

Incorporating Social Impacts into Cumulative Effects Assessment: Lessons and Best Practices

Tsinlhoqx Biny (Chilko Lake)



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INTRODUCTION

Spring run-off floods a hay meadow near Xenigwet'in

INTRODUCTION

This report provides the results of a two-year collaborative research project aimed at improving understanding of processes and methods for assessing cumulative social effects. The work was led by a team from the T̓silhqot̓'in National Government (TNG) Nen (Water, Lands, and Resources) Department and the University of British Columbia's Centre for Environmental Assessment Research (CEAR).

The project had two key focuses:

1. To support the development of an approach to Cumulative Effects Assessment (CEA) that is practical and aligned with the objectives of the T̓silhqot̓'in Nation
2. To identify broadly applicable lessons and define best practices for weaving social impacts into CEA.

The work was done between April 2021-March 2023.

The impacts of multiple resource development projects accumulate over time and space and can cause significant, unexpected, and

sometimes irreversible changes to the environment and social systems. Accounting for these *cumulative effects* has been a challenge during the project-based Impact Assessment (IA)¹ processes used to evaluate many development projects. Conducting evaluations of cumulative effects is a critical component of IA processes in Canada, and has implications for Indigenous rights and governance of land and resources, and broader landscape level planning. While there has been a significant research focus on advancing the scientific and technical capacities required to predict and monitor environmental cumulative effects, there is a need to understand cumulative effects to social systems, which includes impacts on communities and individual's health and well-being, economic opportunities, and the connections between environmental qualities and cultural-social sustainability.

1 Environmental Impact Assessment (EIA or EA) and Impact Assessment are often used interchangeably to refer to the process for assessing impacts of prospective development projects. Many Canadian provinces and territories use EIA or EA, while under federal legislation the term IA is used. TNG has elected to use the term IA, and therefore we use this term throughout this report.

The T̓silhqot̓in National Government (TNG) represents six T̓silhqot̓in communities: Tl'etinqox, ʔEsdilagh, Yunešit'in, T̓sideldel, Tl'esqox and Xenigwet'in. Understanding cumulative effects and integrating Cumulative Effects Assessment (CEA) into IA and planning is a priority for TNG. The T̓silhqot̓in Nation has extensive experience in IA and is the first and to-date only Indigenous Nation in Canada to secure a court declaration of Aboriginal Title over a portion of their territory. The T̓silhqot̓in have traditionally managed for cumulative effects through their *Dechen Ts'edilhtan* (laws) and understand the importance of assessing how the land, water, plants, animals, air and people are affected by the multitude of impacts that are felt over time and space. This project was conducted in alignment with the Nation's development of an IA process that will guide how potential development projects affecting T̓silhqot̓in territory and people will be assessed. The T̓silhqot̓in Nation is also working to develop community level land use plans. Cumulative effects was identified as a central guiding criteria for these processes, including understanding cumulative impacts to community wellbeing and livelihood.

Objectives and Approach

The project was designed to support TNG's objective of developing processes for understanding cumulative social impacts on the Nation's territory, and to identify key lessons and best practices for assessing cumulative social impacts that are useful for other Indigenous Nations, regulators, governments, and proponents.

Four key objectives guided the work:

1. Synthesize information on requirements for CEA and social impacts, best practices, methods, and data management approaches for assessing cumulative social effects.
2. Identify and evaluate case studies of Indigenous led IAs completed in the Canadian context.
3. Support TNG in developing a CEA framework for T̓silhqot̓in territory that align with the development of the Nation's IA process.
4. Develop a set of experience-based best practice principles for CEA that can support Indigenous organizations/governments, regulators, proponents, and others engaged in impact assessment.

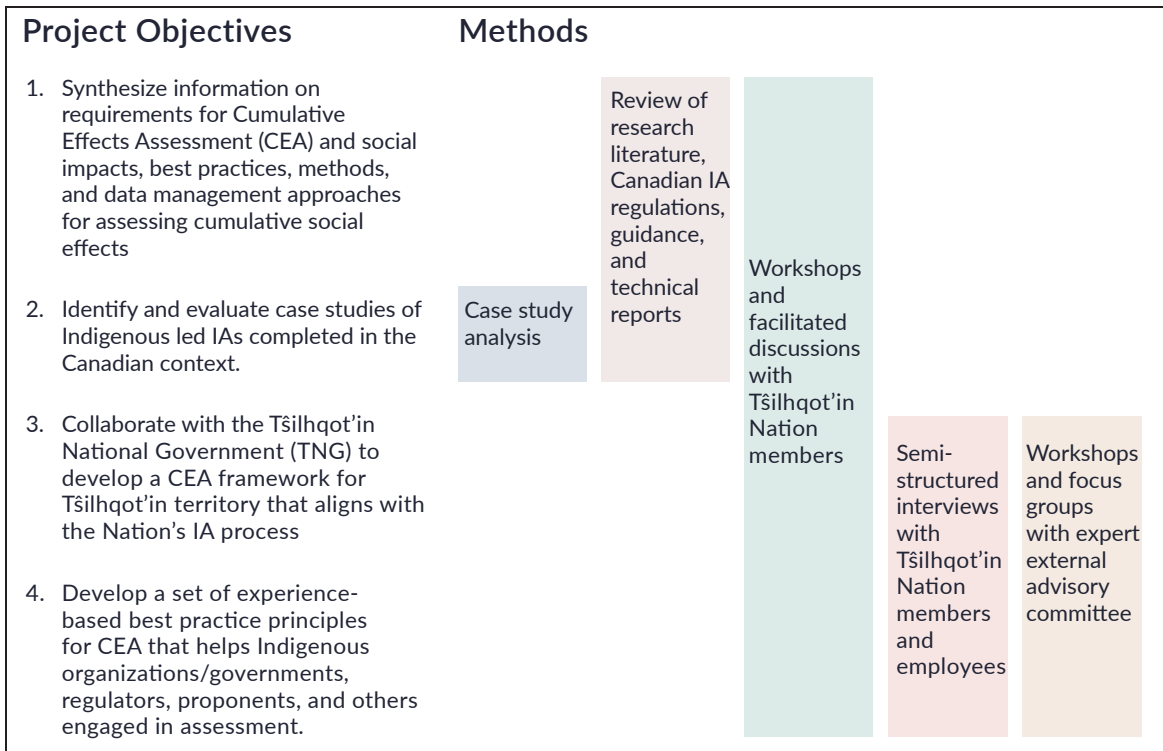


Figure 1: Project Objectives and Methods

The research methods used to explore these objectives are presented in Figure 1. This research project involved conducting targeted literature reviews of academic research and regulatory processes and guidance, and case study analysis of Indigenous-led IAs. It also involved close collaboration with the T̓silhqot̓'in Nation to: 1) develop an approach to assessing cumulative social effects that is practical and aligns with the Nation's values and priorities, and 2) to identify broad lessons and best practices about assessing cumulative social effects that can be applied in other settings. Over the course of the two-year

project, numerous workshops and meetings were held with Nation members, community Chief and Councils, and TNG leadership groups, including the T̓silhqot̓'in Governance Council and T̓silhqot̓'in Women's Council. Seventeen semi-structured interviews were conducted with Nation members, knowledge holders, and TNG staff. The interviews were facilitated by the TNG members of the research team and conducted according to the research ethics and requirements of the Nation. Analysis of interviews was done collaboratively and ongoing engagement was completed to verify results and key themes and findings. This project also

involved forming an external expert Advisory Committee. This Committee consisted of members external to the T̓silhqot'in Nation who have expertise and extensive experience working in IA and CEA in Canada. The Advisory Committee's mandate included reviewing preliminary results, providing feedback on draft project materials, and providing guidance on the key findings and results of the project. A record of all of the meetings, workshops, and interviews held for this research project is provided in Appendix 1.

Report Structure

Part 1 of this report discusses what is known about effectively accounting for cumulative social effects drawing from available literature, regulatory guidance, and technical reports, and discusses key challenges for assessing these impacts. Part 2 identifies the lessons for assessing cumulative social effects that emerged from an analysis of five case studies of Indigenous led IA (ILIA) completed in Canada. Part 3 of the report provides an overview of the T̓silhqot'in approach to CEA in relation to the Nation's IA process and broader management.

Part 4 of the report identifies the key principles for assessing cumulative social impacts that emerged through this collaborative work with the T̓silhqot'in Nation and building on the reviews and case study analysis completed for this project. The results of this project combine literature reviews, practice-based case studies, and the expertise and experiences of the T̓silhqot'in Nation to provide guidance and principles for assessing cumulative social effects that are valuable for advancing IA across Canada and to regulators, practitioners, proponents, and Indigenous Nations.



PART 1

CUMULATIVE SOCIAL EFFECTS

Tsiyi (Bull Canyon) is an important place for the T̓silh̓qet̓in for cultural and spiritual practices including harvesting foods and medicines, collecting spring water, conducting ceremony, and teaching youth to care for the land and honour their ancestors

CUMULATIVE SOCIAL EFFECTS: LESSONS, CHALLENGES, AND REGULATORY EXPECTATIONS IN CANADA

What are Cumulative Social Impacts?

The term *cumulative* generally refers to the reality that environmental impacts resulting from human decisions and activities combine and interact with each other and other stressors across geographic regions and over time.ⁱ While an intuitive concept, operationalizing a definition of cumulative effects as part of IA and environmental management processes has been difficult. Some define cumulative effects to include changes resulting from natural environmental stressors and large-scale issues such as climate change, while others restrict the focus to project level land-use decisions.ⁱⁱ Impacts from multiple sources may interact and influence each other in complex ways and be the product of large-scale changes and/or small changes and difficult to detect until an unacceptable condition is reached.ⁱⁱⁱ This cumulative nature of change has been described as “death by a thousand cuts” or the “tyranny of small decisions”; the individual impacts from different sources may not appear significant,

but when considered together may be devastating.^{iv} Cumulative Effects Assessments (CEAs) have been confronted with many challenges including the availability of data and information, adequate organizational capacity support, and in meaningfully applying CEAs within project IA processes and at regional and strategic assessment levels.^v

In addition to these challenges, there is a lack of applied knowledge for how to include social impacts in CEA. It has been consistently argued that CEA should include social impacts,^{vi} but specific definitions of cumulative social effects or discussions of how to assess them are rare within research and guidance materials. Within Social Impact Assessment research, definitions of social impacts typically include a broad range of social, health, cultural, and economic values. Burdge and Vanclay offer an often-used definition which describes social impacts as including all changes that alter people’s wellbeing, or the way that people “live, work, play, relate to one another, organize to meet their needs, and generally cope as members of society” (1996, 59).^{vii}

This includes changes to people’s culture, community services and infrastructure, governance and political systems, environment, health and wellbeing, and economy. Importantly social impacts are measurable social changes, but are also experienced physically and/or perceptually by individuals and/or communities.^{viii}

The importance of understanding value-based perceptions and experience of social changes has also been recognized within the CEA research field. Arnold et al (2022) put forward a conceptual framework that identifies three interrelated dimensions of cumulative social effects: 1) changes to social systems directly caused by project activities, such as demographic changes

or changes to infrastructure and services; 2) changes to social systems directly caused or exacerbated by a biophysical change caused by project activities, such as changes to land-use and access; and 3) changes to human experience caused by changes to social systems (Figure 2).^{ix} All three of these dimensions are essential to understanding the cumulative social effects of projects.

REGULATORY EXPECTATIONS IN CANADA

Impact assessment legislation throughout Canadian provinces and territories broadly outline an intent to preserve the sustainability and quality of environment and social, economic, health and cultural

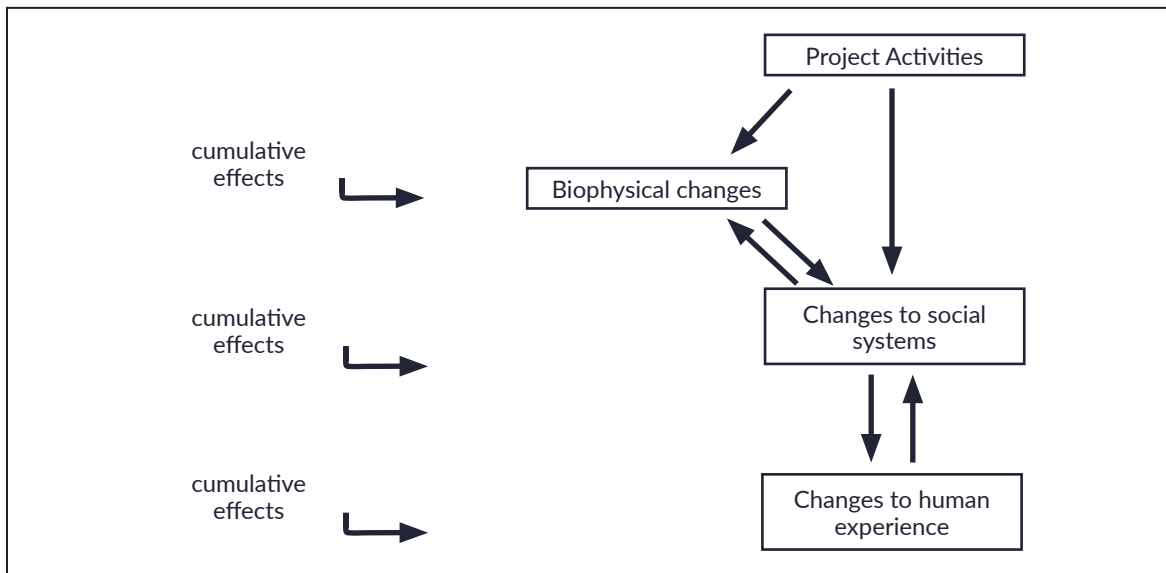


Figure 2: Conceptual framework for the cumulative social effects of projects (Arnold et al., 2022). Used with permission.

systems; IA is often framed to include social systems and impacts, though jurisdictions vary in how they address such impacts formally or informally, and the extent to which they are viewed as cumulative. CEA was first formalized in Canada in the *Canadian Environmental Assessment Act* (1992). The requirement to assess cumulative effects and the guidance that has evolved under Canada's (federal) current *Impact Assessment Act* (2019), and under the previous *Canadian Environmental Assessment Act* (2012) has been instrumental in supporting the application of CEA within some provincial and territorial processes.^x

In all Canadian IA jurisdictions where cumulative effects are explicitly defined, either in regulation or in guidance materials it is defined to include social impacts. For instance, under the *Impact Assessment Act* (2019) IA must take into account "the changes to the environment or to health, social or economic conditions and the positive and negative consequences of these changes that are likely to be caused by the carrying out of the designated project, including... any cumulative effects that are likely to result from the designated project in combination with other physical activities that

have been or will be carried out".^{xi} However, specific guidance for how to define and assess cumulative social effects is sparse within Canadian IA jurisdictions. For instance, BC, Alberta, Saskatchewan, Ontario, Nunavut, Northwest Territories, and the Yukon all provide some guidance for CEA, but these materials focus on biophysical impacts.^{xii} Many provincial and territorial jurisdictions also defer to federal level guidance and expectations for CEA. At the federal level, the "Practitioners Guide" (2020) is clear about including health, social, economic, cultural, and Indigenous rights impacts in CEA and also sets an expectation for collaboration with Indigenous groups.^{xiii} But at this time, little detail is provided in how to carry out a social CEA or an integrated CEA. Within the Government of Canada's guidance for "Analyzing Health, Social, and Economic Impacts Under the *Impact Assessment Act*" (2020) the term 'cumulative effects' is mentioned just once.^{xiv} A similar challenge has been observed within research; CEA is expected to include social impacts, but there is minimal targeted research, guidance, or frameworks for how to carry out a meaningful assessment of these impacts.^{xv}

Applying CEA Frameworks to Social Impacts

Approaches to CEA have evolved over four decades of research and there have been many frameworks proposed that outline the steps for CEA.^{xvi} Most tend to be similar to the stages of IA, adding a set of considerations to account for cumulative change. In most cases IA and CEA are based on Valued Components (VCs) which are components of the environment that might be affected by the proposed project and are environmentally and/or socially important.^{xvii} Most frameworks for CEA include: a scoping phase to identify cumulative effects and the VCs to focus on; a retrospective analysis to establish the baseline for VCs, and to understand changes over time; a prospective analysis to evaluate project impacts and other actions within the region and how VCs might respond to these disturbances; and a significance determination about whether projected cumulative changes in VCs are tolerable or acceptable.^{xviii} The process for CEA as outlined under Canadian federal guidance aligns closely with those developed in research and includes

five broad stages: scoping, analysis, identification of mitigation, evaluation of significance, and follow-up (Figure 3). This process is consistent with most CEA frameworks applied in Canada, including the process outlined under *BC's Environmental Assessment Act* (2018).

In our work we did not find specific guidance in Canadian jurisdictions for how to apply CEA frameworks to social impacts, or specific approaches for assessing cumulative social effects. There is an assumption, if not an expectation, that the frameworks and processes developed for assessments of cumulative environmental effects be applied to social impacts. However, our review identified a number of challenges that cumulative social effects present for these CEA frameworks.

CHALLENGE 1) IDENTIFYING CUMULATIVE SOCIAL EFFECTS

The purpose of the scoping phase is to identify what the assessment should focus on. This includes both the environmental and social components and impacts the assessment includes (VCs), and the geographic areas and timeframe the

Steps For Cumulative Effects Assessment As Outlined In The Impact Assessment Agency’s “Technical Guidance For Assessing Cumulative Environmental Effects Under The Canadian Environmental Assessment Act, 2012” (2018)

1. Scoping

- ▶ Identify Valued Components for which residual environmental effects are predicted
- ▶ Identify spatial and temporal boundaries
- ▶ Identify other projects/actions that may affect Valued Components

2. Analysis

- ▶ Collect regional baseline data
- ▶ Assess project effects on selected Valued Components
- ▶ Assess effects of all selected projects/actions on Valued Components

3. Identification of mitigation

- ▶ Recommend mitigation measures to lessen impacts

4. Evaluation of significance

- ▶ Determine significance of residual impacts (those which persist after mitigation)
- ▶ Compare the results against thresholds or land use objectives

5. Follow-up

- ▶ Recommend regional monitoring and effects management

Figure 3: Steps for CEA adapted from the Impact Assessment Agency of Canada guidance. Updates to this guidance for assessments under the Impact Assessment Act (2019) were not available at the time of writing. <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/assessing-cumulative-environmental-effects-ceaa2012.html>

assessment considers. A number of criteria might be considered in selecting VCs, for instance under the *Canadian Impact Assessment Act* (2019) selection should consider the presence of the VC in the study area, the potential of the project to interact with the VC, the extent to which the VC is already under stress, the extent to which the VC is linked to Indigenous interests or rights, whether it has been identified as a government priority, and whether potential effects of the VC can be measured and monitored.^{xix} For CEA, the focus is on VCs for which residual and adverse² project impacts are expected.

There has been both support and critiques of a VC based approach for CEA. Identifying VCs provides focus for the IA and CEA and ensures the assessment prioritizes issues and components that are important and likely to be impacted by the project. However, such an approach can result in a ‘siloes’ assessment where components of the environment and social systems are treated separately. For social impacts there is a tendency to focus on the “things

that can be counted” using technical data^{xx} rather than those impacts and issues that might be most important to people affected by the project.^{xxi} For instance, case study research has demonstrated that the scope of impacts and values that are important from the perspective of Indigenous peoples is often beyond the set of ecological components included within assessment processes, and spiritual, or ethical information related to projected project impacts are often dismissed as anecdotal.^{xxii}

CHALLENGE 2) DEFINING THE SCALES OF ASSESSMENT

Another key objective of the scoping phase is to identify the space and time boundaries of the assessment. Understanding cumulative change requires an assessment at the scale over which the VC operates. For environmental components ecologically driven, and often regional, spatial scales are necessary for CEA, but there is much less research focused on defining appropriate scales for cumulative social effects that may manifest differently locally and regionally. Further, the time frame considered in the assessment is critical for social impacts. The consequences

² A residual adverse impact is one that cannot be avoided or decreased to an acceptable level through the application of mitigation measures, and which has negative (adverse) consequences

of past resource developments, and the cumulative effect of social changes from multiple sources are important for understanding current social conditions. Such historic changes or legacy impacts are often a central focus for Indigenous Nations affected by development and public discussions of projects, but have been difficult to include in assessment and decision-making, particularly those that are less “tangible” such as impacts to culture, spirituality, social cohesion, and psychological health.^{xxiii}

CHALLENGE 3) IMPACT ANALYSIS AND EVALUATION

In respect to cumulative social effects, there is a unique set of methodology challenges for indicator selection, impact prediction, and decision-making. Research on social indicators cumulative impact modelling has been critiqued as predominantly descriptive with few causal relationships to land use change.^{xxiv} Narrative descriptions of social change dispersed over long time periods can be difficult to link to specific development activities and incorporate into management and assessment processes.^{xxv} Where quantitative approaches for measuring social change are applied,

they are often critiqued as limited by data availability and a narrow selection of easily measurable values, for instance job creation.^{xxvi} There is a challenge associated with the need to consistently include indicators for social cumulative change, and the reality that such indicators are context specific and are not transferable as a ready-made framework to be applied in different settings.

CHALLENGE 4) IMPACT SIGNIFICANCE

Under the *Impact Assessment Act* (2019), determinations of impact significance, or whether the projected impact on a VC is “acceptable”, are based on environmental or social thresholds and factors such as the projected impact’s severity, reversibility, and duration. For CEA, this requires determining the extent to which the project under review will contribute to cumulative effects for a specific VC and whether that contribution is significant. This expectation of attributing a specific portion of cumulative effects to the project is challenging for social impacts. For example, in an analysis of practitioner experiences in Canadian hydroelectric IAs Arnold

et al (2022) identified that for many social impacts this expectation is impossible, such as gendered violence associated with construction camps and transient workforces, mental health impacts, and cultural trauma: “The challenge is that arguably there is no amount of data that could answer the questions that EA processes are asking about cumulative social effects.”^{xxvii}

CHALLENGE 5) ASSESSMENT OUTCOMES

Once a project is approved after an IA it will be accompanied by a set of binding measures, recommendations, and/or commitments for ongoing management. The post-decision phase is important for cumulative social effects management, though has been critiqued as a weak aspect of practice.^{xxviii} Challenges exist in that it may be difficult to apply compliance and measurement targets to social impacts that are hard to quantify or monitor using technical or scientific means. Social impacts and outcomes are challenging to predict, and ongoing management and monitoring are needed to understand whether mitigation measures have been effective and whether projects are delivering on their commitments

and projections.^{xxix} However, there is often little long-term attention paid to social impacts and performance, and often no mechanisms to identify or apply consequences if a project fails to deliver on predicted socioeconomic benefits.

PART 2

CASE STUDIES OF INDIGENOUS LED IMPACT ASSESSMENT

Sagebrush grasslands near T'esqox where the T̓silhqot'in harvest sage for ceremonial practices and medicinal use

EVALUATING CASE STUDIES OF INDIGENOUS LED IMPACT ASSESSMENT

Within Canada and internationally, cumulative social effects have become a particularly important issue for Indigenous communities confronted with industrial development affecting their territories, environmental and social systems, and their ability to exercise their rights and protect their interests.^{xxx} Cumulative effects is a concept included in many IA regulatory regimes, but also has a long and independent history in many Indigenous knowledge systems.^{xxxi} Examples of Indigenous led IA approaches are emerging in Canadian IA jurisdictions. Indigenous perspectives on CEA and management, including approaches to understanding social impacts are valuable for improving assessments of cumulative social effects and impacts on Indigenous peoples and their rights and for advancing and guidance and regulation in Canada.

Indigenous-led impact assessment (ILIA) refers to a process to evaluate proposed projects that is designed and carried out by Indigenous governing bodies according to their own values, concerns, and priorities. ILIA may be designed and implemented in a number of ways and may be managed in coordination with

a Crown IA agency, co-developed with a project proponent, or designed and completed independently by an Indigenous government body. For this project, five case studies of Indigenous Led Impact Assessments in Canada were selected and each was evaluated to identify the context of the assessment, key characteristics and approach of the assessment, and the specific outcomes and lessons for assessing cumulative social effects.³ The objective of the analysis was to identify what can be learned about assessing cumulative social effects from these case studies of ILIA. A concise summary of each case study is provided in Boxes 1-5. The approach to CEA in each case study was unique and reflective of the specific context of the assessment and the values of the Nation, however four key lessons emerged across the case studies and are presented in the following section. A more detailed series of extension documents has also been produced

³ These case studies were initially selected and developed as part of Jeffrey Nishima-Miller's Master's degree thesis and have been used and expanded upon for this research with permission. Nishima-Miller, J. (2021). Indigenous-led impact assessment: approaches, requirements, and degrees of control. University of British Columbia. <https://open.library.ubc.ca/soa/clRcle/collections/ubctheses/24/items/1.0397493>

Box 1: Tsleil-Waututh Nation

The Nation

Tsleil-Waututh Nation is a Coast Salish First Nation whose traditional territory includes Vancouver and Lower Mainland, BC.

The Project

In 2013, Kinder Morgan Canada submitted an application for the Trans Mountain Pipeline and Tanker Expansion. The proposed project would add a new line to the existing Trans Mountain Pipeline, and several project components affected Tsleil-Waututh Nation territory including increased marine tanker export traffic.

Assessment

The Tsleil-Waututh Nation have established a consultation area and Stewardship Policy expressing their jurisdiction for their territory, guiding engagement for projects. Under this policy, Tsleil-Waututh Nation decision-making is focused on two lenses: 1) assessing projects according to the Nation’s legal principle thresholds and sacred obligations to the land, water, air and resources in their territory, and 2) assessing project impacts to determine how to avoid or mitigate impacts, and how a project might be designed to have a positive impact on the territory and Tsleil-Waututh people. The second lens is considered in the event that a project is not in violation of the Nation’s legal principles and obligations under lens 1.

The Tsleil-Waututh Nation completed their own assessment of the Trans Mountain Pipeline Expansion that was intended to run in parallel to the Crown assessment process for the project. In assessing the Trans Mountain Pipeline and Tanker Expansion Proposal, Tsleil-Waututh Nation defined a series of environmental, social, and cultural valued components under their first decision-making lens. The effects of the project on these valued components was assessed, including the contribution of the project to cumulative effects, and the effect of the project on the future of the Nation and its territory. Among the reflective questions asked was: does this represent the best use of the territory?

Outcomes

Tsleil-Waututh Nation’s assessment concluded that the TMEX proposal did not represent the best use of their territory, which negating the need to apply their second lens of decision-making. TWN filed their assessment report with the National Energy Board as an independent jurisdiction, though it was received as a traditional land use study. The project was granted federal approval in 2016 and a BC environmental assessment certificate in 2017.

Additional information can be found at: <https://ok-ccar.sites.olt.ubc.ca/files/2023/01/The-Tsleil-Waututh-Nation-Assessment.pdf>

Box 2: Stk'emlu'psemc te Secwepemc Nation

The Nation

Stk'emlu'psemc te Secwepemc Nation (SSN) is an Indigenous governance group including the Tk'emlu'pste Secwepemc Indian Band and Skeetchestn Indian Band. Their traditional territories are located in Interior British Columbia

The Project

In 2011, Kombinat Górniczo-Hutniczy Miedzi Ajax Mining Inc. (KGHM) applied for approval to develop, operate, and decommission an open-pit copper and gold mine and ore processing facility located in the territories of the SSN, near the city of Kamloops, BC. Due to the size of the project, it required both federal and provincial assessment. The proposed mine site would encompass an area known by SSN as Pipsell - an area of cultural, spiritual, and physical importance to the SSN peoples.

Assessment

In response to the Ajax mine proposal SSN designed the Stk'emlu'psemc te Secwepemc Nation Assessment Process. This process was designed to align with SSN laws, governance, traditions, and customs and to take into consideration the "Principle of Walking on Two Legs", which emphasizes Secwepemc knowledge and worldviews while also incorporating European derived "western" scientific knowledge. A Government-to-Government Framework Agreement was created for the project assessment to establish a collaborative relationship between SSN and the BC government.

SSN independently considered the Valued Components (VCs) that were part of the coordinated federal and provincial assessment and requested that two more social VCs, Aboriginal economies and current use of lands and resources for traditional purposes, be included. To reflect SSN's connection to the land, the assessment was developed to be consistent with SSN's own governance and incorporate the role of Pipsell as a cultural keystone area. A six-step community-based assessment methodology was applied to guide the assessment and decision-making.

Outcomes

The SSN Review Panel recommended that the Ajax Mine Project should not proceed, due to negative impacts on intergenerational knowledge transfer of SSN's traditional, cultural, and spiritual practices, and due to conflicts with the SSN land use objective for Pipsell. SSN provided a formal decision package to the BC and federal assessment offices. Both BC and Canada rejected the project on the likelihood of significant adverse environmental effects.

Additional information can be found at: <https://ok-ccar.sites.olt.ubc.ca/files/2023/01/The-Stkemplupsemc-te-Secwepemc-Nation-Assessment-Process.pdf>

Box 3: Squamish Nation

The Nation

The Squamish Nation is a Coast Salish First Nation whose traditional territories cover the lower mainland of BC.

The Project

In 2013, Woodfibre LNG (Liquefied Natural Gas) and Fortis BC proposed an LNG processing and export facility at the former Woodfibre pulp mill site, about seven kilometers southwest of Squamish, BC. A significant portion of this project would take place in the Squamish Nation’s territory and affect the Nation’s rights.

Assessment

In response to the Woodfibre LNG proposal, the Squamish Nation developed and implemented its own independent assessment process for major projects within its territory: the Squamish Nation Process. This process was designed to operate independently of the provincial and federal IA process. The Squamish Nation established a Framework Agreement. This is a legally binding agreement between the project proponent and the Nation, setting out the terms and conditions of participating in the Squamish Nation Process.

The Squamish Nation identified their key interests through a single valued component: assessing the projects anticipated impacts on Aboriginal rights. Several interconnected measures (guiding topics) were used to gauge anticipated impacts to this overarching VC, including transmission of culture and history, growth and revitalization of language, and governance and management objectives, marine environment, and use and occupancy of the impacted region.

Outcomes

The project was approved under the Squamish Nation’s process and a set of conditions were included within the Squamish Nation Environmental Certificate, and including conditions aimed at addressing cumulative effects. Initially the Squamish Nation’s conditions were not included in BC’s conditions for approval, but the proponent was legally bound by the Framework Agreement, and applied for BC to amend its conditions to include the Nation’s conditions.

Additional information can be found at: <https://ok-ccar.sites.olt.ubc.ca/files/2023/01/The-Squamish-Nation-Process.pdf>

Box 4: Ktunaxa Nation

The Nation

The Ktunaxa Nation Council is an Indigenous governance group (tribal council) of the Ktunaxa Nation, consisting of four communities, including ʔakisq nuk (Columbia Lake) First Nation, Yaqan Nukiy (Lower Kootenay) First Nation, ʔaq am (St. Mary's) First Nation, and Yaq it ʔa·knuqʔi't (Tobacco Plains) First Nation. The Ktunaxa territories encompass what is often called the Kootenay region, in Southeastern British Columbia, as well as parts of Alberta, Montana, Washington and Idaho.

The Project

In 2011, Teck Resources Limited applied to expand their current production at the Fording River Operations Coal Mine. Teck Resources Limited is among the most prominent of industry proponents within the Ktunaxa territories and had signed a protocol agreement that included guidance for collaboration on project assessments.

Assessment

The Ktunaxa Nation Rights and Interests Assessment was completed collaboratively with the proponent. VCs, including one for cumulative effects, were created through a community-based process and according to the Nation's governance structure. Once baseline data collection was completed for each VC, and the relevant issues, concerns, and potential effects were identified for the project, a mitigations table was designed to reduce potential negative effects and increase the impact of potential positive effects.

Outcomes

The Swift Coal Mine Expansion was granted a BC Environmental Assessment Certificate in 2015. At this time Teck Resources Limited and the Ktunaxa Nation Council were in the process of negotiating an Impact Benefit Agreement to apply to the entire Elk Valley and that if approved was expected to confirm mitigation and commitments made in the application. In 2016, following other expansion proposals, Teck and the Ktunaxa Nation concluded negotiations for the agreement, which committed both parties to the continuance of sustainable mining in the Elk Valley.

Additional information can be found at: <https://ok-ccar.sites.olt.ubc.ca/files/2023/01/The-Ktunaxa-Nation-Rights-and-Interests-Assessment.pdf>

Box 5: Mikisew Cree First Nation

The Nation

The Mikisew Cree First Nation (MCFN) are a Treaty 8 First Nation whose traditional territory covers parts of northeastern Alberta, including the northern Alberta oil sands.

The Project

In 2011 Teck Resources Limited (Teck) applied to develop, operate, and decommission the Frontier Oil Sands Mine Project. The project has since been abandoned but would have been the largest single oil sand pit mine in Canada. Due to the size and extent of the project, it was subject to federal and provincial (Alberta) IA. The proposed project was within the territories of the MCFN. The project would also take place in the Peace-Athabasca Delta, which is a Mikisew cultural keystone area, and in an area important for habitat to support sustainable bison harvest.

Assessment

Following preliminary discussions between MCFN and Teck Resources Limited, the company agreed to not undertake a proponent-led traditional land-use assessment and agreed to use the Mikisew Cree Culture and Rights Assessment in their IA application. A goal of the assessment was to deliver baseline information and project impact assessment regarding culture and rights directly from the Mikisew perspective. The assessment included the identification of three VCs that represent Mikisew culture and rights: way of life, harvesting rights, and governance and stewardship, under which a indicators and thresholds were identified to protect Mikisew community members healthy way of life. A pre-1965 baseline was used to evaluate impacts on these VCs.

Outcomes

MCFN found that there had already been significant impacts on Mikisew culture and rights throughout their territories and concluded that if the project was built, there would be significant adverse effects on all three VCs. After negotiating agreements with the proponent to address the impacts on culture and rights and the establishment of a plan to establish a biodiversity stewardship area, MCFN announced support for the project. In 2020, Teck Resources Ltd. withdrew their application citing global capital markets and uncertainty about Canada's plan to reconcile development and climate change, although mitigation measures related to the established biodiversity stewardship area would remain.

Additional information can be found at: <https://ok-ccar.sites.olt.ubc.ca/files/2023/01/The-Mikisew-Cree-First-Nation-Culture-and-Rights-Assessment-UBC-CEAR-2022.pdf>

for each case study and are publicly available through the University of British Columbia's Centre for Environmental Assessment Research website.⁴

Lessons for Assessing Social Cumulative Impacts

DEFINING CUMULATIVE EFFECTS AS A FOCUS

Addressing cumulative effects and protecting vulnerable areas were important drivers for the development of the ILIA processes explored in this report. Clearly articulating CEA as a focus and a rationale for developing the assessment was important across all case studies, and helped to support a broad and holistic lens for impact evaluation and the resulting mitigation. The expectation for accounting for cumulative effects was set in a number of different ways. For example, for the Squamish Nation Process, one of the binding conditions for approval that were agreed upon between the Squamish Nation and proponent, Woodfibre LNG, was focused on addressing cumulative effects. The proponent agreed to

fully fund a Squamish Nation marine use plan that would be designed to address the cumulative impacts of industrial developments in the Howe Sound. In the Ktunaxa Nations Rights and Interests Assessment, cumulative effects was a central focus and defined as a cross sector VC coinciding with all other components. In the TWN process the extent to which the project contributes to cumulative effects was defined as a guiding question for evaluation and decision-making. Regardless of how it was built into the process, cumulative effects emerged as a clear guiding principle and objective of the case studies of ILIA.

APPLYING A REGIONAL PERSPECTIVE

Another important consideration that was evident through the case studies was the importance of using a regional and holistic lens for assessing cumulative effects. Multiple case study examples used regional study areas to examine the site of a proposed development and also the state of the territory, and direct and indirect impacts that might result from the project. For example, Stk'emlu'psemc te Secwepemc Nation assessed the Ajax Mine proposal

⁴ <https://ok-clar.sites.olt.ubc.ca/report-publications>

according to a local study area and regional study area. The boundaries of the regional study area were set to assess the project's environmental effects, which may overlap or act cumulatively with the environmental effects of other projects or activities. Ajax mine was proposed within the interior region of British Columbia in an area where there are many active industries and land uses that would interact with the anticipated impacts of the mine including forestry (lumber harvest, resource roads, milling, etc.), residential development, agriculture/ranching, and highway and infrastructure development. Similarly, the Mikisew Cree First Nation Culture and Rights Assessment and the Ktunaxa Nation Rights and Interest Assessment each used regional assessment areas to capture potential indirect cumulative effects of the project.

CONSIDERING PAST, PRESENT, AND FUTURE IMPACTS

The case studies also used broad time scales to assess cumulative effects, account for past, present, and future impacts and stressors, rather than relying on an understanding of the current state of important

environmental and social values. For example, much of the Mikisew Cree First Nation traditional territories have been subject to industrial development, including oil sand mining along the Athabasca River, and the scale and cumulative effects of industrial developments has created challenges for upholding Treaty 8 rights and Mikisew traditional ways of life. Mikisew Cree First Nation developed their IA process to provide baseline information regarding the existing status of Mikisew culture and rights practices in the region and applied thresholds using a "pre-1965" baseline. This baseline is considered by Mikisew knowledge holders as the last time when Mikisew peoples were able to sustain harvesting practices consistent with those which would have occurred around the time of signing Treaty 8 in 1899. This threshold was set specifically in recognition that cumulative effects of past development have contributed to impacts preventing the ability the land base to provide the resources necessary to meet the Nation's rights and needs. Similarly, Tsleil-Waututh Nation assessed the TMEX proposal with a board temporal scale and according to their sacred obligation to protect, defend, and steward the water, land, air, and resources of their

territory. A key guiding question for the assessment was: what will the TMEX proposal contribute to the cumulative effects of past-land use decisions?

SUSTAINABILITY FOCUSED DECISION- MAKING

Another final consideration arising from the case studies is the application of a sustainability perspective to support decision-making. A key objective of the assessment processes was the identification of areas where past development and land use changes have resulted in unacceptable impacts. This information was used to support decision-making and communicate why/how approving the project would be unacceptable or why additional mitigation measures specifically aimed at addressing cumulative effects were necessary. In many cases a sustainability lens also involved looking at priorities for the future. For example in Tsleil-Waututh Nation's assessment, one of the reflective questions asked about the project was: does this represent the best use of the territory? In addition, all cases studies applied a holistic

lens to impact assessment including environmental, social, health, cultural, and economic impacts and components. This was achieved in a number of different ways. In the Ktunaxa Nation Rights and Interest Assessment VCs were organized according to governance sectors including traditional knowledge and culture, social, economic, and land and resources, with cumulative effects considered as an additional VC that coincides with impacts across each of these sectors. In other case studies, such as the Tsleil-Waututh Nation cumulative effects was applied as a guiding question for impact evaluation and decision-making. Across all case studies, an obligation to future generations and protecting the health of the environment and communities was a consistent and key principle.

PART 3

A T̂SILHQOT'IN APPROACH TO CUMULATIVE EFFECTS ASSESSMENT

*T̂silhqot'in Nation members smudge
with medicinal plants*

DEVELOPING A T̂ILHQOT'IN APPROACH TO CUMULATIVE EFFECTS ASSESSMENT

The T̂ilhqot'in Nation “the People of the River” includes six main communities: Tl'etinqox, ʔEsdilagh, Yunešit'in, T̂ideldel, Tl'esqox and Xenigwet'in. T̂ilhqot'in Territory covers 66,466km² including Canada's first declaration of Aboriginal title (1,922km²) in central British Columbia. In 2021, the T̂ilhqot'in Nation began work on developing an IA Framework that would guide assessment and decision-making for development projects that affect the Nation's territory. The development of the IA Framework is not tied to a particular project, but has been designed proactively to apply to all future projects within, or that can impact, T̂ilhqot'in territory. A central priority for the development of the IA Framework is establishing expectations and principles for assessing cumulative effects. The T̂ilhqot'in have traditionally managed cumulative effects and understand the importance of the relationships between environmental and social systems and that all impacts are related to each other and cumulative. The T̂ilhqot'in approach to CEA is woven into the draft IA Framework and closely aligned with the Nation's *Dechen Ts'edilhtan* (laws), community

nen planning (land use planning), and priorities for social wellbeing. In the following sections, the T̂ilhqot'in approach to assessing cumulative effects is described including what we learned through this collaborative project about how cumulative social impacts can be effectively integrated within assessment and decision-making.

A T̂ilhqot'in Perspective on Cumulative Social Impacts

The T̂ilhqot'in IA Framework is currently a draft under review by the Nation's leadership⁵, and has been structured around four broad sections: values, guiding principles, decision-making criteria, and the IA process. The values (Figure 4) and guiding principles were identified through meetings, interviews, and workshops and inform the T̂ilhqot'in approach to IA and cumulative effects.

⁵ For the purposes of this report we refer to the T̂ilhqot'in IA Framework and discuss its relationship to CEA, but we wish to emphasize that at the time of writing the T̂ilhqot'in IA Framework is a draft and it may be updated upon review by Nation leadership

Cumulative effects were identified as one of the Guiding Principles for T̄silhqot'in IA (box below). This is foundational for the implementation of CEA as a part of the IA Framework. At the outset of this project and during interviews and meetings T̄silhqot'in people, leadership groups, and TNG staff made it clear that a T̄silhqot'in approach to CEA and social impacts will not be separated from the development of an IA framework, but rather integrated into the framework; CEA is a lens through which all impacts are evaluated and IA and land-use decisions are made.

Through engagement and feedback completed for this project, the T̄silhqot'in Nation has applied the following definition for cumulative effects in the IA Framework: "Changes to environmental, social, cultural, spiritual, health, and economic values caused by the accumulation and interaction of impacts from past, present, and potential future human activities and natural processes." The T̄silhqot'in view biophysical impacts (impacts to the *nen*), and social impacts (impacts to the *deni*) as interrelated. Forming this definition of cumulative effects was important

T̄silhqot'in IA Guiding Principle:

"Assessing the impacts of a proposed project and the effectiveness of proposed mitigation measures requires understanding cumulative effects and nenqay detelʔaš (how our nen changes and impacts our cultural security)."



Figure 4: T̄silhqot'in Values identified through engagement to develop the T̄silhqot'in IA Framework and approach to assessing cumulative effects

in establishing the expectation that project impacts must be assessed through a social, environmental, and cumulative perspective and lens.

Importantly, while CEA is a research field and part of IA processes across Canada, the T̄silhqot'in have been managing these impacts under their own laws and practices for thousands of years. Including T̄silhqot'in language within the approach to CEA and throughout the IA Framework is an important way to express the Nation's culture. For instance, the T̄silhqot'in word *nen* refers to the land and the resources on the land including water, air, soil, plants, and animals. *Deni* is the T̄silhqot'in word for people. Rather than referring to environmental and social impacts the T̄silhqot'in IA Framework refers to impacts to the *nen* and impacts to the *deni*. Through engagement for this project it became clear that the T̄silhqot'in phrase ***Nenqay detel?aš*** is also important for understanding the Nation's perspective on cumulative effects. *Nenqay detel?aš* is not synonymous with the term cumulative effects, but it is an interrelated concept. It encompasses the history of change, and how impacts to the *nen* affects the relationship between the *nen* and *deni* and the

cultural security of the T̄silhqot'in (the ability to practice, preserve, and transmit culture and cultural practices). Cumulative social impacts are dependent on changes to the *nen* and *deni* and the ways change over time affects the interactions and relationships between them altering T̄silhqot'in wellbeing and land-use activities.

Decision-making Criteria

The assessment of projects under the draft T̄silhqot'in IA Framework relies on a set of decision-making criteria that a project must meet in order to obtain consent. Unlike IA processes applied under BC and Canadian legislation, T̄silhqot'in IA is not structured around the selection of Valued Components, but is instead centered on a series of questions and criteria that evaluate the extent to which a project meets the Nation's objectives, aligns with T̄silhqot'in responsibilities and inherent rights to protect the *nen* and *deni*, and the extent to which a respectful and reciprocal relationship has been established with the project proponent. In the draft IA Framework, there are six criteria that guide decision-making. These may

be refined and further developed by the T̂silhqot'in Nation before the IA process is finalized, and are provided here for discussion about their relevance to CEA. Of particular importance to the assessment of cumulative effects are decision-making criteria 1-3.

Criteria 1 states that a project must align with a Nation's values, and advance the Nation's vision for stewarding the land, water, and resources and for taking care of the people. The development of this criterion was important for positioning the IA Framework as not only focused on protecting the T̂silhqot'in and the Nation's territory from further impacts and harm, but as a means to work towards objectives for healthy land, healthy communities, and ensure that any approved project helps to achieve the Nation's vision. In interviews, workshops, and community meetings, Nation members were clear that effectively understanding and managing cumulative social impacts requires asking: how can we improve people's lives and meet our goals for managing the territory? In addition, the assessment and decision-making for projects must be connected to the Nation's *nen* planning process

(land-use planning), *dechen ts'edilhtan* (laws), and policies and plans focused on community health and wellbeing.

This is central to understanding the T̂silhqot'in perspective and approach to assessing cumulative social effects and *nenqay detel?aŝ*. Management must be focused on improving people's lives and wellbeing and revitalizing cultural practices and social values that have been affected by other projects and stressors over



“How does it help us get back to that place? That place where we speak T̂silhqot'in, where we live off the land, where we don't impact it, and where we use all its resources in a cultural traditional way. And still doing ceremony, drumming, dancing, education. So how do we not only not impact those, but also improve it?”

***Roger Williams
Xeni Gwet'in***

Draft Decision-Making Criteria - Requirements for Consent

1. The project aligns with T̂silhqot'in Nation's values and advances the T̂silhqot'in Nation's visions and priorities for stewarding T̂silhqot'in *nen* and caring for the T̂silhqot'in.

- » This criterion will be assessed by considering our T̂silhqot'in *dechen ts'edilhtan*, *nen* plans, policies, and views of the T̂silhqot'in Nation

2. The project will not harm or create a real risk of harm to the health of T̂silhqot'in *nen*.

- » The project assessment takes into account cumulative effects and *nenqay detel?aš*, proposed mitigation measures, and plans for monitoring, compliance and enforcement and adaptive management.
- » If deemed necessary, the project assessment applies the precautionary principle.

3. The project will not harm or create a real risk of harm to the T̂silhqot'in, including future generations of T̂silhqot'in.

- » In particular, it will not:
 - ▶ undermine our *cultural security*
 - ▶ undermine our *food security*
 - ▶ harm a sacred place or otherwise undermine our spirituality or contravene our spiritual beliefs
 - ▶ undermine our ability to practice our land-based rights and responsibilities
 - ▶ undermine our current economic development activities or conflict with our economic development plans
 - ▶ undermine our self-determination
 - ▶ jeopardize the mental and physical health, and safety of our community members
 - ▶ create scarcity or drive up prices of essential goods and services (e.g., groceries, housing, health care services, etc.)
 - ▶ subject any T̂silhqot'in to harassment, racism, or violence, including sexual violence
- » The assessment takes into account *cumulative effects* and *nenqay detel?aš*, proposes mitigation measures for potential negative impacts, and includes plans for monitoring, compliance and enforcement, and adaptive management.
- » If deemed necessary, the T̂silhqot'in IA applies the precautionary principle.

4. The T̂silhqot'in Nation has an appropriate and meaningful role in stewardship throughout the life of the project, including during the finalization of the project design and throughout construction, operation and any decommissioning and restoration activities.

5. Proponents and the T̂silhqot'in Nation have established a respectful working relationship that they have committed to maintaining over the life of the project.

6. For projects that require a T̂silhqot'in Impact Assessment, this relationship is confirmed through a legally binding Project Agreement with the proponent that outlines how the project benefits the T̂silhqot'in Nation and provides details on how the project meets the T̂silhqot'in Nation's environmental, social and economic objectives.

Figure 5: Adapted from the Draft T̂silhqot'in IA Decision-making Criteria

time. The extent to which a proposed projects supports or hinders the ability of the Nation to meet its objectives and vision for the future would be an important consideration in whether the Nation will decide to move forward with the project.

Decision-making criteria 2 and 3 are focused on protecting the land and people from harm. Both criteria are phrased to take into account the precautionary principle and the risk of harm or uncertainty around predicting the outcomes of a project. These criteria are important in applying an understanding of *nenqay detel?aŝ*. Under criteria 3, harm to people is described as a series of



“The people are your greatest resource...If you protect the people, they will protect the land...You have got to have healthy communities and healthy families in order to protect the land.”

**Percy Guichon
T̂sideldel**

values and considerations that inform the assessment of social impacts, including cultural security, food security, spiritual practices, land-based rights, and mental and physical health. These values are important in guiding the assessment of cumulative social impacts under the IA process and also align with a Nation’s guidance and policies around health and wellbeing and the relationship between land and people.

Assessing Cumulative Effects Under T̂ilhqot’in IA

The T̂ilhqot’in IA process is adaptive and customized to each proposed project based on a number of factors including the nature and extent of the T̂ilhqot’in Nation’s interests and concerns about the project. However, a number of main process phases are described in the IA Framework including: project introduction and relationship building; initial project review and deciding whether an IA is required, preparing for T̂ilhqot’in IA, T̂ilhqot’in IA, and T̂ilhqot’in decision-making. Several key characteristics of this process are relevant for implementing the T̂ilhqot’in approach to CEA.

RELATIONSHIP BUILDING AND RESPECT FOR CULTURE

A respectful relationship with the proponent is central to T̄silhqot'in IA, so the initial phase of T̄silhqot'in IA is about relationship building. Not only is relationship building the initial phase of the T̄silhqot'in IA process, it is also embedded in the decision-making criteria for consenting to projects. An important objective of the Nation's IA Framework is clarifying the expectations for proponents proposing projects in, or that impact, the Nation's territory, and these expectations are specifically important for guiding the assessment of cumulative effects. In particular, proponents are directed to understand the history and context of the Nation and the location of the project, and to build an awareness of the Nation's plans, policies, and laws that guide the broader management of the territory. Proponents would also be expected to respect the importance of culture, language, and the Nation's perspective and understanding of IA and cumulative effects including the relationships between environmental and social impacts. Setting out these expectations at the outset of the

IA process directs the approach to identifying and evaluating cumulative effects, and establishes a connection between project decisions and the Nation's objectives and plans for the territory.

THE IMPORTANCE OF LOCATION AND HISTORY

In interviews, it was emphasized that understanding cumulative effects is a central component to initial project review and decision-making by the Nation. Unlike IA processes applied under BC or Canadian laws, the draft T̄silhqot'in IA Framework does not set out specific lists of project types, or project sizes that require an IA. It was noted that projects that require an IA under provincial and federal law would likely require a T̄silhqot'in IA, however, the decision about whether an IA is required is also dependent on the location of the project and the history of that location, existing cumulative effects, and the social importance of the area. In the interviews, participants were unanimous in their view that it is not the size or type of the project that is important, but rather where it is located and the extent of its effects on the land or on social values including cultural and spiritual

practices. In addition, the location of a project, the potential for the project to add to cumulative effects, its importance to identity and culture, or an identified need to protect an area for ecological or social purposes may be the reason(s) that the Nation would reject a project after an initial review. It is made clear within the IA process that understanding cumulative effects requires an understanding and respect for the history of the Nation and its territory, and attention to the existing environmental and social cumulative effects.

METHODS FOR ASSESSING CUMULATIVE CHANGE

The T̂silhqot'in approach is designed to recognize that understanding cumulative effects requires a diversity of methods and approaches. A central guiding principle and value for the IA process is respecting the knowledge of elders and knowledge holders and the views and autonomy of each T̂silhqot'in community. Understanding social impacts and the priorities of the Nation requires understanding the relationship between the land and the people. Reviews of technical information, studies provided by the proponent, information from outside

experts, and information available through Crown IA processes will all be important sources of information for T̂silhqot'in IA. However, it was also made clear that the T̂silhqot'in are their own experts, have been managing their lands for thousands of years, and have their own perspective and understanding of cumulative effects and *nenqay detel?âs*.

Understanding social impacts requires understanding *nenqay detel?âs*, how the *nen* changes over time, and how these changes affect social systems and the *deni*. Changes to the *nen* results in changes to the relationships between the *nen* and the *deni*, and the way that T̂silhqot'in people experience and interact with their territory. Understanding these dimensions of impact that are about relationships, behaviour, and experience demands that IA integrate a diversity of methods and qualitative knowledge as well as quantitative approaches and ongoing monitoring.



“Our ancestors’ DNA is embedded in the land.”

***Orrie Charleyboy
T̂sideldel***

DECISION-MAKING AND FOLLOW-UP

Final decision-making authority for projects is based on the T̄silhqot'in Nation's internal governance structure. Of specific importance for cumulative effects is the reliance on the decision-making criteria for projects and the direct connections made between project decisions and the Nation's planning process (land use planning), and existing policies and laws. This is important for ensuring that the management of cumulative effects is not confined to a project-by-project assessment process and is connected to broader decision-making and land and resource management objectives. In the T̄silhqot'in example, CEA under IA functions as a means to achieve the Nation's vision and priorities for the territory and as a part of the broader governance structure and management plans for the *nen* and T̄silhqot'in people.



PART 4

PRINCIPLES FOR ASSESSING CUMULATIVE SOCIAL EFFECTS

Nagwentled (Chilcotin River at Farwell Canyon) is a traditional dip netting site for the T̓silhqot'in Nation

PRINCIPLES FOR ASSESSING CUMULATIVE SOCIAL EFFECTS

The case studies of ILIA explored in this project and the T̓silhqot'in approach to assessing cumulative effects are embedded in the culture, values, and governance system of each Nation, but also provide practice-based insight for more effectively incorporating cumulative social impacts in IA that can be applied in a range of settings. As Canadian IA shifts towards including a broad range of social, environmental, and rights-based impacts, there are opportunities to learn from Indigenous Nation's expertise and approaches to assessment and land management. Outlined below are six key principles for integrating social impacts into CEA that were identified through this collaborative work with the T̓silhqot'in and build on the reviews and case study analysis completed for this project. Two principles are related to defining and understanding cumulative social effects and four are related to assessing these impacts. The principles are presented in Table 1 and described in the sections below.

Understanding Cumulative Social Impacts

IAs throughout Canada are increasingly expected to account for cumulative social impacts, but the definition of cumulative social impacts and what types of impacts and values should be included is often not clear in regulatory guidance, and has received limited attention in research. In order to include cumulative social effects in IAs in a meaningful way it is essential to understand what is meant by cumulative social change. The T̓silhqot'in approach to CEA and ILIA case studies offer important insight into how to build an understanding of cumulative social effects.

CUMULATIVE SOCIAL IMPACTS ARE CONTEXT DEPENDENT

The context specific and values-based nature of cumulative social impacts has been widely reported within research.^{xxxii} This introduces

	Principle	Description
Understanding Cumulative Social Impacts	Cumulative Social Impacts are Context Dependent	<ul style="list-style-type: none"> ▶ Cumulative social change is context specific and values-based ▶ Understanding social impacts requires understanding how individuals and communities experience changes to their environment and social systems ▶ The unique perspectives of the individuals and communities affected must be incorporated into the understanding and definition of cumulative social effects
	The Importance of Relationships	<ul style="list-style-type: none"> ▶ Social impacts reflect the relationships between people and their environment ▶ Impacts to the environment, result in impacts to social systems and changes to people’s behaviour and the way that they interact with their environment
Assessing Cumulative Social Impacts	Incorporating Objective-based Assessment	<ul style="list-style-type: none"> ▶ Meaningfully assessing cumulative social effects requires evaluating the extent to which a project contributes toward healthier land and people and aligns with strategic objectives, in addition to evaluating the potential adverse impacts of the project, and available mitigation and enhancement measures
	Legacy and History	<ul style="list-style-type: none"> ▶ Understanding the history of an area is central for understanding cumulative social effects ▶ Project assessments cannot be separated from the specific social, political, and environmental context of an area, including socioeconomic conditions, inequities, and legacy impacts of past development
	Place-based Understandings	<ul style="list-style-type: none"> ▶ Thresholds for social changes may be different across space according to the social and/or environmental value of an area and are not transferable as a ready-made framework in different settings ▶ Understanding cumulative social effects requires attention to the influence of place on social values and proactively identifying important locations and existing effects
	Applying Multiple Assessment Methods	<ul style="list-style-type: none"> ▶ Assessing cumulative social effects requires multiple methods and combining quantitative and qualitative assessment methods, and local and Indigenous knowledge sources

Table 1: Guidance Principles for Assessing Cumulative Social Effects

a challenge in that while cumulative effects assessment is a research field and term with regulatory definitions, it is not consistently defined in practice and may be understood by communities and Indigenous Nations affected by development in a range of ways. This is particularly important for social impacts which are embedded in complex social systems and dependent on the human experience of social change over time. Our results indicate that in order to effectively include cumulative social impacts it is important to recognize this context dependent nature of cumulative social change. There can be no *one size fits all* approach, but instead the path forward means considering the unique perspectives of affected communities to better facilitate a collaborative and ultimately efficient assessment.

This was illustrated in the development of the T̓silhqot'in process. At the outset of this project, it was evident that the T̓silhqot'in perspective and understanding of cumulative effects is embedded in the Nation's culture, values, and laws. Early engagement and meetings completed for this project emphasized a need to explore what cumulative effects means in T̓silhqot'in language.

The phrase *nenqay detel?a̓s* was essential to building an understanding of cumulative social impacts. For the T̓silhqot'in their definition of cumulative effects and *nenqay detel?a̓s* allows a better understanding of the Nation's perspective and the impacts and values that are important, and could help facilitate more respectful and effective discussions about identifying and evaluating cumulative social effects during future IAs. This highlights the importance of Indigenous language and local culture to defining and implementing assessment and addressing cumulative effects.

THE IMPORTANCE OF RELATIONSHIPS

A central concept for the T̓silhqot'in approach to CEA is relationships. The T̓silhqot'in perspective is that all impacts are interrelated and cumulative, and importantly the dynamics of the relationships between the *nen* and the *deni* is key to understanding cumulative social impacts. Impacts to the *nen* and its health over time, result in impacts to the *deni* and the wellbeing of T̓silhqot'in people, but also results in changes in people's behaviour and the way that they experience and interact

with their land. Within interviews and community workshops completed for this project, participants emphasized that people feel changes to the *nen* internally, and that those changes alter the way that people gather, interact with each other and their community, and their personal experience of their culture.

This is a complex understanding of social change, but there has been recognition within the CEA research field that social impacts include tangible environmental and social changes and also how these changes manifest in terms of culture, land-use activities, local economies, and individual and community wellbeing.^{xxxiii} Social Impact Assessment research has also long recognized that social impacts refer to not just measurable change, but also must be felt and experienced by individuals and/or communities.^{xxxiv} However, there has been limited exploration into what these understandings of cumulative social impacts mean in practice for IA and CEA. The T̄silhqot'in approach illustrates that incorporating social impacts into CEA requires confronting these complex questions. Within the draft T̄silhqot'in IA Framework, impacts to the *nen* and impacts to

the *deni* would be integrated within a set of decision-making criteria and reflective questions that are equally weighed and explicitly incorporate T̄silhqot'in values, which sets a clear expectation for the assessment of cumulative social effects and how these impacts must be understood.

Assessing Cumulative Social Impacts

INCORPORATING OBJECTIVE-BASED ASSESSMENT

A challenge for applying CEA during IA is the expectation of impact attribution and the need to understand the relative contribution and the significance of project impacts to adverse cumulative effects. This is particularly challenging for social impacts, such as impacts to mental health, culture, gendered impacts, or substance abuse, that may be exacerbated by a project but also affected by a wide range of current and historic land use activities, and social and political conditions. The T̄silhqot'in example offers an innovative approach to framing CEA. The decision-making criteria outlined in the IA process emphasize

the importance of protecting the environment and people from harm and the risk of harm, but there is also a specific decision-making criterion that prompts an evaluation of the extent to which a project contributes toward healthier land and people, and helps (or hinders) the ability of the Nation to meet its objectives for its territory.

This criterion:

- 1) requires that a clear understanding be established about existing social conditions and strategic objectives,
- 2) establishes the expectation that management of cumulative social effects requires working towards healthier systems and improving people's lives and wellbeing, and
- 3) frames CEA at the project level to align with broader management plans and policies made by the Nation.

This attention to not only the baseline condition, but also the goal, or the ideal condition is an important advancement. Similar arguments have been made for objective-based analysis in relation to sustainability assessments,^{xxxv} but the T̂silhqot'in experience also illustrates how such a framework can be applied

to assessments of cumulative social impacts at the project level through their decision-making criteria.

LEGACY AND HISTORY

The temporal scale of assessment is a vital and complicated question for cumulative social impacts, just as it is for understanding biophysical impacts and change. Across engagement completed for this project, it was evident that understanding current social conditions and changes requires understanding the past, and the drivers of and reasons for change. Social conditions are the product of many interacting factors including government policies and colonization, past developments, and health and economic stressors. Project IA cannot address all the factors that contribute to existing social conditions, but it is important that it is not separated from conversations about the social, political, and environmental context of the project, including socioeconomic conditions, inequities, and legacy impacts of past development.^{xxxvi} The T̂silhqot'in example emphasizes the importance of understanding the history of the area in which a project is proposed, and also the history and knowledge of the Nation and the specific

developments, government policies, and events that have affected the T̓silhqot'in. As was stated in the guiding principles for the T̓silhqot'in IA Framework: "we honour the past and plan for the future."

PLACE-BASED UNDERSTANDINGS

An important aspect of T̓silhqot'in IA process is the addition of a place-based consideration for determining if a project should be assessed through an IA. A unanimous message in interviews and engagement meetings was that it is not solely the size of a project that is important, and that its location, the nature of its impacts, and its alignment with the Nation's vision for the territory are critically important to determining whether an IA is required. In the T̓silhqot'in context the social importance of a location or existing cumulative effects to the *nen* or the *deni* could potentially result in early project rejection, or referral to an IA. Applying a location or place-based referral process is likely not practically applicable in all IA settings, particularly those that cover a much larger region, but the importance of the spatial dimension of cumulative social impacts is an important insight.

A particular project and impacts may be acceptable in one location, and not acceptable in another. The thresholds for social changes may be different across space and are not transferable as a ready-made framework in different settings. Understanding the influence of place on social values and proactively identifying important locations, or where cumulative effects are already a pressing concern, helps to guide IA and decision-making.

APPLYING MULTIPLE ASSESSMENT METHODS

Within the T̓silhqot'in approach to CEA it is evident that assessments of social change require multiple methods. Participants in interviews and workshops, including TNG staff noted that there is available information on social change and social determinants of health that could help support T̓silhqot'in assessments. However, alongside these data sources the value of knowledge from elders, community members, and the Nation's laws are also emphasized. An expectation is laid out in the IA Framework guiding principles that the knowledge of the Nation and of elders is respected. The value of Indigenous knowledge and qualitative data sources for

assessing social impacts has long been recognized,^{xxxvii} but there has been considerably less research on how these methods can be effectively incorporated into CEA than quantitative scientific methods.^{xxxviii} IA and CEA are critiqued for deferring to indicators and thresholds for social change that can be readily measured with available technical scientific data, rather than focusing on what is important for affected communities and meaningfully including local and Indigenous knowledge. The approach being developed by the T̓silhqot'in moves toward combining the need for technical assessment with a fundamental focus on community knowledge and values. This approach is applied by the Nation, which leads the engagement of communities through its internal governance structure, maintains control over its knowledge, and proactively outlines the values, priorities, and assessment expectations.

SUMMARY

This project report weaves together reviews of research literature and guidance materials, case study analysis, and collaborative work with the T̓silhqot'in Nation to identify practical and broadly applicable lessons for integrating social impacts into CEA. Among the fundamental challenges for assessing cumulative social impacts are developing an understanding of social components and ensuring that human experience, well-being, and livelihoods are included, determining the appropriate space and time scales for assessment, the practice of framing CEA around project attribution, the need for multiple, context specific methods, and attention to follow-up for social impacts and outcomes. Through this research and work with the T̓silhqot'in Nation on its own approach to CEA, we have provided practical insight into how these challenges might be addressed, and how social impacts might be more meaningfully included in IA and CEA processes.

In building a definition and conceptual framework for cumulative social impacts, the social context, including cultural dimensions, cannot be ignored and rather should be a starting point for understanding social

change. Further, the relationships between environmental and social impacts, and the ways in which physical and environmental changes affect the lived experience and activities of people are a fundamental and inseparable part of cumulative social impacts and must be included in CEA frameworks. Assessments of cumulative social impacts should include an objective based analysis and reflect the extent to which a project or action contributes toward healthier social systems, in addition to protecting these systems from further harm. Attention to legacy impacts, place-based evaluations of social change, and valuing multiple qualitative and quantitative assessment methods can further strengthen CEA. These results are valuable across Canada as jurisdictions seek to strengthen assessments of cumulative social impacts and include considerations such as health, gender, culture, and Indigenous rights.

APPENDIX 1: PROJECT TIMELINE AND SUMMARY OF ENGAGEMENT

Date	Description
April 2021	Project Start <ul style="list-style-type: none"> ▶ Development of Terms of Reference ▶ Development of UBC/TNG workplans and initial background research
June 9, 2021	Nation Event: Opening Ceremony (online) <ul style="list-style-type: none"> ▶ Introduction to project and TNG and UBC team ▶ Open discussion about project objectives
May 21, 2021	Meeting with T̓ilhqot'in Governance Committee (online) <ul style="list-style-type: none"> ▶ Introduction to the project and objectives, and initial feedback and discussion
July 7, 2021	Workshop: Overview of Impact Assessment in Canada and BC (online) <ul style="list-style-type: none"> ▶ Presentations by Dr. Kevin Hanna (UBC) & Dominique Nouvet (legal council for the T̓ilhqot'in Nation) on federal and provincial IA laws in Canada ▶ Open discussion
July 8, 2021	Workshop: Case Studies of Indigenous-led Impact Assessment (online) <ul style="list-style-type: none"> ▶ Presentations by Jeff Nishima-Miller (UBC) and Aaron Bruce (Squamish Nation) ▶ Open discussion
August 27, 2021	Meeting with T̓ilhqot'in Women's Council (online) <ul style="list-style-type: none"> ▶ Introduction to the project and objectives, and initial feedback and discussion

Date	Description
September 15, 2021	Meeting with T̓silhqot'in Stewardship Council (online) <ul style="list-style-type: none"> ▶ Introduction to the project and objectives, and initial feedback and discussion
October 1, 2021	Workshop: Cumulative Effects <ul style="list-style-type: none"> ▶ Presentation by Dr. Lauren Arnold (UBC) ▶ Open discussion
December 2021	Completion of two research reports (Dr. Lauren Arnold and Jeff Nishima Miller, UBC): <ul style="list-style-type: none"> ▶ Research synthesis of what is known about accounting for cumulative social effects and regulatory expectation in Canada ▶ Case studies of Indigenous led IA in Canada and lessons for cumulative effects assessment
February 2022 - March 2022	Interviews <ul style="list-style-type: none"> ▶ 15 interviews were completed with knowledge holders, TNG staff, and Nation members
April - May 2022	Completion of Preliminary Analysis: What We Heard <ul style="list-style-type: none"> ▶ Report summarizing key findings from the interviews
May 2022	Formation of External Advisory Committee <ul style="list-style-type: none"> ▶ Established an external advisory committee of IA/EA experts to guide and give feedback on the T̓silhqot'in IA process and implementation
May 2022	International Association of Impact Assessment Conference <ul style="list-style-type: none"> ▶ TNG-UBC team attended IAIA Conference with Xenigwet'in Councillor ▶ Dr. Lauren Arnold presented on Assessing the Cumulative Social Effects of Projects

Date	Description
June 2022	<p>Community Engagement:</p> <ul style="list-style-type: none"> ▶ Project update and sharing What We Heard document ▶ Community meetings in Yunešit'in, Tl'etincox, Xeni Gwet'in, Tšideldel and Tl'esqox project update and sharing What We Heard document
June 2022 - August 2022	<p>Preparing draft IA/CEA Process</p> <ul style="list-style-type: none"> ▶ Draft completed by Dr. Lauren Arnold and revised by project team
July 2022	<p>Meeting with External Advisors</p> <ul style="list-style-type: none"> ▶ Advisors: Dr. Bill Ross, Tony Pearse, Nalaine Morin and Aaron Bruce
August 2022	<p>Community Engagement:</p> <ul style="list-style-type: none"> ▶ Nation Gathering collecting feedback and sharing What We Heard document
September 15, 2022	<p>Meeting with Tšilhqot'in Stewardship Council</p> <ul style="list-style-type: none"> ▶ Presentation of What We Heard for review and discussion
September 16, 2022	<p>Meeting with Tšilhqot'in Governance Committee</p> <ul style="list-style-type: none"> ▶ Presentation of What We Heard for review and discussion
September 29, 2022	<p>Meeting with Tšilhqot'in Women's Council</p> <ul style="list-style-type: none"> ▶ Presentation of What We Heard for review and discussion
October 2022 - November 2022	<p>Community Engagement</p> <ul style="list-style-type: none"> ▶ Presentations and open discussion at Chief and Council Meetings ▶ Presentations and open discussion at Band Meetings

Date	Description
October 12, 2022	TNG Governance-Nen-Stewardship Meeting <ul style="list-style-type: none"> ▸ Presentation of Draft IA Framework (1st Draft) and Cumulative Effects Approach for Review
October 13, 2022	Meeting with T̓silhqot'in Stewardship Council <ul style="list-style-type: none"> ▸ Presentation of 1st Draft for Review
October 21, 2022	Meeting with T̓silhqot'in Governance Committee <ul style="list-style-type: none"> ▸ Presentation of 1st Draft for Review
October 28, 2021	Meeting with T̓silhqot'in Women's Council <ul style="list-style-type: none"> ▸ Presentation of 1st Draft for Review
November 2-3, 2022	Title Transition Table Meeting <ul style="list-style-type: none"> ▸ Presentation of 1st Draft for Review
November 17, 2022	Chief's Meeting <ul style="list-style-type: none"> ▸ Presentation of 1st Draft for Review
November 21-22, 2022	Meeting with External Advisors <ul style="list-style-type: none"> ▸ Advisors: Dr. Bill Ross, Aaron Bruce, Dominique Nouvet and Dr. Jocelyn Stacey
December 2022	Community Engagement <ul style="list-style-type: none"> ▸ Nation engagement event
December 2022 - January 2023	Revisions <ul style="list-style-type: none"> ▸ Incorporating community feedback into CEA approach and IA Framework
January - February 2023	Community Engagement <ul style="list-style-type: none"> ▸ Presentations and open discussion at Chief and Council Meetings ▸ Presentations and open discussion at Band Meetings

Date	Description
January 30-31, 2023	Community Workshops: IA, Cumulative Effects & Nenqay Detel?aê <ul style="list-style-type: none"> ▸ Presentations by Dr. Lauren Arnold and Dominique Nouvet ▸ Facilitated discussion
February 7-8, 2023	Title Transition Table Meeting <ul style="list-style-type: none"> ▸ Presentation of 2nd Draft for Review
February 9, 2023	Meeting with T̄silhqot'in Stewardship Council <ul style="list-style-type: none"> ▸ Presentation of 2nd Draft for Review
February 17, 2023	Meeting with T̄silhqot'in Governance Committee <ul style="list-style-type: none"> ▸ Presentation of 2nd Draft for Review
February 24, 2023	Meeting with T̄silhqot'in Women's Council <ul style="list-style-type: none"> ▸ Presentation of 2nd Draft for Review
February 27-28, 2023	Meeting with External Advisors <ul style="list-style-type: none"> ▸ Advisors: Dr. Bill Ross, Aaron Bruce, Dominique Nouvet, and Dr. Jocelyn Stacey
March 2023	Final Edits and Graphic Design
March 31, 2023	Project End

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