Impact Assessment and Project Appraisal

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/tiap20

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To cite this article: Jeffrey Nishima-Miller, Kevin S. Hanna, Jocelyn Stacey, Donna Senese & William Nikolakis (25 Jan 2024): Tools for Indigenous-led impact assessment: insights from five case studies, Impact Assessment and Project Appraisal, DOI: 10.1080/14615517.2024.2306757

To link to this article: https://doi.org/10.1080/14615517.2024.2306757

IMPACT ASSESSMENT AND PROJECT APPRAISAL
https://doi.org/10.1080/14615517.2024.2306757

Tools for Indigenous-led impact assessment: insights from five case studies

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ABSTRACT

Indigenous-led impact assessment (ILIA) is a project review process designed and conducted with meaningful input and an adequate degree of control by Indigenous peoples. Using a case-based approach, this paper examines ILIAs conducted in Canada. The research – *tools* for ILIA – provides examples of options for the design and implementation of ILIA processes which have been utilized by Indigenous Nations while making their own determinations regarding if and how development should occur according to their unique locations, histories, natural resource issues, and governance. We have identified five tools: framework agreements; customized review panels; land use and consultation policy; impact and benefit agreements; and land use planning. Each tool is described along with a case study example of how the tool was applied within ILIA. Although our work focuses on Canada, the examples and tools can be valuable for Indigenous peoples and EIA practitioners in jurisdictions elsewhere who are looking to understand how ILIA might be operationalized to reflect their settings, values, and priorities. The results are helpful to Indigenous governments and groups looking to develop their own approaches to assessment, and for understanding the relative strengths and experiences of options they may consider or adapt for their own needs.

ARTICLE HISTORY
Received 7 February 2023
Accepted 9 January 2024

KEYWORDS
Environmental impact assessment; Indigenous peoples; free, prior, and informed consent; consultation; self-determination

1. Introduction

The approval of large-scale development projects without the consent of affected Indigenous peoples has long been the norm in many approval processes in Canada and other nations. In Canada, a series of court challenges have highlighted the power imbalance between Indigenous peoples and the provincial/federal decision-makers with respect to environmental management and permitting processes for extractive activities.[1] The views of Indigenous peoples on development and extractive activities have sometimes been channelled through the Environmental Impact Assessment (EIA) process. EIA is considered by Crown[2] governments as the most appropriate, and perhaps easiest, way of accommodating consultation.

EIA is well established in Canada as a process for gathering information, anticipating impacts, reviewing, and helping make decisions on if and how large-scale industrial and development projects should proceed (Hanna 2016; Therivel and Wood 2017; Stacey 2020). EIA has been criticized by Indigenous groups for only meeting the bare minimum consultation requirements as outlined by Canada's constitutional 'duty to consult', rather than incorporating and upholding Indigenous perspectives (Craik 2016; Hanson 2018; Morales 2019; Sankey 2021). Common critiques of EIA relative to considering Indigenous perspectives include issues of scope, funding and timelines, consideration of Indigenous self-determination, and decision-making authority.

The scope of EIA has been criticized for narrowly defining what constitutes an impact and the time and space over which impacts are assessed (Haddock 2010; Craik 2016; Muir 2022; O'Faircheallaigh and MacDonald 2022). The practice of EIA has often focused on the biophysical impacts and components of projects (which can be objectively measured, for example, waste rock or wastewater discharge), while ignoring Indigenous components such as Indigenous knowledge (IK) and cultural values, both of which can be seen as subjective and, therefore, harder to measure, for example, locations of spiritual significance (Booth and Skelton 2011; Bruce and Hume 2015; Muir 2022). In terms of the time scale by which impacts are considered, EIA generally focuses on avoiding or mitigating the negative impacts which would occur moving forward, rather than looking at the burden of existing impacts (O'Faircheallaigh and MacDonald 2022). That is, EIA has generally failed to consider the cumulative effects of past development on Indigenous rights and title, by not integrating pre-impact baselines into assessment methodologies (Muir 2022; O'Faircheallaigh and MacDonald 2022). Likewise, EIA has overlooked spatial effects, such as navigational barriers and limited access, which cumulatively impact Indigenous rights and title (Muir 2022).

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Crown EIA agencies often fail to provide adequate funding and time to facilitate meaningful and robust Indigenous participation in EIA (O'Faircheallaigh 2007; Haddock 2010; Gibson et al. 2016; O'Faircheallaigh and MacDonald 2022). A study by the First Nations Major Projects Coalition has shown that Crown funding programs only provide a small portion of Indigenous EIA participation costs. In circumstances requiring deeper levels of engagement by Indigenous Nations, their internal, legal, and consulting costs rise significantly (First Nations Major Projects Coalition 2021; O'Faircheallaigh and MacDonald 2022). Therefore, the extent to which Indigenous Nations can participate in EIA may be dictated by the amount of external funding available (O'Faircheallaigh and MacDonald 2022). Similarly, timelines for Indigenous consultation in EIA follow the procedural structure of the Crown's EIA regime (Udofia et al. 2017). This limits the level of community member engagement that Indigenous Nations can achieve, as timelines for communication and engagement practices within Indigenous communities may extend beyond those provided by the Crown (Haddock 2010).

EIA has failed to account for the self-determining rights of Indigenous peoples through oversimplifications of Indigenous rights and title (O'Faircheallaigh 2007; Booth and Skelton 2011; Muir and Booth 2012; McCreary and Milligan 2013; Bruce and Hume 2015). Government consultations during EIA often uses a 'reductionist approach' that associates Indigenous rights and title purely based on biophysical measurements (Muir and Booth 2012; Bruce and Hume 2015). For example, if there are still fish in the territory, the right to fish is not significantly impacted, and, therefore, Indigenous rights are not impacted (Bruce and Hume 2015). By doing so, impacts are measured according to the presence of fish, rather than the impacts on rights to govern and manage fish, thereby ignoring Indigenous self-determination.

Decision-making power is solely held by the Crown. After an EIA is conducted, the final decision of whether to approve or reject a project is ultimately made by the statutory decision-makers of Crown governments – a process which has been criticized for often ignoring Indigenous perspectives (Muir and Booth 2012; Ritchie 2013; Bruce and Hume 2015; Craik 2016; Crawford 2018). While the views of Indigenous peoples can be expressed through provincial/federal EIA, there are no opportunities provided for Indigenous Nations to make substantive decisions regarding project approval or rejection in relation to the project's potential impacts on Indigenous rights, interests, aspirations, laws, beliefs, or values (Bruce and Hume 2015; Craik 2016).

Indigenous-led impact assessment

Indigenous-led impact assessment (ILIA) is a project-based review process designed and conducted with 'meaningful input and an adequate degree of control by Indigenous parties' (Gibson et al. 2018). Indigenous perspectives on development can be more holistic and have broader time and spatial boundaries than EIA typically achieves (O'Faircheallaigh and MacDonald 2022). ILIA provides opportunities to move beyond Crown controlled processes which achieve the minimum consultation required by Canadian law, if at all (Morales 2019). If implemented alongside provincial/federal EIA, ILIA may contribute to upholding Indigenous rights, jurisdiction, and self-determination (O'Faircheallaigh and MacDonald 2022).

In 2018 and 2019, the provincial government of British Columbia (BC) and Canada's federal government, respectively, passed new EIA laws. The updated laws were enacted through the implementation of the federal *Impact Assessment Act*, 2019, and BC *Environmental Assessment Act*, 2018. Both reference the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)[3] and introduce changes that differ from judicially-developed requirements of Canadian constitutional law.[4] One change to each law is the formal recognition of ILIAs. Opportunities for ILIA are communicated in the federal Act in section 31(1), which explains that under the responsible Minister's discretion, they may substitute an Indigenous jurisdictions assessment process for the Impact Assessment Agency of Canada's (IAAC) process. It is stated again in section 29, explaining that the IAAC may delegate any part of the assessment to an Indigenous jurisdiction (IAA 2019). Likewise, the BC Environmental Assessment Act outlines opportunities for ILIA in section 41, which explains that the responsible Minister has the authority to enter into agreement with Indigenous jurisdictions to substitute ILIA for part, or all, of the BC Environmental Assessment Office process (EAA 2018). The new opportunities for ILIA as a part of the updated Canada and BC Acts have yet to be tried, so we do not know if the new opportunities for ILIA will provide a pathway for building relationships and reducing conflict between Indigenous peoples, the Crown, and proponents, or how operationalizing Indigenous perspectives into the project assessment will shape projects or decisions.

This paper provides case studies that explore and summarize the approaches of five Nations in Western Canada who have designed and implemented an ILIA process prior to the updated BC and Canada EIA laws. We highlight the lessons learned and operational elements of each case, which are identified as tools for *ILIA*. The description and analysis of each tool has been done to provide examples of tangible options for the design and implementation of ILIA processes which support Indigenous people determinations of if and

Table 1. Case study logic model.

Who/Where?	Introduce the specific Indigenous Nation conducting the ILIA, including where the Nation is located.
What?	Sumamrize the project being assessed.
Why?	Provide the context, factors, and motivations influencing the development of the ILIA process.
How?	Explain how the ILIA process was designed and implemented; and identify the tools utilized in supporting determinations regarding if and how development should proceed.
Outcomes.	Describe how the assessment was considered by the Crown and proponents, the influence of the ILIA, and any obstacles associated with gaining Crown/proponent recognition of ILIA outcomes.

how development should proceed. The identified tools for ILIA reflect the unique locations, histories, natural resource issues, and governance of Indigenous Nations who have chosen to undertake and lead an assessment.

2. Methods

Case studies are effective in explaining phenomena, which, in this research, relates to ILIA. The case studies provide examples of how Indigenous Nations have conducted their own assessment processes by using tools that support their own determinations regarding if and how development should proceed according to their unique locations, histories, natural resource issues, and governance. We used a purposeful sample to select the case studies. This was guided by three factors: geographic location; the accessibility and availability of required resources; and the approach taken to implement the ILIA. First, Western Canada was selected as the targeted study area based on the availability of ILIA examples. Second, case study selection was contingent on the willingness of Indigenous Nations to share the results of their assessments by making them publicly available. Selection was also contingent on the availability of staff members or consultants to provide a case study review. Lastly, the case studies were selected to provide a series of distinct tools utilized within each ILIA for supporting Indigenous determinations regarding if and how development should proceed.

Based on the criteria, four case studies in British Columbia were chosen, including the Squamish Nation Process for the Woodfibre Liquified Natural Gas (LNG) processing and export facility; the Stk'emlu'psemc te Secwepemc Nation Assessment Process for Kombinat Górniczo-Hutniczy Miedzi (KGHM) Ajax Mine; the Tsleil-Waututh Nation Assessment for Trans Mountain Pipeline and Tanker Expansion (TMEX); and the Ktunaxa Nation Rights and Interests Assessment for the Teck Fording River Operations (FRO) Swift Coal Mine Expansion. The fifth case is in Alberta – the Mikisew Cree First Nation Culture and Rights Assessment for the Teck Frontier Project.

Case study data were collected using a review of published (print and online), publicly available, primary and secondary documents. The primary and secondary documents include independently produced assessment reports by the Indigenous Nation and their associates who undertook an assessment, and EIA reports including Crown consultation and accommodations reports, decision statements, and proponent project applications. A review of the research literature relevant to the case studies was also performed.

The composition of each case study followed a similar chronological structure (i.e. case study logic model). A chronological approach to explaining the context of ILIA was used in the development of the case studies, as the cases were bound by time, and cover the events over time (Hancock and Algozzine 2017; Nowell et al. 2017). Following the principles of qualitative case study research set out by (Yin 2018), we applied a series of investigative questions regarding who/where, why, how, and outcomes[5] (Table 1).

To ensure the validity and consistency of our results, the first draft of each case study was reviewed by a representative/staff member from each Indigenous Nation involved in the assessment. Correspondence with Nation representatives included both email and video conference calls. These representatives ensured quality control by providing a rigorous review and ensuring accuracy, and providing any information needed for any missing information gaps. This review was an interactive process of clarifying, confirming, and redefining the information included in each case.

3. The tools for Indigenous-led impact assessment

We have identified five tools for ILIA. This is only a preliminary list, and as ILIA evolves and emergent cases are analyzed, new tools may be added to the ILIA toolbox. Each tool is described here along with a case study of how each tool was applied within ILIA. The five tools are:

(1) Framework agreements
(2) Customized review panels
(3) Land use and consultation policy
(4) Impact and benefit agreements
(5) Land use planning

3.1 Framework agreements

Framework agreements vary considerably, but broadly refer to contractual structures of shared power and responsibility for land use governance, management, work planning, etc. (Houde 2007; Wilkes 2011). Framework agreements can be used as a tool to reduce natural resource conflicts between Indigenous governing bodies[6] (IGBs), Crown governments, and industry proponents prior to project assessment, approval, and development (Castro and Nielsen 2001; Nikolakis and Hotte 2020). Framework agreements can move beyond pre-established consultation plans towards integrative plans centered around cooperation, collaboration, and shared responsibility (Castro and Nielsen 2001). Such agreements can help Indigenous Nations establish land use decision-making authority. However, the degree to which power and responsibility are shared is variable and depends on the exact terms and conditions of the agreement itself (Wilkes 2011).

The Squamish Nation process for Woodfibre LNG processing and export facility

Application of a contractual framework agreement.

The Squamish Nation Process for Woodfibre LNG is a good example of how contractual framework agreements can be used as a tool for outlining the terms and conditions of proponent engagement with ILIA. In 2013, Woodfibre LNG and Fortis BC submitted a proposal for an LNG processing and export facility within Squamish Nation territory, with potential impacts to the Nation's rights and title. The characteristics of the proposed LNG project were subject to EIA in accordance with the BC 2002 *Environmental Assessment Act*) (EAA) and Federal *Canadian Environmental Assessment Act* 2012 (CEAAct 2012)[7] (CEAA 2014). The Federal Minister of Environment approved a request to completely substitute the BC assessment process for the federal review process, making the BC Environmental Assessment Office (EAO) the government authority for the assessment (CEAA 2014).

Prior to the Woodfibre LNG proposal, the Squamish Nation had participated in several EIAs administered through the BC 2002 EAA and CEAAct 2012, and was dissatisfied with the Crown-led EIA as the Crown did not recognize the Squamish Nation consent or lack of consent for project approvals (Bruce and Hume 2015). To confront the limitations of Crown-led EIA and in response to the Woodfibre LNG proposal, the Squamish Nation designed and implemented the Squamish Nation Process to independently assess the project (Bruce and Hume 2015). The Squamish Nation Process was designed with the intent of exercising the Nation's jurisdictional capacity to make free and informed decisions regarding the Woodfibre LNG project reflective of the concerns and interests of the Squamish Nation (Bruce and Hume 2015).

In creating an ILIA that operated independently of the provincial and federal EIA process, the Squamish Nation established a Framework Agreement with the project proponents, which set out the terms and conditions of participating in the Squamish Nation Process (Bruce and Hume 2015; Sankey 2021). This was a contract between the proponent and the Nation, enforceable through Canadian contract law (Sankey 2021). Since there was no obligation on the proponent in Canadian law to enter a contractual agreement with the Squamish Nation for the purpose of implementing an assessment outside the provincial EIA process, and indeed might assume legal risk in doing so, thus having a willing proponent was a key aspect in implementing the Squamish Nation Process.

Woodfibre LNG, Fortis BC, and the Squamish Nation agreed upon the terms and conditions of the Framework Agreement. The Framework Agreement solidified that the Squamish Nation would conduct an independent assessment – fully funded by the proponent – of the project to determine its impact on the Nation's Aboriginal rights and title (Bruce and Hume 2015). The Nation's assessment process was confidential, and the proponents were prohibited from sharing any information related to the Squamish Nation's rights and interests in their submissions to provincial or federal governments without the Nation's consent (Bruce and Hume 2015). Although the Nation did not formally participate in Crown EIA activities, the Framework Agreement set out that the Squamish Nation would use independent consultants to collect technical information submitted in the Crown EIA. The use of independent consultants served two main functions. First, the Nation's staff and members avoided attending Crown EIA working groups and consultations (Bruce and Hume 2015). This was done to insulate the Squamish Nation from formally participating in the Crown's EIA activities in such a way that would fulfill the Crown's consultation requirements, based on the Crown's understanding of what is required to discharge the duty to consult (Bruce and Hume 2015; Sankey 2021). Second, the consultants were used to streamline the Squamish Nation Assessment by collecting relevant information so that the Nation avoided duplication of efforts (Bruce and Hume 2015). The proponent was also obligated to provide supplemental information to the Squamish Nation upon request, even if it was not required through the Crown EIA process (Bruce and Hume 2015).

A final, and significant clause set out by the terms and conditions of the Framework Agreement, is if the project is approved through the Squamish Nation Process, the proponent is required to adhere to the Squamish Nation Environmental Certificate- a second legally-binding agreement that outlined requirements

including conditions, compliance, and enforcement for project operation (Bruce and Hume 2015; Sankey 2021). If the proponent was unable to meet the requirements set out by the Squamish Nation Environmental Certificate, the Nation retained the authority to revoke it (Sankey 2021).

To conclude their assessment of the Woodfibre LNG, the Squamish Nation produced 25 conditions of approval that were included within the Squamish Nation Environmental Certificate (Squamish Nation 2015). The intended conclusion to this process was for Squamish Nation to engage with proponents and the Crown to discuss the integration of Squamish Nation's proposed conditions and mitigation measures into the BC Environmental Assessment Certificate or federal Environmental Assessment Decision Statement. As the Squamish Nation did not formally participate in Crown EIA or consultation up to this point, this was intended to spur the start of meaningful consultation (Bruce and Hume 2015; Sankey 2021).

However, while the Squamish Nation sought to have their assessment recognized by CEAA and the EAO as an independent and binding process, both CEAA and the EAO did not recognize the authority of the Squamish Nation Process (Papillon and Rodon 2019). The proponent agreed to meet the conditions of approval set out through the Squamish Nation Environmental Certificate, but the Crown failed to include them within their separate conditions of approval through BC's Environmental Assessment Certificate (Papillon and Rodon 2019). For example, while proponent Woodfibre LNG agreed to meet Squamish's condition #1 (use of an air-cooling system during project operation), the Crown still only approved the use of a seawater cooling system, despite the alternative use of an air-cooling system being a required condition within the Squamish Nation Environmental Certificate (Squamish Nation 2015; Government of British Columbia 2015a).

Crown approval of seawater cooling created an inconsistency between Squamish Nation and Crown approval conditions, an example of a potential legal risk created by separate processes (Government of British Columbia 2015a). In 2017, Woodfibre LNG filed an application for BC to amend their conditions of approval under the Environmental Assessment Certificate (Sankey 2021). As the proponent was legally bound to the conditions set out by the Squamish Nation Process under the Nation's Environmental Certificate, they complied with and advocated for the use of the air-cooling system by applying for amendments to the Crown conditions for approval (Sankey 2021, Woodfibre LNG 2017; Squamish Nation 2015). The amendment was later made by BC, which included air-cooling technology within an Environmental Assessment Certificate amendment (Government of British Columbia 2017).

3.2 Customized review panels

A general definition of a review panel (or board) is a group of people selected with authority to examine – through an official review – an application or system, to help evaluate and recommend if it should be approved, improved, corrected, or changed. For example, review panels are often applied to help guide systematic decision-making in settings such as community, environmental, and land use planning, research ethics, or within legal hearings (Giesy et al. 2015). Within the Canadian EIA, review panels (consisting of independent experts and sometimes members of relevant regulatory agencies) are an option (federally and in some provinces) for the assessment of large projects and/or those where substantial public interest is present. EIA review panels are then responsible for holding public hearings and preparing an Impact Assessment Report on behalf of the assessment agency (Nishima-Miller 2022). Customized review panels are a tool that can be applied in the context of ILIA, where selected community members, leadership, and/or staff are tasked with deep engagement throughout an assessment to ensure that the team involved – and the work they produce – understands and incorporates Indigenous values, interests, and principles (O'Faircheallaigh and MacDonald 2022).

The Stk'emlu'psemc te Secwepemc Nation assessment process for KGHM Ajax Mine: facilitating an accurate representation of community values, goals, and priorities through a customized review panel

The Stk'emlu'psemc te Secwepemc Nation (SSN) is a governance group, including the Tk'emlu'ps te Secwepemc Indian Band and Skeetchestn Indian Band (SSN 2022). In 2011, KGHM Ajax Mining Inc. applied for EIA approval to develop, operate, and decommission an open-pit copper and gold mine and ore processing facility located in the territory of the SSN, near the city of Kamloops, BC (CEAA and EAO 2017). The type, size, and scope of the proposed mine meant that it required both a provincial and federal EIA. The two governments decided that the Canadian Environmental Assessment Agency (CEAA) and the BC Environmental Assessment Office (EAO) would coordinate their assessments by preparing a joint federal comprehensive study/provincial assessment report (CEAA and EAO 2017). However, the project still required separate EIA decisions by federal and provincial decision-makers (CEAA and EAO 2017)

SSN has a strong claim to *Aboriginal rights* in the proposed project area (CEAA and EAO 2017). The mine site would encompass an area known by SSN as *Pipsell* – a site of cultural, spiritual, and physical importance to the SSN peoples (SSN 2017a). The importance of Pipsell is defined in SSN oral history, and the area

includes productive trout fisheries and biodiverse grasslands that provide important ungulate habitat (SSN 2017c).

Prior to the assessment of the Ajax proposal, SSN had critiqued Crown-led EIA for inadequately incorporating Indigenous perspectives into the assessments and promoted alternative approaches to undertaking EIA (SSN 2017a). In response to the proposed Ajax mine, SSN began designing the SSN Assessment Process to 'Facilitate informed decision-making by the SSN communities in a manner which is consistent with [SSN] laws, traditions, and customs and assesses project impacts in a way that respects [SSN] knowledge and perspectives' (SSN 2017a).

In 2015, BC initiated an Ajax Government-to-Government Discussion Table, which included SSN, the BC EAO, and other government agencies who would be involved in either the assessment or other permitting processes for the mine (CEAA and EAO 2017). Through the Table, a Government-to-Government Framework Agreement was created to establish a collaborative relationship between SSN and the BC government as it related to the Ajax Mine assessment (EAO and SSN 2015). An important outcome of the Government-to-Government Framework Agreement was the creation of an Environmental Assessment Collaboration Plan,[8] which was established to support informed decision-making, confirming that SSN had direct input into the provincial EIA decision-making process, and to ensure that SSN's input would be considered (EAO 2017).

To reflect SSN's connection to the land, the assessment of Ajax Mine was developed to be consistent with SSN governance, knowledge, and the role of Pipsell as a cultural keystone area (SSN 2017b). To do this, SSN selected representatives to participate in the SSN Review Panel – a community-based (customized) review panel responsible for participating throughout the entire SSN Assessment Process (SSN 2017b). For the Ajax Mine assessment, the SSN Review Panel included Chiefs and Council from the two communities which make up SSN (i.e. the SSN Joint Council), two kinship representatives from each of the family groups in the SSN communities, key knowledge holders, and elder and youth representatives. The SSN Review Panel was 42 members' total (EAO and SSN 2015). Family, youth, and elder representatives reported back to their respective families and communities to update them on key information and assessment milestones (EAO and SSN 2015).

For the Ajax mine assessment, the SSN Review Panel conducted meetings with SSN Knowledge Keepers, community members, technical experts, and other stakeholder groups as necessary to consider the project and its impacts; review of the proponent project application; review of comments submitted by the general public; analysis of the impacts of the proposed project; assessment of accommodation proposals; updating and presenting results to community members on findings throughout the assessment; and preparation of a SSN Assessment Decision Package for the SSN Joint Council, which was used to determine whether or not SSN would give their *free, prior, and informed consent* to develop lands and resources through the Ajax mine proposal (SSN 2017b).

Included within the Ajax Mine Decision Package, the SSN Review Panel developed a specific and overarching land use objective for Pipsell. The land use objective states Pipsell is a cultural keystone area which must be preserved in a state consistent with the traditional importance of the site to the Secwépemc people. Pipsell must only be used in ways which preserve and sustain the area, and which allow for the culture of the Secwépemc people to be exercised and maintained (SSN 2017b). The land use objective for Pipsell sets out that all uses of the lands and resources must be approved by SSN (SSN 2017b).

Following the completion of the SSN Assessment Process, the SSN Joint Council accepted the recommendations of the SSN Review Panel, including the end land use objective for Pipsell, concluding that the Ajax Mine proposal would conflict with SSN land use objectives for the site (EAO 2017). SSN determined that if approved, the Ajax Mine Project would alter their physical and spiritual connection to Pipsell, having significant impacts on the intergenerational transfer of knowledge and health of SSN communities and peoples (SSN 2017b; EAO 2017). SSN rejected the Ajax Mine proposal, stating that they do not give their consent for the construction of the mine (SSN 2017c). With this decision, SSN communicated that the development of Ajax Mine would result in significant environmental effects and irreversible changes to the area (EAO 2017; SSN 2017c). Following SSN's decision, the Ajax mine proposal was rejected by the BC and federal governments (Government of Canada 2018).

3.3 Land use and consultation policy

Within government settings, policies can be applied to guide compliance with or facilitate the implementation of existing laws. Policy provides guiding principles, values, and intent that outline expectations for consistent decision-making and allocation of resources to specific issues or situations. Development of land use and consultation policy is increasingly being used as a tool by IGBs to communicate their governance and implement Indigenous legal orders and systems in practice[9] (Cornell 2015; Gadamus et al. 2015; Marsden and Smith 2021). Land use and consultation policy developed by IGBs can be used to reflect and implement jurisdiction and land use decision-making authority, providing a tool for articulating expectations for how IGBs expect to be recognized and interacted

with by Crown governments (Cornell 2015; Marsden and Smith 2021).

The Tsleil-Waututh Nation assessment of TMEX: using land use and consultation policy to guide ILIA decision-making

The Tsleil-Waututh Nation (TWN) is a Coast Salish First Nation. TWN territory includes what is referred to as the Lower Mainland and Vancouver, BC (TWN 2022). TWN has described their 'Consultation Area', to outline their territorial jurisdiction, which extends from the United States border (in the south) to Mt. Garibaldi (in the north) (Hanson 2018). In 2009, TWN published their Stewardship Policy as an expression of TWN's jurisdiction, laws, and obligations to their territory (TLRD 2015; Hanson 2018). The TWN Stewardship Policy rests on the foundation of its ancestral laws and is to be interpreted in accordance with Tsleil-Waututh legal traditions respecting stewardship (TLRD 2015). The TWN Stewardship Policy specifies that any decisions or activities that may impact TWN rights, title, or interests within the Consultation Area must undergo a process of review and consultation (TLRD 2015; Hanson 2018). The TWN Stewardship Policy is provided to each entity which sends TWN a referral requesting consultation. TWN uses its Treaty, Lands, and Recourse Department (TLRD) to carry out the bulk of these responsibilities related to its Stewardship Policy (Hanson 2018).

The TWN Stewardship Policy implements TWN's inherent governance, laws, and jurisdiction, by identifying opportunities for TWN and the Crown to engage as separate legal jurisdictions through government-to-government dialogue (TLRD 2015; Hanson 2018). For dealing with project proposals identified as potentially impacting TWN rights, title, or interests, TWN's decision-making structure has two broad lenses:

(1) From the onset, decision-making is guided by Coast Salish Law, which instils TWN with 'a sacred obligation to protect, defend, and steward the water, land, air, and resources of the territory' (TLRD 2015, p. 53), thus providing environmental, cultural, spiritual, and economic foundations for future generations (TLRD 2015). This first lens is a threshold lens, meaning TWN will only assess project proposals further if they do not violate TWN legal principles (TLRD 2015). In measuring project proposals using a legal principal threshold, TWN's TLRD technical staff collect baseline data for territorial management (TLRD 2015; Hanson 2018). This includes the potential impacts of the proposed projects, design and implementation of restoration projects, and avenues for restoring cultural and health opportunities for TWN members to access and use their lands, waters, and resources (TLRD 2015; Hanson 2018). Here, both TWN law and technical analysis are used to inform TWN decision-making (Hanson 2018).

(2) As a government, TWN emphasizes that they are not opposed to economic development and are indeed supportive of sustainable development (Hanson 2018). Once assessed through the first lens, if potential negative effects of the proposed development do not exceed TWN legal limits, TWN further assesses potential impacts while engaging in dialogue with proponents and assessment/regulatory agencies to determine how to avoid/mitigate impacts and improve project design so that is sustainable and has a positive impact on the TWN territory and people (Hanson 2018).

In 2013, Kinder Morgan Canada filed a project proposal with the National Energy Board (NEB) for the Trans Mountain Pipeline and Tanker Expansion (TMX). The proposal was to add a new line to the existing Trans Mountain Pipeline that would carry crude and refined oil from Alberta to the coast of BC mostly for export overseas from the existing Westridge Marine Terminal in Burnaby, BC (NEB 2016). These marine shipping activities would depart from and travel through TWN territory, and would increase the frequency of tanker departures through the Burrard Inlet – moving from approximately one per week to roughly one every two days (TLRD 2015; NEB 2016). This project triggered both provincial (BC) and NEB assessments. NEB led the review process for TMX because of an equivalency agreement (NEB-EAO Agreement) for EIAs that requires both BC and NEB reviews, which can be enacted if a request is made by either party. The NEB EIA was thereby considered as an equivalent assessment to the one conducted under the BC *Environmental Assessment Act* (EAO 2016). The project and the assessment of it have been controversial and continue to garner broad public interest.

Since several components of the TMX proposal fell within the TWN Consultation Area, pursuant to the TWN Stewardship Policy, TWN carried out their own assessment, which was intended to run in parallel to the Crown process (TLRD 2015). The TWN assessment process was implemented as an exercise of the Nation's inherent jurisdiction and law, acting on its authority to assess and decide whether TMX should proceed within its territory (TLRD 2015; Christie et al. 2015). The TWN assessment process was designed to measure both biophysical and the cultural, spiritual, legal, and governance rights and responsibilities of TWN (Christie et al. 2015).

The TWN assessment for the TMX proposal was conducted independently of the Crown assessment (TLRD 2015). In accordance with the TWN

Stewardship Policy, the project was assessed using the two lenses for decision-making regarding impacts on TWN rights, title, or interest within the TWN Consultation Area (TLRD 2015). The TWN assessment started by using the first lens, which measured the potential negative effects of the TMEX proposal on the natural and cultural resource base of TWN territory (TLRD 2015).

Lens 1 of the TWN assessment concluded that the TMEX proposal did not represent the best use of TWN territory, including its water, land, air, and resources (TLRD 2015). Based on this assessment, TWN Chief and Council decided to reject the project (TLRD 2015). Therefore, the TMEX proposal was not subject to an assessment under the second lens of inquiry.

Following the TWN review of the project, TWN filed their assessment report with the NEB as an independent jurisdiction (Clogg et al. 2017). The intention was for the NEB to use the TWN assessment in parallel to the Crown assessment as a basis for a government-to-government discussion and to help reconcile the conflicting views TWN and the Crown held towards the project, but this did not occur (Clogg et al. 2017). The NEB did not have a process in place for engaging with Indigenous Nations as separate jurisdictions and received the TWN Assessment as a 'traditional land and resource use study', without addressing or acknowledging the application of TWN laws and jurisdiction enacted through the review and rejection of the project (Clogg et al. 2017).

Concluding the Crown assessment, both the NEB and EAO advised that the project should be approved (EAO 2016; NEB 2016). The decision to recommend project approval was partially made due to the NEB and the EAO's determination that the Crown's duty to consult and accommodate Aboriginal groups had been satisfied and that project approval was in public interest (Government of Canada 2019). Following these recommendations, TMX received both federal and BC approval. Despite litigation and appeals of these decisions,[10] the approval has been upheld by the courts and construction of the pipeline is well underway. In 2018, Canada's federal government purchased the project renaming the company Trans Mountain Corporation.

3.4 Impact and benefit agreements

Impact and benefit agreements (IBAs) typically take place as legally binding arrangements between IGBs and proponents to establish compensations and benefits that Indigenous governments and their communities will receive in exchange for their support for a project proposal (Papillon and Rodon 2017). In Canada, IBAs are most common between a proponent and an IGB – the Crown government does not often play a role in IBAs. The benefits often included within IBAs cover monetary and non-monetary considerations and may include procurement opportunities, cooperative environmental protection agreements, monitoring and compliance plans, and social-cultural support initiatives (although there is no standardized IBA format) (O'Faircheallaigh 2010; Craik 2016). IBAs have emerged as a tool by which IGBs can negotiate compensations that provide positive impacts. Proponents often use IBAs as an indicator of Indigenous consent to the project[11] (Papillon and Rodon 2017).

The Ktunaxa Nations Rights and interests assessment for the FRO Swift Coal Mine Expansion: negotiating community defined compensation and mitigation measures through an impact and benefit agreement

The Territory of Ktunaxa Nation is located within the Kootenay region of Southeastern BC, but also traditionally included parts of Alberta, Montana, Washington, and Idaho prior to colonization (Firelight et al. 2014; Ktunaxa Nation 2022a). The Ktunaxa Territory has undergone significant land-use changes since colonial settlement began – much of which is due to natural resource developments (Kapell 2019). These changes and the associated Crown EIA processes have, in part, led to the Ktunaxa Nation's expression of concerns in regard to the amount of resource development within their territory; the physical footprint of project developments; the presence of industry-related contaminants in waterways within impacted watersheds; lack of Indigenous participation in provincial/federal EIA processes; and an inadequate consideration of cumulative impacts when making decisions to approve such developments (Firelight et al. 2014; Kapell 2019).

In 2011, Teck Resources Limited (Teck) applied to expand their current production at the Fording River Operations (FRO) Coal Mine, which had previously been active since 1971 (Teck 2012). With the FRO Swift Coal Mine Expansion proposal, an additional 1,200 ha of new operating areas would be opened for the mine expansion (Teck 2012). Due to the size and production capacity of the proposal, it required a provincial assessment under the 2002 *Environmental Assessment Act*.

Teck is an active proponent within the Ktunaxa Territory, and currently operates four metallurgical coal operations (including Fording River Operations) in the Elk Valley (a region within the Ktunaxa Territory) (Teck 2020a). For the past decade, the Ktunaxa Nation and Teck have been working to improve relations through the production of economic, environmental, social, and cultural plans that

aim to reduce impacts, while enhancing Ktunaxa interests and benefits (Firelight et al. 2014; Ktunaxa Nation and Teck 2016). For example, in 2007 Teck and the Nation signed a Working Protocol Agreement (which outlines communication and cooperation protocols), which has led to the Ktunaxa Nation Council-Teck collaboration on project-based assessments (Firelight et al. 2014).

The Ktunaxa Nation has led components of proponent Environmental Assessment Certificate applications through the submission of 'Section C'- a segment that focuses on Ktunaxa rights and interests within proponent's project applications (Firelight et al. 2014; EAO 2015; Ktunaxa Nation 2022b). For the FRO Swift Coal Mine Expansion proposal, the development of the Ktunaxa Nation Rights and Interests Assessment (Ktunaxa Assessment) reviewed Nation's rights and interests within Teck's Environmental Assessment Certificate Application (Firelight et al. 2014). Although the Nation and Teck took a collaborative approach, the collaboration did not represent the Nation's consent to or support for the project. Instead, the Ktunaxa Assessment of the Nation's concerns and interests potentially impacted by the project, and proposed methods to mitigate those impacts directly from the Ktunaxa perspective (Firelight et al. 2014).

Procedurally, the key components of the Ktunaxa Assessment included the identification of valued components (VCs); outlining the spatial boundaries for baseline data collection for the assessment of project impacts on VCs; baseline data collection and assessment of impacts for each VC; and a summary of potential effects, mitigations, and actions (Firelight et al. 2014). Once baseline data collection was completed for each VC and relevant issues, concerns, and potential effects were identified for the project; a mitigations table was developed, which included mitigations to reduce the impact of potential negative effects, and measures to increase the impact of potential positive effects. Some of the recommended measures and mitigations for FRO Swift Coal Mine Expansion proposal included (Firelight et al. 2014):

- Education and training: Identification of existing training programs throughout the Kootenay region and across Canada that could be delivered locally to assist in Ktunaxa training.
- Ongoing access and use: Identify annual opportunities for Ktunaxa access to Teck properties to practice culture and rights-based activities (e.g. hunting, fishing, gathering).
- Water, wild foods, and confidence: Teck and Ktunaxa Nation will collaboratively develop a Ktunaxa Elk Valley Wild Foods Program. This includes project monitoring, contaminants mitigations and compensations to address impacts to Ktunaxa culture, communication tools to address wild food safety throughout the Elk Valley, and the incorporation of Ktunaxa knowledge and participation in monitoring the health of resources.
- Compliance monitoring: Within 6 months of EIA certification, and through IBA or other agreements, Teck will provide funds for Ktunaxa to confirm compliance and monitoring management plans.

In 2012, formal discussions and engagement activities were initiated between Ktunaxa Nation and Teck for an IBA, which would apply to the entire Elk Valley (Ktunaxa Nation and Teck 2016). At the time of submission for Teck's Environmental Assessment Certificate Application for the FRO Swift Coal Mine Expansion, negotiations of the IBA between Ktunaxa Nation and Teck were still underway. The Ktunaxa Nation Assessment report explains that if the IBA is approved by Ktunaxa Nation and Teck, it 'is anticipated to confirm mitigation and/or accommodation commitments made in this application, as well as other commitments by Teck and Ktunaxa Nation designed to address Ktunaxa rights and interests related to the project and to other Teck mining activities in the Elk Valley region (Firelight et al. 2014).

Prior to the conclusion of negotiations between Ktunaxa Nation and Teck for the IBA, the FRO Swift Coal Mine Expansion was granted a BC Environmental Assessment Certificate in 2015 (Government of British Columbia 2015b). In 2016, following other expansion proposals, Teck and the Ktunaxa Nation concluded negotiations for their IBA, which was developed as a comprehensive agreement that committed both parties to the continuance of sustainable mining in the Elk Valley (Ktunaxa Nation and Teck 2016). The IBA formalizes the collaborative relationship between Ktunaxa Nation and Teck; provides a framework where issues and concerns can be addressed; provides 'valuable certainty' for projects in the Elk Valley; allows planned mine extensions to be designated as 'Contributing Projects'; creates certainty for Ktunaxa Nation that their key interests of land and water stewardship, reclamation planning, business and employment development, and cultural resource management will be addressed consistent with Ktunaxa values and interests; and it triggered the formation of three working groups that focus on environmental stewardship, cultural programming, and procurement and employment opportunities, respectively (Ktunaxa Nation and Teck 2016). Each working group includes equal representation from Ktunaxa Nation and Teck who collaborated to determine the actions and processes for implementing the agreement (Ktunaxa Nation and Teck 2016). It is important to note that this work is ongoing.

3.5 Land use plans

Land use plans can be used by Indigenous Nations and their communities to predict and accommodate a multitude of human impacts, while simultaneously articulating a vision for land uses within their territories (Houde 2007; Wilkes 2011). Visions of land uses articulated through Indigenous land use plans often incorporate the collective social, cultural, economic, and ecological components of the environment as a continuation of the practice of both affirmed and asserted Aboriginal rights and title (Stevenson and Webb 2003; Booth and Muir 2011; Nikolakis et al. 2016). For example, land use plans may be used to clarifying land use allocation and resource management issues, clarifying boundaries of traditional lands, and strengthening traditional governance practices (Booth and Muir 2011). Land use plans can be a powerful statement in dealing with provincial and federal governments within an EIA context, as they help assert land governance and self-determination, control how natural resources are managed, and articulate values about land and water use (Clogg 2007; Booth and Muir 2011; Cook et al. 2017).

The Mikisew Cree culture and rights assessment of the Frontier Oil Sands Mine: facilitating the accessibility and connectivity of baseline data collected through a land use plan to supplement assessment activities

Mikisew Cree First Nation (MCFN) is an Indigenous Nation and a party to Treaty No. 8. The Mikisew Territory includes the Athabascen Delta and Wood Buffalo National Park in northeastern Alberta, Canada. MCFN territory has been subject to significant industrial development, including large-scale oil sand mining along the Athabasca River (Candler et al. 2015). The scale of industrial development and associated environmental degradation has created challenges for upholding Treaty 8 rights and Mikisew traditional ways of life (Candler et al. 2015).

In 2011, Teck Resources applied to develop and operate the Frontier Oil Sands Mine. The project has since been abandoned but would have been the largest single oil sand pit mine in Canada. Due to potential impacts on areas of both federal and provincial jurisdiction, it was subject to EIA under the *Canadian Environmental Assessment Act 2012* and Alberta's *Environmental Protection and Enhancement Act, 2000* (AER and CEAA 2019).

The Frontier project was proposed within the territory of MCFN. The project would also take place in the Peace-Athabasca Delta, which is a Mikisew cultural keystone area (Candler et al. 2015). MCFN has criticized provincial/federal EIAs for primarily focusing on biophysical measures, while overlooking Mikisew culture and rights (Candler et al. 2015). MCFN has identified proponent and government-led assessments as barriers to inclusion because they often favour western science over Mikisew knowledge (Candler et al. 2015). To address these challenges, and following preliminary discussions between MCFN and Teck, the company agreed it would not undertake a proponent-led traditional land-use assessment for MCFN (AER and CEAA 2019). Instead, Teck agreed to use the outcomes of Mikisew Cree Culture and Rights Assessment (Mikisew Cree Assessment) in the company's EIA application (Candler et al. 2015). The primary goal of completing the Mikisew Cree Assessment was to provide Teck and assessment agencies with information and an assessment of Mikisew rights and culture directly from the Mikisew perspective (Candler et al. 2015). The Mikisew Cree Assessment was developed to deliver baseline information regarding the existing status of the practice of Mikisew culture and rights in the region, and to undertake an assessment of the potential impacts that would result from the Frontier Project on Aboriginal culture and rights interpreted through *section 35* of the Canadian *Constitution Act*, 1982 and Treaty No. 8 (Candler et al. 2015).

Coinciding with the assessment of the Teck Frontier Project, in 2014, MCFN implemented a land use plan as a living document for determining the most important areas for the conservation of natural resources across Mikisew territory (MCFN GIR 2014). The MCFN land use plan was supported by the completion of several traditional land use surveys; mapping containing animal and vegetation information; collection of development, oil sands, and mining information; and identification mapping of areas needing further protection as well as those suitable for development (MCFN GIR 2014).

The completion of the Mikisew Cree Assessment research activities was supplemented with a review of existing MCFN land use planning data. Data collected through the MCFN land use plan was used within their assessment. For example, land use planning data related to Mikisew Treaty No. 8 subsistence rights, including site-specific data pertaining to preferred species, preferred means of harvest, and preferred harvest locations (Candler et al. 2015).

Following the completion of the Mikisew Cree Assessment research activities, MCFN confirmed that there had already been significant impacts on Mikisew culture and rights throughout their territory, including the Peace-Athabasca Delta (Candler et al. 2015). The Mikisew Cree Assessment concluded that if the Frontier project were built, there would be significant and adverse effects for the culture and rights of MCFN (Candler et al. 2015). Recognition of existing impacts solidified the importance of protecting the integrity of remaining areas for ensuring the future practice of Mikisew culture and rights – especially for areas supporting subsistence species such as bison.

To accommodate the anticipated impacts on Mikisew values, MCFN began engaging in dialogue with both Teck and the Crown to establish measures which could be applied to address the potential impacts of the Frontier project on MCFN's rights (AER and CEAA 2019). MCFN advocated for a Biodiversity Stewardship Area, which would help mitigate the project's impact on the Ronald Lake Bison Herd (the last herd supporting sustainable Mikisew harvest) (AER and CEAA 2019). In response, in 2018, the Government of Alberta announced its intention to establish a Biodiversity Stewardship Area Wildland Provincial Park adjacent to and immediately south of Wood Buffalo National Park (MCFN 2019).

MCFN communicated that they would withhold support for the Frontier Project until the Biodiversity Stewardship Area was solidified. In 2019, MCFN reached an agreement with the Government of Alberta, Teck, Imperial Oil, and Cenovus Energy for the mitigation of impacts on the sustainability of the wood bison harvest (Teck 2020b). As part of the mitigations agreement, Teck, Imperial Oil, and Cenovus Energy each voluntarily gave up oil sands and mining leases within the outlined BSA (Lavoie 2019). The agreement led to official recognition of the Biodiversity Stewardship Area – as the 161,880-ha Kitaskino Nuwenene Provincial Park – which would preserve key habitat and a land base for traditional land uses by Indigenous peoples (including bison hunting) (Teck 2020b). With this designation in place, Mikisew Cree announced their support for the Frontier Project (Johnson 2020). Shortly after, in 2020, Teck formally withdrew their application for the Frontier Project prior to EIA decision-making (Teck 2020b). The project would no longer proceed, although the established Biodiversity Stewardship Area would remain. The decision not to proceed was unrelated to the MCFN assessment. Teck cited changing global capital markets, along with investor and customer uncertainty about Canada's lack of a framework that reconciles resource development and climate change, as reasons for withdrawing the project (Teck 2020b).

4. Discussion

The tools utilized for designing and implementing an ILIA process will vary among Indigenous Nations because such assessments will reflect their locations, histories, natural resource issues, and governance approaches. ILIA approaches and the tools used to support an assessment will also inevitably vary according to the project type and the level of cooperation from the proponent and other governments.

Canadian EIA is part of Crown decision-making power. Although BC and Canada's updated EIA laws have created new opportunities for ILIA, it remains untested if these processes will provide meaningful opportunities for Indigenous-led decision-making. Private contracts in the form of Framework Agreements may be developed to gain some legal leverage with project proponents in cases where the final decision-making authority remains with provincial and federal governments. This was illustrated through the Squamish Nation's Framework Agreement. The private contract (i.e. the Framework Agreement) was used by the Squamish Nation to have the proponent to comply with their laws. The Framework Agreement provided a unique way of recognizing Indigenous jurisdiction and ensuring that the Squamish Nation Process was applied as intended.

Other case studies suggest that in the absence of a framework agreement that specifies the terms and conditions to be followed by proponents, ILIA may risk not being applied as envisioned by the Indigenous Nation. This was evident in the TWN case study where there was no mechanism for ensuring that the Crown or the proponent would abide by their ILIA outcomes, or even consider them. A willing and respectful proponent can be a key part of establishing an effective framework agreement. However, governments (federal and provincial) must also be willing to accept the outcomes of an agreement-based process, and, therefore, the risks involved should be evaluated on a case-by-case basis.

A land use and consultation policy, as demonstrated in the TWN case study, is a tool for ILIA that can be employed for articulating the jurisdictional boundaries and rights-based criteria for when ILIA is required. The TWN Stewardship Policy designates any activities falling within their Consultation Area boundaries which may impact TWN rights or title require a process of consultation and review. Land use and consultation policy also provides a framework for transparent and consistent decision-making prior to the start of an assessment, rather than a process which is *ad-hoc* on a project-by-project basis. By establishing a guiding consultation and land use policy for ILIA, consistent procedures for decision-making are communicated to the Crown and proponent who will be engaging with ILIA. For example, the TWN Stewardship Policy clearly sets out that activities within the TWN Consultation Area will only be approved by the TWN if they are consistent with Tsleil-Waututh legal principles and stewardship obligations to their lands. Establishing consistent criteria for decision-making, including the environmental and cultural conditions necessary to meet such, provides a strategic foundation for assessing how a project contributes to achieving interwoven environmental, cultural, social, and economic objectives, rather than solely focusing on the significance of impacts (Atlin and Gibson 2017; Arnold et al. 2022). The decision-making criteria set out by the TWN Stewardship Policy are an example of how strategic objectives for cultural and environmental stewardship

can be considered through ILIA. Applying TWN's stewardship obligations as a pre-requisite to any discussions regarding the potential benefits of the project is divergent from conventional EIA approaches which consider the acceptability of immediate effects through potential trade-offs between the environment and economy (Gibson and Klinck 2005).

Setting clear expectations for consultation and engagement, and decision-making criteria, while helpful, does not guarantee the recognition and enforcement of Indigenous legal authority. Even though TWN conducted their assessment based on principles of consistency and transparency, and best EIA practices, the TWN's assessment-based decision on the project was ultimately disregarded by the Crown. Therefore, if not linked to other tools, such as contractual agreements, a land use and consultation policy may not hold the desired level of control in terms of asserting Indigenous authority in deciding if and how development should proceed.

Within EIA, institutional capacity challenges limit how practitioners and Crown decision-makers understand and consider the cultural, social, and environmental impacts of proposed activities on Indigenous peoples (Black and McBean 2017; Kadykalo et al. 2021; Arnold et al. 2022). Even where such information is brought forward, it is often not integral across all assessment phases or in decision-making (Muir and Booth 2012; Ritchie 2013; Bruce and Hume 2015; Craik 2016; Crawford 2018; Arnold et al. 2022). By establishing a customized review panel for ILIA, Indigenous Nations can control who conducts the assessment, thus ensuring that the team involved possesses the cultural capacity necessary to undertake an assessment that is representative of and responsive to the interests, values, histories, and location qualities of Indigenous communities. The customized review panel approach is also helpful for determining how information is collected and communicated, how different forms of knowledge are applied, how the acceptability of impacts is determined, or even what constitutes an impact. The SSN Assessment Process case study provides an example of how customized review panels – consisting of selected community members and leadership tasked with deep engagement throughout an entire assessment – helps confirm that community values, and place-based knowledge is central to ILIA when defining what constitutes an impact and the time and space over which impacts are assessed. The SSN Review Panel was designed so that the team involved in the SSN Assessment Process understood what was needed for the meaningful consideration of Pipsell as a cultural keystone area, according to Secwepemc worldviews. The SSN Review Panel was also used to reflect the unique community structure of SSN, facilitating equal representation, collaboration, and continuity across the SSN communities. For example, the SSN review panel was comprised of community members with relevant knowledge of SSN land use (Pipsell) and culture (e.g. key knowledge holders), social networks and community dynamics (e.g. family representatives), and multi-generational perspectives (e.g. elder and youth representatives). While customized review panels are an effective tool for supporting Indigenous Nations' determinations of if and how development should proceed, customized review panels on their own do not guarantee control over if those determinations are considered by statutory (Crown) decision-makers. Linking customized review panels to other tools, such as contractual agreements or government-to-government arrangements, will provide increased confidence that the ILIA will be used and considered as intended by the Indigenous Nation undertaking the assessment.

Although EIAs create a relationship between Indigenous Nations and proponents, they do not necessarily facilitate collaborative relationships between the two parties or provide a venue by which Indigenous support for a project can be provided directly to the proponent (Papillon and Rodon 2017). IBAs are used as a legal mechanism by which proponents can obtain consent from Indigenous Nations with respect to development within Indigenous territories (Sankey 2021). While IBAs have been an effective mechanism for providing economic benefits to Indigenous Nations in exchange for their 'consent' to projects, they have been criticized for circumventing broader issues related to the cultural and social impacts of a project (Papillon and Rodon 2017). IBAs are best negotiated following ILIA determinations regarding the severity and acceptability of impacts, as this will help create benefits beyond those which are solely economic so that Indigenous Nations environmental, cultural, and social priorities identified through their assessment are included within the agreement. The Ktunaxa Nation secured an IBA with the proponent to solidify that the measures included within their mitigations table – which was produced through the Ktunaxa Assessment – would be implemented through support from the proponent. As a result, the Ktunaxa-Teck IBA would include compensations specific to Ktunaxa priorities including cultural resource management, land and water stewardship, and employment and business development. The Ktunaxa case study also indicates how IBAs can be used to establish a collaborative relationship between Indigenous Nations and proponents beyond a single project. For example, the Ktunaxa Nation-Teck IBA extends throughout the Elk Valley, creating certainty for the Nation that their key interests for land and water stewardship are considered within each current and future Teck projects within the region. Despite the positive incentives that IBAs may provide for Indigenous Nations, it is important to note that entering an IBA

with the proponent does not provide a tool for increasing Indigenous jurisdiction and authority in relation to that of the Crown and, therefore, should be evaluated carefully when considering what is required for FPIC.

Land use planning can act as a valuable tool when completed prior to an ILIA, as it supports Indigenous Nations and their communities as they articulate their values and priorities, including pre-determined acceptable land uses, ecocultural baselines, goals, and objectives for integration into the assessment. The integration of acceptable land uses and ecocultural baselines can be used to increase the time scale by which cumulative effects occur, including knowledge regarding existing or past impacts, rather than only project-specific effects and the mitigation of impacts that would occur moving forward. Conventional EIA processes are often reactionary, as they are triggered in response to a single project. Therefore, the assessment is restricted to the impacts that can be directly tied to the proposed actions (Arnold 2021). To expand the scope beyond a single project focus, land use planning can be integrated into ILIA to provide information for considering the temporal context necessary for assessing a project alongside the legacy of development, which is essential to understanding and addressing cumulative impacts (Booth and Skelton 2011; Christensen and Krogman 2012). For example, the MCFN land use plan considered the cumulative effects of past development on Mikisew rights and title. The cumulative effects of past development were used alongside site-specific data on preferred species, means of harvest, and harvest locations. The site-specific land use data was used to determine acceptable land uses that may occur within specified areas, and the status and location of resources vital to maintaining Mikisew culture, rights, and was of life (ultimately contributing to the need for and eventual establishment of the Biodiversity Stewardship Area). The MCFN case study illustrates that when used alongside ILIA, land use planning is a tool for facilitating the accessibility and connectivity of baseline data from planning exercises to better understand anticipated project impacts against past baselines and pre-identified values, which was then used to guide the design of mitigations.

While land use planning may not necessarily increase Indigenous control over if and how development projects should proceed, when linked to ILIA, land use planning can increase efficiencies throughout ILIA activities. Within many regions that have experienced a rapid expansion in industrial activity, Indigenous-led studies have struggled to keep pace with the growing body of scientific work on environmental impacts conducted by proponents (Westman and Joly 2019). The result is an over-reliance on scientific information that fails to consider the legacy of development on Indigenous social and cultural systems (Christensen and Krogman 2012; Gillingham and Johnson 2016; Davies et al. 2018). Land use planning is a tool that can be used to close the information gap between community-based ethnographic information and scientific or other data. For example, the MCFN land use planning process initiated the completion of community-based past knowledge and use studies (i.e. Traditional Land Use Surveys) that included information on the past and present practice of Mikisew Cree ways of life (e.g. harvesting) as indicators to track existing impacts linked to the legacy of development. The Mikisew Cree ethnographic data from the past knowledge and use studies were used alongside quantitative scientific data for the assessment of the Frontier project. Completing Indigenous-led ethnographic studies, such as past knowledge and use studies, during land use planning would be proactive, rather than reactive to the information needs that arise during a project-based assessment. By linking existing data sources from land use plans and planning exercise into ILIA, resources, including time, financial, and human capacity, can be saved. Land use planning exercises will also help build internal capacity for natural resource management among community members, leadership, and staff – which will provide information and guidance if an Indigenous Nation decides to lead an assessment.

There has been extensive research about the limitations of consultation-based approaches to Indigenous participation in EIA, with many authors highlighting the importance of including Indigenous peoples and their knowledge systems throughout the full process of assessment and into decision-making (Croal et al. 2015; Sandlos and Keeling 2016; McKay and Johnson 2017; Udofia et al. 2017). In response to the critiques of EIA and the inadequate consideration of Indigenous perspectives, there remains a tendency to present opportunities to integrate Indigenous peoples and their knowledge into existing EIA processes, rather than to consider other models and tools that challenge the political and cultural underpinnings of conventional EIA (Houde 2007; Bond et al. 2015; Gondor 2016; Moore et al. 2017; Behn and Bakker 2019). We argue that ILIA can offer a model for overcoming the limitations of conventional EIA in considering Indigenous perspectives. ILIA can be linked to tools such as framework agreements, customized review panels, land use consultation policies, impact, and benefit agreements, and land use planning. With the appropriate tools, ILIA is equipped to advance Indigenous decision-making authority, stewardship obligations, place-based values and local realities, the benefits of development, and considerations for the legacy of development within project-based assessments.

5. Conclusion

This paper describes recent practice for the design and implementation of ILIA. We have highlighted operational tools for ILIA, including framework agreements; customized review panels; land use and consultation policies; IBAs; and land use planning. As the field and practice of ILIA continues to expand – especially in jurisdictions which implement supportive legislation for ILIA (as seen in BC provincial and Canada's federal updated EIA regimes) – there will be a growing body of examples of the innovative tools utilized by Indigenous Nations during the design and implementation of their assessments. Future research can help highlight the opportunities for increasing the scope, effectiveness, and other examples of the tools for ILIA. Although our work focused on ILIA processes that were implemented within the BC and Canada EIA setting, the case study examples, and associated tools have extension value for Indigenous peoples and EIA practitioners in jurisdictions outside of Canada who are looking to understand how ILIA can be operationalized to reflect the locations, histories, natural resource issues, and governance approaches of the Indigenous Nations. The tools identified here can be helpful to Indigenous governments and other organizations looking to develop their own approaches to assessment, and for understanding the relative strengths and experiences of options they may consider or adapt for their own settings and needs.

Notes

1. Among others, examples include *Haida Nation v. British Columbia* [2004] SCC 73; *Rio Tinto Alcan Inc. v. Carrier Sekani Tribal Council* [2010] SCC 43; *Chippewas of the Thames First Nation v. Enbridge Pipelines Inc* [2017] SCC 41; *Clyde River (Hamlet) v. Petroleum Geo-Services Inc*. [2017] SCC 40.
2. The term 'Crown' conceptualizes the Canadian state, including the provincial and federal governments that exercise the executive powers that govern the country.
3. UNDRIP includes the concept of Free, Prior, and Informed Consent (FPIC) as a means of giving effects to the self-determining rights of Indigenous peoples.
4. In particular, the BC Environmental Assessment Act, 2018, introduced the requirement for seeking consensus with participating Indigenous Nations, which is different and likely more robust than the duty to consult and accommodate required by Canadian constitutional law. See Friedman's article 'Major Project of Reconciliation: Locating an Indigenous Consent Standard within the BC *Environmental Assessment Act*, 2018' (2023) for a further description of how the BC Environmental Assessment Act, 2018, 'signals the provincial government's intention to reconcile inconsistencies between UNDRIP and BC's environmental assessment law' (688).
5. The sequence/order for each case study does not follow the same exact structure. This was done intentionally to develop a narrative for each ILIA case that explains the series of events which influence the development, decision-making, and administration of the tools within each unique process.
6. IGB refers to the entity that holds authority to made decision on behalf of an Indigenous Nation, group, community, or people. IGB is used throughout this paper as a precise term when describing the tools for ILIA which are designed, negotiated, and implemented through Indigenous Nations, groups, communities, or peoples' representative governments.
7. These Acts are the precursors to the ones presently in force (BC's 2018 *Environmental Assessment Act* and Canada's 2019 *Impact Assessment Act*).
8. The Government-to-Government Framework Agreement and subsequent Environmental Assessment Collaboration Plan if a further example of how agreements can be secured for the purpose of ILIA to ensure it is given adequate consideration.
9. Indigenous legal traditions are often recorded in oral form (Burrows 2002). Land use and consultation policy is one mechanism by which IGBs can communicate and implement binding Indigenous law within its own legal order. See John Burrows article 'Indigenous Legal Traditions in Canada' (2005), for a further description of the diverse forms and conventions of Indigenous legal traditions.
10. See *Tsleil-Waututh Nation v. Canada* [2018] FCA 153 and *Coldwater First Nation v. Canada* [2020] FCA 53.
11. IBAs have been criticized for undermining Indigenous control and jurisdiction over their territories in the long term (Scott 2020). For example, the contractual nature of IBAs can limit freedom of expression by community members who may be opposed the project covered by an IBA (Pasternak 2020), and cap the scope of impact and benefits dialogue to anticipated impacts rather than the emergent impacts which may occur throughout the term of a project's operation (Cameron and Levitan 2014; Pasternak 2020).

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by the University of British Columbia Eminence Fund; University of British Columbia Centre for Environmental Assessment Research; Social Sciences and Humanities Research Council of Canada.

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