting to manage the effects of development in British Columbia, northeastern B.C. suffers the most significant environmental effects in the province outside of the Lower Mainland. In 2021, the Supreme Court of British Columbia found that by causing and permitting the rampant cumulative effects of industrial activities in Treaty 8 territory, the Province of British Columbia has breached its Treaty obligations to Blueberry River First Nation.⁸⁵

Blueberry River First Nation territory totals 3,832,749 ha and contains 18 watershed groups.⁸⁶ Cumulative impacts in the region stem from agriculture, transmission lines, roads, oil and gas, forestry, mining, hydropower and wind projects.⁸⁷

According to the Atlas of Cumulative Landscape Disturbance in the Traditional Territory of Blueberry River First Nations, as of 2016:⁸⁸

- 73% of Blueberry River territory was within 250 metres of an industrial disturbance.
- 84% was within 500 metres of an industrial disturbance.
- Blueberry River territory had less than 14% intact forest landscape remaining.
- Active petroleum and natural gas tenures covered 69%.
- There were 110,300 km of linear features – or 2.88 km of linear disturbance per square kilometre – including roads, transmission lines, seismic lines and pipelines.
- 195,091 hectares of the territory had been logged since 1950.
- The total area of pipeline tenure was 27,918 hectares.
- The total length of the pipeline tenure was nearly 14,000 km.

Between 2013 and 2016 alone, approximately 290 forestry cut blocks were harvested and the province authorized construction of more than 2,600 oil and gas wells, 1,884 km of petroleum access and permanent roads, 740 km of oil and gas roads, 1,500 km of new pipelines and 9,400 km of seismic lines in the territory.⁸⁹

The B.C. Supreme Court found that as a result of these unchecked cumulative effects, Blueberry River's Treaty rights "have been significantly and meaningfully diminished."⁹⁰ Specifically, the cumulative effects have infringed:

Blueberry River's way of life: The Court found that Blueberry River's way of life is connected to the land, and members of the Blueberry River First Nation continue to hunt, trap, fish and gather in their lands as they have since time immemorial. This way of life depends on healthy forests, wildlife habitat, clean water and the ability to access those places.⁹¹ The cumulative effects of industrial development have significantly and meaningfully diminished Blueberry River members' way of life, including their ability to hunt, fish and trap.⁹²

Disturbance: The core of Blueberry River's territory has been so heavily impacted by industrial development that by 2018, 85% of it was within 250 metres of an industrial disturbance and only 14% intact forest remained.⁹³

Wildlife: The B.C. Supreme Court also found that in the territory, moose and caribou populations had declined, as had populations of marten, fisher and other smaller fur bearing species. These declines had significantly affected members of the Blueberry River First Nation's ability to hunt and trap.⁹⁴

Infringement of Blueberry River's Treaty rights: The cumulative disturbance of the land and wildlife populations have occurred to such a degree that the Court found that Blueberry River First Nation can no longer meaningfully exercise its Treaty rights in its territory, and therefore its rights under Treaty 8 have been infringed.⁹⁵

COST TO REMEDIATE

The Court found that the province's existing regulatory regime for authorizing and managing the effects of industrial development had failed to protect Blueberry River's meaningful exercise of their Treaty rights.⁹⁶ It held that the parties must "act with diligence to consult and negotiate for the purpose of establishing timely enforceable mechanisms to assess and manage the cumulative impact of industrial development" in Blueberry River territory.⁹⁷

In 2023, Blueberry River First Nation and the province entered into the Blueberry River First Nation Implementation Agreement, which sets out principles and measures relating to wildlife management, land protections, forestry, oil and gas, restoration and land use planning.⁹⁸ For example, it caps new oil and gas disturbance at 200 hectares per calendar year in one area and 550 hectares per calendar year in the remainder of the territory.⁹⁹ The parties also agreed to establish new land protection measures and B.C. agreed to use best efforts to have forestry companies defer harvesting and surrender commercial harvesting rights.¹⁰⁰



PART

2

Strong Environmental Laws Deliver Better Development

Ekati Diamond Mine | Kevin O'Reilly/Mining Watch



ENVIRONMENTAL IMPACT ASSESSMENT

Northern shoveler ducks | Kevin O'Reilly/Mining Watch



Geologists in Labrador, Canada in June 2008. The Voisey's Bay Mine is visible in the background. | Credit: Joshua Duggan via Flickr

Voisey's Bay Mine-Mill Project

LABRADOR

From 1997-1999, the proposed Voisey's Bay nickel-copper-cobalt mine underwent a joint environmental assessment conducted by the governments of Canada and Newfoundland and Labrador, the Labrador Inuit Association and the Innu Nation. The assessment identified the risk that high production rates and a short project lifespan would result in a boom-and-bust cycle for local communities. The proponent agreed to lower its production, and the project continues to this day.



KEY FACTS

- Assessment commenced in January 1997.
- Panel report issued March 1999.
- 21 scoping sessions and 32 days of hearings.
- Dozens of environmental, social and economic effects identified.
- 107 recommendations made.
- Assessment extended the project lifespan and ensured jobs for local communities.
- In 2024, the mine employed approximately 4,200 people.

ABOUT THE ASSESSMENT

Voisey's Bay is a nickel-copper-cobalt mine located in northern Labrador. In 1997, Canada, Newfoundland and Labrador, the Labrador Inuit Association and the Innu Nation agreed to jointly conduct an environmental assessment of the project. Together, they appointed a Joint Panel comprised of five people with relevant expertise and experience. As part of its work, the Joint Panel identified three sustainability principles to guide its assessment of whether and how the project could deliver lasting benefits with minimal environmental cost. Those principles were:¹⁰¹

- Would the Project cause serious or irreversible harm to plants and animals and their habitats?
- Would the Project affect country foods or prevent Aboriginal people from harvesting them, either now or in years to come?
- Would the Project bring social and economic benefits to many people in northern Labrador or to only a few, and would these benefits last?

The Joint Panel held 21 initial public sessions to determine the scope of the assessment and conducted 32 days of hearings. It made 107 recommendations, many of which have been acted upon.¹⁰²

KEY OUTCOMES

Jobs and economic benefits: The initial project application indicated the mine's processing capacity would be 20,000 tonnes per day. The Joint Panel concluded that at that level of production, the project might have only provided benefits to one generation of community members. It recommended that the proponent ensure that the project last at least 20 years to avoid a "boom and bust" cycle. The company agreed to cut production to 6,000 tonnes per day, giving the project an anticipated life span exceeding 30 years.¹⁰³ Pre-employment training was offered in communities throughout Labrador through the Joint Voisey's Bay Employment and Training Authority.¹⁰⁴ As of 2024, approximately 4,200 people were employed in the mine's operations and projects teams, of which 30% were Indigenous.¹⁰⁵

Impacts and benefit agreements: In line with recommendations made by the Panel, the proponent signed Impacts and Benefits Agreements with the Nunatsiavut Government and Innu Nation. It established an Innu Employment Coordinator and an Inuit Employment Coordinator to facilitate the hiring of Innu and Inuit and to provide access to information about the project to local residents. An Inuit Employee Advisory Committee was also developed to provide advice to site management.¹⁰⁶

Environmental monitoring and review: Following the assessment, the proponent implemented an Environmental Protection Plan that consolidates provincial, federal, and internal corporate environmental guidelines. Environmental management and monitoring involve a high level of Indigenous participation and incorporate traditional knowledge of Indigenous peoples. Vale Inco currently funds on-site Aboriginal Environmental Monitors who report to the Nunatsiavut Government and Innu Nation.

Shipping and wildlife concerns: The panel recommended that the proponent determine, in consultation with local communities, how shipping through landfast ice would affect wildlife and the safety of other ice users. The proponent put mitigation measures in place, including changing shipment schedules to avoid times when local ice users are most active, providing advance notice about shipping schedules to communities, and implementing wildlife and ice condition monitoring programs.



Ekati Diamond Mine site | Credit: Kevin O'Reilly/Mining Watch

Ekati Diamond Mine

LAC DE GRAS REGION, NORTHWEST TERRITORIES

The Ekati Diamond Mine was Canada's first diamond mine. From 1994-1996, the project underwent a federal assessment by an Environmental Assessment Review Panel, which found that while the project would deliver significant benefits for the Northwest Territories, it also could cause social and cultural harms. The assessment identified management actions to minimize those harms, as well as a socioeconomic effects monitoring program, both of which have helped communities enjoy the economic benefits of the project while avoiding risks.



KEY FACTS

- Assessment held from 1994-1996.
- 7 technical sessions, 3 general sessions and 8 public hearings.
- Identified socioeconomic effects, safety concerns, risk to water and air quality, and impacts on vegetation, fish and wildlife.
- 24 recommendations for maximizing benefits, minimizing harms, and monitoring effects.
- Ekati mine operates to this day.

ABOUT THE ASSESSMENT

The Ekati Diamond Mine, located in the Lac de Gras region of the Northwest Territories approximately 300 km northeast of Yellowknife, was Canada's first diamond mine. From 1994-1996 it underwent an assessment led by an Environmental Assessment Review Panel appointed by the federal government.

While the Panel concluded that the mine would have overall significant benefits for the Northwest Territories, it also identified environmental and socioeconomic risks. In particular, it identified a number of concerns raised by community members regarding potential complications arising from the new sources of income. As the Panel described:¹⁰⁷

Baseline work provided in the [Environmental Impact Statement] and confirmed by participants at the hearings indicated that social problems in the communities are “moderate to severe” and are closely related to substance abuse. Communities are very worried about these issues, and are in different stages of mobilizing themselves to deal with them. Participants expressed anxiety that new sources of employment income may increase drug consumption, and therefore family violence and social disruption, causing pain for the communities and straining the limits of social and health services. Furthermore, the fear was expressed that the difficulties of coping with fortnightly absences of family members would increase stress in families already dealing with cultural disruption.

...

It was also suggested that continuing uncertainty about job prospects and rising unemployment caused by recent layoffs also contributes to stress and has caused the case-load for social services in Yellowknife to increase.

The Panel also identified potential socioeconomic hardship caused by layoffs when the mine eventually closed. However, the Panel also concluded that these risks could be addressed, which would allow the mine to contribute overall to community and economic wellbeing. The Panel concluded that if the mine followed its recommendations, it would be an example of sustainable development.¹⁰⁸

KEY OUTCOMES

The Panel made 24 recommendations for how to maximize the project's benefits and avoid and mitigate its risks. Among these were measures related to health, education, land use, cultural practices, employment, financial management assistance programs, social services and infrastructure. In turn, the proponent committed to investing in “local job creation, community meetings, and cross-cultural training; education and employment training programs; and community-based committees to deal with emerging social health problems and help Northerners not traditionally engaged in a money-based economy to deal with stress and financial management.”¹⁰⁹

Also thanks to the assessment, monitoring committees were formed to monitor environmental, socioeconomic and health effects. These committees exist to this day and include community members, providing another source of employment and helping ensure community values and needs are being addressed.¹¹⁰



The Region of Waterloo Waste Management site includes a recycling centre, composting facility, and household hazardous waste disposal area. | Credit: Region of Waterloo

Waste Management and the Waterloo Region Landfill

WATERLOO, ONTARIO

From 1983-1991, the Region of Waterloo moved from landfilling to developing a Waste Management Master Plan, which was subject to an assessment under Ontario's *Environmental Assessment Act*. Thanks to the assessment, Waterloo abandoned its initial plan to open a new rural waste disposal site and instead proposed a more modest expansion of its main existing site while also adopting recycling, composting and other programs to reduce waste and avoid disruption to rural communities.



KEY FACTS

- Region of Waterloo initially planned to build an additional waste disposal site near rural communities.
- The *Environmental Assessment Act* required adequate evaluation and consideration of reasonable waste management alternatives.
- Pursuant to the assessment, the Region decided to invest in recycling, composting and other waste reduction programs.
- The new plan avoided unnecessary disruption to rural residents and facilitated more sustainable behaviour.

ABOUT THE ASSESSMENT

In the 1970s, the Region of Waterloo's landfills were approaching capacity limits. The Region contracted engineering consultants to begin the process of identifying sites for new facilities.¹¹¹ In 1983, it decided to develop a comprehensive Waste Management Master Plan and continued with its search for a new waste disposal facility.

The Plan was subject to an environmental assessment under Ontario's *Environmental Assessment Act*, which required proponents to justify the purpose and rationale of their proposed projects, as well as show how the proposal compared to reasonable alternatives. The *Environmental Assessment Act* also defined "environment" as including socioeconomic and cultural factors in addition to biophysical ones.¹¹²

The assessment surfaced considerable opposition in the rural communities that had been identified as potential hosts of the new landfill. Urban participants also voiced a desire to pursue strategies to reduce waste. In response to these concerns, the assessment consultants began to identify options for waste reduction, reuse, recycling and recovery.¹¹³ Kitchener launched the very first curbside "blue box" program in 1983, with all seven municipalities in the Region of Waterloo participating by 1991.¹¹⁴ The process also resulted in the establishment of the Waterloo Region Landfill Committee, which continues to facilitate communication between residents and the Region and address issues arising from landfill monitoring and operations to this day.¹¹⁵

KEY OUTCOMES

Following the assessment, the city abandoned its initial plan to build an additional waste disposal site and instead expanded the capacity of an existing site while incorporating recycling, composting and other waste reduction programs into its Master Plan. Rather than a rural community being saddled with a landfill's traffic, smell and noise, the assessment "delivered significant improvement in socio-ecological system integrity, greater resource efficiencies and intergenerational equity, greater intragenerational fairness in the urban-rural distribution of benefits and burdens, and considerable learning and innovation gains for both waste management professionals and the broader public."¹¹⁶



A bull caribou at Wabusk Point (Hudson Bay, Ontario) | Credit: JHL3Photography via Flickr

Regional Assessment in the RING OF FIRE, ONTARIO

The Ring of Fire in Treaty 9 territory in Ontario's Far North is rich with minerals that could contribute to the energy transition. It is also Treaty 9 territory and the site of globally important carbon-rich peatlands. Experts say that irresponsible development in the Ring of Fire would be akin to exploding a 'carbon bomb,' and First Nations are divided on whether, where, when and how development should occur. In what is widely considered a precedent-setting success, in 2025 the federal government and 15 First Nations in the area agreed to terms of reference for a regional assessment that will identify and evaluate possible regional futures, including how development like mining might occur sustainably and in a manner that meets communities' needs.



KEY FACTS

- The Ring of Fire is comprised of boreal forest and peat bogs free from industrial development.
- More than 33,074 mining claims have been staked, covering 626,000 hectares.
- One square metre of peatland in northern Canada stores around five times more carbon than one square metre of tropical rainforest.
- If only 3% of the Ring of Fire is developed, 62 million tonnes of carbon dioxide equivalent could be released into the atmosphere.
- Fifteen First Nations and the federal government are cooperating on an assessment aimed at generating consensus on a vision of the future and ways to manage environmental effects in the region.

ABOUT THE ASSESSMENT

Regional assessments are different from project-level impact assessments in that they look at potential development in an entire region, not an individual project. They are generally considered to be one of the most effective tools for anticipating and identifying options for dealing with the cumulative effects of multiple activities in a region, although there is limited experience with them in Canada. Done well, they can identify where, when and what types of development should occur and what areas should be protected, how development and its effects can be collaboratively governed, provide greater certainty to proponents and help avoid conflict when projects are proposed.

The Ring of Fire area in Ontario's Far North, in Treaty 9 territory, is a prime candidate for a regional assessment. The region is rich with peatlands, which are a globally important carbon store. It is estimated that one square metre of peatland in northern Canada stores five times more carbon than one square metre of the Amazon rainforest.¹¹⁷ It is also a hotbed of interest in mining.

As of December 2023, there were 33,074 mining claims covering more than 626,000 hectares.¹¹⁸ While interest in developing these claims is high, there currently is no all-season road into the region, making accessing the minerals a challenge. Many of the region's First Nations communities lack road access, have unsatisfactory infrastructure and need more economic opportunities. But they are also committed to protecting their rights, lands and waters and traditional activities.

Roads have been proposed into the Ring of Fire, but with those roads come concerns about impacts in this largely undeveloped area, including the impacts of non-mining activities that could be enabled by the road access and induced by related activities. Studies estimate that that between 130 and 250 megatonnes of carbon dioxide equivalent could be released into the atmosphere.¹¹⁹

The Regional Assessment in the Ring of Fire is being conducted under the federal *Impact Assessment Act*. It is the first regional assessment under the Act to look at all types of potential development, not just one sector, and the first to be co-led by Indigenous communities.

Initially, the federal government and Ontario prepared a draft terms of reference without the partnership of First Nations in the area.¹²⁰ Those terms were criticized for failing to meaningfully involve First Nations and reflect their interests, for ignoring activities that will impact the region and for leaving out important environmental and socioeconomic effects.¹²¹ The federal Minister of Environment and Climate Change hit the reset button, met with the First Nations of Treaty 9 territory, jointly developed new draft terms of reference for public review, and in 2025 issued finalized terms of reference for the regional assessment in partnership with 15 First Nations in the region.¹²²

KEY OUTCOMES

Under its final terms of reference, the Regional Assessment in the Ring of Fire has the potential to chart a pathway for the future of the region that will provide clarity to proponents while respecting the rights of the First Nations who have stewarded their lands since time immemorial. It will be guided by a number of principles, including sustainability, a renewed relationship between Canada and Indigenous peoples, transparency and knowledge sharing.”¹²³ When concluded, the regional assessment will provide guidance on how the potential cumulative and other effects may best be managed to avoid adverse effects and enhance positive ones and how (and by what governance body or bodies) the needed follow-up steps would be determined and initiated.¹²⁴



COLLABORATIVE ENVIRONMENTAL GOVERNANCE

Grizzly Bear near Ekati Diamond Mine | Kevin O'Reilly/Mining Watch



Grizzly Bear in the Great Bear Rainforest | Credit: Province of British Columbia via Flickr

Great Bear Rainforest Agreement

CENTRAL AND NORTH COAST, BRITISH COLUMBIA

The Great Bear Rainforest Agreement is an historic framework for ecosystem-based management and collaborative co-governance on the North Pacific Coast.



KEY FACTS

- 70% of old-growth forest protected.
- Multimillion-dollar fund supports local economic development
- 550,000 hectares available for logging to support local jobs.
- First Nations have an increased stake in forestry sector.
- Area now under ecosystem-based management approach.
- One of the largest carbon offset projects in existence.

ABOUT THE ASSESSMENT

The Great Bear Rainforest Agreements between Coastal First Nations, Nanwakolas Council and the Province of B.C. secure the protection and sustainable use of a 6.4 million hectare area on the central and north coast. Supported by environmental groups and forestry companies, the Agreements are the result of years of land use planning and negotiations.

In addition to new protection designations, a shift from conventional forest management practices to ecosystem-based management in the region is codified by legal order.¹²⁵ Ecosystem-based management aims to ensure the coexistence of healthy, fully functioning ecosystems and human communities –maintaining both ecological integrity and high levels of human well-being.

KEY OUTCOMES

Key benefits of the Great Bear Rainforest Agreement include:

Forest conservation: Agreements between the B.C. government and First Nations led to establishing 114 Conservancies and other protection designations. With the *Great Bear Rainforest Land Use Objectives Order*, 85% of forests are protected and conserved.¹²⁶

Carbon offset revenue: Atmospheric Benefit Sharing Agreements provide a revenue stream for First Nations while helping store up to three million tonnes of carbon every year.¹²⁷

Community economic investments: Coast Funds was initiated to manage \$118 million in public and private funds for Indigenous-led conservation and economic development in the Great Bear Rainforest and Haida Gwaii. Through Coast Funds, since 2008 there have been investments of \$109.2 million in 439 conservation, sustainable energy, and economic development projects, with an additional \$296.8 million of investment leveraged for sustainable businesses and infrastructure development.¹²⁸

Community economic wellbeing: As a result of the Agreements and investment with Coast Funds, First Nations have created 1,253 new permanent jobs, employing 962 community members, and contributed to diversifying local economies by establishing 61 new businesses, and acquiring or expanding 62 existing businesses.¹²⁹

Research and habitat restoration: First Nations are leading robust research, habitat protection, restoration and monitoring initiatives. Since 2008, First Nations have conducted 396 scientific research and habitat restoration initiatives, benefitting 75 different species, including whales, bears, salmon, eulachon, kelp, and more.¹³⁰

Collaborative Co-governance: The *2024 Accord for Co-governance, Environmental Stewardship, Economic Renewal and Local Community Well-being in the Pacific North Coast* between B.C. and seven Coastal First Nations provides for governance arrangements that support the parties in collaboratively exercising their decision-making authorities, laws and jurisdiction.¹³¹



Mackenzie River Valley Approach, September 2018 | Credit: MikoFox via Flickr

Mackenzie Valley Co-Management Boards

MACKENZIE VALLEY, NORTHWEST TERRITORIES

In the Mackenzie Valley in the Northwest Territories, environmental impact assessment and regulation is governed by co-management boards jointly established by the Indigenous, territorial and federal governments. The co-management model helps avoid conflict, reduce duplication and make assessments and decision making more efficient.



KEY FACTS

- *Mackenzie Valley Resource Management Act* establishes an integrated system of land and water management covering approximately 700,000 square kilometres.
- Boards include:
 - Land use planning boards, which undertake planning for each Indigenous territory.
 - Mackenzie Valley Environmental Impact Review Board, which either reviews projects directly or appoints environmental impact review panels to conduct assessments.
 - Land and water boards, which regulate land and water use and waste disposal, and issue and manage land use permits and water licenses.
- Virtually all projects in the Mackenzie Valley fall within the assessment and regulatory powers of the co-management bodies.

ABOUT THE ASSESSMENT

In 1988, as the result of requirements of three settled land claims with Indigenous peoples in the Mackenzie Valley, the federal Parliament passed the *Mackenzie Valley Resource Management Act*.¹³² The Act establishes three types of co-management boards: land use planning boards for different Indigenous territories (settlement areas), the Mackenzie Valley Environmental Impact Review Board, and land and water boards for different settlement areas.

Almost all projects require land use permits or water licenses and so are governed by the Act.¹³³ Projects first undergo an environmental screening by the appropriate land or water use board, which determines whether the project could cause significant environmental effects or be a cause of public concern. If so, the project is referred to the Mackenzie Valley Environmental Impact Review Board for a full assessment either by the Board or a review panel.¹³⁴

KEY OUTCOMES

The assessment and regulatory regime in the Mackenzie Valley is widely considered to be among Canada's more efficient, effective and fair. Environmental impact assessments must occur within nine months, or 16 months if there is a public hearing.¹³⁵ These timelines do not include the time that proponents take to provide required information, and there is flexibility under the Act to extend the time limits when needed.¹³⁶ After it identifies and prioritizes the issues that an assessment will focus on, the Board may also establish shorter timelines.¹³⁷

These timelines do not come at the cost of participation or comprehensiveness. The Mackenzie Valley Environmental Impact Assessment Review Board is seen as a leader in considering not just direct and cumulative effects, but also of how effects interact with each other,¹³⁸ⁱ which helps ensure that assessments accurately reflect the true consequences of projects. Assessments are also highly participatory¹³⁹ and must consider any traditional knowledge and scientific information provided.¹⁴⁰ In fact, sessions allowing for deep and iterative dialogue between participants, assessment authorities and proponents' experts has helped make environmental impact assessments more efficient as it allows the assessment authorities to rely on the knowledge and expertise of participants to help scope assessments and predict projects' effects.¹⁴¹

CONCLUSION

Discussions about “streamlining” environmental impact assessments often frame efficiency in narrow terms – focusing on speed, cost and reduced bureaucracy.¹⁴² In this view, efficiency and effectiveness are at odds with each other. However, the examples in this report show that cutting corners can have the opposite effect. Environmental harm caused by inadequate assessment often demands more time, money and effort to fix than would have been required to prevent it through careful planning and oversight. As the saying goes, an ounce of prevention is worth more than a pound of cure.

True efficiency in environmental assessment is not simply about making processes shorter. It means achieving meaningful environmental, economic and social objectives, while using time and resources wisely.¹⁴³ The urgency of the climate and biodiversity crises, along with the obligation to respect Indigenous peoples’ rights and authority under the *United Nations Declaration on the Rights of Indigenous Peoples*, require more than speed.¹⁴⁴ Fast-tracking projects that undermine progress towards a stable climate, nature protection and reconciliation with Indigenous peoples is not efficient – it is counterproductive.

Happily, there are ways to improve the efficiency of environmental impact assessment and regulatory approval processes without undermining their efficacy or fairness. Strategic land use planning such as in the Great Bear Rainforest or conducting regional assessments at the watershed level, as in the Regional Assessment in the Ring of Fire, can provide important information in project assessments, easing the burden on proponents. Similarly, strategic assessments that consider the effects of multiple projects, such as the regional assessments of offshore wind energy in Nova Scotia and Newfoundland and Labrador,¹⁴⁵ can help identify where, when and how development can occur in ways that work for communities and the environment before specific projects are proposed. Both regional and strategic assessments can make project-level assessments and decision making more efficient by reducing duplication and uncertainty, avoiding conflict, improving the assessment and management of cumulative effects, and ensuring that development helps achieve community, regional and national goals.¹⁴⁶

At the project level, starting assessments at the earliest stages of project design and involving Indigenous peoples, the public, knowledge holders and independent experts in deliberative dialogue with assessment authorities and proponents, such as through working groups and technical sessions like the Mackenzie Valley Environmental Impact Assessment Review Board employs, can help focus assessments on key issues.¹⁴⁷ Similarly, involving government regulatory and permitting authorities in all stages of assessments helps streamline assessment and post-assessment regulatory permitting processes.¹⁴⁸

Substitution, where the federal government accepts a provincial assessment in place of its own, is often touted as a way of reducing duplication. However, substitution can actually undermine true efficiency if the provincial assessment fails to adequately understand and protect federal interests, such as fisheries, migratory birds and navigation.¹⁴⁹ Additionally, recent amendments to the *Impact Assessment Act* that allow for the substitution of select provincial studies could lead to fragmented assessments that do not accurately understand how effects interact.¹⁵⁰ Instead, provincial and the federal governments should achieve “one project, one review” by jointly appointing review panels, as was the case for the Voisey’s Bay assessment described above. Importantly, multijurisdictional cooperation should include Indigenous jurisdictions, in addition to federal and provincial governments, especially as Indigenous authorities are increasingly conducting their own environmental impact assessments of projects in their territories.¹⁵¹

In conclusion, placing environmental impact assessment at the heart of decision-making – and ensuring it is rigorous, collaborative, and grounded in respect for Indigenous rights and authority – is essential to achieving truly efficient environmental governance. As Canada charts a new economic path, one that aims to be resilient, sustainable and fair for current and future generations, strong assessment and regulatory oversight will be the ounce of prevention that keeps the country on the right track.

ENDNOTES

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