

Beyond “full and fair consideration”: designing impact assessment around Indigenous Knowledge and processes

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Resource extraction and industrial projects in Canada are built on Indigenous land. Indigenous Peoples (First Nation, Métis, and Inuit) often disproportionately experience the adverse effects associated with these projects. When projects are proposed in Indigenous territories, Indigenous Peoples are faced with two critical decisions: whether they support the project, and whether they agree with the accuracy of the impact assessment. Indigenous community support for a project should be a consent-based decision, whereas consensus on the accuracy and relevance of impact assessment is necessary to inform project decision making. Impact assessments can be improved through the respectful application of Indigenous Knowledge, and by focusing assessments on key issues for Indigenous Peoples to better understand the potential effects on Indigenous communities.

We examine how impact assessments are evolving to improve participation, better reflect Indigenous perspectives and preferences, and address ongoing challenges. We draw on a recent case study of a proposed mine extension in British Columbia (BC), Canada, to illustrate the diversity and sophistication of arrangements that Indigenous communities are using to participate in impact assessments. We show how evolving best practices can be reflected in impact assessments, and caution against efforts to streamline regulations that sidestep full consideration of Indigenous rights and free, prior, and informed consent (FPIC). We argue that re-positioning the roles of Indigenous Peoples in impact assessments can increase the relevance of the project review process to Indigenous communities, leading to better project outcomes and increased clarity for regulators and proponents.

History of exclusion from the regulatory process

Indigenous Peoples in Canada have historically had limited opportunities to influence the course of development in their territories. Although impact assessment has been required for major projects in Canada in some form since 1972 (Darling et al. 2018, Government of Canada 2023), expanding the scope to consider impacts on human environments and Indigenous peoples has been slow (Arsenault et al. 2019).

Early assessment processes allowed for the consideration of input from Indigenous communities, but the use of Indigenous Knowledge was optional and inconsistent at best (Arsenault et al. 2019; Brown (λάλίγ᾿ sila) & Yates 2021). Systemic barriers associated with the enduring impact of colonization, and practical barriers such as lack of capacity, limited funding, and socio-economic disparities prevented meaningful participation by Indigenous communities in impact assessments (Bridges et al. 2023, Eckert et al. 2020, Udofia et al. 2017). Impact assessment processes have been characterized as exclusionary (Page 2017; Partal and Dunphy 2016; O’Faircheallaigh 2009). Indigenous Peoples and impact assessment practitioners have criticized assessments designed with a western science approach, leaving little room for alternative perspectives and leading to findings and conclusions that seem to favour proponents and economic interests over the interests of affected

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communities and the environment (Brown (łáłíya' sila) & Yates 2021).

Resource extraction and industrial projects in Canada have a long history of being approved despite potential impacts to Indigenous rights (Joint Review Panel 2013). In response, Indigenous communities have levelled legal challenges and won significant cases, including *Haida v. British Columbia* (2004), *Mikisew Cree v. Canada* (2005), and *Yahey v. British Columbia* (2021). These cases established legal precedent relating to the duty to consult and the assessment of cumulative effects on Indigenous rights. Proposed projects that are opposed by Indigenous communities and met with court challenges have been delayed (e.g., Coastal GasLink Pipeline Project), or not approved (e.g., the Enbridge Northern Gateway Pipeline Project and the Ajax Mine Project), illustrating the legal and political power of Indigenous peoples to delay or cancel projects that have unacceptable impacts on their rights and interests (Gitxaala Nation v. Canada 2016, IAAC 2018, Public Safety Canada 2022). Indigenous legal power remains a significant consideration for project development.

Challenges for Indigenous Knowledge and participation

Changes to legislation in Canada were enacted to make the impact assessment process more inclusive of Indigenous Knowledge. For example, both the federal *Impact Assessment Act* (2019), and the British Columbia *Environmental Assessment Act* (2018) require decisions to consider Indigenous Knowledge as an equally valid knowledge system and consider it alongside western science. The new legislation also requires Indigenous Knowledge to be included throughout the impact assessment process (Impact Assessment Agency of Canada 2024).

Although the impact assessment processes have taken important steps towards inclusivity, applying Indigenous Knowledge correctly requires following cultural protocols. If used incorrectly, or taken out of context, Indigenous Knowledge can be misinterpreted and relationships between proponents and communities may be damaged as a result (Brown (łáłíya' sila) & Yates 2021). The application of Indigenous Knowledge in a western framework is also challenging. Western terminology has often described Indigenous Knowledge as “extracted” from the original sources, “integrated” into a western science framework, and used to “verify” other data without context (Arsenault et al. 2019; Baker and Westman 2018; McGregor 2021). Misuse of Indigenous Knowledge is a critical challenge for the application of Indigenous Knowledge to impact assessment and to Indigenous data sovereignty (Brown (łáłíya' sila) & Yates 2021, Joly et al 2018).

Indigenous communities in Canada are invited to participate in impact assessments and asked to contribute their knowledge, expertise, and resources to the process. In practice, participation is limited by administrative capacity and funding. Regulators, including the British Columbia Environmental Assessment Office (BC EAO) and the Impact Assessment Agency of Canada (IAAC), may offer participation funding in the range of \$5,000 to \$10,000. By some estimates, participation in the BC EA process can cost 20 times this amount (Ransom 2021).

Engagement on key issues and the application of Indigenous Knowledge

To improve impact assessments in Canada and other jurisdictions with rights-holding Indigenous communities, impact assessments must address key issues identified by Indigenous communities early in the review process and consider an expanded role for Indigenous communities in decision-making. Ideally, engagement should create opportunities for Indigenous Peoples to contribute to the scoping and selection of assessment topics; setting assessment boundaries; describing existing conditions and potential effects; recommending mitigation measures, characterizing residual effects and cumulative effects, and outlining follow-up management and monitoring programs. Indigenous Knowledge should be applied throughout the assessment and used to inform key issues, concerns and Indigenous interests. Building a mutual understanding of the project and expected outcomes improves alignment with Indigenous Peoples' expectations and supports consensus-building.

Seeking collaboration with Indigenous Peoples on impact assessment development, especially at the early engagement phases of project development, will help identify issues that can be addressed prior to the initiation

of impact assessment processes. Additionally, Indigenous Peoples should have opportunities to undertake independent, Indigenous-led or collaborative assessments. Indigenous-led assessments are advanced and effective approaches to assessing project effects on Indigenous Peoples that support consensus-building and informed decision-making (Nishima-Miller et al. 2024). Taken together, the application of Indigenous Knowledge, focussing assessments on key issues for Indigenous Peoples, and support for Indigenous-led assessments can promote a shared understanding and consensus on the accuracy of the impact assessment that can advance toward the regulatory clarity that industry proponents seek.

Indigenous-centred assessment and project development

Recent projects have supported a range of Indigenous-led approaches to impact assessment. For example, the Highland Valley Copper Mine Life Extension (HVC MLE) project is a proposed expansion of a major copper mine in southern B.C., Canada. The mine has been operating since the 1960s and is in the territory of several Indigenous communities. Indigenous concerns about the project include, for example, effects of HVC MLE on water, wildlife, and Indigenous cultures. Indigenous communities took several different approaches to participation in the regulatory process. Depending on their preference, some completed independent Indigenous-led assessments, some participated directly in authorship with HVC MLE, and others contributed information to the HVC MLE assessment.

HVC MLE supported Indigenous preferences and perspectives on the project and worked with Indigenous communities to apply Indigenous Knowledge and address key issues throughout the assessment of project effects on valued components and the development of mitigation and management measures. HVC MLE was granted an environmental assessment certificate by the BC EAO in June 2025, and the project's approval conditions were informed by Indigenous Knowledge and potential effects on Indigenous communities (BC EAO 2025).

Regulatory streamlining and the participatory approach

The complexity and length of time for projects to gain a regulatory decision have been under fire for years in Canada at the federal and provincial levels. The current federal *Impact Assessment Act* (2019) includes legislated timelines but also considerably expands the scope of assessments compared with its predecessor the *Canadian Environmental Assessment Act* (2012), and so these timelines are rarely met. Some delays are process delays; for example, proponents may be requested by the regulator to pause the review process to afford additional time to meet regulatory requirements. Recent research suggests that economic factors are more likely to postpone mine developments than regulatory processes; however, these research results are contested by some in the mining industry who consider regulatory delays as a more prominent issue (Collard et al 2024).

Engagement, meaningful participation, and application of Indigenous Knowledge and perspectives in impact assessment processes take a substantial amount of time, and some industry and government voices describe the current impact assessment process as too onerous. Possible solutions to expedite the process include regulatory streamlining, scope reduction, or full deregulation (or pre-approval) of development projects.

The recent trade war with the United States and threats to Canadian sovereignty have prompted Canadian federal and provincial governments to take steps to expedite project approvals by passing legislation to accelerate regulatory processes. These bills include federal Bill C-5, part 2, the *Building Canada Act*, British Columbia's Bill 15, the *Infrastructure Projects Act*, and Ontario's Bill 5, the *Protecting Ontario by Unleashing our Economy Act*. While each of these bills are defended by lawmakers as not affecting the Crown's duty to consult or protection of Indigenous Rights under Section 35 of the *Constitution Act, 1982* (which cannot be limited by legislation), they have all been met with widespread criticism from Indigenous Peoples both due to concern that the legislation may try to bypass consultation or otherwise ease the approval of projects that Indigenous Peoples oppose, and the lack of consultation on the new legislation (Curry 2025; Haws 2025; Singh et al. 2025).

Some of the new legislation includes tools such as substitution agreements and increased resourcing and coordination that may help accelerate regulatory processes. But any efforts to fast-track the approval of contentious projects by bypassing Indigenous rights, consensus, and consent will likely lead to judicial reviews, litigation, and political conflict that take longer and cost more to resolve than a more thorough and cautious approach.

Building consensus through collaboration

Approaches to streamlining impact assessment processes should begin by focusing on key issues for Indigenous communities identified through early engagement. Early identification of issues can be used to inform project design, scope valued components, and determine assessment methodology—addressing some of the common challenges that often arise late in assessment processes. Impact assessment should involve a comprehensive application of Indigenous Knowledge that follows cultural protocols. Input from engagement and Western science should equally inform assessment outcomes.

Project proponents and regulators can improve the assessment process by increasing opportunities for participation through support of Indigenous-led and collaborative assessments, which can be both effective and efficient (Udofia et al. 2017). Regulators should strengthen Indigenous Peoples' involvement in decision-making, which is a consistent request from Indigenous communities in impact assessment processes.

Participation must be backed by substantial financial support for Indigenous Peoples' involvement in assessment processes, which is cited as a common capacity challenge. Regulators would especially benefit from increasing their financial assistance, and proponents should engage early to foster relationships, trust, and participation agreements with potentially affected Indigenous communities to move regulatory processes forward.

Indigenous communities' participation in assessment processes and project partnerships can be supported by impact benefit agreements (IBAs). Although the financial details of these agreements are almost always kept confidential, a set of best practices has developed for IBAs. While agreements differ greatly in content, scope, and application, effective IBAs focus on building partnerships and long-term relationships between industry proponents and Indigenous communities, rather than being purely transactional (Gilmour and Mellett 2013). Negotiations usually centre on Indigenous rights and interests relevant to the project. Current trends for IBAs in Canada and the U.S. highlight long-term equity arrangements or royalties instead of lump-sum payments, and are designed to reflect Indigenous communities' unique values, interests, and governance processes (Baird et al. 2023).

Indigenous equity ownership is becoming critical for successful projects and is even a requirement for certain types of approvals. Economic participation can be promoted through partnerships and project equity ownership. The Canadian federal government supports equity involvement with the Canada Indigenous Loan Guarantee Program, which has recently been doubled from \$5 billion to \$10 billion (CDEV 2025). Organizations such as the First Nations Major Project Coalition have been established to assist First Nations in Canada with decisions regarding economic participation in resource and infrastructure projects (First Nations Major Project Coalition 2023).

While none of these approaches will eliminate risks in resource and infrastructure projects, conducting impact assessments informed by Indigenous Knowledge, focusing on key community issues, and adopting a participatory approach with Indigenous communities as early as possible, will support building consensus on the accuracy of impact assessments, enhance opportunities for economic participation, support informed decision-making, and lead to increased regulatory clarity.

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