S’ólh Téméxw Stewardship Alliance’s Integrated Cultural Assessment with Conditions for the Westcoast Energy Inc. Sunrise Expansion Project

STSA S’ólh Téméxw Stewardship Alliance

March 27, 2026

Prepared by:

Stó:lō Research and Resource Management Centre (SRRMC)
on behalf of the S’ólh Téméxw Stewardship Alliance (STSA)

Stó:lō Research and Resource Management Centre

Acknowledgments

Authors:

Dr. David Schaepe
Dr. Erin Gibson
Lily Shurgold
Haley Dekker

Technical Support:

Danielle Kent
Shohreh Sahebi
Raymond Kobes
Major Projects Management Team

Version 1.1 - including minor amendments from March 27, 2026, document.

TABLE OF CONTENTS

FIGURES

TABLES

DEFINITIONS

Activity: The things we do. Activities considered in the ICA include those related to: fishing, spirituality, gathering, hunting and trapping, manufacturing of items, travel corridors, settlements, traditional economy, community programs, inter/intra-Nation relations, and governance.

Avoidance: A means to prevent a potential adverse effect through routing or siting of the Project, changes to Project design, or construction timing.

Cumulative Effects: A Project's negative result(s) combined with those of other past, present, and reasonably foreseeable future projects and activities.

Development Area: The Project footprint within S'ólh Téméxw.

Halkomelem: The language of the Central Coast Salish; Halq'eméylem is the upriver dialect of the Halkomelem language and the primary dialect of the Stó:lō (note that further reference to Halkomelem includes the upriver dialect, Halq'eméylem).

Post-Construction: The period after construction is complete, following final cleanup through the completion of reclamation activities.

Project: Westcoast's Sunrise Expansion Program, inclusive of all its components and development plans within S'ólh Téméxw as of March 20, 2026.

Project Components: Within S'ólh Téméxw the project components include:
CS-8B to CS-9 Loop.
CS-9 to Huntingdon Loop.
CS-8B – Installation of a new electric motor drive (EMD) compressor unit, substation and additional cooling bays, including piping modifications.CS-9 – Installation of additional cooling bays and piping modifications. No new permanent footprint is proposed at CS-9.
MS-16 – Piping modifications and equipment upgrades.

Project Footprint: The area directly disturbed by Project activities, including associated physical works and activities.

Residual Effects: Effects remaining after mitigation.

Right-of-Way: A legally defined strip of land with defined boundaries where the pipeline or powerline runs through properties owned by others; approximately 18 metres (m) wide from the centre line.

Shxwelí: The life force or spirit connecting all things, including plants, air, earth, water, animals, and people within S'ólh Téméxw.

Shxwlá:m: One who is a spiritual mediator, a healer (spiritual, psychological, physical), who brings harmony between groups and between humans and nature.

Slha:éywelh: Laws; S = reference to something | lh = order or directive | aey = anything good | welh = back of your mind.

Smilha: Winter dance ceremony.

S'ólh Téméxw: "Our world" or "our land" and refers to Stó:lō traditional territory.

S'ólh Téméxw Stewardship Alliance (STSA): A self-determined alliance made up of 17 Stó:lō First Nations. The STSA operate referral systems, collaborative stewardship and Guardians on behalf of the member-First Nations. The member-First Nations are Aboriginal Rights-holders whereas the STSA provides services on their behalf.

S'ólh Téméxw Stewardship Alliance Regulatory Body: Acts as a regulator on behalf of the Aboriginal Rights Holding members of the STSA. While the STSA regulatory body provides a collective basis of engagement and regulation, it does not supersede the position of the Rights-holders with regard to direct engagement and decision making over related matters, including the provision of conditions related to regulatory decisions. The STSA Regulatory Body is modular entity comprised of representatives from some or all of the member-First Nations.

Sqwélqwel: "True news", family history, and includes their collective and personal histories since sxwōxwiyám.

Stl'e'áleq: Gift exchange at a gathering or feasting event, similar to potlatch.

Stó:lō: People of the river who are the Coast Salish people of the lower Fraser watershed whose traditional language is Halkomelem.

Sxexó:mes: All our gifts and includes the Halkomelem language, resources (e.g. cedar; salmon), Stó:lō heritage sites (e.g., spiritual places; landscape features; traditional use areas and religious use areas), material cultural heritage (e.g. objects), ancestral human remains, and cultural intellectual properties (e.g., Halkomelem place names, names, songs, dances, designs, ceremonies, and traditional cultural knowledge).

Sxwōxwiyá:m: Narratives of the distant past "when the world was out of balance, and not quite right", and the actions of *Xexá:ls* "making the world right," which describe the origins of and connections between the Stó:lō, shxwelí, sxexó:mes, and S'ólh Téméxw.

Sxwó:yxwey: A ceremony (Sxwó:yxwey ceremony) featuring a masked dance and a rock shaped like a man's head with a Sxwó:yxwey mask on, at a point near the head of the Harrison River, the point is also called Spook's Point.

Syéw:él (Syúwén): A spirit song, or one who has a spirit song.

Syúwél: A winter dancer's spirit power.

Tewít: An expert hunter.

Tl'etláxel: The act of exchanging gifts at a gathering or feasting event, similar to pot latching.

Tómiyeqw: Great-great-great-great-grandparents/aunts/uncles and great-great-great-greatgrandchildren/nieces/nephews and establishes the connection between the living Stó:lō and the people seven generations past and future.

Xwélmexw: People who can demonstrate meaningful social, ceremonial, or economic ties with Fraser River families or resources, whether through a kinship tie (extended family, kin group, a tribe) or through important social/economic affiliation.

Watercourse Crossing: A crossing or temporary crossing and any associated permanent or temporary structures (i.e. bridges or pipelines) that are or will be constructed to provide access over a waterbody.

Westcoast: Westcoast Energy GP Inc. on behalf of Westcoast Energy Limited Partnership.

Valued Components: Specific elements of the biophysical and human environment, such as air, water, species, or socio-economic factors that are identified as having scientific, ecological, social, cultural, or economic importance.

Acronyms

AIA	Archaeological Impact Assessment
BC	British Columbia
BCER	British Columbia Energy Regulator
CER	Canada Energy Regulator
CHOA	Cultural Heritage Overview Assessment
CHIA	Cultural Heritage Impact Assessment
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CSA	Canadian Standards Association
DFO	Departments of Fisheries and Oceans Canada
EAS	Environmental alignment sheet
ECCC	Environment and Climate Change Canada
EPP	Environmental Protections Plans
ESA	Environmental and Socio-economic Assessment
FN	First Nations
FPIC	Free, Prior and Informed Consent
GIS	Geographic Information System
ICA	Integrated Cultural Assessment
KP	Kilometer Point
LFFA	Lower Fraser Fisheries Alliance
LNG	Liquid natural gas
MOTT	Ministry of Transportation and Transit
OCAP	Ownership, control, access, possession
ROW	Right-of-way
RSMT	Resource specific mitigation table
SRRMC	Stó:lō Research and Resource Management Centre
STSA	S'ólh Téméxw Stewardship Alliance
SARA	Species at Risk Act

SEP	Sunrise Expansion Program
SME	Subject Matter Expert
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
VC	Valued components
WLRS	Ministry of Water, Land and Resource Stewardship
WCC	Watercourse crossing

1 - INTRODUCTION

“Stó:lō” (pronounced “Stah-lo”) is the Halq’eméylem word for “river,” and also refers to the collective community of Halq’eméylem-speaking Peoples who live within the lower Fraser River watershed. S’ólh Téméxw is the Halq’eméylem word for ‘our world’/‘our land’. It represents the world transformed by the action of Xe’xá:ls (The Transformers) Tel Swayel (Sky-Borne People), and other ‘agents’ of Chichelh Siyá:m (The Creator) who created landforms, habitats, and species in the lower Fraser in the time of the sxwōxwiyám (the distant past “when the world was out of balance, and not quite right”). S’ólh Téméxw (Figure 1-1) refers to Stó:lō land, throughout which Stó:lō Peoples hold Indigenous rights, title, and interests.

The integrity of S’ólh Téméxw is foundational to Stó:lō identity and well-being. Their societal health reflects a holistic interplay of spiritual, mental, physical, and emotional connections, all dependent on the sustained health of the land, air, water, and resources that comprise their cultural landscape (Carlson, 2006, 2010; McHalsie, 2007; Schaepe, 2007; Schaepe et al., 2003). The activities of Stó:lō within S’ólh Téméxw provide a holistic view of economic, social, political, environmental, and spiritual connectivity; one cannot be successful or healthy without the other, for all things have Shxwelí (spirit) and all things are interconnected. Their longstanding socio-cultural and socio-economic relations, values, and behaviours are factors of their deep connectedness to the ancestors, land, air, water, resources, and cultural places of S’ólh Téméxw.

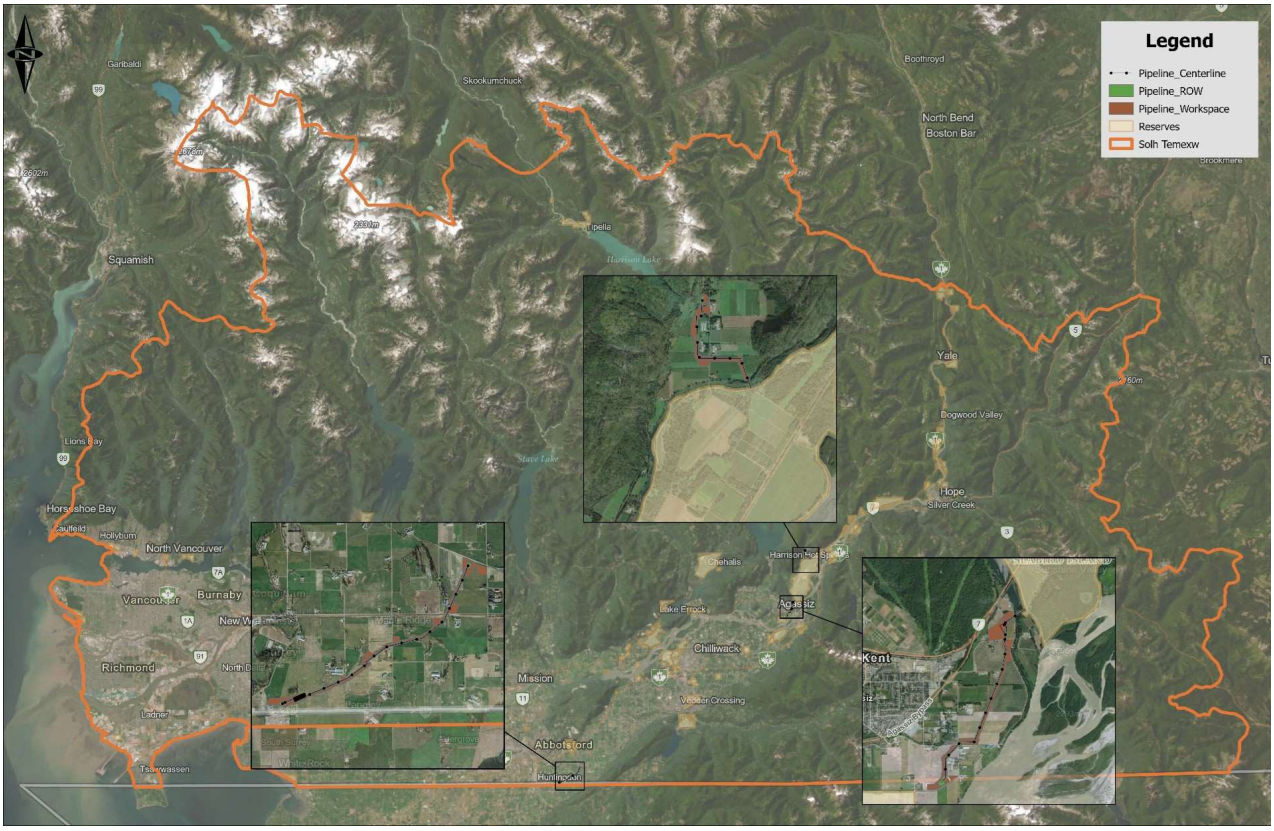


Figure 1-1. S’ólh Téméxw (Our Land) - Stó:lō Traditional Lands.

This Integrated Cultural Assessment (ICA) is a holistic, interconnected, comprehensive, and cumulative approach to assessing and addressing the proposed Project in a manner grounded in Stó:lō inherent jurisdiction and cultural values. This document is informed by — and incorporates — the Indigenous knowledge systems and worldviews of STSA member-First Nation rights-holders.

Rooted in the principle that *S'ólh Téméxw te íkw'élò — Xólhmet te mekw' stám ít kwelát* (This is our land. We have to take care of everything that belongs to us), the ICA employs a "total project" approach, examining current and proposed infrastructure, expansion, operations, capital works, and potential abandonment. As an exercise of inherent jurisdiction, this ICA is binding and co-equal with the Federal government's regulatory framework and thus aims for a harmonized relationship based on Indigenous Rights Recognition, Reconciliation, and parallel and co-existent decision-making pathways.

2 - PROJECT OVERVIEW: ENBRIDGE SUNRISE EXPANSION PROJECT

2.1 S'ólh Téméxw Stewardship Alliance: A Regulatory Body

The S'ólh Téméxw Stewardship Alliance (STSA) is made up of 17 First Nations[1]. The Alliance acts in a regulatory capacity on behalf of these Stó:lō communities who are the holders of Rights and Title. The STSA support these Stó:lō First Nations in implementing stewardship, engagement and decision-making agreements. The STSA maintain multiple policies that apply within the regulatory framework, including:

- STSA Land and Resource Use Engagement and Decision-Making Policy (2015; 2024)
- Stó:lō Heritage Policy (2003)
- Major Projects Process Steps (2023)

[1] Aitchelitz (Áthelets) First Nation, Chawathil First Nation, Cheam (Xwchíyò:m) First Nation, Kwaw'Kwaw'Apilt First Nation, Seabird Island Band (Sq'éwqel), Scowlitz (Sq'éwlets) First Nation, Shxw'ōwhámél First Nation, Shxwhà:y Village, Skawahlook (Sq'ewá:lxw) First Nation, Skowkale (Sq'ewqéyl) First Nation, Skwah (Sqwá) First Nation, Soowahlie (Th'ewá:li) First Nation, Squiala (Sxwoyehálá) First Nation, Sumas (Semá:th) First Nation, Tzeachten (Ch'íyáqtel) First Nation, Yale First Nation, and Yakweakwioose (Yeqwyeqwí:ws) First Nation

2.2 Enbridge Sunrise Expansion Project Description

The Sunrise Expansion Project (SEP), proposed by Westcoast Energy Inc. (Westcoast), is an expansion of the southern portion or T-South of its natural gas pipeline system to meet the demand for natural gas. Within S'ólh Téméxw, the Project involves the construction and operation of new pipeline infrastructure and upgrades to existing compressor and meter station facilities.

In total, the Project footprint spans 17.7 km within two pipeline loops located in the Central Fraser Valley of S'ólh Téméxw. The Project footprint occupies 85.7 ha of which, 66.58 ha are workspace areas, and 19.12 ha are for the pipeline right-of-way (RoW). By land status, 94% or 80.56 ha are categorized as fee simple lands. Agricultural land zoning accounts for about 96% or 82.1 ha of the Project footprint.

Table 2-1. Total area (hectares) of the pipeline construction footprint (workspace and RoW).

Category	Layer	Total Area (Ha)
Construction footprint	Pipeline Workspace	66.58
	Pipeline RoW	19.12
Total		85.7

Table 2-2. Construction footprint by land status.

Land Tenure	Area Occupied by Construction (Ha)	Percentage (%)
Fee Simple	80.56	94%
Crown Agency	0.29	0.33%
Local Government	0.20	0.24%
Untitled Provincial	0.63	0.74%

Table 2-3. Construction footprint by land use zone.

Zoning Category	Area Occupied by Construction (Ha)	Percentage (%)
Agricultural	82.08	95.8%

CS-8B to CS-9 Loop: approximately 13.4 km from northeast of Seabird Island to CS-9, located south of Agassiz. This proposed loop is 96% aligned with the existing pipeline RoW.

CS-9 to Huntingdon Loop: approximately 4.3 km from southeast of Abbotsford to Huntingdon meter station, located at the Huntingdon-Sumas border. This loop is proposed entirely adjacent to the existing pipeline RoW.

The Project also includes upgrades and modifications at existing compressor stations and a meter station (MS), which include:

CS-8B: Installation of a new electric motor drive (EMD) compressor unit, a substation, and additional cooling bays, including piping modifications.

CS-9: Installation of additional cooling bays and piping modifications. No new permanent footprint is proposed at CS-9.

MS-16: Piping modifications and equipment upgrades.

Pending regulatory approval, construction activities are expected to begin by Q2 2026, with work anticipated to last for over two years. This work will include pre-construction surveys, vegetation clearing, grading, trenching, welding, and pipeline installation. Where applicable, matting and erosion control measures will be implemented.

The Project is expected to be in service by Q4 2028, and by then will provide up to 300 million cubic feet per day of additional natural gas transportation capacity to the T-South system. The Project will then transition to long-term operations under regulatory oversight, with maintenance and monitoring programs designed to uphold environmental, safety, and integrity standards.

Westcoast has engaged with STSA to ensure that STSA member-First Nations' perspectives and knowledge are integrated into all stages of the Project lifecycle. This includes opportunities for Indigenous-led field studies, consideration of culturally and environmentally significant areas, and collaboration on design and mitigation strategies that serve to avoid or otherwise minimise impacts to values within S'ólh Téméxw.

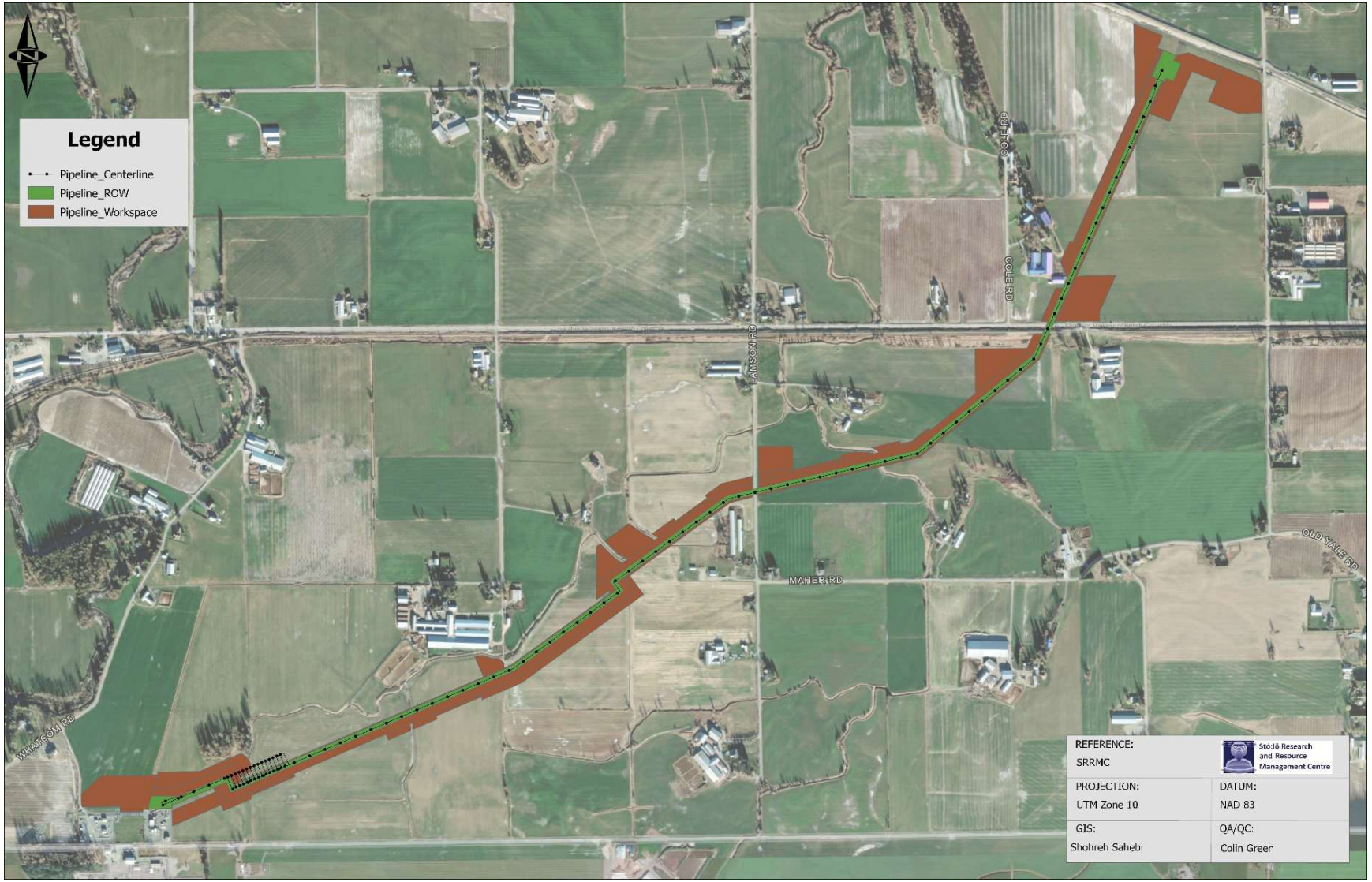


Figure 2-1. Map showing SEP footprint within CS-9 to Huntingdon segment.

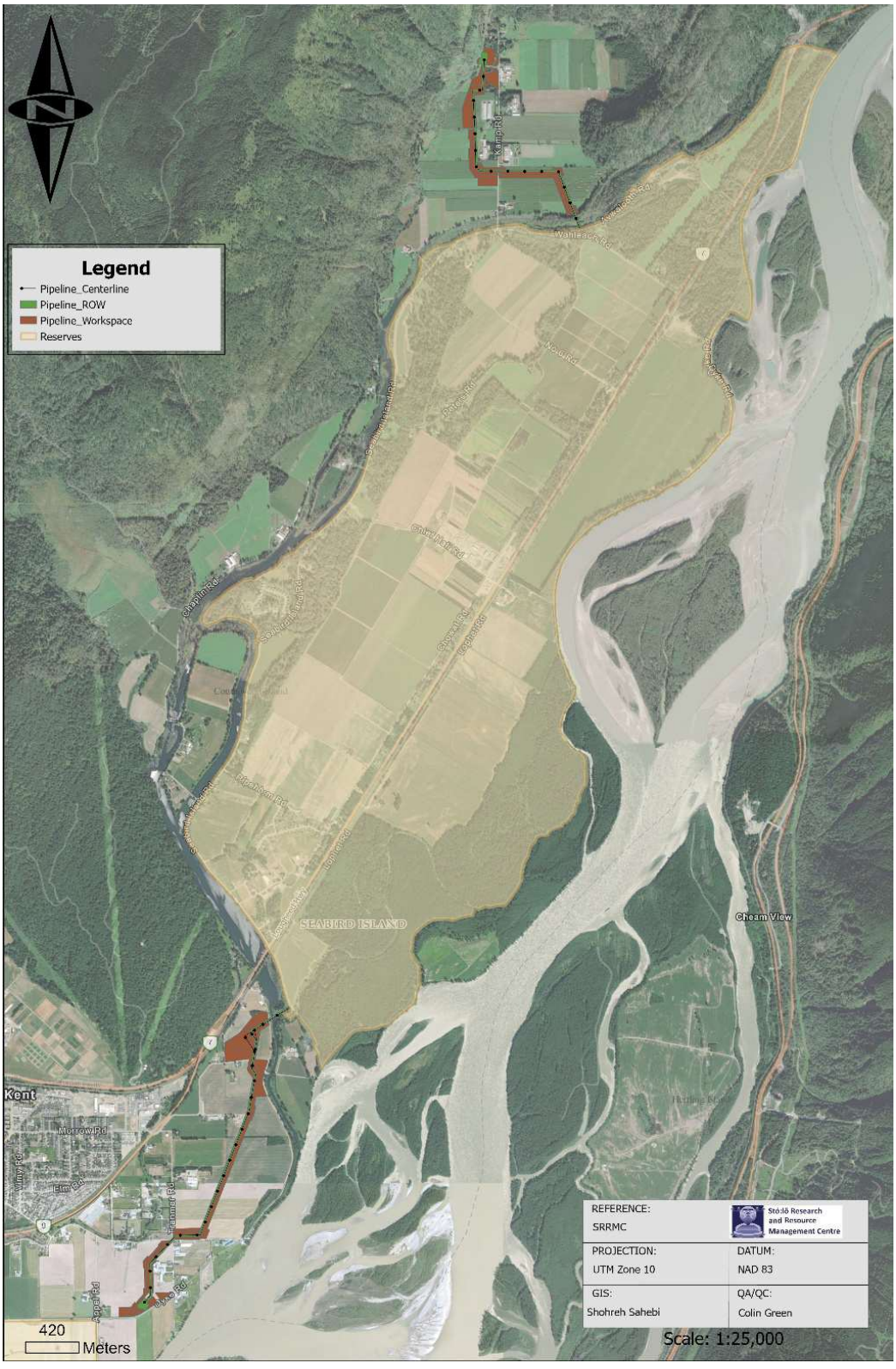


Figure 2-2. Map showing SEP footprint within CS-8B to CS-9.

3 - KEY STÓ:LŌ PRINCIPLES: REGULATORY FRAMEWORK AND PROCESSES

The STSA Integrated Cultural Assessment (ICA) approach to the SEP and formation of the ICA and its content including conditions, are grounded in key Stó:lō principles — some of which are included below. These principles provide a basis by which Stó:lō worldview is incorporated in the STSA regulatory framework and processes.

Key Stó:lō Principles include:

- The ICA is rooted in Stó:lō worldview and legal foundations.
- *S'ólh Téméxw te íkw'élò. Xólhmet te mekw' stám ít kwelát.* This is our land. We have to take care of everything that belongs to us.
- *Ewe chexw qelqelit te mekw' stam loy qw' esli hokwex yexw lamexw ku:t* — don't ruin, waste, destroy everything; just take what you need.
    - Primary goal: avoid impacts
    - Secondary goal: identify unavoidable impacts and to minimize those impacts.
    - Third goal: redress for losses resulting from unavoidable impacts.
- The ICA is a holistic, interconnected, comprehensive and cumulative approach to assessing and addressing the proposed Project.
- The STSA approach the Project includes a complete scope of work including, current and proposed infrastructure, proposed expansion, operations and capital works, and through potential abandonment — a "total project" approach.
    - Conditions outlined in the ICA apply throughout the entire lifecycle of the Project including planning, construction, operation and abandonment stages.
- The STSA Regulator maintains a 'total government approach' founded on Indigenous-Crown relationships, Nation-to-Nation interactions and recognition of Indigenous Rights and Title. It accounts for Federal and Provincial processes that may apply to the SEP either sequentially or simultaneously.
- The STSA aims for a harmonized relationship with the Canada Energy Regulator (CER) and Federal decision maker based on Indigenous Rights Recognition, Reconciliation and parallel and co-existent regulatory and decision-making pathways.
    - The ICA aims to incorporate Provincial and Federal processes in the development of STSA commitments and requirements, standards and conditions.
    - Where applicable and relevant, the STSA incorporates CER Conditions (January 30, 2026) to the Project within S'ólh Téméxw.

4 - INTEGRATED CULTURAL ASSESSMENT: PURPOSE, APPROACH AND CONTENT

Stó:lō identity is not limited to tangible heritage or a geographically grounded place, but is based in enduring activities, such as fishing, language (Halkomelem), stories, songs, storytelling, protection of cultural practices, and the protection from 'others' (i.e., non-Stó:lō). Many aspects of Stó:lō intangible heritage and traditional cultural expressions, including transformer narratives, songs, spiritual and cultural principles and practices, are shared among individuals and families of Stó:lō living throughout S'ólh Téméxw creating a collective identity that has both spatial and non-spatial linkages and connections. As a result, impacts to Stó:lō people and culture cannot be assessed or understood simply as a factor of 'spatial proximity' and direct spatial relations between the location of a resource or place of practice (i.e., site), an area of impact, and a particular community (i.e., reserve or Band). These cumulative and wide reaching cultural and spiritual linkages form the foundational pieces that encapsulate the Stó:lō worldview into an Integrated ICA.

The STSA's ICA is an Indigenous-led regulatory process that is equivalent to the *Federal Environmental Assessment* (EA) and related *Environmental and Socio-economic Assessment* (ESA) as carried out by Westcoast in compliance with the EA. The ICA is an exercise of inherent jurisdiction and thus must be treated as binding and co-equal with the Federal government's regulatory framework. The ICA is conducted in compliance with the STSA's Major Projects Process Steps, applicable to the SEP. In relation to the SEP and as used throughout this document, the STSA maintains that the term 'Indigenous' refers exclusively to First Nations land-based rights, excluding Métis and Inuit. This aligns with the Province of British Columbia's and the BC First Nations Leadership Council's distinction-based policy.

Purpose: This ICA provides a framework for decision-making that aligns with the cultural values of the STSA member-First Nations rights-holders. The ICA is a holistic and integrated approach to evaluating Project effects on the Stó:lō people and S'ólh Téméxw that connects cultural impacts, environmental and social factors by keeping Stó:lō values central.

Approach: The ICA is founded on the premise that modifications of the physical and social environment by an external agent (industry) forces a community to modify the way traditional activities are carried out. This in turn affects traditional values and impacts the meanings and cultural tools associated with those activities. The ICA is structured with activities and their associated values as the focus for assessing Project impacts.

Content and structure: This document is informed by — and incorporates — the Indigenous knowledge systems and worldviews of STSA member-First Nation rights-holders. It outlines methods used to assess Project impacts on Stó:lō activities and associated values. This includes a discussion of the connection between Stó:lō values and the practices and interactions that embed and reinforce them in daily life. These relationships are illustrated through the Stó:lō Cultural Model.

The ICA was developed as a mechanism for assessing the Trans Mountain Expansion Project (TMEP). It is being utilized for this Project, including ongoing reference to the *Indicators Report* (2013) and *Final Assessment* (2014). Throughout the ICA, information regarding land use, activities, values, indicators, conditions and mitigating measures is presented in graphic format.

This knowledge came from an intensive program of interviews, focus groups, community outreach events carried out by Ts'elxwéyeqw Tribe Management Ltd. (TTML) and a wide array of field surveys that took place as part of the TMEP (January, 2023). The core foundation of SEP's ICA derives from this earlier work as referenced throughout this document.

Unlike other effects assessment applications that separate biophysical elements from socio-economic and cultural elements (i.e., Canada Energy Regulator applications), this ICA document is structured to highlight the interconnected nature of the Stó:lō worldview where the social, cultural and environment are an integrated whole. The reader will note that it is through activities (fishing, traveling, gathering etc.) that impacts to culture are addressed.

Cumulative effects and land status

> **The Project footprint totals 80.56 ha (94%) of fee simple lands. Of these lands, about 82.1 ha (96%) are situated within agricultural land use zoning.**

Cumulative effects on S'ólh Téméxw within the project footprint are substantially influenced by existing land status and use, with 96% zoned for agriculture. Much of this land has been isolated from Stó:lō access through government allocation as fee simple properties, limiting Indigenous use and stewardship. Over a century of intensive agricultural practices on these fee simple lands has driven cumulative ecosystem degradation, including alterations to waterways, vegetation loss, and habitat fragmentation. The baseline for assessing potential and residual impacts of the SEP therefore incorporates these pre-existing cumulative effects across the agricultural-dominated footprint. Any additional pressures from the Project — particularly changes in water quality, fish and fish habitat — could further disrupt fishing practices and compound existing stresses on their ability to meaningfully exercise First Nations' Indigenous rights.

Scope:

- Within S'ólh Téméxw
- Off reserve only
- Does not address economic activity – only traditional economy
- The ICA is not to be construed as or a basis of a benefit agreement
- Does not address First Nations procurement

5 - APPROACH

Culture is a pervasive element of society which affects the way in which people understand themselves, their land and resources, their community, and their relationships within and between themselves and others, including the known, unknown, tangible and intangible worlds. Within Stó:lō culture, contemporary relationships include the ancestral and spiritual worlds. In this study "culture" is used in its anthropological interpretation, as defined by Almond and Powell (1966), "The set of attributes, beliefs, and values current in an entire population which gives order and meaning to a society and provides the underlying assumptions and rules that govern people's social behaviour". Definitions of Stó:lō culture and heritage, applied in this Project, are set out in the *Stó:lō Heritage Policy* (2003). Models and theories presented in this section have

been adapted from previous work carried out by the Human Environment Group (2009) and Schaepe et al. (2004). The ICA uses the Stó:lō worldview and epistemology as a fundamental framework within which to assess potential impacts on Stó:lō culture and heritage as set out in the sections below.

The ICA is founded on the premise that modifications of the physical and social environment by an external agent (industry) forces a community to modify the way traditional activities are carried out. This then affects traditional values and impacts the meanings and cultural tools used and associated with those activities. As meanings are modified, community actions towards different "things" (for example, animals, tools, family members, language etc.) are modified. This creates a cycle that can result in rapid culture change. This theoretical framework is based on principles of symbolic interaction where meanings of 'things' arise out of interactions with them (Blumer, 1969). The ICA aligns with this theoretical framework where activities, interactions and cultural values are inextricably linked.

Another key theoretical underpinning to this ICA is the concept that collective identity and individual identity are intrinsically linked within a political economic system of cultural process and history (Bourdieu, 1977; Schaepe, 2009). In other words, both individual and collective identities are shaped by broader political, economic, cultural and historical conditions. These forms of identity have the potential to be adversely affected by things that uncouple their linkage to the past, and simultaneously their point for projection into the future.

> **Persistent peoples require access to shared procedures and practices (cultural tools, if you will) that allows them to imagine and sustain shared history and common future … anything that works to cost such groups their meaningful ties to a common past, or to rob them of responsible commitments to a shared future is likely to prove to be corrosive to their collective well-being. (Taylor, 1985)**

Shared practices (activities) are necessary for the maintenance and continuation of Stó:lō well-being. Projects like the Enbridge Sunrise Expansion, may affect Stó:lō practices and activities and their associated cultural values.

It should be noted that this ICA uses the terms 'cultural component' and 'cultural element'. Cultural anthropology defines cultural components as broad domains or categories that make up a culture like belief systems and language. Cultural elements are the specific parts or units that make up the components (Miller, 2011). For example, if language is the cultural component, then the upriver dialect of Halq'eméylem is the cultural element.

This ICA is set in the contemporary context of the Stó:lō (People of the River) of the lower Fraser River Watershed of southwestern British Columbia, known as S'ólh Téméxw (Our Land; Our World).

The Stó:lō have experienced a long history of having their land and resources appropriated and managed by settlers and colonial authorities. This started with first contact with Europeans (1808). It was entrenched by the Crown government through the Oregon Treaty (1846), the establishment of British Columbia as a Crown Colony (1858) and the British North America Act (1876). In the past, as today, these legal frameworks lack the recognition and input of the Stó:lō. As a result, they have contributed toward the current landscape of significant stresses and limits on the ability of the Stó:lō to exercise their aboriginal rights and traditional culture within S'ólh Téméxw. Such unilateral and diasporic economic development continues to significantly and adversely affect the rights and identity of the Stó:lō.

5.1 Interconnected Dimensions of Stó:lō Culture

Central concepts of Stó:lō culture are outlined below. These concepts were derived from previous studies of connections between Stó:lō cultural practices and the environment. The below Figure 5-1 ‘Four Interconnected Dimensions of Stó:lō Culture’ integrates Stó:lō cultural concepts.

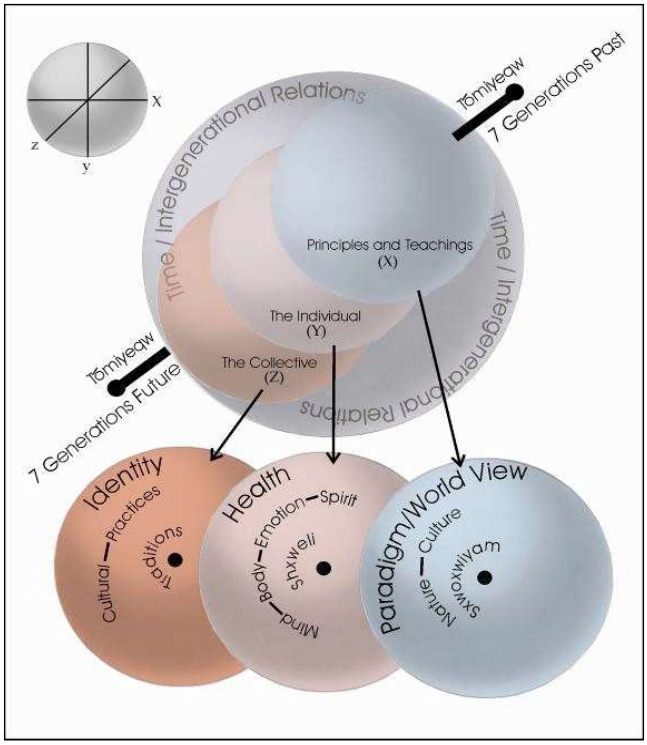


Figure 5-1. Four Interconnected Dimensions of Stó:lō culture (Schaepe et al., 2004, p. 231).

As the above diagram illustrates, Stó:lō culture is highly interconnected at numerous levels and across numerous dimensions, such that it is best modeled by a three-dimensional sphere. The framework of a geometric sphere is shown structurally as an object with a three-way axis (X,Y, Z coordinates – see upper left corner) — these axes represent three planes connected at a central point. Encompassing this framework is the ‘skin’, so to speak, or surface of the sphere that represents a fourth dimension connected to, containing, and adding form to the X, Y, and Z axes.

Once the basic form of Stó:lō culture is modeled, the four dimensions comprising the spherical framework can be linked to Stó:lō culture and identified:

X-axis = the dimension of ‘Principles and Teachings’

Y-axis = the dimension of ‘The Individual’

Z-axis = the dimension of ‘The Collective’

‘Surface’ = the dimension of ‘Time/Intergenerational Relations’

What must be remembered is that each of these axes is itself spherical in nature, rather than two dimensional, making graphic representation of this model extremely difficult and abstract. The central image in Figure 5-1 depicts a conceptual version of the identified dimensions as 'exploded' from the spherical structure. All four dimensions are shown as interconnected spheres, rotating on one visibly shared axis (symbolic of the multiple planes of interconnectedness that exist between the spheres). When the central image in the diagram is 'exploded' into three individual spheres (see Figure 5-2) — each sphere represents a cross-section of a corresponding dimension that can then be 'filled in' with associated components of Stó:lō culture.

Figure 5-2. Three individual spheres 'exploded' to show associated components of Stó:lō culture (Schaepe et al., 2004, p. 231).

Each sphere has a central point that indicates where it connects with the shared axis (see element of Stó:lō culture in the below table). Also, each sphere is connected to the dimension of 'time/intergenerational relations' (the fourth dimension) which extends seven generations past and future. The term 'tómiyeqw' defines this interconnectedness between the past and future generations, as anchored in the present — a principle central to Stó:lō culture.

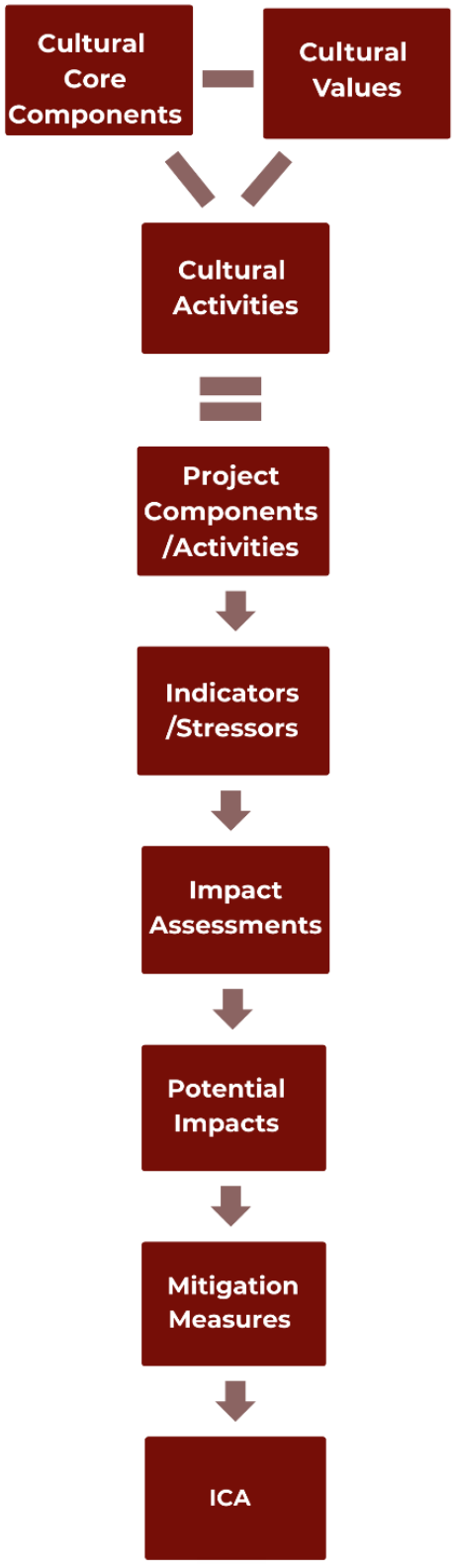
Table 5-1. Links among cultural relations, dimensions and elements of St:ólō culture.

Dimension/ Cultural Relations	Corresponding Dimension	Element of Stó:lō Culture[2]	Description of Components
Principles and Teachings	Paradigm/ Worldview	Sxwōxwiyám	Sxwōxwiyám = Narratives of the distant past "when the world was out of balance, and not quite right", and the actions of Xexá:ls "making the world right," which describe the origins of and connections between the Stó:lō, shxwelí, sxexó:mes, and S'ólh Téméxw.
		Slha:éywelh	Slha:éywelh = Laws S = reference to something lh = order or directive aey = anything good welh = back of your mind.
The Individual	Health	Shxwelí	Shxwelí = The life force that binds mind, body, spirit, emotion; connects individuals with all things.
The Collective	Cultural Wellbeing and Identity	Traditions	Traditions are 'enlivened' through cultural practices.
Time/ Intergenerational Relations		Tómiyeqw	Interconnectedness between the past and future generations, anchored in the present.

Because of the interconnectedness of the four dimensions of St:ólō culture, impacts on any one dimension affects each of the other dimensions. For example, any factor impacting shxwelí will erode the connections between mind-body-spirit-emotion, causing a decline in health. At this same time, the factor impacts cultural traditions, eroding cultural practices, causing a loss of cultural identity that may erode cultural teachings (sxwōxwiyá:m), causing an imbalance in worldview, and upsetting the culture as a whole. The interconnectedness of these four dimensions of Stó:lō culture amounts to a cultural system that is 'finely balanced'. The finely balanced world of the Stó:lō, because of its interconnectedness, is susceptible to being affected at many points along this system of inter-relations with the result of 'imbalance'. Imbalance amounts to the disintegration of identity, health, worldview, and, ultimately, an erosion of Stó:lō culture itself.

[2] Central point where it connects with the shared axis

5.2 Linking Cultural Values and Activities



Examining linkages between cultural activities and values is a substantive element of the STSA's ICA. It is therefore important to clearly establish the system of logic and interpretive framework accounting for the connections between these aspects of culture.

The framework of the ICA is modelled to the left (Figure 5-3). At the top of the model is where Core Cultural Components and points of relation (like the meanings and beliefs that shape a groups identity); Cultural Activities and the Cultural Values that are expressed or embedded in those activities intersect. These make up the cultural core – the identities, practices and values that work together to make up Stó:lō culture.

Moving down the model, Project Activities (i.e., activities related to pipeline projects) may create impacts to environmental and cultural indicators (i.e., water quality). Conditions are drafted to minimize impacts to S'ólh Téméxw, Stó:lō cultural activities and their embedded cultural values. Like conditions, mitigating measures are grounded in the foundational relationship among cultural components, activities and values. Together, following this ICA framework ensures that Project Activities do not impact the land, values, or livelihood of the Stó:lō peoples.

Figure 5-3. Interpretive framework linking the ICA process with project assessment and outcomes.

The below Halkomelem words and concepts occupy central places in the interconnected framework of Stó:lō cosmology. Understanding them is key to understanding Stó:lō cultural values.

Halkomelem	The language of the Stó:lō; Halkomelem has three main dialects. Halq'eméylem is the upriver dialect of the Halkomelem language (note that further reference to the language will include Halq'eméylem)
Shxwelí	The life force or spirit connecting all things, including plants, air, earth, water, animals, and people within S'ólh Téméxw
Slha:éywelh[3]	Laws S = reference to something | lh = order or directive | aey = anything good | welh = back of your mind
Syúwél	Winter dance
S'ólh Téméxw	Our world or our land and refers to Stó:lō traditional lands
Sqwélqwel	The true news, family history, and includes their collective and personal histories since sxwōxwiyám
Stó:lō	The people of the river who are the Coast Salish people of the lower Fraser watershed whose traditional language is Halkomelem
Sxexó:mes	All our gifts and includes the Halkomelem language, resources (e.g., cedar; salmon), Stó:lō heritage sites (e.g., spiritual places; landscape features; traditional use areas and religious use areas), material cultural heritage (e.g. objects), ancestral human remains, and cultural intellectual properties (e.g., Halkomelem place names, names, songs, dances, designs, ceremonies, and traditional cultural knowledge)
Sxwōxwiyá:m	Narratives of the distant past "when the world was out of balance, and not quite right", and the actions of Xexá:ls "making the world right," which describe the origins of and connections between the Stó:lō, shxwelí, sxexó:mes, and S'ólh Téméxw
Sxwó:yxwey	Sxwó:yxwey ceremony featuring a masked dance, also a rock shaped like a man's head with a Sxwó:yxwey mask on a point near the head of Harrison River, the point is also called Spook's Point
Syúwél	A winter dancer's spirit power
Tómiyeqw	Great-great-great-great-grandparents/aunts/uncles and great-great-great- great-grandchildren/nieces/nephews and establishes the connection between the living Stó:lō and the people seven generations past and future

[3] Previously recorded in the TMEP as snoweyelh

Key cultural values examined in this ICA are:

- Respect
- Pride
- Tradition
- Leadership
- Rootedness/ Sense of place
- Purpose
- Responsibility
- Patience
- Cohesion/bonding
- Connectedness/continuity
- Rhythm of Nature
- Self determination
- Reciprocity/Sharing
- Self-reliance
- Self-representation
- Caring

The below table is composed of the five cultural components of Stó:lō culture with associated values in English (left column) and in Halq'eméylem (right column). There are many Halq'eméylem terms associated with each cultural component – many of which have overlapping meanings and significances.

Table 5-2. Five cultural components of Stó:lō culture with associated values.

Values - English	Values - Halq'eméylem
Cultural Component - Sxexó:mes	
Tradition	Xwelmexwqel – Our way.
	Íwes – Teach how to do something, teach, guide, direct, show.
	S'iwesá:ylhem – Teachings for children.
	Hákw'eles – To remember.
	Sátelhtset sxwōxwiyá:m – To pass it to (him/her) legend, story of transformer.
	Shxwtelí – Where you come from.
	S'xweta:s selh tset te mekw' stam - "The way we were with everything."
	Syiwí:l – Spirit power.
Self-reliance	óyó:lwethet – Be totally independent, doing the best one can.
	lhxeylexlómet – Stand up by oneself.
	Stélmel – Someone's own knowledge, someone's own idea.
	Télmel – The mind, someone's own knowledge.
	Schewót – Smart, knows how good at it.
	Iyálewet – Do it, do it oneself, do something oneself.
	Mestíyexw – Conscience, spirit (which can be lost temporarily), soul, life-spirit, power of one's will.

Values - English	Values - Halq'eméylem
Self-determination	Q'á:l – To believe.
	Sxaxesélmet – Determination.
	Sxáxas – (Be) determined. Got your mind made up.
	Xasélmet – Determined (about something). Have to do it. Got to do it.
	Tíméthet – Exert oneself, make a big effort, do with all one's might, do as hard as possible, do it harder.
	Thkw'éthet – Pull oneself up. Straighten (oneself) up.
	Eyémstexw – Make it strong, make him/her/them strong.
Pride	Sp'éqw – (Be) proud.
	Smá:leth'el – (Lots of people are) proud, (many are) proud.
	Smámth'el – Be a little bit proud, a little proud.
Leadership	Siyá:m – Chief, Leader, respected person, boss, rich, dear.
	Xwiléxmet – Stand up for someone (respected).
	Smelá:lh – Respected person, (high class person).
Self-representation	Sqwelqwel – True news, family history.
	Telómelthet – Acknowledge oneself.
	Lheq'elóme – Know oneself, be confident.
Cultural component - Tómiyeqw	
Responsibility	Xólhmet te mekw' stam s'i:wes te selsila:lh chet. "Take care of everything our great grandparents taught (showed) us."
	Haqles chexw xwelmi:ay staxwelh – "Remember the future generations."
	Xaxa stexw te selsila:lh te skwixw – "Respect your ancestors' name."
Cohesion/Bonding	lhlímelh – It is us, we are the ones, we ourselves.
	Talhlímelh – We, us.
	S'ólh – Ours, our (emphatic).
	Sq'eq'ó – Along, together, be included with.
	Q'élmet – Believe, trust someone.
	Q'óleq – Pal, best friend, dear friend, chum.
	The'íttel – (Be) true to one another.

Values - English	Values - Halq'eméylem
Reciprocity/Sharing	Áxwest – Give an equal share or amount to someone, give (food) to someone, share with someone.
	Tl'émexw – Part, (portion).
	Ma:mt' lam te mekw wat – "Share with everybody."
	Shxw'eywelh mestiyexw – "A generous person."
	Q'élq'xetel – To return it, give it back.
	Kweléqelhst – Distribute to someone.
	Q'élsteuw – Give it back, return it.
Caring	Meqw wat memeylhtel – "Everybody help one another."
	Shxwlístexw – Care about someone/something.
	Xó:lhmethet – Taking care of oneself.
	Xóxelhmet – Looking after/taking care of someone.
	Momíyelhtel – Helping on another.
	Xólhmet – Look after someone, protect someone, take care of someone.
	Sts'its'exwtel – Be considerate of each other.
	Slíq' – To be ever generous.
	Lexw'éy – Generous, kind, good hearted, good natured.
	Máyx – Help someone, defend someone, protect someone, aid someone.
	Xwe'éy:welh – good, kind hearted, kind, generous, helpful, easy going, good natured.
Cultural component - Slha:éywelh shxwelí	
Rootedness	S'ólh Téméxw te íkw'elò – This is our Land.
	Xólhmet te mekw stám ít kwelát - We have to take care of everything that belongs to us.
	Íkw'eló – Here, this place.
Rhythm of Nature	Xaxastexw te mekw' stam – "Respect for all things."
	S'xweta:s selh tset te mekw' stam – "The way we were with everything."
Respect	S'í:sí Téméxw – Sacred Land.
	Shxwlístexw Téméxw – To care of the land.
	Ewe chexw qelqelilt te mekw' stam loy qw'esli hokwex yexw lamexw ku:t. - "Don't ruin (waste, destroy) everything, just take what you need."

Values - English	Values - Halq'eméylem
Cultural component - Sxwōxwiyá:m Shxweli	
Peace	líqwel – (Get) calm, (become) calm, peaceful xwoyíwél – be happy, being happy.
	Wiyóth kwsu éys te sqwálewels te lólets'e – Optimist, a person whose thoughts are always good.
Patience	Tl'épstexw ta' sqwálewel – Be patient.
Connectedness	Lets'emó:t – One mind.
	Lets'e thale – One heart.
	Q'ó:thet – Join (include oneself purposely).
	St'at'á – Being similar.
	Stetís – Be near, be close to, be beside, be next to.

6 - METHODOLOGY

The Stó:lō Cultural Model (also known as the Cultural Wheel) is a tool that illustrates the relationship between key Stó:lō cultural values and activities, highlighting how they are influenced by external forces. It is designed to assess Project impacts on Stó:lō activities and their associated cultural values.

The ICA considers potential Project impacts to the below listed activities that characterise the Stó:lō way of life (past and present):

- Fishing
- Gathering Plants
- Hunting and Trapping
- Manufacture of Cultural Items
- Spiritual Activities
- Travel Corridors
- Settlements
- Inter/Intra-Nation Relations
- Governance
- Traditional Economic Activity
- Community Programs and Services

The Stó:lō Cultural Model builds upon the Four Interconnected Dimensions of Stó:lō Culture diagrammed in Figure 5-1 (Schaepe et al., 2004, p. 231). In its generalized form, the core includes four major components: practices and expressions; worldview; health; and continuity and change ('tradition'). These components are linked to aspects of socialization processes and cultural integrity by way of dynamic relationships between the individual, collective, knowledge, and timeframe. These core components, dynamically negotiated and interacting, constitute a holistic and integrated cultural system. This cultural system makes up the core of the framework on which cultural values and activities are situated (Figure 6-1). Figure 6-2 illustrates the relationship between core components of Stó:lō culture and associated cultural values.

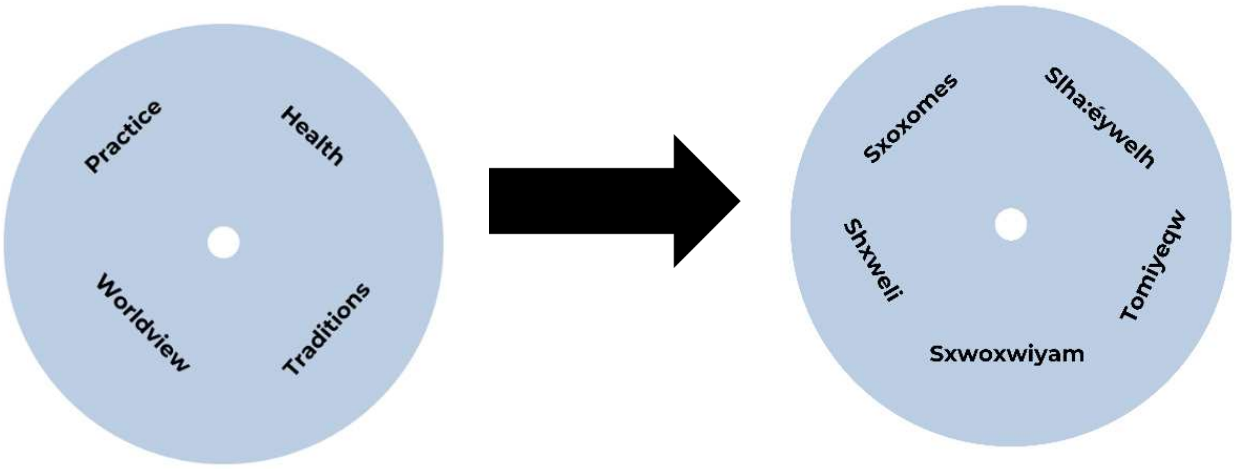


Figure 6-1. Model of core components of culture and social dynamics integrating the interconnected components of Stó:lō culture.

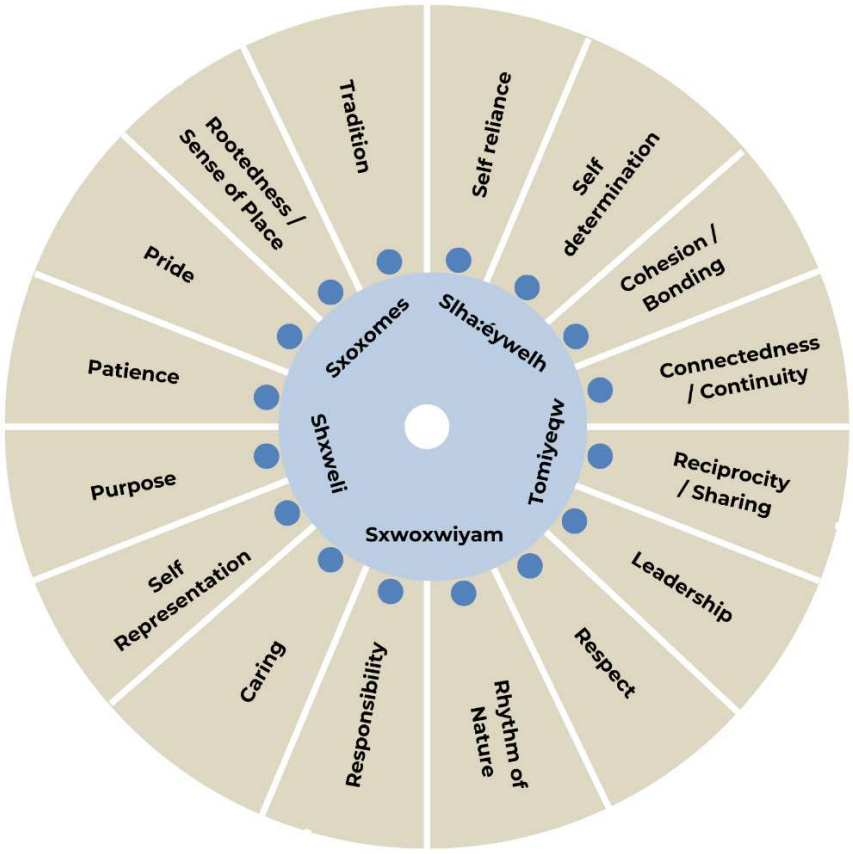


Figure 6-2. Core Components of Stó:lō culture as the basis for key cultural values.

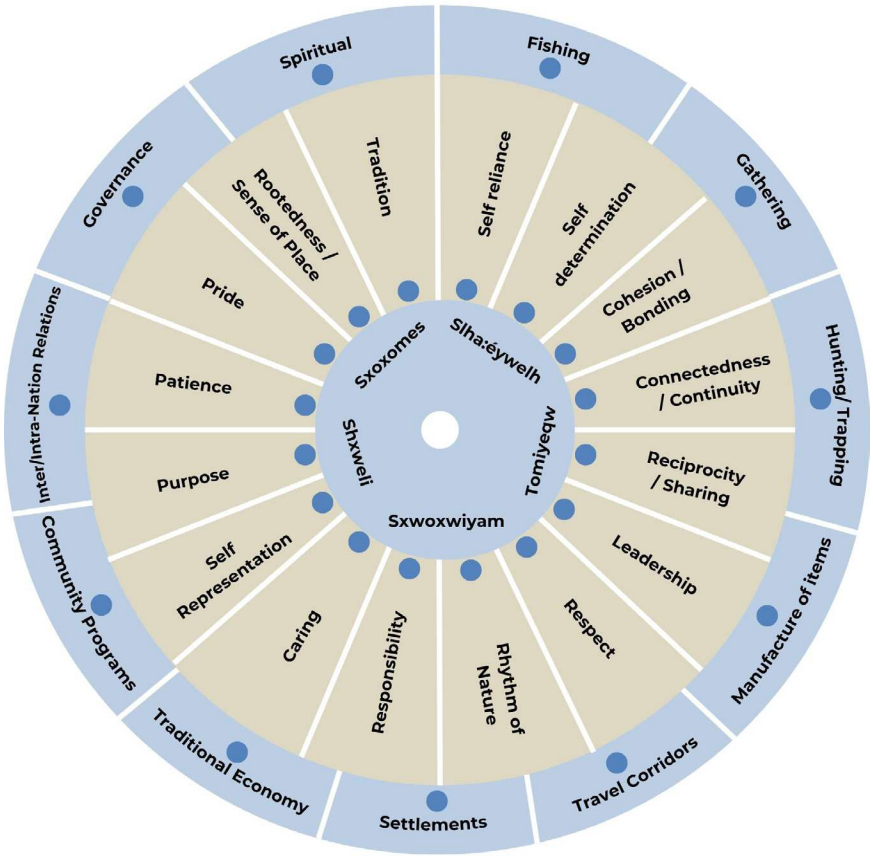


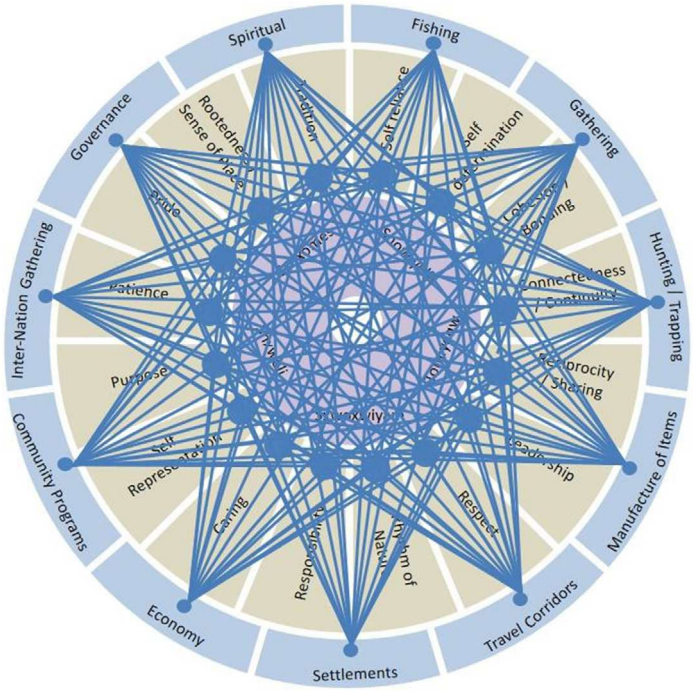
Figure 6-3. The Stó:lō Cultural Model used in Integrated Cultural Assessments.

The Stó:lō Cultural Model provides an effective and efficient way of illustrating linkages between cultural activities and values and how they have changed through time. Outside influences such as government policy, urban expansion and industrial development (mining, forestry, hydro development, and infrastructure projects – transmission lines, roadways, pipelines and rail lines) have affected Stó:lō culture. As Table 6-1, shows, different line types and arrows are used in the model to show the degree of change caused by outside forces and their threat to aspects of Stó:lō culture. The lines show how activities and cultural values are linked and strengthened by traditional activities that are either still practiced, a common activity with fewer locations and individuals, or an activity that is only practiced by a small number of people thus significantly reducing the opportunity to instill the value.

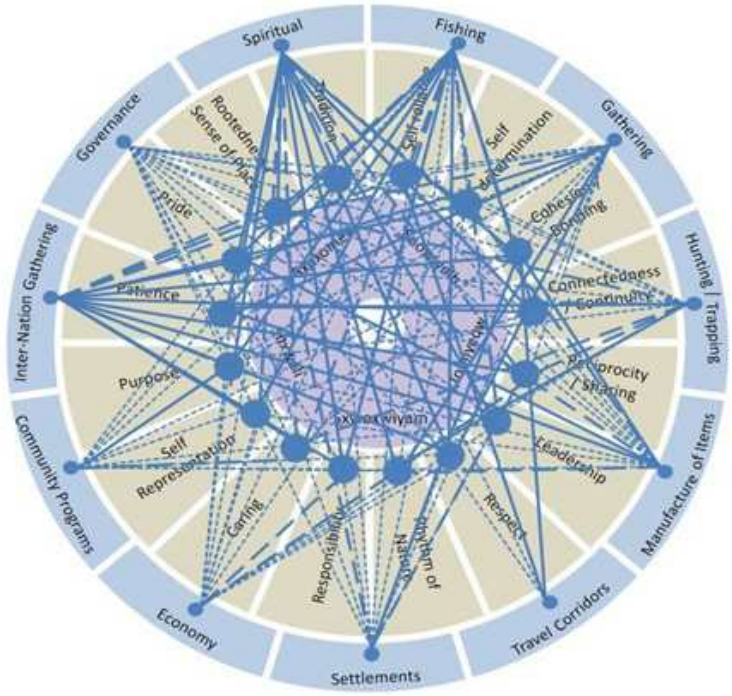
Table 6-1. Legend for the Stó:lō Cultural Model value linkages.

Legend	Line style used for value linkages
Strong direct link between activity and cultural value	
Still common activity, but there are fewer places to carry out activity or fewer people carry out the activity, thus the extent to which the value is instilled is lessened	
Only very few people carry out activity or very few places to carry out this activity severely diminishing the opportunity to instill this value	

Historic



Contemporary*



*This model is replicated from the Transmountain Expansion Project (TMEP) and reflects cumulative effects as of 2014, and is utilized in this unaltered form in the current ICA.

Strong direct link to value	
Still common activity, but there are fewer places to carry out activity or fewer people to carry out the activity	
Only very few people carry out activity or very few places to carry out this activity	

Figure 6-4. Summary of Historic and Contemporary Linkages between Activities and Cultural Values instilled by Traditional Activities (TTML, 2014).

A key point that the Stó:lō Cultural Model makes is that because of the interconnectedness of Stó:lō culture, impacts on any one aspect affects each of the other aspects. The interconnectedness of Stó:lō culture amounts to a cultural system that is 'finely balanced'. The finely balanced world of the Stó:lō, because of its interconnectedness, is susceptible to being affected at many points along this system of inter-relations with the result of 'imbalance'. Imbalance amounts to the disintegration of identity, health, worldview, and, ultimately, an erosion of Stó:lō culture itself. The well-being of Stó:lō community members is anchored to historical, cultural and traditional values.

As such, the current state of the value linkages and the extent to which these values are expressed today will set the foundation for the ICA and the impact rating criteria that will be considered when evaluating potential impacts from the Westcoast SEP. Any Westcoast Energy, SEP-related effect that has the potential to further stress or erode the existing linkages to cultural values has the potential to cause a significant adverse effect to Stó:lō culture.

As discussed earlier in Table 6-1, line style is used indicate the strength of link between cultural activities and cultural values where value linkages are illustrated by different line types (dashed vs solid for example). The colour of the line (see below) illustrates residual effects and range from grey – 'Low to Negligible Effect' to red or 'High Effect'.

Table 6-2. Line colours illustrate residual effects in impact summaries for the Stó:lō Cultural Model.

Colour Code	Line Colour Used on Cultural Model	Predicted Residual Impact Level
RED		High Significant Adverse Effect
YELLOW		Moderate Significant Adverse Effect
GREEN		Positive Significant Effect
GREY		Low to Negligible Significant Effect

6.1 Impact Assessment Methods

This section focuses on impact assessment methods* not covered in the Framework. The methods applied here derive in part from the Westcoast *Environmental Socio-economic Assessment* (ESA) (2024b) and Federal guidelines. A fuller description of methods for the Integrated Cultural Assessment (ICA) and the development of the Stó:lō Cultural Model is provided in the *S'ólh Téméxw Stewardship Alliance Integrated Cultural Assessment Framework* (2025).

The following description presents a high-level overview of the assessment processes used in the ICA, which includes two-steps:

1. **Calculate Importance** by combining four criteria
2. **Apply Importance × Likelihood Matrix** to determine final significance

Step 1 – Calculate Importance

Importance is calculated by assessing and combining the following criteria:

- direction of impact;
- magnitude of residual effect;
- geographic extent;
- duration;
- frequency; and
- sociocultural impact.

Each criterion is evaluated independently, and the results are integrated to determine an overall Importance Rating of Low, Medium, or High. As magnitude, geographic extent, duration, and frequency and socio-cultural impact all increase, Importance increases.

Table 6-3. Importance rating *(example of typical combinations)*.

Magnitude	Geographic extent	Duration	Frequency	Socio-cultural impact Scope	Importance rating
Low	Local	Short-term	Occasional	Family	Low
Medium	Regional	Medium-term	Periodic	Tribal	Medium
Medium	Multi-regional	Long-term	Continuous	Multi-tribal	High
High	Multi-regional	Extended term	Continuous	Multi-tribal	High

Step 2 – Assess Likelihood

Likelihood refers to the probability of an impact occurring (unlikely, likely, and highly likely).

Step 3 – Significance: Apply Importance × Likelihood Matrix

The final Significance rating is determined by combining the Importance rating with the Likelihood rating using the following matrix:

Table 6-4. Significance of residual effects.

	Unlikely	Likely	Highly likely
Low importance	No to Low Adverse Effect	Not Significant	Moderate Significant Adverse Effect
Medium importance	Moderate Significant Adverse Effect	Moderate Significant Adverse Effect	High Significant Adverse Effect
High importance	Moderate Significant Adverse Effect	High Significant Adverse Effect	High Significant Adverse Effect

Significance Ratings Definitions

Not Significant
An impact is rated as Not Significant when the combination of Importance and Likelihood indicates that the effect will have minimal adverse consequences on cultural values, rights, or community well-being. Mitigation measures, if required, should be straightforward to implement and effective.

Moderately Significant
An impact is rated as Moderately Significant when the combination of Importance and Likelihood indicates that the effect will have notable adverse consequences on cultural values, rights, or community well-being. Mitigation measures may be required and should be designed to prevent diminishment or loss of functioning.

Highly Significant
An impact is rated as Highly Significant when the combination of Importance and Likelihood indicates that the effect will have major adverse consequences on cultural values, rights, or community well-being. There is high uncertainty in the effectiveness of mitigation measures, or mitigation measures may be unable to fully address effects such that cultural values, rights, or functioning are diminished or lost.

7 - ENVIRONMENTAL AND SOCIO-ECONOMIC ASSESSMENT (ESA), INDIGENOUS-LED STUDIES AND STSA INTEGRATED CULTURAL ASSESSMENT FRAMEWORKS (ICA)

On its own, the *Environmental and Socio-economic Assessment* (ESA) (2004) framework is not sufficient to address the interconnectedness of Stó:lō culture and ways of life. While the ESA separates the biophysical from socio-cultural, to the Stó:lō there is no such separation. For example, water quality and quantity are linked to the physical, mental and spiritual health of humans, the health of spiritual beings (the Stl'áleqem Te Qo and S'ó:lmexw), and finned ancestors like the salmon that inhabit that water (Carlson et al., 2001). Health is linked to past ancestors as well as future generations. The Halq'eméylem term 'Tómiyeqw' embodies this interconnectedness among seven generations past and future.

The Integrated Cultural Assessment (ICA) process in addition to other Indigenous-led studies and assessment frameworks, better address these interconnections and lead to more fulsome Conditions grounded in Stó:lō cultural values. While not addressed in substance here, the *Cultural Heritage Overview Assessment* (CHOA) and *Cultural Heritage Impact Assessment* (CHIA) are Indigenous-led assessments that treat heritage based on guiding principles drawn from Stó:lō teachings.

Table 7-1 provides an overview of some key assessments and frameworks necessary for the completion of the ICA. The first column is populated with the assessments and surveys being carried by SEP (Jacobs) as well as those Indigenous-led and community-based programs of research. It should be noted that in the ICA Framework, cultural activities (the middle column) are considered indicators. The ICA considers potential impacts to specific activities including (but not only): fishing, gathering, spiritual activities, manufacture of cultural items, travel corridors, hunting and trapping, governance, inter/intra-nation relations, economic activities and community programs and services. Participation in these activities affects how cultural values are realised (the third column).

The ICA is a framework through which to address Stó:lo specific mitigations grounded in cultural values. The schematic diagram (see Figure 7-1) illustrates the process steps involved in the development of the ICA. It outlines how the Federal and STSA-based processes both differ and intersect to inform decisions pertaining to S'ólh Téméxw.

Table 7-1. CER requirements and their relation to cultural activities assessed in the ICA.

Key Elements Required for Completion of the ICA		
Assessment Framework: Enbridge Sunrise Expansion Project ESA and Indigenous-led Studies Required for the ICA	**ICA Framework of Cultural Activities (Indicators)**	**ICA Framework of Cultural Values**
Aquatics • Baseline Surveys • Stream and Wetland Screening Program (SWSP) • Spawning Surveys **Archaeology** • Survey methods and permits • Archaeological Impact Assessment (AIA) protocols • Monitoring requirements **Old Growth Management Areas (OGMA/OGDA)** • Desktop and field assessment protocols **Forest Health** • Desktop and field assessment protocols • Drone survey methodology	**Habitation/Settlement/Travel,** including: • Travel corridors (contemporary and historic) • Camps and winter villages • Housing on reserve (contemporary) **Traditional Economy** **Fishing,** including: • Setting nets • Torch lighting • Dip netting • Hooking/gaffing • Wind / dryrack drying • Weirs • Drifting • Beach seining **Inter/Intra-Nation Relations,** including: • Governance • Quality of life • Housing • Water • Land use planning • Legal policy and procedure	• Tradition • Rootedness/Sense of Place • Patience • Purpose • Self Representation • Caring • Responsibility • Rhythm of Nature • Respect • Leadership • Reciprocity/Sharing • Connectedness/Sharing • Connectedness/Continuity • Cohesion/bonding • Self determination • Self Reliance

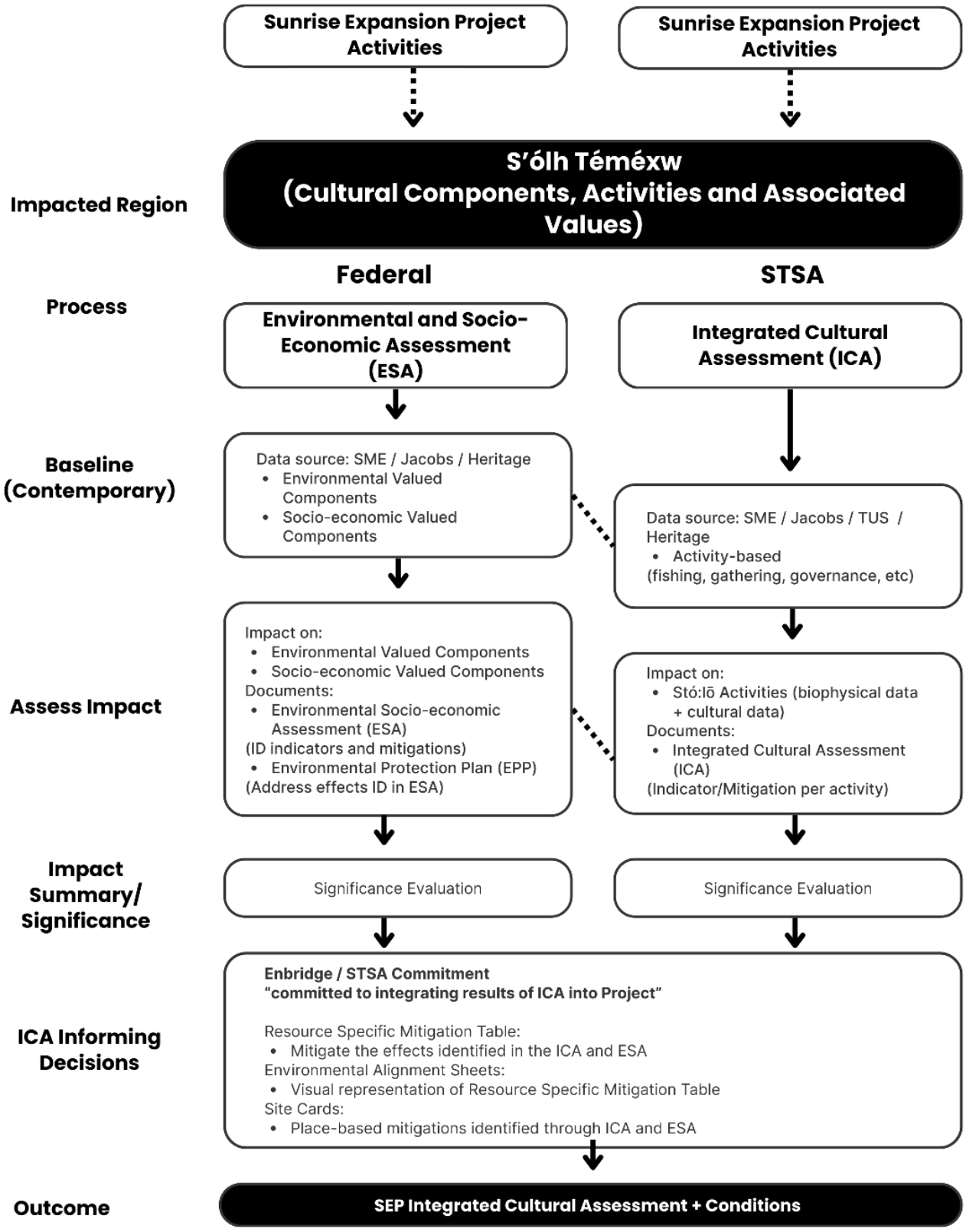
Key Elements Required for Completion of the ICA

Assessment Framework: Enbridge Sunrise Expansion Project ESA and Indigenous-led Studies Required for the ICA	ICA Framework of Cultural Activities (Indicators)	ICA Framework of Cultural Values
Soils • Survey methods and data collection protocols **Vegetation** • Terrestrial Ecosystem Mapping (TEM) and rare vegetation surveys • Early season rare vegetation and riparian surveys • Late season rate vegetation and riparian surveys **Wetlands** • Field delineation and functional assessment protocols • Stream and Wetland Screening Program • Ground based surveys **Wildlife** • Wildlife field program overview • Bat Acoustic Recording Surveys • Breeding Bird Surveys	**Hunting and Trapping,** including: • Wild game and bird hunting & trapping of furbearers • Drying meat • Tanning hides **Manufacture of cultural items,** including: • Weaving • Carving **Spiritual Activities,** including: • Syúwél (Winter dance) • Sxwó:yxwey (Mask dance) • Regalia placement • Cleansing/bathing/fasting/sweat ceremony/burning for ancestors **Community Programs and Services,** including: • Health • Skills & Employment • Child and Family • Education • Resource Management (SRRMC, TTML) • Lands Management	

Key Elements Required for Completion of the ICA		
Assessment Framework: Enbridge Sunrise Expansion Project ESA and Indigenous-led Studies Required for the ICA	**ICA Framework of Cultural Activities (Indicators)**	**ICA Framework of Cultural Values**
• Common Nighthawk and Short-eared Owl Surveys • Pond-dwelling Amphibian Surveys • Terrestrial Ecosysteme Mapping Habitat Ratings and Wildlife Habitat Assessments • Northern Goshawk Surveys • Waterbird and Shorebird Ground-based Surveys • Barn Owl Call Playback Surveys • Oregon Forestsnail Surveys • Oregon Spotted Frog Surveys • Coastal Tailed Frog Surveys • Mountain Beaver Surveys • Spotted Owl Surveys • Reptile Habitat Feature Surveys • Pileated Woodpecker Surveys • Western Screech Owl Surveys • Barn Owl Surveys **Indigenous-led Studies and Sources of Information:** • Cultural Heritage Overview Assessment CHOA	• Taxation • Human Resources • Governance **Governance,** including: • Reconciling traditional systems within current society **Traditional Economy**	

Key Elements Required for Completion of the ICA		
Assessment Framework: Enbridge Sunrise Expansion Project ESA and Indigenous-led Studies Required for the ICA	**ICA Framework of Cultural Activities (Indicators)**	**ICA Framework of Cultural Values**
• Cultural heritage impact Assessment (CHIA) • Traditional Knowledge Studies **Other STSA member-First Nation community-based studies:** • Traditional knowledge studies and engagement activities • Other sources of information		

Figure 7-1. ICA/ESA schematic diagram illustrating ICA co-development process.



Project activities include those related to the pipeline, compressor stations and powerline

The ICA draws on biophysical data gathered through the ESA and Subject Matter Experts (SME) on behalf of the STSA in addition to traditional knowledge, ethnographic databases and historical accounts to create a fulsome body of knowledge on which to assess Project impacts to S'ólh Téméxw.

The ICA proceeded based on the understanding that all ESA and CHIA/CHOA assessments were 100% complete with all data transferred to the SRRMC. The projection of cumulative outcomes of all biophysical and material culture assessments are depicted in the two 'heat maps' in Figure 7-2 and Figure 7-3. These images show the greatest accumulation of findings as area colourised with the deepest red and therefore appear to be hotter than the other areas.

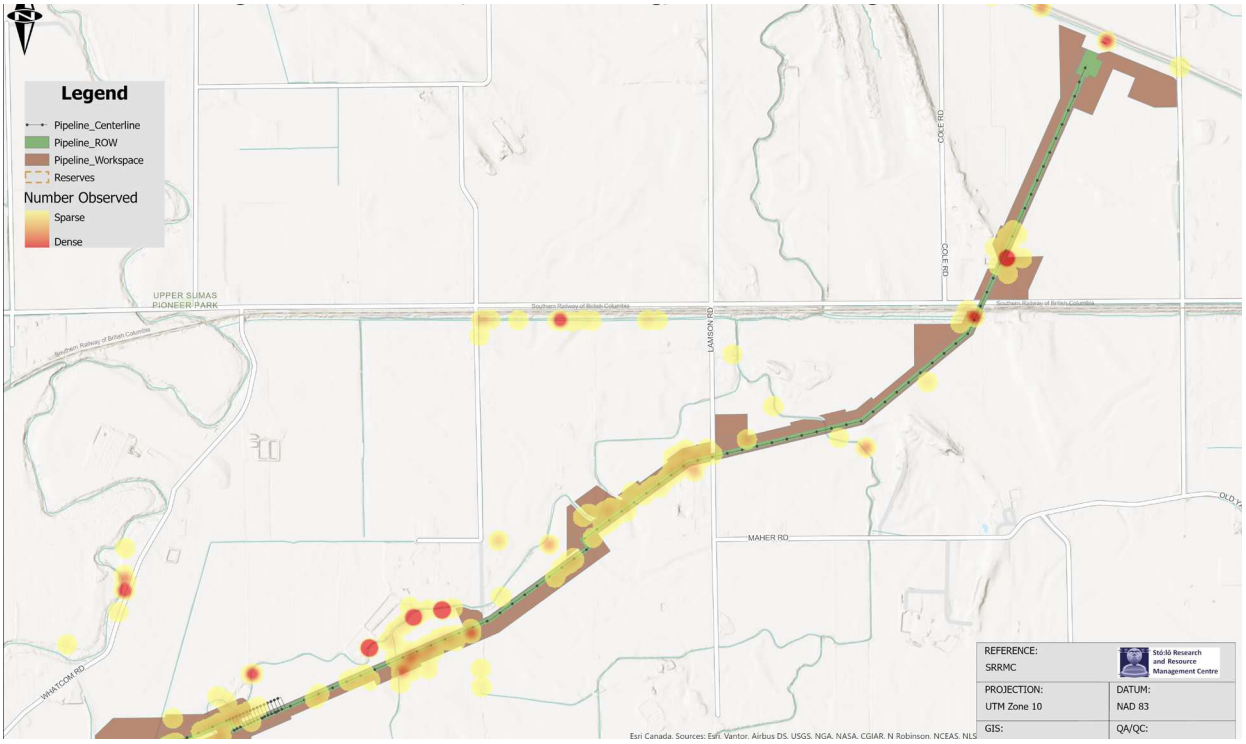


Figure 7-2. Results from all biophysical and material culture assessments for CS-9 to Huntingdon.

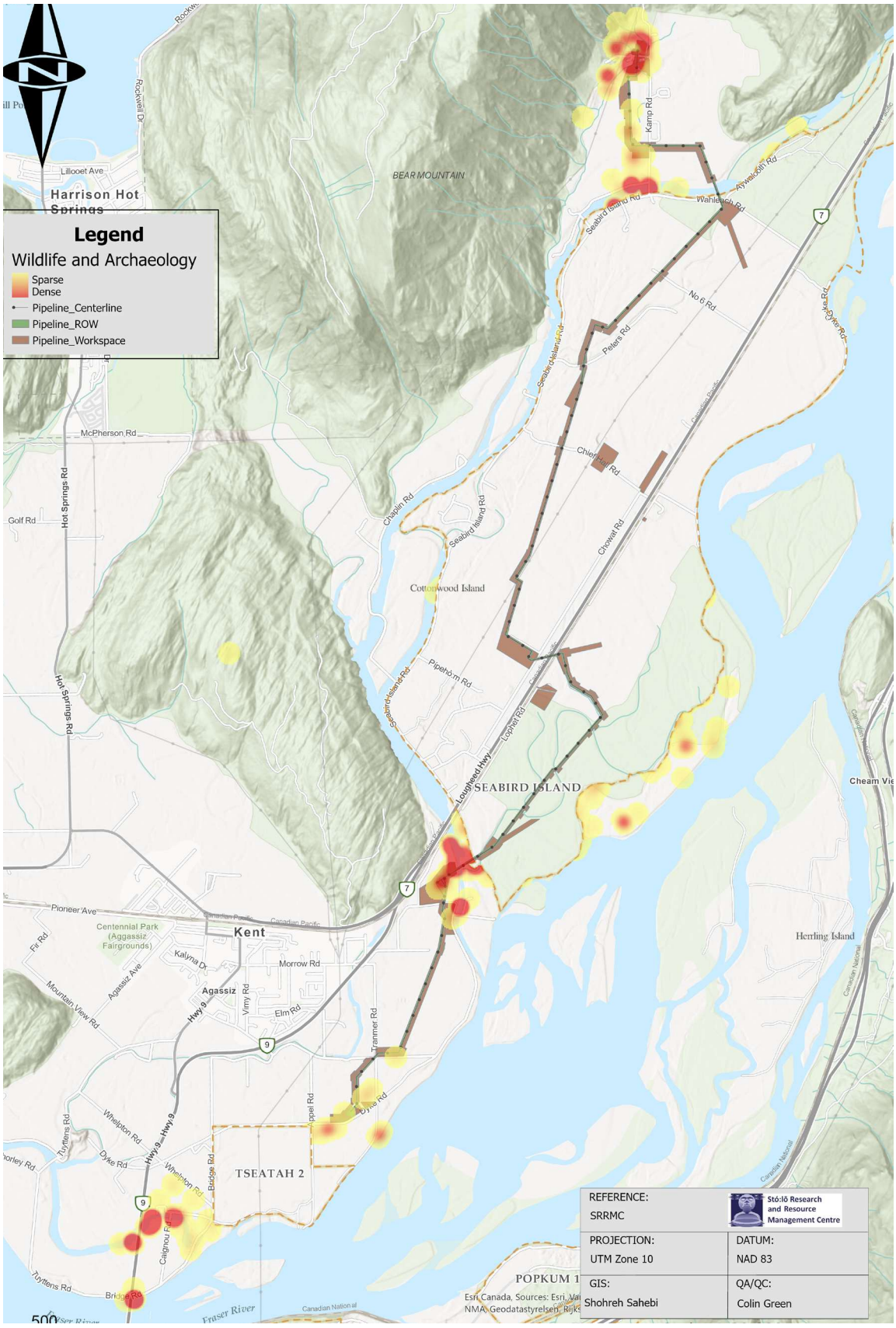


Figure 7-3. Results from all biophysical and material culture assessments for CS-8 to CS-9.

components. These activities take place throughout the duration of the Project: construction, operation and decommissioning or abandonment.

These data are applied to assessing the relationship between activities, values, and the cultural wheel. The following section presents a description of each activity including the assessment of potential impacts and residual effects on the relations to which it is attached. The description of each activity is intended to provide a helpful insight rather than a substantive, comprehensive treatment. This ICA builds off the more fulsome treatment of activity descriptor and supportive research included in the *Indicators Reports* (2014) and other sources of information (Final Report, 2014).

8 - SPIRITUAL ACTIVITIES

It is important to note that in Stó:lō culture, activities and their values are integrated and overlapping. Gathering medicines and berries while fishing at a family owned, inherited fishing site is as much about the expression of rights and title and spiritual connection as it is about subsistence. Spirituality and ceremony are embedded in all practices as shxwelí connects all things including plants, air, earth, water, animals, and people in S'ólh Téméxw.

Spiritual activities are a critical aspect of identity and belonging. These practices connect the individual with the Creator and their ancestors, connect to form the collective identity of Stó:lō, and connect Stó:lō Peoples to one another, as well as to land and resources available within S'ólh Téméxw.

All aspects of Stó:lō life are spiritual. S'ólh Téméxw represents the world transformed through the actions of the Xexá:ls, Tel Sweyal and other 'agents' of Chichelh Siyá:m (the Creator). Sxwōxwiyá:m (oral histories that describe the distant past) tell about the time when animals and people could speak to each other and take on each other's forms. Xexá:ls were transformers who turned people into stone, transformed others into local resources like plants and animals or landforms like rivers and mountains (Carlson et al., 2001).

Shxwelí, the life force of all things, is a critical aspect of the Stó:lō worldview, it is the basis for the connection between people and the natural environment. According to the cultural principle of '*Mekw stám ilileq'tol*' (everything is connected), plants, animals, rocks, trees, fish, air, water, and other elements are perceived as part of the Stó:lō extended family. This kin-based relationship that Stó:lō have with what western science might term "resources" have important implications for understanding practices/activities, and Project impacts to these activities. Disturbance of soil, contamination of water, loss of flora or fauna, increased noise, vibration or change in air purity directly affects ancestors, spiritual beings and practices, thus threatening the health of Stó:lō people and S'ólh Téméxw.

Historical impacts from colonialism and foreign religious institutions have caused extensive disruption to spiritual practices and associated values. Continued infringement on land through development, logging and tourism has led to the loss of bathing sites, secluded forested places, and a loss of spiritual enlightenment, spiritual awareness, and cultural knowledge. Any new impacts from the SEP would exacerbate this strain.

8.1 Impact Assessment

Since spirituality and spiritual practices are integral to all Stó:lō activities and values, Project impacts to any Stó:lō activity (fishing, hunting, gathering, community programs etc.) will inevitably affect spirituality and spiritual practices. While there are many other practices related to spirituality, the following list conveys the breadth of spiritual activities practiced within S'ólh Téméxw.

- Smílha (Winter dance ceremony)
- Sxwó:yxwey
- Regalia placement

- Cleansing/bathing
- Fasting/sweat ceremony/burning for ancestors

There are no known areas where these spiritual practices take place in the ‘off-reserve’ portions of the proposed SEP (CS-9 to Huntingdon or CS-8B to CS-9 loops).

8.2 Project Impacts on Shxwelí

Project activities such as grubbing, clearing, brushing, excavation, grading, trenching, soil handling, backfilling and recontouring may impact spirituality and spiritual practices through disturbance to shxwelí (the life force of all things) in vegetation, wildlife and soil.

To Stó:lō people water is a living entity – a spiritual being. Project activities that include trenched and open-cut watercourse crossings, dewatering and the potential release of contaminants into the water have the potential to negatively impact not only water quality and quantity but the health of S’ólh Téméxw – past, present and future.

Liquid natural gas (LNG) spills create physical and biogeochemical changes in soil and plant communities through lowering the temperature of the surroundings and reducing the amount of oxygen available (Kass et al., 2021). While the impacts are acute, localized near the release site and predominantly short term, such spills do stress or damage soil and aquatic organisms and disrupt microbial and plant communities thus negatively impacting their shxwelí.

Pollution of water affects not just the current ecosystem and seven generations into the future (*Tomíyexw*), but pollution also creates an imbalance in the broader spiritual world – influencing the health of ancestors and supernatural beings who inhabit the water. Imbalances caused by pollution can create physical illness as Labun and Emblen (2007) state, “[w]hen things are out of balance, there are problems such as not being able to fish in the traditional way, suffering from the effects of river pollution, spirit loss, stress, and a variety of physical illnesses that result from an imbalance.”

Ancestors and ancestral belongings may also be impacted through SEP activities. Vegetation clearing, grading, soil salvage, interactions with heavy machinery, trenching and excavation may prompt encounters with material culture areas, their disturbance and potential loss. The *Stó:lō Heritage Policy* (2003) outlines management measures for Stó:lō Heritage Sites. Avoidance/no impact is the preferred management measure for material culture sites/belongings and ancestral remains.

Residual Effects

Given baseline data, mitigation measures, and STSA Conditions, the Westcoast Sunrise Expansion Project is anticipated to result in low to highly significant residual effects, as spirituality and ceremony are embedded in all Stó:lō practices in S’ólh Téméxw.

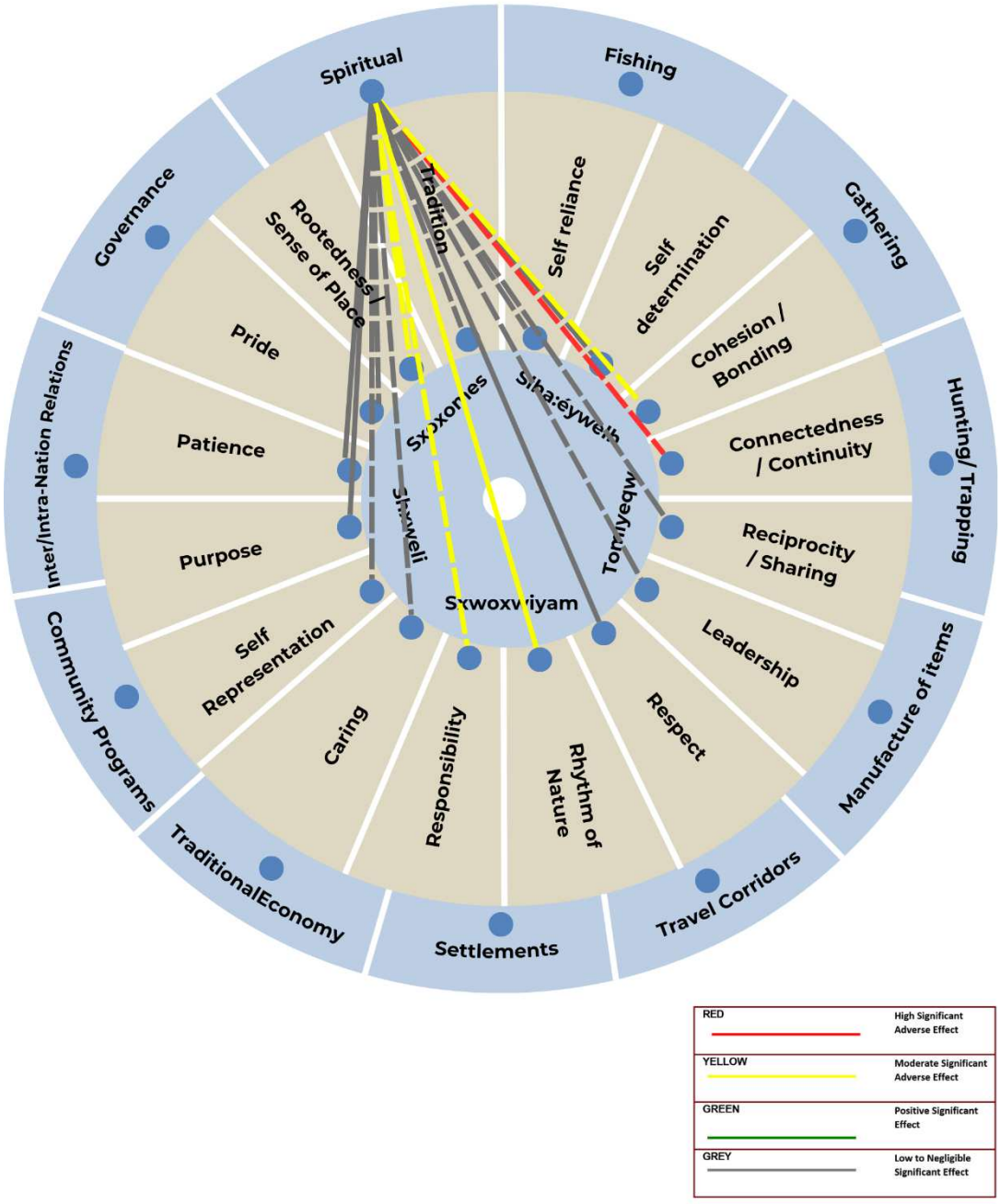


Figure 8-1. The Stó:lō Cultural Model demonstrating potential SEP residual effects to spirituality.

9 - FISHING

Almost every element of Stó:lō culture and identity is directly connected to fishing. Stó:lō identity is tied to the fish, rivers, and creeks, the aquatic habitat and relations to the land and ancestors. As people of the river, Stó:lō have a deeply established connection to and reliance on salmon, sturgeon, and other aquatic species as integral elements of their society, culture, economy, politics and traditions.

9.1 Cultural Values and Cumulative Impacts

Being able to harvest fish for food, social and ceremonial reasons, is linked to the values of self-reliance, responsibility and purpose, and makes Stó:lō people feel proud they can provide for themselves, share with their extended family and contribute to Stó:lō events. Years spent fishing strengthens values such as rootedness, sense of place and responsibility. It is for these reasons Stó:lō people feel fishing not only provides healthy food but contributes to overall community wellbeing.

The lower Fraser River is home to nearly half of the freshwater aquatic species at risk in the Department of Fisheries and Oceans' (DFO) Pacific Region, including salmon, eulachon, and sturgeon. These species hold significant cultural importance to the Stó:lō people, who consider them as ancestors (Carlson et al., 2001) and vital to their livelihood and identity. However, all three species face threats from habitat degradation, fragmentation and land alteration within the lower Fraser River (Department of Fisheries and Oceans Canada, 2025).

The current ability of STSA rights-holding members' practice of fishing is already constrained by factors that include reductions in First Nations' fisheries, land privatization, destruction of fishing sites and reduced access due to development. Since the 1990s, the annual hours for First Nations fishery have decreased from approximately 3,744 hours to 360 hours in 2021. This represents a reduction of roughly 90% in access over three decades (Ned, n.d.). Reductions in First Nations fishery results in lack of food security, limited ability to practice the fishery which leads to loss of culture and inability to share knowledge.

The baseline conditions already reflect cumulative degradation. Most streams and associated riparian habitat within the Project footprint have been altered through historical and ongoing agricultural practices where they occur as channelized streams alongside cultivated fields. Therefore, any additional pressures from the Project—particularly changes in water quality, fish and fish habitat —could further disrupt fishing practices and compound existing stresses on Stó:lō ability to meaningfully exercise rights.

9.2 Project Activities and Potential Impacts

The table below lists project activities that have the potential to negatively impact fishing and associated cultural values. Water quality, riparian ecosystems and wetlands are all fundamental to sustaining healthy fish populations as they directly influence fish survival, growth and reproduction. Maintaining the health of Stó:lō and S'ólh Téméxw requires stewarding water, land and their shared life force (shxwelí) and passing these stewardship responsibilities onto future generations.

Impacts to fishing in S'ólh Téméxw are assessed by drawing on a combination of traditional knowledge and biophysical data collected by Jacobs and STSA SMEs on fish and fish habitat, water and water quality, riparian ecosystems and wetlands (Westcoast Energy Inc., 2024d). The below background provides context to the linkages between fishing and Stó:lō values, as expressed in the Stó:lō Cultural Model, may be impacted by the SEP.

Table 9-1. Project activities and potential impacts to fishing.

Project Activities	Potential Impacts
Backfilling, Trenching, Hydrostatic Testing	Sediment, turbidity, contamination, temperature rise
Dewatering, Clearing, Trenching	Changed flow patterns, runoff, altered groundwater levels
Grubbing, Grading, Compressor Construction	Habitat loss, hydrology alteration, sediment loading, species change

9.3 Fish

The proposed CS-9 to Huntingdon Loop is located within the Sumas River watershed. The Sumas River watershed encompasses approximately 277 square kilometres within the City of Abbotsford, the City of Chilliwack, and Whatcom County (Washington, USA). Streams within the Project footprint includes Saar Creek, Arnold Slough, and associated tributary streams (Government of British Columbia, 2004). Both stream systems are major tributaries of the Sumas River, which is a 32.6 km stream, and a major tributary of the Fraser River.

Numerous salmonid and coarse fish species use the Sumas River as a migration route. Fish species previously documented in Sumas River include chinook salmon (Oncorhynchus tshawytscha); chum salmon (Oncorhynchus keta); coastal cuandoat trout (Oncorhynchus clarki clarki); coho salmon (Oncorhynchus kisutch); pink salmon (Oncorhynchus gorbuscha); cutthroat trout (Oncorhynchus clarkii); dolly varden (Salvelinus malma); rainbow trout (Oncorhynchus mykiss); black crappie (Pomoxis nigromaculatus); brassy minnow (Hybognathus hankinsoni); brown catfish (formerly Brown Bullhead), (Ameiurus nebulosus); carp (general) (Cyprinus sp.); dace (general), (Rhinichthys sp; Phoxinus sp); lamprey (general) (Lampetra sp); largemouth bass (Micropterus salmoides); largescale sucker (Catostomus macrocheilus); mountain whitefish (Prosopium williamsoni); northern pikeminnow (Ptychocheilus oregonensis); peamouth chub (Mylocheilus caurinus); prickly sculpin (Cottus asper); pumpkinseed (Lepomis gibbosus); redside shiner (Richardsonius balteatus); sculpin (general), (Cottus sp); steelhead (Oncorhynchus mykiss); threespine stickleback (Gasterosteus aculeatus); and, white sturgeon (Acipenser transmontanus) (Department of Fisheries and Oceans Canada, 2025).

Ernie Crey, member of Cheam First Nation and executive director of the Lower Fraser Aboriginal Fisheries Commission in 1993, describes how the kinship connection between salmon and Stó:lō creates a sense of obligation and responsibility for the stewardship of fish and fish habitat:

> **As a member of the Cheam band…my history tells me that salmon is the reason I am here. We are salmon people. The history of the salmon in this part of the world is my own people's history. The salmon, and the Fraser River, define who we are. We take our name from the word that we give the river: Stó:lō. Our history tells us that at the beginning of the world, salmon was given to the Stó:lō by Xa;xls, the creator and great Transformer. He taught us how to survive by maintaining a good relationship with salmon. He taught us how to fish for salmon, how to cook it, and how to look after it. …. We cooked salmon over open fires. We wind-dried salmon, smoke-dried salmon, and stored it over the winter months. Salmon allowed us to flourish as a people. (Crey, 1993)**

In a knowledge holders workshop Elders shared the memory of catching trout and hunting ducks in the ditches in the Sumas Prairie in the late 1970s (personal communication, January 14, 2026). Desktop review and field assessments by Jacobs in 2023 at Saar Creek, Hicks Creek and Maria Slough North (CS-8B to CS-9) also provide valuable information concerning the species of fish and potential impacts to fishing at watercourses in S'ólh Téméxw. Watercourses such as Saar Creek supply a vital habitat for brassy minnow spawning, rearing, migration, and adult suitability; and important overwintering, rearing, and migration habitat for lamprey (Westcoast Energy Inc., 2024i). Previously observed species in Saar Creek include brassy minnow, chum salmon, coastal cutthroat trout, coho salmon, cutthroat trout, lamprey (general), longnose sucker, northern pikeminnow, pumpkinseed, redside shiner, sculpin (general), steelhead, threespine stickleback and unidentifiable trout.

9.4 Fish Habitat and Water Quality

Riparian Ecosystems

Water quality is directly related to riparian ecosystems and wetland health. Water quality has an impact on Stó:lō ability to steward the land today and transmit these stewardship responsibilities into the future. Riparian ecosystems are among the most ecologically and culturally important features in the landscape; their vegetation shades adjacent water bodies, maintaining healthy water temperatures, and providing important organic matter inputs that support fish, other aquatic species and food webs. Their vegetation also helps stabilize banks, reducing erosion, and slows and filters water (Department of Fisheries and Oceans Canada, 2020; Pusey & Arthington, 2003).

The riparian zone is commonly defined as the area 30 m from the water's edge (Government of British Columbia, 2026) allowing for the protection of freshwater habitat health. Monocrop agricultural practices have encroached on these riparian areas, making them narrower and less diverse, limiting ecosystem health and making the area more vulnerable to degradation from construction activities. like vegetation clearing (TerraFauna Wildlife Consulting Inc., 2026).

Stream Classification

According to BC Ministry of Forests and BC Ministry of Environment, a stream is a watercourse that has a continuous defined channel (bed and banks) for over 100 m (i.e., is scoured by water, or contains deposits of mineral alluvium, or both), or a watercourse that flows directly into a fish stream, fish-bearing lake, wetland, or waterworks. Flow may be continuous or ephemeral. Streams are classified by a riparian stream classification system based on mean channel width,

documented fish presence, and barriers to fish, such as high gradients. Riparian Management Areas (RMAs) are areas adjacent to water bodies where special management is required to maintain water values and fish or wildlife habitat. While conventional classification systems consider S5 and S6 as non-fish bearing streams, the perspective employed in the ICA is that all waterways are part of the watershed system and support fish and other aquatic species; and must be treated with respect particularly in light of substantial cumulative effects.

Table 9-2. Riparian stream classifications.

Riparian Stream Class	Average Channel Width (m)	RRZ Width (m)	RMZ Width (m)	Total RMA Width (m)
S1-A (fish stream or within a community watershed)	> 100	50	50	100
S1-B (fish stream or within a community watershed)	20 to 100	50	20	70
S2 (fish stream or within a community watershed)	5 to 20	30	20	50
S3 (fish stream or within a community watershed)	1.5 to 5	20	20	40
S4 (fish stream or within a community watershed)	< 1.5	0	30	30
S5 (non-fish stream)	> 3	0	30	30
S6 (non-fish stream)	≤ 3	0	20	20
Note. While conventional classification systems consider S5 and S6 as non-fish bearing streams, the perspective employed in the ICA is that all waterways are part of the watershed system and support fish and other aquatic species; and must be treated with respect particularly in light of substantial cumulative effects. > = greater than ≤ = less than or equal to < = less than				

Wetlands

Wetlands are swamps, marsh, bog, fen, or other similar areas that support natural vegetation, which are distinct from the adjacent upland areas and may have up to 2 m of standing water. Wetlands provide critical habitat for fish, birds, and other wildlife in BC. Freshwater fish such as juvenile salmon often rely on dynamic and diverse wetland habitats.

Liquid Natural Gas Spills

Unlike bitumen spills that pose severe, long-term ecological impacts to aquatic ecosystems, LNG spills are localised. In aquatic systems, LNG spills cause rapid vaporization and intense cooling of water surfaces at about −162 °C, leading to thermal shock and mortality in sensitive aquatic organisms such as fish, plankton, and invertebrates (Kass et al., 2021; Wellman et al., 2004). Although LNG is chemically pure methane with minimal direct toxicity and does not produce persistent residues like oil, localized oxygen depletion may occur beneath the water surface due to methane dissolution and reduced oxygen exchange caused by vapor blankets, further stressing aerobic aquatic life (Kass et al., 2021; Wellman et al., 2004).
There are long-term sociocultural effects of pollution on Stó:lō health and well-being. Pollution of water and air affects not just the current ecosystem and seven generations into the future (tomíyexw), but pollution creates an imbalance in the broader spiritual world – influencing the health of ancestors, supernatural beings who inhabit the water.

Watercourse Crossings

Within S'ólh Téméxw, the Project proposes to cross 16 waterbodies, including streams with associated riparian areas, and wetlands. As a Condition established by the STSA Regulatory Body (Condition 12), Westcoast is required to treat each watercourse (classified and non-classified) in S'ólh Téméxw as if it were fish-bearing. This includes all environmental protection measures affecting fish-bearing watercourses including requirements for construction practices, habitat restoration and avoidance strategies.

Pipeline installation methods (open-cut and trenchless) and recommendations for treatment of watercourse crossings in S'ólh Téméxw were compiled by SME Oilpaw Environmental Services Inc. on behalf of the STSA. Detailed information for consideration is available in this report (Oilpaw Environmental Services Inc., 2026; see also Appendix B).

9.5 Impact Summary: Residual Effects

Fish and fish habitat are critically important to Stó:lō traditions, cultural relations, spiritual activities, and identity. The current condition of streams and riparian habitat in the Project area shows cumulative impacts from historical and ongoing agricultural activities. Any new pressures from Project activities affecting water quality and fish habitat could intensify existing challenges and further impact cultural value linkages and thus the wellbeing of Stó:lō.

As the following Stó:lō Cultural Model indicates, informed by the existing conditions assessment, mitigation measures and STSA Conditions in the Westcoast SEP are predicted to result in low/ negligible residual effects to fishing and associated cultural values in S'ólh Téméxw.

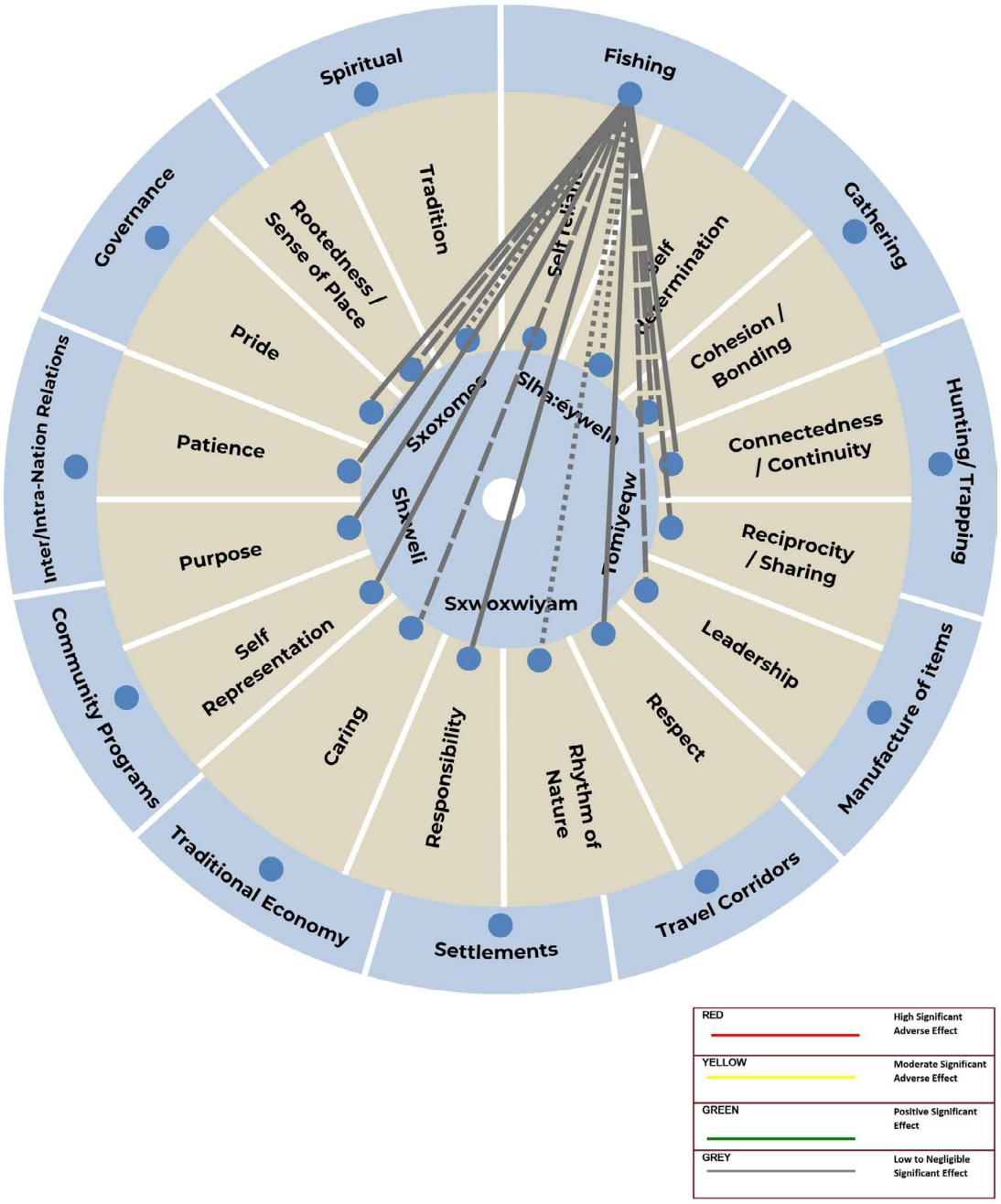


Figure 9-1. The Stó:lō Cultural Model demonstrating potential SEP residual effects to fishing.

10 - GATHERING

Stó:lō peoples have always gathered a vast array of plant material for food, medicine, ceremony and manufacturing. Gathering has always been a holistic and fundamental element of Stó:lō community relations, land-use patterns and resource management. Traditional gathering practices link social wellbeing, health, economic systems, spirituality and political relations (Schaepe et al., 2004), and are embedded within broader systems of traditional ecological stewardship, land management and traditional Coast Salish agriculture (Armstrong et al., 2023; Lepofsky et al., 2005).

Although there are fewer intact and accessible harvesting areas today, gathering continues to be an essential practice and a fundamental aspect of Stó:lō way of life that connects to broader cultural values and activities represented in this ICA.

10.1 Cultural Significance and Cumulative Impacts

Stewardship responsibilities are embedded in traditional practices like gathering, hunting and fishing. It is through these practices that rights and responsibilities for their care are transferred to future generations.

Gathering practices are dependent on the availability, quality and accessibility of culturally significant plant species and the ecosystems that support them. The continuation of gathering practices therefore depends on intact and healthy forests, wetlands, riparian areas and meadow systems, where relationships among species, soils, water and seasonal cycles support the availability and quality of culturally important plants—reinforcing that culturally significant vegetation must be understood and assessed within a holistic, ecosystem-based context.

Culturally significant plants are those that support Stó:lō ways of living, knowing and are essential to carry out cultural practices. Some plants are widely recognized throughout Coast Salish Nations as cultural keystone species—most notably, but not limited to, the western red cedar (*Thuja plicata*)—which are central to cultural practices, seasonal rounds and knowledge systems (Garibaldi & Turner, 2004).

The current ability of STSA rights-holding members to practice gathering is already constrained by a lack of quantity and access, and by factors that include loss and fragmentation of harvesting areas, land privatization, degradation of ecosystems and land-use development. Many traditional gathering sites have been altered or lost through agricultural conversion, urban expansion and industrial land use, limiting the availability of culturally important plants and safe access to harvesting areas (Carlson, 2001; Lloyd, 2009). Reductions in access to these areas affect food and medicine security and limit the ability to practice gathering, which in turn contributes to the erosion of cultural knowledge, intergenerational learning, and the ability to share resources within communities (Turner, 2014).

Stó:lō peoples have historically relied on a wide range of ecosystems—including forests, wetlands, floodplains and riparian areas—to support seasonal gathering practices, but access to these lands has been significantly reduced and altered since colonization (Lloyd, 2009). As a result, culturally significant vegetation is often less abundant, more difficult to access, or located in disturbed environments. These existing pressures have already affected the ability to maintain gathering practices and any additional disturbance to vegetation, soils, water or

wetlands may further compound these effects and reduce the ability of Stó:lō to meaningfully exercise rights.

10.2 Potential Project Impacts

Project works on the proposed CS-9 to Huntingdon Loop will have low to negligible direct impacts to Stó:lō gathering practices. This Project component footprint traverses almost entirely through fee simple agricultural land which has not served as valuable Stó:lō gathering areas since the draining of Semá:th Xo:tsa (Sumas Lake).

An indirect potential risk of Project activities to Stó:lō gathering within this loop is the spread of invasive species. Field survey data shows the presence of several provincially designated noxious weeds:

- Japanese knotweed
- Himalayan blackberry
- Reed canary grass
- Spotted touch-me-nots
- Thistle *(Cirsium vulgare and Cirsium arvense)*
- Common tansy
- Prickly lettuce

Project activities on the proposed CS-8B to CS-9 loop traverses largely through fee simple agricultural land where there is presence of two at-risk ecological communities within the area:

- Black cottonwood – red alder/ salmonberry (Special Concern)
- Black cottonwood/Sitka willow (Special Concern)

For further information regarding rare plant species and riparian habitat surveys see *S'ólh Téméxw Terrestrial Values Report: Baseline review, impact considerations, and restoration opportunities relating to the Westcoast Energy GP Inc. Project* (TerraFauna Wildlife Consulting Inc., 2026).

10.3 Impact Summary: Residual Effects

Many traditional gathering sites have been altered or lost through agricultural conversion and thus any additional pressures from Project activities could exacerbate the ability of Stó:lō communities to practice gathering.

Informed by the existing conditions assessment, mitigation measures and STSA Conditions, the Westcoast SEP is predicted to result in low to negligible residual effects to gathering practices and associated values in S'ólh Téméxw with the potential for positive effects through rehabilitation and offsets.

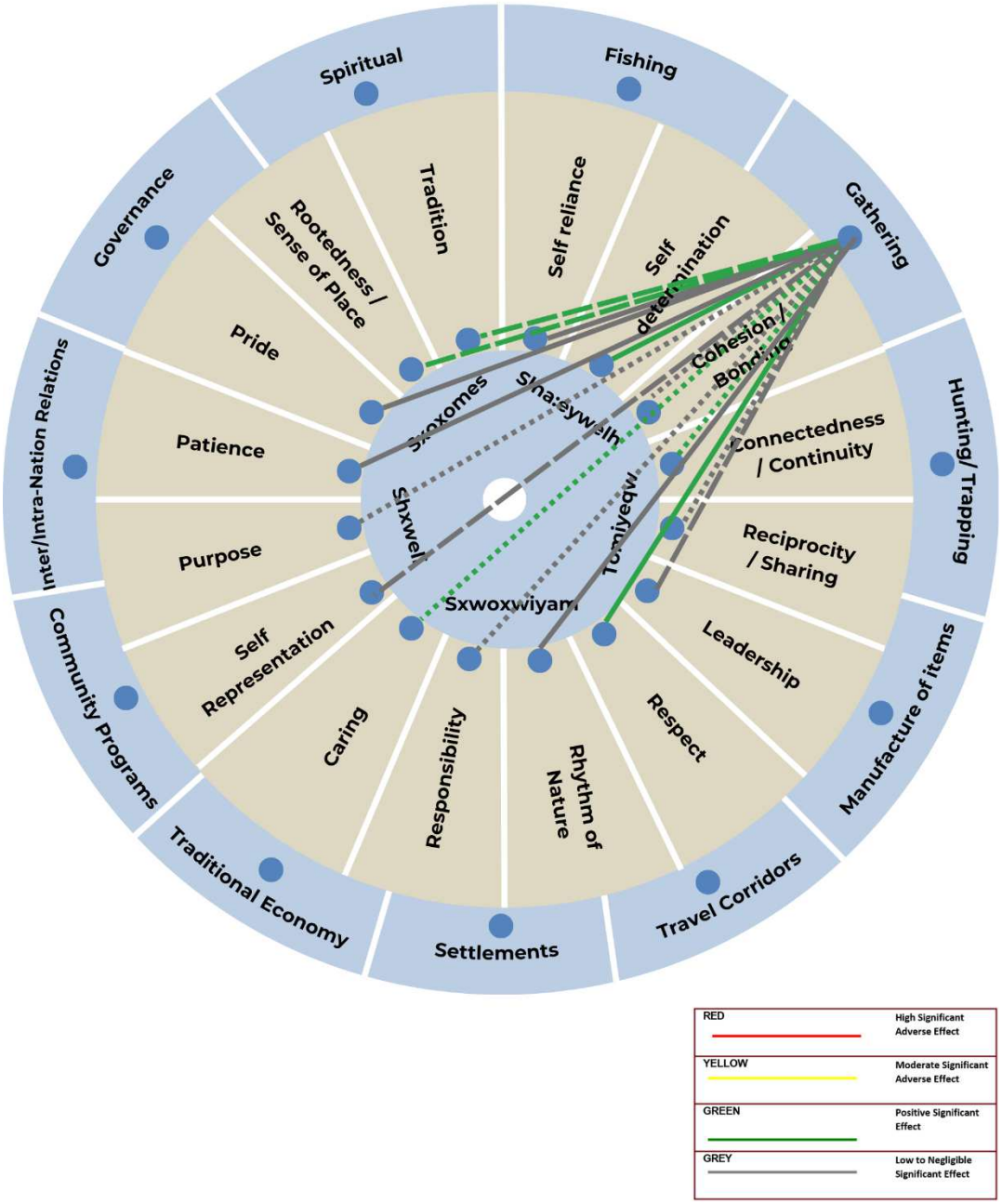


Figure 10-1. The Stó:lō Cultural Model demonstrating potential SEP residual effects to gathering.

11 - HUNTING AND TRAPPING

In Stó:lō culture the activities and values of fishing, gathering and hunting are integrated and overlapping – often taking place alongside each other. Spirituality and ceremony are embedded in all these practices as Shxwelí connects all things including plants, air, earth, water, animals and people.

Stó:lō harvest a variety of wildlife for food, medicine, building materials and ceremonial items. Historically, hunting and trapping played a vital role in Stó:lō culture as it related to food, social, ceremonial and economic purposes. Respect for Elders, the land and animals were values associated with hunting and trapping. Respect was shown in different ways, some were instilled in the protocols of hunting the animal, giving thanks to the Creator, providing for the community and offering the hunter's first kill to the Elders. Hunting and trapping instilled many cultural values.

Hunting waterfowl was a common practice in the Sumas area in the recent past. Ducks and geese were hunted for food along watercourses across the Sumas Prairie (Stó:lō Research and Resource Management Centre, 2024). Trapping beaver, mink and muskrat was also once a common activity practiced within the CS-9 to Huntingdon Project area (Stó:lō Research and Resource Management Centre, 2024).

Hunting and trapping remain as culturally significant practices, particularly deer hunting, with some traplines still maintained in various communities. These activities continue to provide food for families and support social, cultural and ceremonial needs. However, participation has declined due to factors such as the fragmentation of S'ólh Téméxw, regulatory constraints, development pressures, limited time and reduced access to undisturbed hunting areas. Despite this, those who continue to hunt take pride in continuing these traditions. Hunting remains an important aspect of Stó:lō culture, contributing to ceremonial materials and instilling values that are inherent in Stó:lō life.

11.1 Cumulative Effects

In Stó:lō culture, fishing, gathering, hunting/trapping and spiritual practices are integrated and overlapping activities that have similar requirements and often occur simultaneously in the same areas. Project activities that impact gathering practices (grubbing, vegetation removal etc.) therefore also affect the ability of Stó:lō to hunt, trap animals and carry out spiritual practices.

Hunting and trapping practices have been significantly impacted by changing habitat, development and land use restrictions. Subject Matter Expert (SME) TerraFauna Wildlife Consulting Inc. carried out biophysical surveys on behalf of the STSA. They offer valuable insight into wildlife and wildlife habitat within S'ólh Téméxw. As they state,

> **Wildlife species that persist in today's upper Fraser Valley are predominantly generalists—species capable of tolerating or exploiting human-modified landscapes. Their presence should not be interpreted as evidence of ecosystem health but rather as a reflection of which species can survive in severely altered conditions. Many specialists, area-sensitive species, and species requiring intact habitats have been extirpated or reduced to remnant populations. (TerraFauna Wildlife Consulting Inc., 2026, p. 57)**

11.2 Impact Summary: Residual Effects

The assessment of Project impacts on hunting and trapping, and their associated cultural values, includes traditional knowledge, historical information and data from the ESA related to wildlife, habitat and access to hunting areas and resources within the CS-8B to CS-9 and CS-9 to Huntingdon pipeline loops. It also incorporates analysis from SME (TerraFauna Wildlife Consulting Inc.) working on behalf of the STSA.

Potential effects of Project activities on hunting and trapping in S'ólh Téméxw include:

- **Construction activities causing sensory disturbances** - nuisance noise, vibrations and air emissions that may affect wildlife health and habitat availability.
- **Vegetation clearing** – removal of vegetation that may result in habitat alteration or affect habitat quality for wildlife species.
- **Soil disturbance** – activities that may result in habitat alteration or affect habitat quality for wildlife species.
- **Open excavations and berms** – physical barriers that have the potential to cause barriers to wildlife mobility and access to wildlife resources.
- **Project timing** – may result in changes in or disruption to access to wildlife resources or areas of current harvesting.
- **Sensory effects** – noise, dust, and visual presence of Project activities that may affect current use of hunting, trapping and cultural areas.
- **Disturbance or alteration of locations** – construction activities may disturb or alter locations of cultural or spiritual importance.

While there is no known hunting or trapping currently taking place within the CS-8B to CS-9 or CS-9 to Huntingdon pipeline route, *any* impact to wildlife habitat will impact the ability of Stó:lō to carry out hunting and trapping activities in the future.

Surveys by TerraFauna Wildlife Consulting Inc. identify black-tailed deer, black bear, coyote and several raptor species (red-tailed hawk, bald eagle, barn owl) as persisting in the project area. These species tolerate or benefit from forest edges, agricultural crops and human infrastructure. Their continued presence reflects behavioral plasticity and broad habitat tolerances rather than landscape quality. Even these adaptable species face ongoing pressures: vehicle collisions, human-wildlife conflict, reduced habitat connectivity and cumulative stress from multiple developments (TerraFauna Wildlife Consulting Inc., 2026).

Wetland habitat that is critical for waterfowl and wetland-dependent birds have been reduced to approximately 5% of historical extent. While Stó:lō are no longer able to hunt waterfowl in the Project area as they did in the past, breeding and migratory birds may be impacted through the loss or alteration of riparian and wetland habitat. The Project area falls within Migratory Bird Nesting Zone A4 (Environment and Climate Change Canada., n.d.). The general nesting period for this zone is from late April to mid-August. Project activities like the clearing of vegetation must take this into account.

Informed by the existing conditions assessment, mitigation measures and STSA Conditions, the Westcoast SEP is predicted to result in low to negligible residual effects to hunting, trapping and cultural values associated with hunting and trapping in S'ólh Téméxw.

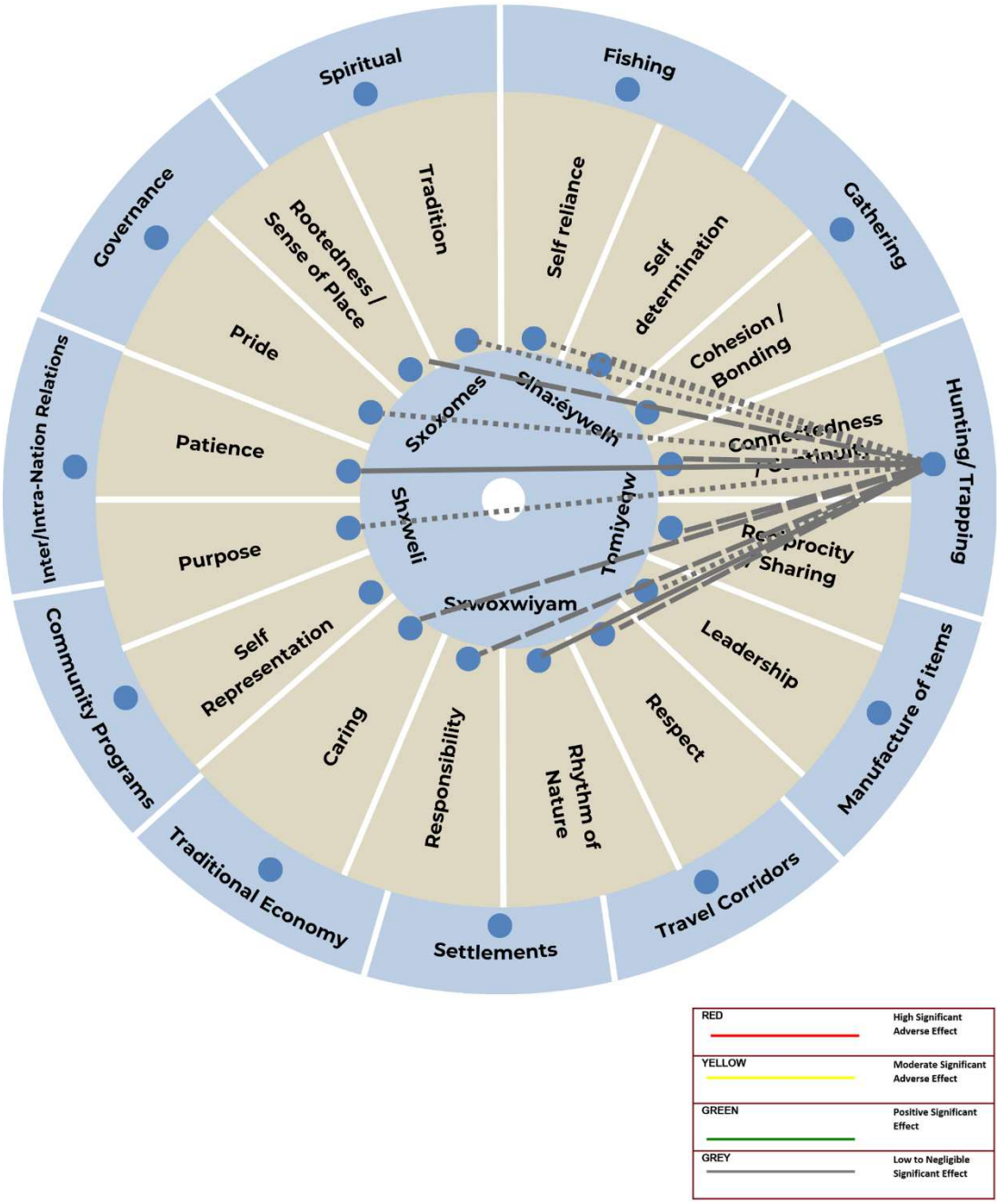


Figure 11-1. The Stó:lō Cultural Model demonstrating potential SEP residual effects to hunting and trapping.

12 - MANUFACTURE OF ITEMS

The Stó:lō are world renowned for their skill and artistry in manufacturing an array of cultural items—most notably by weaving and carving. This practice continues to be at the core of Stó:lō culture and identity.

Cultural items such as blankets, baskets, mats, canoes, tools, clothes, regalia and many other objects served specific purposes within, and linked with, many key aspects within Stó:lō social, ceremonial, political and economic life. Many local plant, animal and fish resources were gathered and hand processed to manufacture cultural materials. Such objects had a range of values and uses from local to broad-based in terms of networks within and between families, villages, tribes and inter-nation relations. *Tl'etláxel* ('potlatching') was a primary means of negotiating relations using manufactured cultural items.

Weaving was done with a variety of materials, but none more important than cedar roots. Baskets were used to collect berries, other plants and materials, carry fish and used in the everyday life of Stó:lō. Mats were also used as tools such as floor coverings, carrying and preparing salmon, wrapping game and used to aid in carrying the fish and game home. Weaving was taught from generation to generation, and different families had different patterns and colours. Weaving took a lot of patience, time and understanding of the materials required. Cedar weavings were often left as gifts for the Creator and cedar, particularly in cedar gathering sites.

Stó:lō carvers had a variety of tasks such as making poles, masks and canoes. Traditional methods of carving were also passed from generation to generation. Carving, like weaving, took great patience and knowledge of the associated materials and methods.

Today, many of the cultural items are manufactured to preserve a connection with Stó:lō culture by understanding and preserving traditional methods and teachings. Limiting access to appropriate material for manufacturing adversely affects cultural values associated with weaving and carving including Pride, Tradition, Rootedness/Sense of Place, Respect, Purpose, Responsibility, Patience, Cohesion/Bonding, Connectedness/Continuity, Rhythm of Nature, Reciprocity/Sharing, Self Reliance and Self Representation.

12.1 Assessment

It is important to note that the manufacture of cultural items depends on materials acquired through gathering, hunting and trapping. Project impacts to gathering or hunting and trapping will therefore directly affect the ability to manufacture cultural items and will compromise the cultural values associated with all three interconnected practices.

The current ability of STSA rights-holding members to manufacture cultural items is constrained by limited availability and quality of required materials. This is due to loss and fragmentation of harvesting areas, land privatization, government regulations, degradation of old growth forests and ongoing land-use development.

Many traditional sources for culturally important species have been altered or lost (Carlson, 2001; Lloyd, 2009), resulting in plant materials for weaving, carving and other cultural productions being less abundant, lower quality or more difficult to obtain. This reduced access to appropriate materials directly impacts the manufacturing of items used for cultural and

ceremonial purposes. This disrupts transmission of knowledge on harvesting, preparation and crafting, contributing to the erosion of cultural knowledge and intergenerational learning (Turner, 2014). It may also affect community cohesion and traditional economies.

Vegetation, fish habitat quality and quantity, soil quality, water quality and quantity and wetland function are all fundamental to sustaining the materials required for cultural production. These components directly influence not only material distribution and abundance, but also the structural and functional qualities of the materials—such as strength, flexibility and durability—that are necessary for weaving, carving and other forms of manufacturing, particularly within forests, riparian areas, wetlands and meadow systems where many material species are found (Garibaldi & Turner, 2004; Turner, 2014). Changes to any one of these components can alter growing conditions, disrupt ecological relationships and reduce the suitability of plants for use in manufacturing (Boyd, 1999; Lepofsky et al., 2005).

Manufacturing depends not only on the presence of plant species, but on the availability of materials that meet specific cultural and functional requirements, as well as the ability to process them in appropriate conditions. Cultural teachings further emphasize that the value of materials is tied to place, condition and relationship, meaning that changes to soil, water or surrounding ecosystems can affect not only the physical properties of plant materials, but also their cultural and spiritual suitability for use (TTML, 2014; Turner, 2014).

12.2 Impact Summary: Residual Effects

Informed by the existing conditions assessment, mitigation measures and STSA Conditions, the Westcoast SEP is predicted to result in low to negligible residual effects on the manufacturing of cultural items as the Project footprint traverses almost entirely through privately owned agricultural land with no appropriate gathering or hunting/trapping materials that fit the required specifications needed for manufacturing.

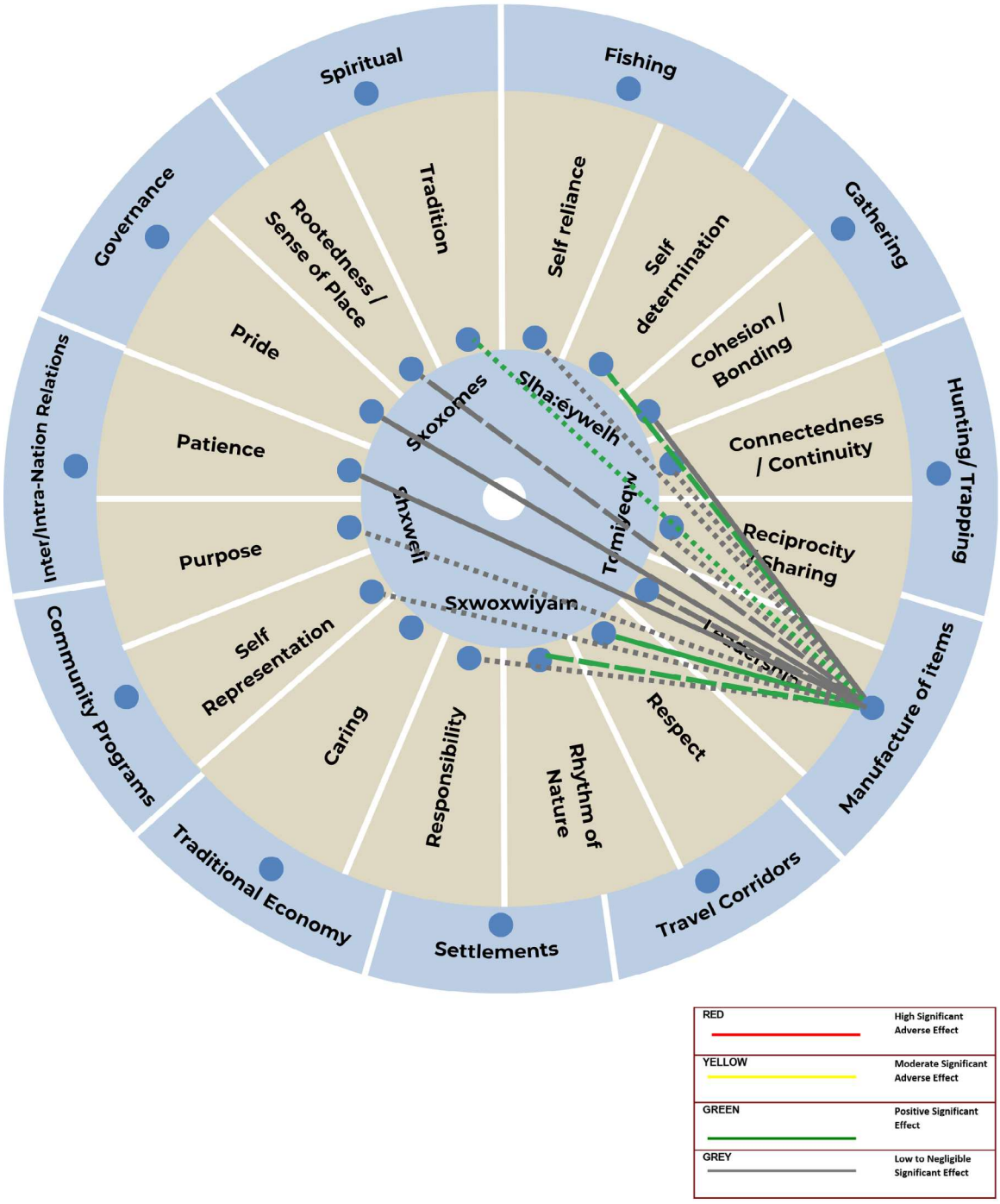


Figure 12-1. The Stó:lō Cultural Model demonstrating potential SEP residual effects to manufacturing of cultural items.

13 - TRAVEL CORRIDORS

Historically, transportation routes, trade and communication networks were maintained and delineated through canoe travel and other means (Schaepe, 2001). The Stó:lō used a network of travel ways that included waterways and trails. Travel between communities, harvesting areas and contemporary economic ventures continue to be integral to the way that community members carry out daily activities. Contemporary travel corridors include roads, rather than traditional canoeing between camps and winter villages, to communicate and trade.

There are several roadways that may be negatively influenced by SEP Project activities within the Project footprint including increased traffic resulting from the transportation of construction equipment, materials and workforce. In a knowledge holders' workshop, some attendees from Semá:th First Nation voiced concern that their travel may be impacted by Project activities (personal communication, January 14, 2026).

Impacts to public roadways may include:

- Mobilization and demobilization of each crew.
- Move-arounds at fixed crossing points by each crew.
- Intersecting road crossings that require ramp crossings.
- Arrival and departure of crew at each site - including supervision.

According to *Westcoast Energy GP Inc. Sunrise Expansion Project (SEP) Traffic Management Plan* (2026), normal construction activities will occur in a 6-day per week rotation. Critical phase work such as trenchless crossings, tie-ins and hydrostatic testing may operate on a 7-day work week, 24 hours per day. Mainline pipeline construction will operate with 10-12 hour days during winter months (7:00 am to 5:00 pm or 7:00 am to 7:00 pm) and 12-hour days during summer months (7:00 am to 7:00 pm). Night shift work for maintenance and repair personnel will also occur.

Pipeline construction will involve the transport of personnel and materials from yards to the right-of-way (RoW) daily. Construction activities will include adjacent work in the vicinity of public routes, partial lane closures that may create traffic delays and trenchless crossings that will operate 24 hours per day, 7-days a week, until completion.

Table 13-1. Roads and highways that are crossed by the proposed SEP.

Loop	Heavy Vehicle Use Roads	Light Vehicle Roads (heavy vehicle roads +)
CS-8B to CS-9	Peter Lougheed Highway	Dyke Road
	Agassiz Bypass	McCartney Road
	Haig Highway	Appel Road
	Agassiz Rosedale Highway	
	Kamp Road*	
	Bridge Road	
	Whelpton Road	
	Tranmer Road	
	McDonald Road	
	Scott Road	
	Cuthbert Road	
CS-9 to Huntingdon	Trans-Canada Highway	Fadden Way
	Vye Road	Cole Road
	Whatcom Road	
	Bowman Road	
	Arnold Road	
	Old Yale Road	
	Maher Road	
	Lamson Road	
	Boundary Road	
	Sumas Way	

**Note.* 23 meters of Kamp Road are on Seabird Island reserve land.

13.1 Impact Summary: Residual Effects

While the off-reserve portions of the CS-8B to CS-9 and CS-9 to Huntingdon SEP pipeline route do not intersect with STSA member-First Nations reserves, STSA member-First Nations who live, work or harvest in the immediate vicinity of construction and rely on these roads for transport may be adversely impacted during specific months of Project work. As of March 20, 2026, the *Westcoast Energy GP Inc. Sunrise Expansion Project (SEP) Traffic Management Plan* was not finalized. Therefore, based on existing conditions data, mitigation measures and STSA Conditions, the SEP is predicted to result in medium to low residual effects to travel in S'ólh Téméxw.

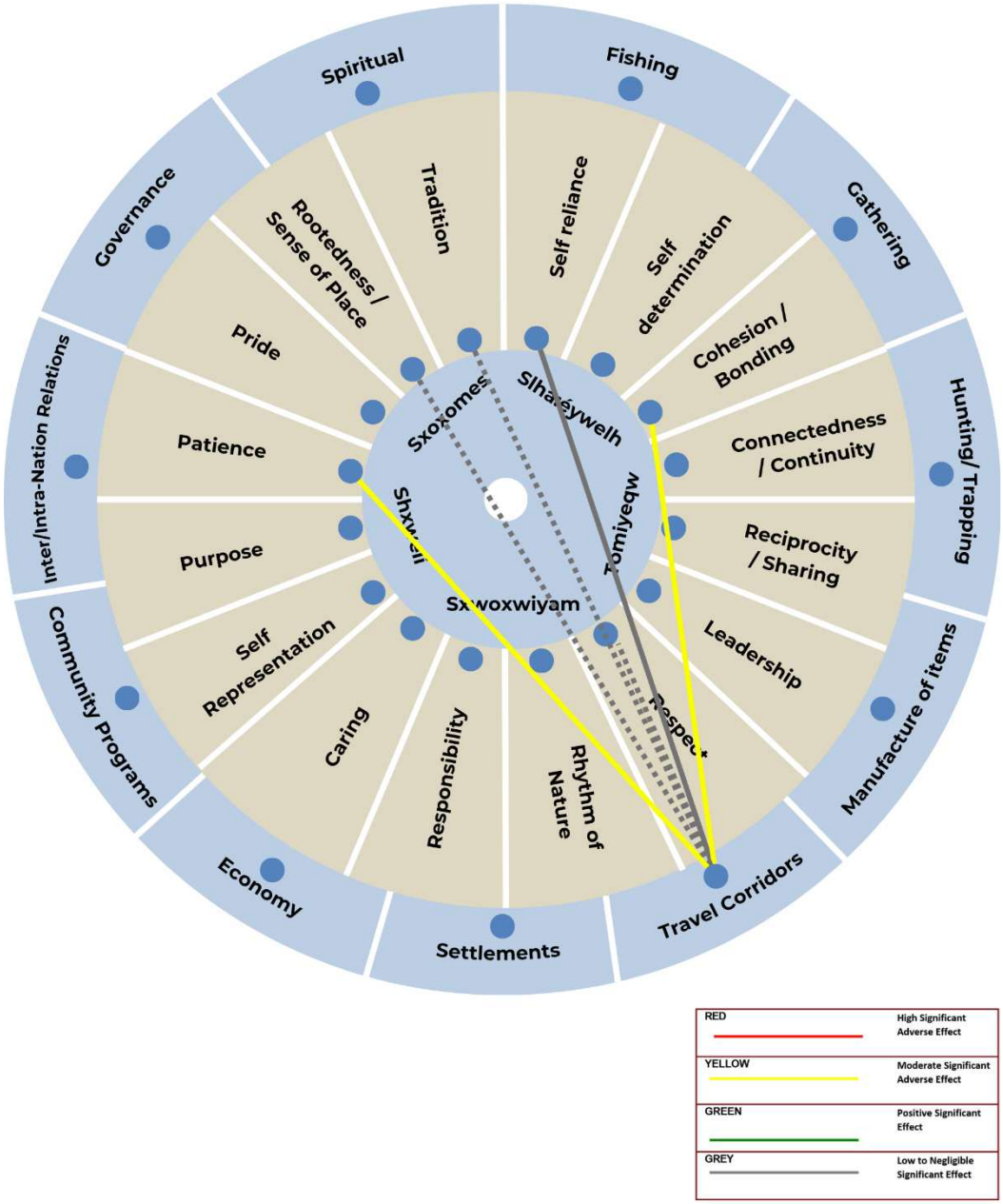


Figure 13-1. The Stó:lō Cultural Model demonstrating potential SEP residual effects to travel corridors.

14 - SETTLEMENT

Nearly 10,000 years ago, aboriginal people left the first traces of their presence in S'ólh Téméxw. These early inhabitants were mobile and organized as egalitarian family groups whose livelihood depended on their success with fishing, foraging and hunting for a wide range of terrestrial, marine and riverine resources (Schaepe, 2001, pp. 12-16).

Many aspects of Stó:lō intangible heritage and traditional cultural expressions, including transformer narratives, songs, spiritual and cultural principles and practices, are shared among individuals and families of Stó:lō living throughout S'ólh Téméxw. These shared elements create a collective identity that has both spatial and non-spatial connections.

This chapter focuses on continuity of settlement and land use in S'ólh Téméxw. Examining such patterns provides necessary context for interpreting the relationships between Stó:lō and S'ólh Téméxw, and how those relationships (past, present and future) may be altered through the SEP.

14.1 Assessment

A *Cultural Heritage Overview Assessment* (CHOA) was conducted by the Stó:lō Research and Resource Management Centre (SRRMC) in 2024 to assess the SEP's proposed work within S'ólh Téméxw (CS-8B to CS-9 and CS-9 to Huntingdon) (Stó:lō Research and Resource Management Centre, 2024). This CHOA was conducted in accordance with the Stó:lō Heritage Policy (2003) and under the Stó:lō Heritage Investigation Permit[4] (SHIP: 2024-066). The *Cultural Heritage Impact Assessment* (CHIA) is ongoing.

This overview assessment identified areas of cultural significance within the combined CS-8B to CS-9 and CS-9 to Huntingdon Project areas. They include:

- Halq'eméylem place names;
- cultural landscape features/Sxwôxwiyám;
- material culture sites;
- geographic locations;
- documented and GIS-modeled travel routes;
- traditional land and resource use areas.

Project activities that have potential to impact these heritage areas include:

- vegetation clearing;
- removal of topsoil and organics;
- roadwork;

[4] Stó:lō Heritage Investigation Permits (SHIP) issued for the off-reserve portions of the SEP CS-8B to CS-9 to Huntingdon Pipeline as of March 20, 2026, include SHIP 2024-158; SHIP 2024-145, and SHIP 2024-149.

- trenching of pipeline locations;
- installation of pipelines;
- excavation of workspaces; and
- recontouring and leveling of land.

It is important to note that disturbance of tangible material culture also includes the disturbance of intangible connections and relationships. Ancestors and ancestral belongings may also be impacted through the Project activities. Vegetation clearing, grading, soil salvage, interactions with heavy machinery, trenching and excavation may prompt encounters with material culture areas, their disturbance and potential loss. The *Stó:lō Heritage Policy* (2003) outlines management measures for Stó:lō Heritage Sites. Avoidance and no impact are the preferred management measures for material culture sites, belongings and ancestral remains. If avoidance is not possible, then minimization of impacts is necessary. As the *Stó:lō Heritage Policy* (2003) states:

> **Through the respectful treatment of heritage sites and objects in today's world, respect is shown for Stó:lō ancestors' spoleqwíth'a. Practising this principle of respect in the treatment of Stó:lō heritage sites and objects is an important part of maintaining the integrity of these sites as well as a spiritually healthy community. (p. 5)**

As articulated in Section 8 regarding spirituality and spiritual practices, Project activities such as grubbing, clearing, brushing, excavation, grading, trenching, soil handling, backfilling and recontouring may impact spirituality and spiritual practices through disturbance to shxwelí (the life force of all things) in water, vegetation, wildlife and soil.

14.2 Impact Summary: Residual Effects

Any Project impact to cultural and spiritual sites, habitation sites and other cultural activity locations are irreversible. The *Stó:lō Heritage Policy* (2003) states that avoidance is the primary and preferred management measure for potential impacts to heritage sites. Mitigation with compensation is a secondary management measure if avoidance is not possible.

Avoidance of material culture and heritage areas can be achieved through several established methods, including directional drilling beneath sites, comprehensive temporary matting to protect surface features during construction, siting the Project footprint entirely outside site boundaries or redesigning the footprint to exclude the site.

As of March 12, 2026, and while the engagement with SEP remains ongoing, mitigation measures have resulted in the full avoidance of six of the eleven material culture areas located along the CS-8B to CS-9 and CS-9 to Huntingdon routes. The remaining five sites have been partially avoided with impacts minimized.

As part of the mitigating measures, the *Archaeological Impact Assessment* (AIA), which is a regulatory requirement of the SRRMC, incorporates fine tilling and deep trenching to locate and evaluate archaeological sites by identifying them prior to construction. Pre-construction AIA activities consider the possibility of widespread and deeply buried cultural deposits, with excavation of deep trenches conducted within the proposed RoW in agricultural fields and

floodplains to facilitate comprehensive site identification and evaluation. These methods enable the STSA Regulatory Body and Westcoast to proactively identify and address potential impacts to Stó:lō heritage, ensuring compliance with cultural protection requirements throughout the Project lifecycle.

Further to this, trenchless construction methods, such directional steerable pipe thrusting (DSPT) have been recommended by Oilpaw Environmental Services Inc. at select locations (as of March 13, 2026) to support avoidance of known heritage sites. For further information regarding watercourse crossings and trenchless construction methods see *Watercourse Impact Avoidance and Mitigation Assessment: Summary of recommendations* (Oilpaw Environmental Services Inc., 2026*).*

Table 14-1. Trenchless construction methods and avoidance for known heritage site (Oilpaw Environmental Services Inc., 2026).

CS-9 to Huntingdon	Method	Comment
420 Unnamed Tributary to Saar Creek	Trenchless – DSPT	Avoidance for material culture
421a.01 Unnamed Tributary to Saar Creek	Trenchless – DSPT	Avoidance for material culture
423.01 Unnamed tributary to Saar Creek	Trenchless – DSPT	Avoidance for material culture

Informed by the existing conditions assessment, mitigation measures and STSA Conditions, the Westcoast SEP is predicted to result in mostly low to negligible residual effects with some moderately significant adverse effects to settlement continuity and associated cultural values in S'ólh Téméxw.

This assessment takes into consideration the overlapping impacts to spirituality and spiritual practices.

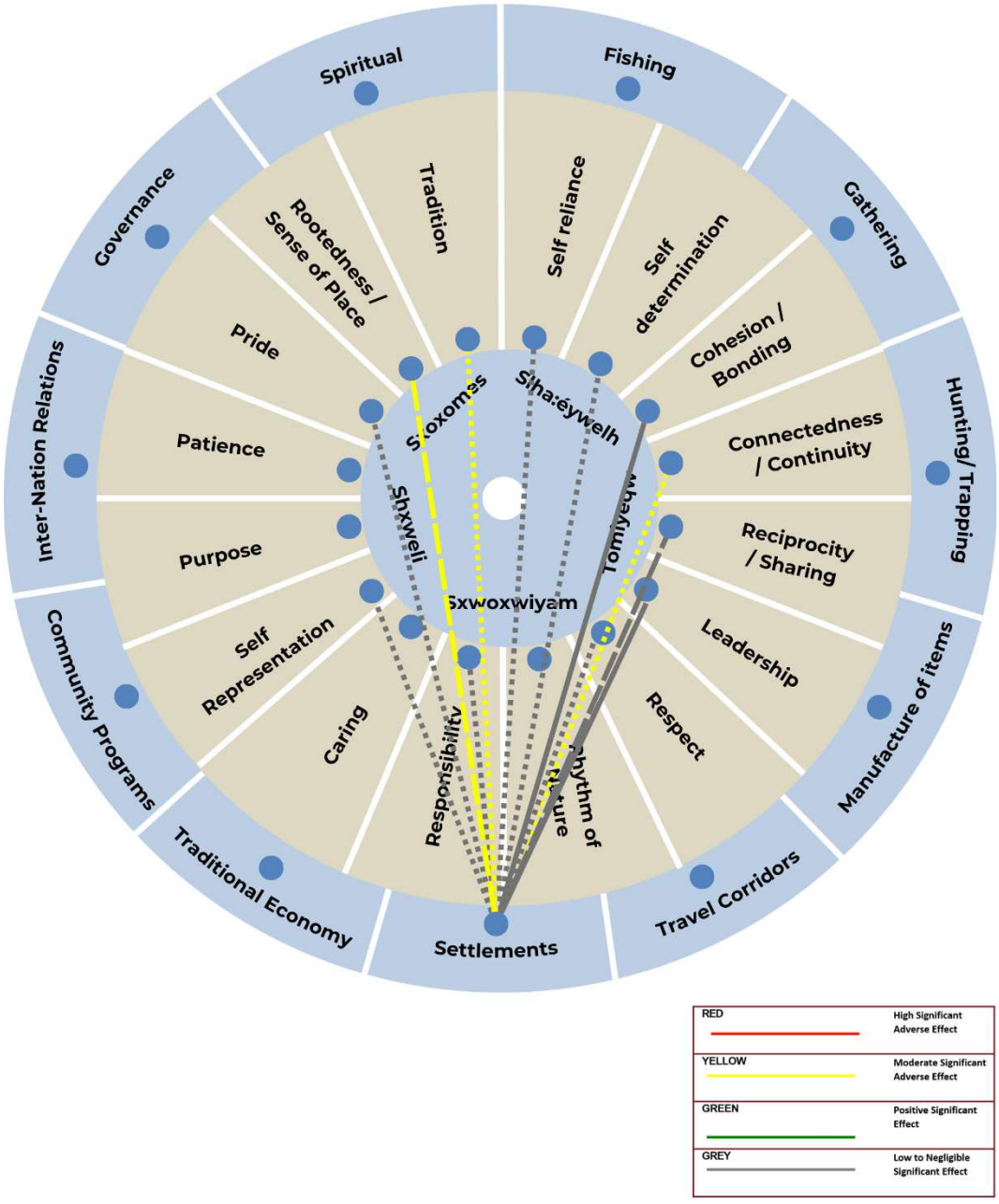


Figure 14-1. The Stó:lō Cultural Model demonstrating potential SEP residual effects to settlements.

15 - TRADITIONAL ECONOMY

While Stó:lō participate in aspects of both 'traditional' and 'wage' economic activities, this ICA does not address the impact of the Project on the wage economy, nor the economic value. Traditional economy as used in this ICA, refers to a system of production, distribution and consumption of resources and the production and maintenance of meaning where economic relations are just one aspect of a broader, dynamic social network made up of its many interconnected dimensions. In this context, traditional resource use is a socially, spiritually and ecologically embedded practice that sustains relationships that make up the traditional economy.

The holistic approach applied within this ICA means that the assessment of Project impacts to traditional economy overlaps with potential impacts to the practices of gathering, hunting and trapping, fishing, the manufacture of cultural items and spiritual activities. This section therefore focuses on their combined residual effects and impacts on Stó:lō health and wellbeing.

In essence, through the practices of traditional resource use, the Stó:lō, like other Indigenous peoples, connect with the land, transfer knowledge and ensure the continuance of cultural traditions. To Stó:lō, traditional resource use is a stewardship practice linked to *S'ólh Téméxw te íkw›elò. Xyólhmet te mekw'stám ít kwelát* (This is our land. We have to look after everything that belongs to us). As the *STSA Land and Resource Use Engagement and Decision-Making Policy* (2015) states:

> **The right to care for the lands and resources is therefore both a privilege and an obligation. The caretaking responsibilities are those of the Stó:lō. The responsibility cannot be delegated or compromised because it is a part of our identity. The laws of our land, snoweyelh [current usage; slha:éywelh], govern these relationships to our sxexó:mes (gifts of the creator), our land and resources, and everything that belongs to us.**

15.1 Impact Summary: Residual Effects

Project activities with the potential to impact S'ólh Téméxw include ground disturbance, water-related activities, sensory disturbance, changes to access and land use. Potential residual effects of Project construction and operations on traditional land and resource use identified by the ESA for the Project are outlined in Table 15-1 (Westcoast Energy Inc., 2024h) outlines potential residual effects, but does not take into consideration impacts to shxwelí – the life force that binds mind, body, spirit, emotion; connecting individuals with all things. Any disturbance to ground, water and sky, impacts shxwelí.

Table 15-1. Potential residual effects from the SEP construction and operations on traditional land and resource use.

Potential Residual Effects
Change in the quantity, quality or distribution of traditional resources relied on for traditional activities.
Change in access to traditional resources or areas relied on for traditional activities.
Change in locations of current use, including harvesting areas, cultural and spiritual sites, habitation sites and other cultural activity locations.

In S'ólh Téméxw, baseline conditions already reflect cumulative degradation. Most land within the Project footprint is fee simple or zoned agricultural land. Streams and associated riparian habitat in the Project area have been altered through historical and ongoing agricultural practices.

Informed by the existing conditions assessment data, mitigation measures and STSA Conditions, the Westcoast SEP is predicted to result in low/negligible residual effects to traditional economy and cultural values associated with traditional economic activities with the potential for positive effects from restoration works in the post-construction phase of the Project. This assessment takes into consideration the overlapping impacts to gathering, hunting and trapping, fishing and the manufacture of cultural items.

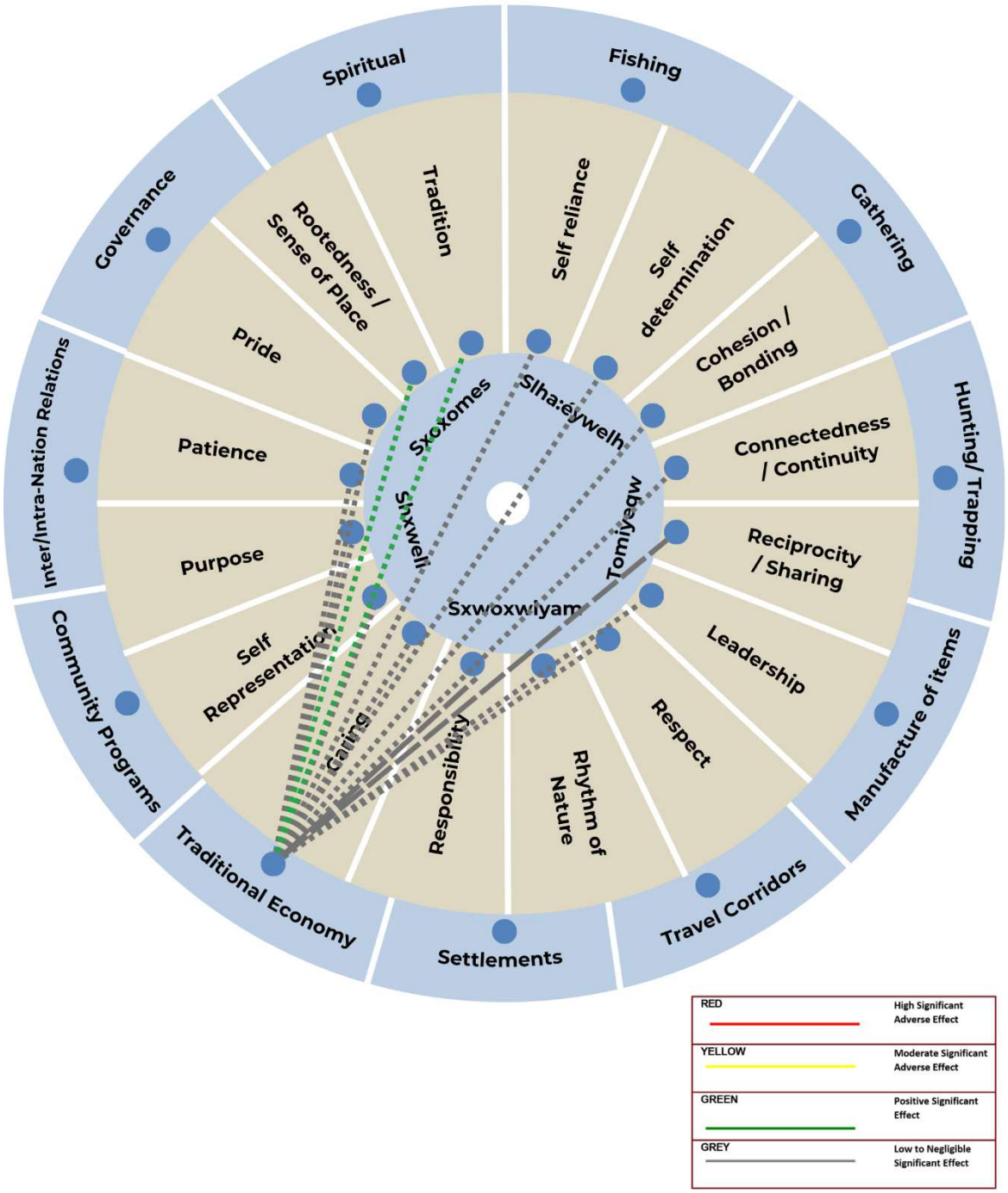


Figure 15-1. The Stó:lō Cultural Model demonstrating potential SEP residual effects to traditional economy.

16 - COMMUNITY PROGRAMS

Stó:lō society has experienced significant adverse impacts stemming from a combination of factors: continued land encroachment, disconnection from community, loss of identity, residential school policies, reserve creation and government control and regulation through the Indian Act. These impacts serve to erode the values of Stó:lō culture: self-governance, self-determination/ representation and self-sufficiency. Stó:lō people have started to address the need for healing by creating and providing programs and services that are specific to their culture, heritage and needs. Contemporary community programs and services are key to maintaining connections to many cultural values.

16.1 Assessment

While off-reserve portions of the SEP do not intersect with STSA member-First Nation's communities to impact current community programs and services, the Project has indirect impacts/effects – some of which are positive.

Compensation funds may transform potential negative Project impacts into positive opportunities through establishing infrastructure and capacity for community-led programs and services. For example, as of March 12, 2026, five of eleven known heritage sites with material culture were partially avoided by the Project. The *Stó:lō Heritage Policy* (2003) states that mitigation with compensation is a secondary management measure if avoidance is not possible. In cases of traditional activity disturbance, enhancement is also preferred to maintain or enhance the traditional use activity potential of the area.

Financial compensation resulting from impacts to heritage can be redirected toward meaningful community initiatives, including the development and support of community-led monitoring, habitat restoration and enhancement projects, which can be determined and prioritized by community representatives. Such initiatives not only address environmental concerns but also strengthen community engagement, foster skill development and support the long-term sustainability of traditional harvesting and cultural practices that depend on healthy ecosystems.

Co-development of monitoring programs and compliance mechanisms with Westcoast may create new opportunities for community-based programming and training initiatives that could include:

- Habitat restoration programs
- Guardian training programs
- Stó:lō-led education initiatives
- Emergency response programs
- Data management programs

16.2 Impact Summary: Residual Effects

Informed by the existing conditions assessment data, mitigation measures and STSA Conditions, the Westcoast SEP is predicted to result in no residual adverse effects to community programs and their associated cultural values. Compensation funds for Project impacts are predicted to create positive effects to community programs and services.

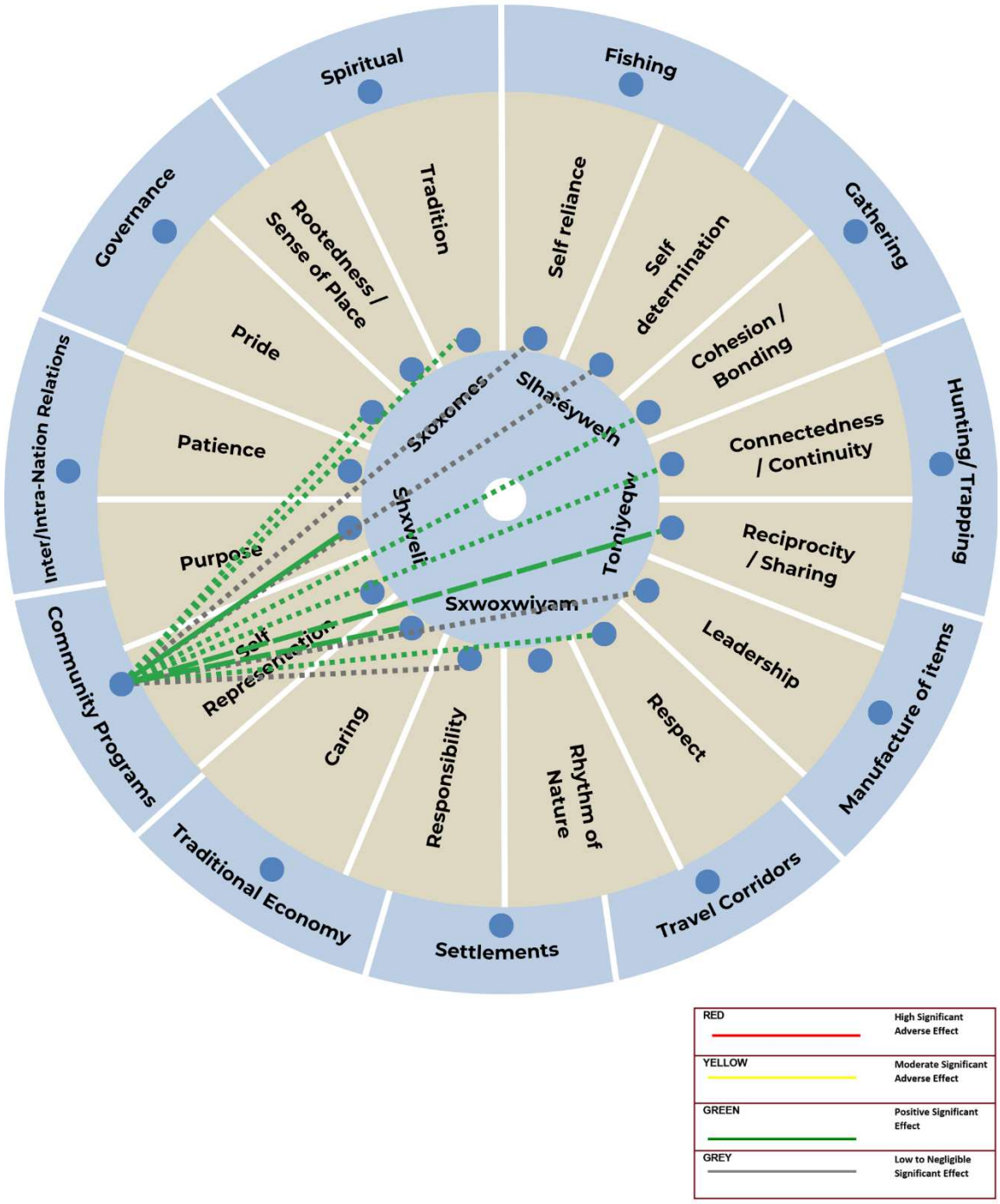


Figure 16-1. The Stó:lō Cultural Model demonstrating potential SEP residual effects to community programs.

17 - INTER/INTRA-NATION RELATIONS

Pipeline projects create significant sources of tension both between communities (inter-community) and within communities (intra-community).

Federal processes are complex and can vary between communities, especially regarding community involvement. This complexity is often exacerbated by limited community resources, which can create stress and tension when capacity is overstretched.

Additionally, Federal processes apply colonial consultation frameworks that are inherently limiting to the recognition of Indigenous rights and therefore work to restrict First Nation involvement in decision making. Efforts to assert Indigenous rights can lead to relational challenges both within and between First Nations acting individually or otherwise collectively where differences of understanding and perspective may exist.

A legacy of distrust exists regarding government processes for major projects such as pipelines. There is also a legacy of unaddressed adverse impacts which manifest as cumulative effects that negatively impact community relationships.

17.1 Impact Summary: Residual Effects

The pre-construction, construction and operation phases of the Westcoast SEP are predicted to result in moderate to low residual adverse effects to inter/intra-Nation relations in S'ólh Téméxw.

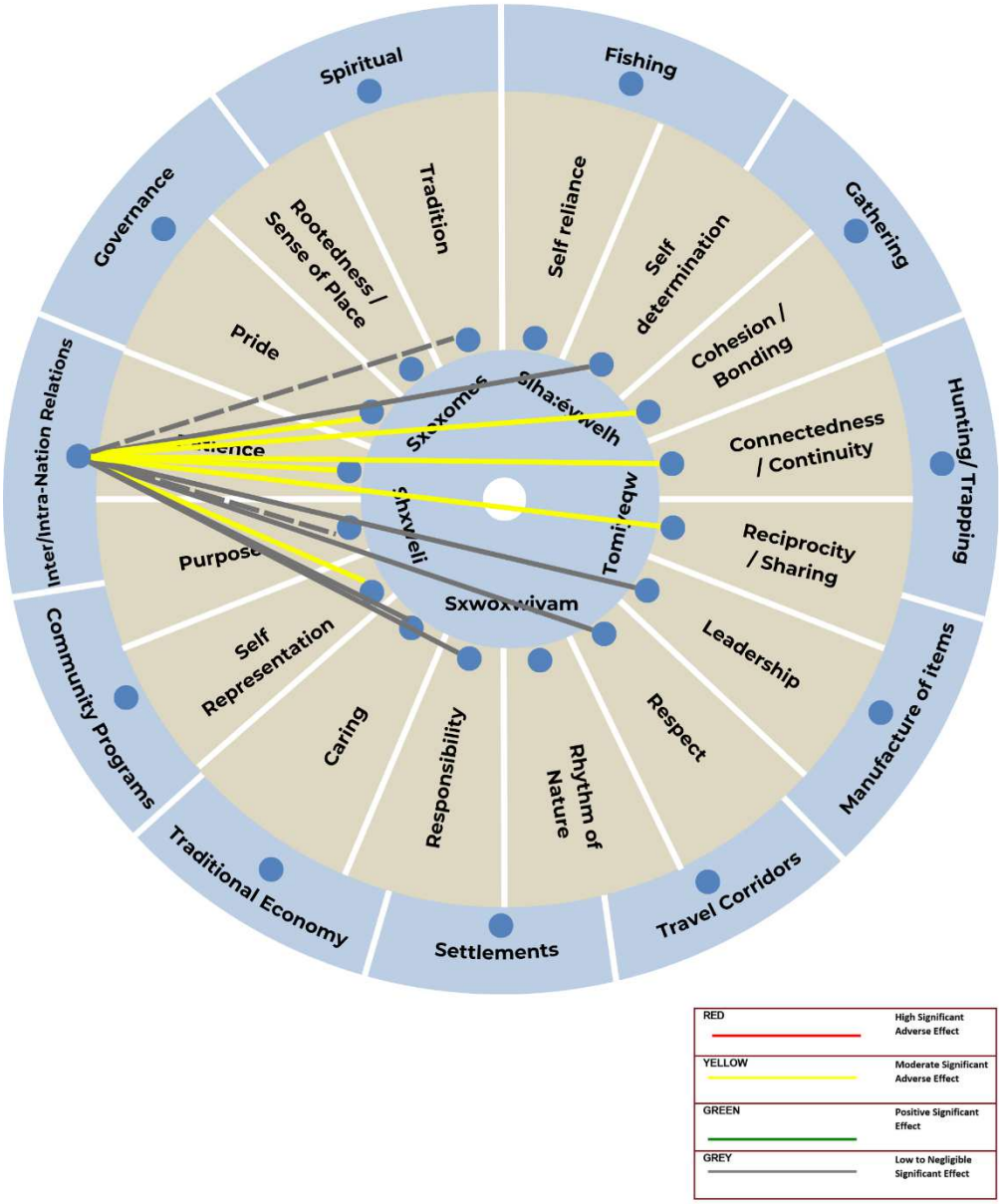


Figure 17-1. The Stó:lō Cultural Model demonstrating potential SEP residual effects to inter/intra-Nation relations.

18 - GOVERNANCE

Stó:lō governance has always been linked to resource access and management at the individual household, extended family, village and tribal levels. Laws of inheritance and ownership of specific sites such as fishing, gathering and hunting sites were passed on through naming customs and were held within extended families (Carlson, 2010, p. 47). Many cultural values were taught and reinforced through traditional governance systems.

Connections with (and responsibilities to) S'ólh Téméxw, are essential aspects of identity, health and central to Stó:lō understandings of self-determination and nationhood (Victor, 2012). As Victor (2012) states, "an inherent characteristic of self-determination is the recognition and acknowledgement of our inter-dependent relationship with S'ólh Téméxw" (p. 42). Part of enacting Stó:lō responsibility to this relationship involves managing activities and development in S'ólh Téméxw. As the Royal Commission on Aboriginal Peoples notes,

> **Aboriginal peoples are nations. That is, they are political and cultural groups with values and life ways distinct from those of other Canadians … The commission's report is an account of the terrible consequences of distortion for Aboriginal people – loss of land, power and self-respect. (Canada Royal Commission on Aboriginal Peoples, 1996)**

This ICA outlines potential Project impacts to STSA member-First Nations' ability to practice governance. It does this in two ways: firstly, through assessing potential Project impacts to STSA member-First Nations' ability to access and manage their resources, and secondly through assessing Project impacts to the three core components of STSA governance: consent and self-determination; decision-making and self-government; and jurisdiction.

Based on baseline data, mitigation measures and STSA Conditions, the Westcoast SEP is predicted to result in low to negligible residual impacts to STSA member-First Nations' ability to access and manage their resources.

18.1 Potential Project Impacts on Core Components of STSA Governance

There are three core components of STSA Governance: consent and self determination; decision-making and self government; and jurisdiction.

Consent and self-determination: laws and policy

> **Indigenous peoples have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development. (UNDRIP, 2007, Article 3)**

Self-determination is a fundamental right which is expressed in many ways - including through Free, Prior and Informed Consent (FPIC):

Free: Consent is given voluntarily and absent of coercion, intimidation or manipulation. The process is self-directed by the community from whom consent is sought.

Prior: Consent is sought sufficiently in advance of any authorisation or commencement of activities

Informed: Full disclosure and having all information available in appropriate languages and formats that recognize unique Indigenous governing structures, laws, cultures and customs — including the active participation of tribal members, Elders, women, spiritual leaders and traditional knowledge holders.

Consent: A necessary part of self-determination. Stó:lō rights, title and interests exist throughout S'ólh Téméxw. Consent must be obtained before any activity is undertaken in S'ólh Téméxw (Free, Prior and Informed Consent (FPIC)) (UNDRIP, 2007). Canada and the province of British Columbia are required to consult Stó:lō peoples on any proposed developments taking place on their lands (Stó:lō Téméxw Stewardship Alliance, 2020).

Decision making and self-government

The right to self-determination is expressed through self-government. The STSA member-First Nations are the rights-holders within S'ólh Téméxw. The STSA is a political body that works to promote member-First Nations' rights and interests throughout S'ólh Téméxw.

Jurisdiction

Jurisdiction is the inherent authority to regulate, enforce laws and protect the resources of S'ólh Téméxw – it is the operationalisation of self-government. The STSA member-First Nations, for example, assert an expression of regulatory authority and inherent right to self-government in part through their Major Project Process Steps, and the requirement to complete an ICA for the SEP. Jurisdiction in this context, unlike western systems, is a complex matter. The fulsome treatment of which far exceeds the scope of this assessment.

18.2 Impact Summary: Residual Effects

Aspects of the SEP have resulted in positive impacts on the practice of governance within S'ólh Téméxw. Core components of STSA and member-First Nation governance were strengthened through project planning and decision making in relation to Westcoast. Advancement in occupying the regulatory field and asserting governing authority within S'ólh Téméxw accounts for the representation of beneficial effects.

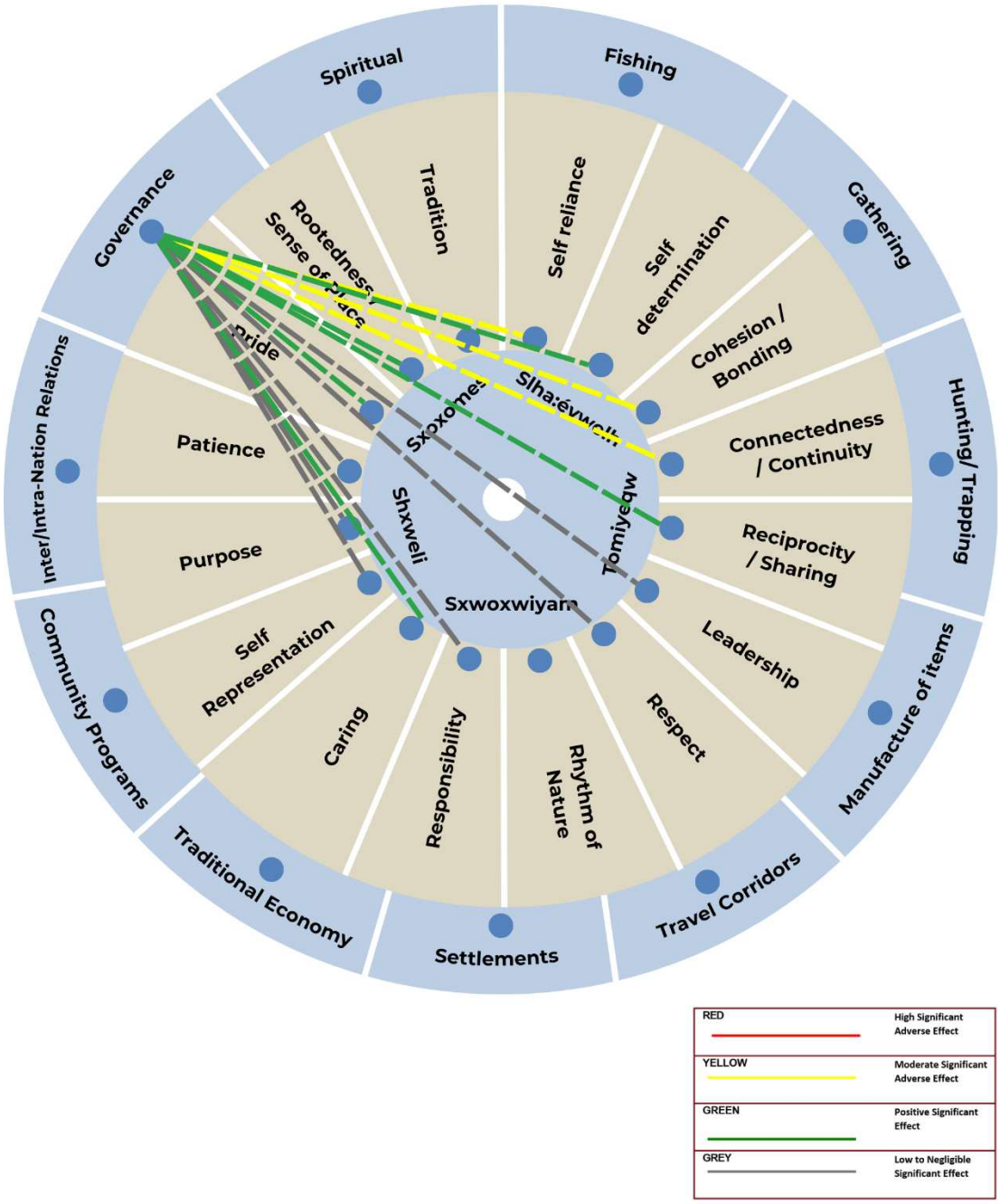


Figure 18-1. The Stó:lō Cultural Model demonstrating potential SEP residual effects to governance.

19 - RESIDUAL SEP IMPACTS WITHIN S'ÓLH TÉMÉXW

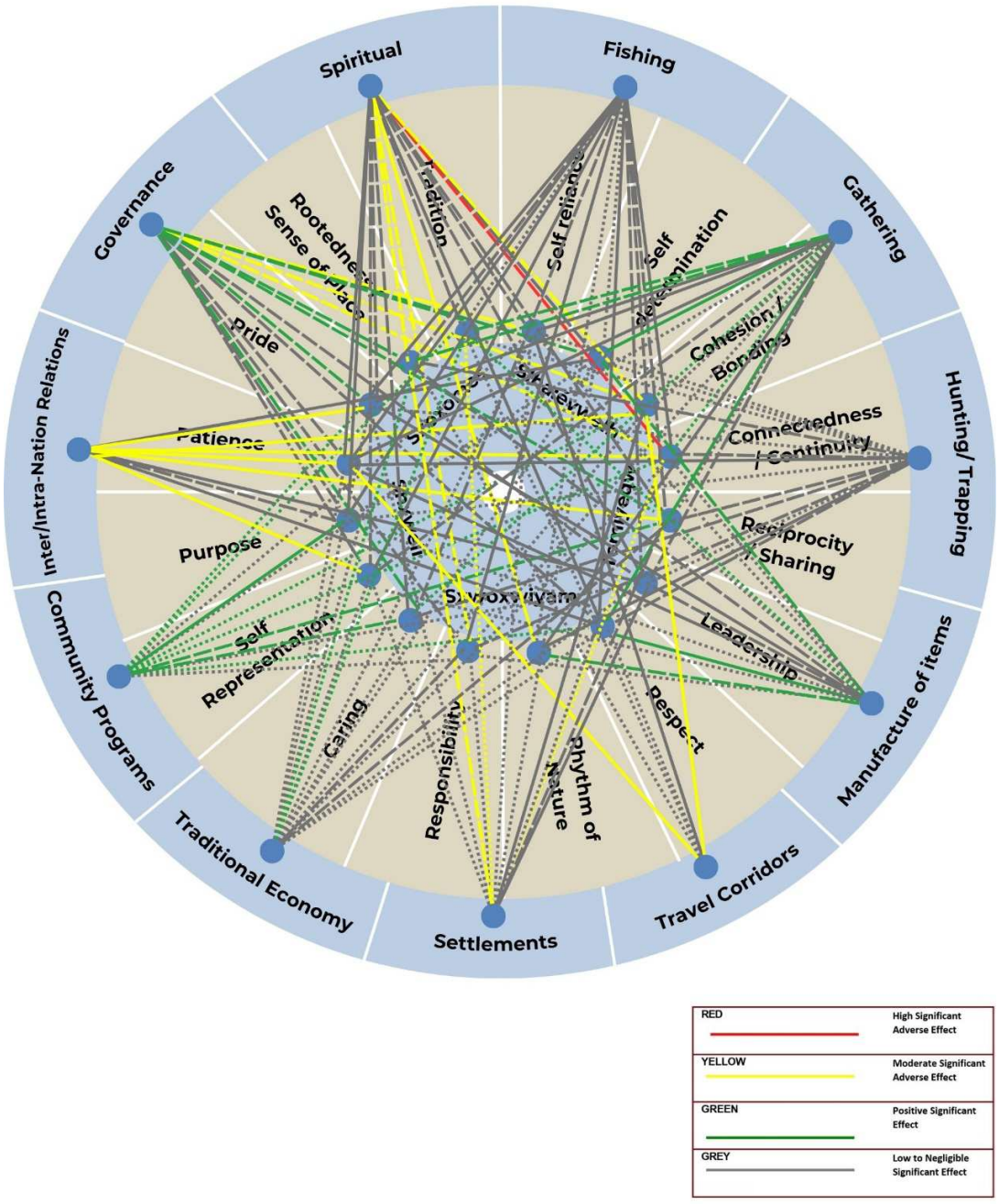


Figure 19-1. The complete Stó:lō Cultural Model demonstrating residual SEP impacts with STSA conditions.

Table 19-1. SEP residual impacts with STSA conditions applied to the entire footprint within the off-reserve portion in S'ólh Téméxw.

ACTIVITY	Fishing	Gathering	Spirituality	Manufacturing	Travel Corridors	Settlement	Hunting & Trapping	Governance	Inter-Nation Relations	Traditional Economy	Community Programs
VALUE											
Respect											
Pride					N/A						
Tradition								N/A			
Leadership					N/A						
Rootedness/ Sense of Place									N/A		N/A
Rhythm of Nature					N/A	N/A		N/A	N/A	N/A	N/A
Patience						N/A					N/A
Cohesion/ Bonding							N/A				
Connectedness/ Continuity					N/A						
Self Determination					N/A						
Self-Representation	N/A				N/A		N/A				N/A
Reciprocity/ Sharing					N/A						
Caring				N/A	N/A	N/A					
Responsibility					N/A						
Purpose					N/A	N/A					

The profile of residual impacts represented within the Stó:lō Cultural Model and depicted in the chart above are dependent upon the implementation of the following elements of this ICA:

- the Conditions set out below, as a regional baseline of Project standards and points of compliance;
- Westcoast's commitments as set out in Appendix A; and
- the STSA co-developed Project Plans and mitigations measures (e.g., EAS; Construction Plans; Water Management/Watercourse Crossing Plans; Heritage Site Field Plans), as set out in a fulsome manner within the Conditions, in their current state of development as a minimum standard.

Portions of each of the elements identified above serve to reduce the overall scope of adverse impacts potentially affecting Stó:lō interests, relations and rights. The validity of the ICA Cultural Wheel compiled for the SEP, as presented above and as summarized below, is dependent upon the actualization of these critical points of relations between the Project, Westcoast, the STSA Regulatory Body and member-First Nations.

19.1 Stó:lō Cultural Model Impact Summary

The consolidated Stó:lō Cultural Model depicts a cumulative, holistic, interconnected and comprehensive view of residual impacts on aspects of Stó:lō interests, relations and rights linked to the set of identified activities, values and representative model of health and well-being. The linework indicative of impact levels was determined through a chain of process steps based in the findings of the completed biophysical and cultural heritage assessments within S'ólh Téméxw, excluding First Nations reserve lands. These assessment results were considered in light of Project descriptions of stressors and on values associated with a range of activities – as articulated in the body of this ICA. The ICA differs from the *Environmental and Socio-economic Assessment* (ESA). The ESA does not, and cannot, account for the direct and indirect connection between its biophysical content and Stó:lō, nor Stó:lō worldview as embedded in this ICA. The ICA is necessarily qualitative in nature and was conducted in an impartial manner and without opinion regarding the Project. It involved a reliability standard among the production team, with replicability being a key goal and principle of the process. The production of each line was based on consensus among the team-members.

In sum, the scope of residual impacts resulting from the Project within S'ólh Téméxw is gauged to be balanced between moderate adverse effects and a range of negligible-to-beneficial effects across the range of assessed activities and values. The backdrop of this Project on a highly affected land base with considerable cumulative impacts underscores the sensitivity of these local ecosystems, and the limitations of their carrying capacities to sustain further degradation. The scope of measures set out for waterways and water systems serving to avoid impacts, along with anticipated restorative environmental off-sets, adds substantially to the final determinations of the Cultural Wheel linework linked to resource dependent activities: generally neutral to beneficial in nature. Currently five to twelve identified material culture sites remain in a status of being unavoidably impacted. This will result in the need for compensation for loss of heritage and accounts for the moderate overall adverse impact on the total set of such heritage sites identified in the Project footprint. The scope of measures addressing community-based involvement in Project assessment, planning and regulatory processes (e.g., local First Nations SMEs and compliance monitors/inspectors; loss of heritage, compensatory off-sets

potentially supporting Stó:lō traditional culture and language-learning) for all phases of work adds substantially to the determination of community-based activities: generally beneficial in nature. Moderate adverse impacts tend to describe the relational side of the Project as it may affect local First Nations internal and external relations, considering but not limited to relations within and between the First Nation-members of the STSA specifically. The sole area of long term, severe and unmitigable adverse impact results from the physical intrusion and loss of land resulting from the installation of the proposed 17.7 kilometers of pipeline right-of-way occupying 19.2 hectares of S'ólh Temexw, disturbing and displacing the natural relations of shxwelí.

The overall outlook of potential impacts of the Project on Stó:lō well-being is low when viewed within a regional perspective and provided the effective implementation of all elements of the ICA. The overall impact of the Project will influence future generations along the lines and themes of relations represented in the Stó:lō Cultural Model. These identified impacts will result from changes to S'ólh Téméxw associated with the CS-8B to CS-9 (Agassiz; Hicks Creek areas) and CS-9 to Huntingdon Project areas.

19.2 Recommendation

This ICA serves a primary purpose of informing the Indigenous rights-holding decision-making members of the STSA. The ICA provides a common set of information and consistent foundation for consideration by the rights-holding members, in supplement to any community-held information and input. It is recommended that any approval of the Project by rights-holding members include the Conditions set out in the following section.

20 - CONDITIONS OF THE STSA REGULATORY BODY

20.1 Introduction

The S'ólh Téméxw Stewardship Alliance (STSA) Regulatory Body's proposed conditions (Conditions) applicable to Westcoast's Sunrise Expansion Project (Project) establish a baseline, regional, place-based framework developed by the STSA Regulatory Body as part of a coordinated approach to reviewing and responding to the Project. In addition to the specific Conditions outlined below, the following general principles apply:

- The Conditions are set out in a pre-Project approval context and take effect upon issuance. The Conditions may be clarified, supplemented and modified from time to time through subsequent STSA processes and decisions of rights-holding member-First Nations, including for harmonization and inclusion as baseline standards in Crown decision-making processes.
- The Conditions are designed to apply within S'ólh Téméxw, except on any First Nation's reserve land base, unless otherwise specified by that First Nation.
- The Conditions are designed to apply through the entire lifespan of the Project, including pre-construction, construction, post-construction, operations and potential decommissioning.
- The STSA Regulatory Body is a modular composition of member-First Nations that enables engagement as an on-going, living action throughout the lifespan of the Project. Member-First Nations may choose to activate discrete direct engagements regarding the Project, independent of, and complementary to, the STSA Regulatory Body.
- The Conditions are not exhaustive and may be supplemented with additional member First Nation-specific conditions, mitigation measures, and accommodation requirements. Each member-First Nation retains the ability to establish its own conditions, mitigation measures and accommodation requirements, which may exceed those outlined below.
- The Conditions represent a regional, coordinated framework. The Conditions do not replace or limit the inherent rights, title, governance authority, or decision-making processes of individual member-First Nations.
- Participation in STSA processes does not preclude member-First Nations from engaging independently in regulatory processes, including directly with the CER and the Crown; nor does participation in STSA processes alone satisfy any consultation and accommodation obligations that may be owed to individual member-First Nations.

20.2 ICA Section Conditions

Table 20-1. STSA Conditions.

#	GENERAL
1	**Condition Compliance** a) Westcoast, including all subsidiary and parent corporate entities, must comply with all conditions contained herein for all aspects of the Project within S'ólh Téméxw as geographically defined in the STSA's Integrated Cultural Assessment and Conditions Final Report. The relationship to Federal and Provincial regulatory processes and conditions are set out below: b) All STSA and member-First Nations conditions require alignment between Federal and Provincial processes; c) Federal and Provincial governments and the CER/relevant government agencies uphold, as enforceable, the conditions set out by the STSA Regulatory Body and decision makers; d) The Federal and Provincial governments impose a binding condition that, prior voluntary commitments made by Westcoast to the STSA including engaging with and implementing STSA's policies (see Appendix B) be made enforceable conditions of approval, and subject to oversight by both the relevant government agencies, including but not limited to the Department of Fisheries and Oceans (DFO), Environment and Climate Change Canada (ECCC), Canada Energy Regulator (CER), and STSA Regulatory Body; and, e) The STSA Regulatory Body generally supports conditions set out by the Federal Government which may be applicable within S'ólh Téméxw and not otherwise referenced in the STSA Condition headings set out below.
2	**Harmonization with Federal and Provincial Authorisations** a) Federal and Provincial engagement required for authorisations associated with the Project must be directly with the STSA and member-First Nations as needed on a Crown-Indigenous basis. b) The S'ólh Téméxw Stewardship Alliance – Canada Consultation and Engagement Protocol apply to all Federal authorisations required for the Project. Including the Fisheries Act. c) The STSA-BC Strategic Engagement Agreement applies to all Provincial authorisations for member Agencies, and whereas non-member Agencies (e.g., Ministry of Transportation and Transit (MOTT) must likewise engage directly with the STSA Regulatory Body), as required for the Project including:

Project Component	BC Ministry / Agency	Application Type	Application / Reference #
CS8B-CS9 Crossover Access	BCER	Approval for changes in and about a stream (s.11)	AMS# 100122188
CS8B-CS9 Pipeline Loop	BCER	Approval for changes in and about a stream (s.11)	TBD
CS8B-CS9 Pipeline Loop	BCER	Approval for short term water use (S.10) – Construction	TBD
CS8B-CS9 Pipeline Loop	BCER	Approval for short term water use (S.10) – Pressure Testing	TBD
CS8B-CS9 Crossover Access	MOTT	Road works permit –access approaches	TBD
CS8B-CS9 Pipeline Loop	MOTT	Road works permit – Pipeline access approaches	TBD
CS8B-CS9 Pipeline Loop	MOTT	Road works permit – Pipeline crossings	TBD
CS8B-CS9 Pipeline Loop	MOF – Arch Branch	Site alteration permit (s12.4) – TBD Fieldwork Ongoing	TBD
CS8B-CS9 Pipeline Loop	MOE	Waste discharge (s.15)- dewatering	TBD
CS9-Hunt Crossover Access	BCER	Approval for changes in and about a stream (s.11)	AMS# 100122190
CS9-Hunt Vye Road/Rail Crossing	BCER	Approval for changes in and about a stream (s.11)	AMS# 100122191
CS9-Hunt Pipeline Loop	BCER	Approval for changes in and about a stream (s.11)	TBD
CS9-Hunt Pipeline Loop	BCER	Approval for short term water use (S.10) – Construction	TBD
CS9-Hunt Pipeline Loop	BCER	Approval for short term water use (S.10) – Pressure Testing	TBD
CS9-Hunt Crossover Access	MOTT	Road works permit – access approaches	TBD
CS9-Hunt Vye Road Crossing	MOTT	Road works permit – Pipeline crossings	TBD
CS9-Hunt Vye Road Crossing	MOTT	Road works permit –access approaches	TBD
CS9-Hunt Pipeline Loop	MOTT	Road works permit – Pipeline crossings	TBD
CS9-Hunt Crossover Access	MOTT	Road works permit –access approaches	TBD
CS9-Hunt Pipeline Loop	MOF – Arch Branch	Site alteration permit (s.12.4) - DgRn-63	TBD

CS9-Hunt Pipeline Loop	MOF – Arch Branch	Site alteration permit (s.12.4) - DgRn-69	TBD
CS9-Hunt Pipeline Loop	MOF – Arch Branch	Site alteration permit (s.12.4) - LS_EO_2024-08-10_Site 2	TBD
CS9-Hunt Pipeline Loop	MOE	Waste discharge (s.15) - dewatering	TBD
CS8B-9 & CS9-Hunt Pipeline Loops / CS8B & CS9 Facilities	WLRS	Fish collection permit – Lower Mainland Region	TBD
CS8B-9 & CS9-Hunt Pipeline Loops / CS8B & CS9 Facilities	WLRS	General wildlife permit (amphibian and incidental reptile salvage) - Lower Mainland Region	100494165 TBD TBD
CS8B Facilities	WLRS	General Wildlife Permit (Bat Handling)	100494140
CS8B-9 & CS9-Hunt Pipeline Loops / CS8B & CS9 Facilities	WLRS	General wildlife permit (Reptile Hibernacula salvage) – Lower Mainland Region	TBD
All SEP Components	WLRS	General wildlife permit (Wildlife Monitoring) – All Regions	TBD

d) All STSA-Federal and Provincial authorisations engagement must be completed prior to commencing the respective Project work, undertaking, or activity.

3 Stó:lō Principles

Westcoast must apply these Stó:lō Principles throughout all phases of work from pre-construction, construction, postconstruction and operations – the full lifespan of the Project. Any potential decommissioning would need to be treated through a separate process.

S'ólh Téméxw te íkw'elò. Xyólhmet te mekw'stám ít kwelát.

(This is our land. We have to look after everything that belongs to us)

Xólhmet te mekx' stám s'i:wes te selsila:lh chet

(Take care of everything our great grandparents taught [showed] us)

Haqles chexw xwelmi:ay staxwelh

(Remember the future generations)

	Ewe chexw qelqelit te mekw' stam loy qw' esli hokwex yexw lamexw ku:t (Don't ruin, waste, destroy everything; just take what you need)
4	**Compliance Mechanisms (systems for monitoring and ensuring compliance)** 1) STSA and member First Nations Indigenous legal frameworks apply to the Project as set out in the following policies, First Nations led studies, traditional knowledge procedures and intergovernmental relations: • STSA Regulatory Body Process Steps defined for the Sunrise Expansion Project; • S'ólh Téméxw Use Plan Policy; • Land Use Engagement and Decision-making Policy; • Stó:lō Heritage Policy and Heritage Investigation Permitting System; • Cultural Heritage Overview Assessment (CHOA); • Cultural Heritage Impact Assessment (CHIA); • Draft STSA S'ólh Téméxw Environment Policy; • Permission to Proceed (e.g. biophysical assessments; pilot projects) • Construction Change Request Approvals (e.g. construction engineering plans associated with mitigation measures); • STSA's Integrated Cultural Assessment and Conditions Final Report; • Stó:lō Heritage Database; • Relevant Stó:lō community-based data; and • Specific engagement process and process steps set out in the S'ólh Téméxw Stewardship Alliance – Canada Consultation and Engagement Protocol; and the STSA-BC Strategic Engagement Agreement.
5	**Design, Location, Construction, and Operation Planning** 1) Westcoast must cause the Project to be designed, located, constructed, installed, and operated in accordance with the specifications, standards, plans, commitments made, and other information developed with the participation of, or otherwise approved by, the STSA Regulatory Body. 2) Westcoast must continue to support the participatory and co-development processes with the STSA Regulatory Body by which the design, location, construction, installation, operational plans have been developed to date, in all aspects of planning and approvals needed prior to the initiation of any construction or postconstruction phase of work. Specific

	planning mechanisms include: • Environmental Protection Plan (EPP) • Construction and Environmental Alignment Sheets (EAS) • Resource Specific Mitigation Tables (RSMT) • Construction Plans • Site Cards and Field Plans (e.g. site-specific mitigation plans for heritage and environment) • Water Management Plan (e.g. dewatering, filtration and discharge) • Watercourse Crossing Plan (e.g. trenchless / opencut methods) • Stó:lō Heritage Contingency Chance Finds Procedures • STSA Monitoring Plan (e.g. local First Nations monitors; subject matter experts)
6	**Environmental and Stó:lō Heritage Protection Planning, Approvals and Implementation** a) Westcoast must implement or cause to be implemented all the principles, policies, practices, programs, avoidance measures, mitigation measures, recommendations, procedures, and its commitments, as exists as of March 20, 2026 some of which remains to be finalised through ongoing co-development processes with the STSA Regulatory Body, for the protection of the environment and Stó:lō heritage included in the Project. b) Westcoast must continue to support ongoing participatory and co-development processes with the STSA Regulatory Body for environmental and heritage protection in all aspects of planning, all final outcomes must be approved by the STSA Regulatory Body prior to the initiation of any construction or postconstruction phase of work.
7	**Priority Objectives of Environmental and Stó:lō Heritage Impact Management** Westcoast must work collaboratively with the STSA Regulatory Body to meet the primary objectives of Project impact management, the priority of which is to avoid Project impacts to S'ólh Téméxw. The identification of unavoidable impacts and minimization of those impacts is secondary to this goal. If the Project results in unavoidable impacts to environmental and/or Stó:lō heritage values, then redress for related losses is required. These goals are based on Stó:lō principles, including: ***Ewe chexw qelqelit te mekw' stam loy qw' esli hokwex yexw lamexw ku:t*** (Don't ruin, waste, destroy everything; just take what you need) ***Xaxastexw te mekw' stam***

	(Respect all things) See also Stó:lō Heritage Policy; STSA Land and Resource Use Engagement and Decision-Making Policy.
8	**Redress for Impacts to Stó:lō Heritage Values and Non-Compliance with Environmental Measures** a) Westcoast will be required to post a bond specific to the STSA Regulatory Body (the 'STSA Bond') of an amount no less than $75 million prior to the commencement of construction. b) Westcoast's 'STSA Bond' will be used for three purposes: 1. To cover financial redress for the STSA, prior to construction, for unavoidable impacts to Stó:lō heritage values identified in the pre-construction phase, as a form of offset to the loss of heritage. 2. To cover financial redress for the STSA for unavoidable impacts to Stó:lō heritage values, as a form of offset to the loss of heritage during construction or postconstruction phases of the Project (not including operations of the existing pipeline, which must be addressed in an independent STSA-based regulatory framework). 3. To cover financial redress for the STSA for infractions of environmental measures (i.e. non-compliance) set out in Project plans within S'ólh Téméxw. The processes for determining infractions must be set out within the STSA Monitoring Plan(s). c) The liability of Westcoast be not limited to the amount of the STSA Bond; d) The STSA Bond may be varied or cancelled or renewed at any time by agreement between Westcoast and the STSA Regulatory Body; e) Westcoast's STSA Bond does not apply to mitigation measures, generally, and environmental offsets as determined within Project plans or otherwise through community processes, which Westcoast must fund from alternative Project funds.
9	**Pipeline Construction Standards** 1) Westcoast must meet or exceed Canada Standard Association requirements (CSA-Z662 regarding oil and gas pipelines) throughout the lifecycle of the Project, including existing infrastructure. 2) Westcoast must use pipe of the highest grade to avoid integrity issues and subsequent needs for integrity digs and/or replacements for all watercourse crossings and either trench or trenchless installations in areas of sensitive environmental values and cultural sites. 3) A pipe standards plan for the Project must be co-developed with, and approved by, the STSA Regulatory Body as part of the final construction plans, prior to the commencement of construction.

PRIOR TO CONSTRUCTION

10 Stó:lō Heritage Contingency Chance Finds Procedures

The STSA's Stó:lō Heritage Contingency Chance Finds Procedures is the guiding document for the Project within S'ólh Téméxw. The associated flowcharts contained herein provide additional details supporting implementation for the treatment of heritage 'chance finds' within S'ólh Téméxw.

For heritage chance finds within S'ólh Téméxw, Westcoast will follow the Stó:lō Heritage Policy and the S'ólh Téméxw Use Plan Policy. For instance, material culture sites include cultural modified trees (e.g. bark stripped cedar), while ceremonial regalia include items associated with long house and winter dance. Stó:lō Heritage Chance Finds will be incorporated into the Field Plan for Stó:lō Material Culture Sites or other types of sites as needed within S'ólh Téméxw and updated in the RSMT.

These Procedures outline "chance find" process steps to be followed if actual or potential heritage belongings or palaeontological materials are encountered during construction activities so that unanticipated impacts can be avoided and/or minimized.

These Procedures require following these steps:

1) Stopping work in the immediate vicinity of the find, secure the area and the find and notify the specified representatives for the STSA Regulatory Body (specifically the Stó:lō Research and Resource Management Centre) and Westcoast;
2) Document, assess, and verify the find through inspection by an appropriate subject matter expert (SME) including the STSA's SMEs (e.g., archaeologist, local cultural knowledge holder). Communicate outcomes to the STSA Regulatory Body for confirmation.
3) If confirmed, develop management/mitigation plans with participation and approval of the STSA Regulatory Body. A draft Heritage Chance Finds Card will be created for each case of a chance find. To create the card, the SME or designate of the STSA Regulatory Body uses the field observations to understand the relationship of the find with project information, including the Project footprint and other features including other known heritage sites in proximity. The STSA Regulatory Body will, with community-based and additional SME input as may be needed, determine or approve of a mitigation plan. This information is included in the Heritage Chance Finds Card and communicated in the STSA Heritage Chance Finds Procedures Flowchart (to be developed).
4) Implement the approved plan and incorporate the find into the updated RSMT and field plans.

11 Environmental Protection Plan

See Condition 4a; 4b

1) Westcoast must finalise an Environmental Protection Plan (EPP) for the Project and its components (plans and measures, EPP Appendix C, D) which must be co-developed and approved by the STSA Regulatory Body (see Condition #4b) prior to construction.

For clarity, the final EPP will include:

a) revisions resulting from evidence, commitments made by Westcoast, and other relevant information included in its Project application and its related submissions;

b) updated Environmental Alignment Sheets;

c) environmental protection procedures, criteria for implementing these procedures, mitigation measures (including site-specific plans for erosion and sediment control and the use of riprap), and any updates to contingency plans and management plans applicable to all Project phases and activities;

d) mitigation measures for areas of culturally important vegetation, including locations selected for mitigation, preferred mitigation for each site, and procedures for facilitating pre-construction harvesting by STSA member First Nations;

e) an updated Wildlife and Wildlife Habitat Management Plan that includes:

i) species-specific survey methods for pre-construction wildlife surveys, including references to best practices and confirmation that the survey methods satisfy applicable regulatory requirements, including those of STSA member First Nations;

ii) survey methods for daily breeding bird surveys in the event of vegetation clearing or topsoil removal during restricted periods for non-migratory birds protected under provincial jurisdiction and for migratory birds protected under federal jurisdiction, including references to best practices and confirmation that the survey methods satisfy applicable regulatory requirements; and

iii) a description of mitigation measures for breeding birds found during daily surveys, as recommended by a qualified biologist and in accordance with Environment and Climate Change Canada's Guidelines to avoid harm to migratory birds (or its replacement) and other applicable regulatory requirements;

iv) a description of site-specific and species-specific mitigation measures to reduce direct and indirect Project effects on wildlife species at risk and species of cultural importance and their habitats, including relevant references to the Wildlife Species at Risk Mitigation Plan.

	f) a wetlands mitigation plan that includes all site-specific mitigation measures for all wetlands that are impacted by the Project; g) a reclamation plan that describes goals and measurable targets for reclamation and site-specific habitat restoration, including a detailed description of reclamation and restoration measures and criteria for determining success, as well as a decision tree for adaptive management measures and criteria for when these would be applied. h) a Project-specific Wildlife Species at Risk Mitigation Plan that includes: i) For each wildlife species with critical habitat potentially affected by the Project: (a) the location, types, biophysical attributes, and total spatial area directly and indirectly affected by permanent and temporary Project disturbance for each type of critical habitat; (b) a detailed description of measures that will be used to avoid the destruction of critical habitat; and (c) a detailed description of mitigation and habitat restoration measures to be implemented to reduce direct and indirect Project effects on critical habitat, including detailed criteria that describe the circumstances under which each measure will be applied; 1. confirmation that all site-specific measures are included in the environmental alignment sheets and that the Environmental Protection Plan(s) contain references to this plan wherever relevant; 2. measurable targets for evaluating the success of mitigation and habitat restoration measures, and the corresponding monitoring and adaptive management protocols to follow during and following construction; and 3. details on how the mitigation, critical habitat restoration measures, and monitoring measures are consistent with applicable Recovery Strategies and Action Plans.
12	**Water Management Plan** Westcoast is required to co-develop with the STSA Regulatory Body, a final Water Management Plan that includes four components as detailed below: • Watercourse crossings • Contingency watercourse and wetland crossings • Water Withdrawal and Water Discharge Plans • Water Quality and Filtration Standards and Plans

1. Watercourse Crossings

Westcoast is required to treat each watercourse (classified and non-classified) in S'ólh Téméxw as if it were fish-bearing. This includes all environmental protection measures affecting fish bearing watercourses including requirements for construction practices, habitat restoration and avoidance strategies.

Prior to the commencement of Project construction, Westcoast must produce a final inventory of all watercourses to be crossed, including, for each crossing:

a) the name of the watercourse and an identifier for the crossing;

b) the location of the crossing, including Global Positioning System (Universal Transverse Mercator) or latitude/longitude coordinates;

c) the primary and contingency crossing methods;

d) the planned construction timing;

e) information on the presence of fish and fish habitat (as defined by the Fisheries Act) upstream, downstream, and at the crossing location;

f) information on the composition of riparian habitat upstream, downstream, and at the crossing location;

g) the applicable fisheries timing window of least risk;

h) an indication of whether there is potential for harmful alteration, disruption or destruction of fish habitat or death of fish (as defined by the Fisheries Act), as a result of either the primary or contingency crossing method; and

i) if the primary watercourse crossing method has the potential for the harmful alteration, disruption, or destruction of fish habitat or death of fish, site-specific information for the watercourse crossing including:

- detailed crossing-specific design drawings;
- photographs upstream, downstream, and at the crossing location that are dated and labelled appropriately, with the instream and riparian habitat clearly shown;
- a description of the fish species and habitat quality present upstream, downstream, and at the crossing location, and an indication of whether fish spawning is likely to occur within the immediate area;
- a description of the riparian habitat present upstream, downstream, and at the crossing location and the extent to which it would be altered, disrupted, or destroyed by the crossing and associated works;
- the planned timing of construction relative to the fisheries timing window of least risk;
- the site-specific mitigation and habitat enhancement measures to minimize impacts, including the use of any spawning deterrents;
- any potential residual effects; and

- proposed reclamation measures.

2. Contingency watercourse and wetland crossings

For each watercourse and wetland crossing Westcoast must co-develop with the STSA Regulatory Body a contingency crossing plan for application in instances where a primary crossing method potentially fails. The plan must contain the following site-specific information:

a) detailed crossing-specific design drawings;

b) photographs upstream, downstream, and at the crossing location (including Global Positioning System [Universal Transverse Mercator] or latitude/longitude coordinates) that are dated and labelled appropriately, with the instream and riparian habitat clearly shown;

c) a description of the fish species and habitat quality present upstream, downstream, and at the crossing location, and an indication of whether and when fish spawning is likely to occur within the immediate area;

d) a description of the riparian habitat present upstream, downstream, and at the crossing location and how it would be altered, disrupted, or destroyed by the crossing and associated works;

e) the planned timing of construction relative to the fisheries timing window of least risk;

f) the site-specific mitigation and habitat enhancement measures to minimize impacts, including the use of any spawning deterrents;

g) any potential residual effects;

h) proposed reclamation measures; and

i) the application of any contingency plan during construction must be approved by the STSA Regulatory Body.

3. Water Withdrawal and Water Discharge Plans

Water Withdrawal and Water Discharge Plans for the Project must be co-developed with and approved by the STSA Regulatory Body prior to construction.

The plans must include:

a) all sources of hydrostatic test water and discharge sites, including, for any waterbodies, the water depths, bathymetry, and potential fish presence;

b) the flow rate and water volume at each water withdrawal site, and the proposed water withdrawal rates and volumes;

c) a description and quantification of any vegetation required to be cleared to access and transport the hydrostatic test water; and

d) specific mitigation measures that Westcoast will implement at water withdrawal and discharge sites during water transportation and associated activities and during hydrostatic testing, with the goal of protection for:

	• the environment; • water quality and quantity; • fish and fish habitat; and • cultural sites. e) ambient water must minimally meet and may be required to exceed the BC Water Quality Guidelines for the Protection of Aquatic Life as determined by the STSA Regulatory Body. **4. Water Quality and Filtration Standards and Plans** Water Quality and Filtration Standards and Plans for the Project must be co-developed with and approved by the STSA Regulatory Body prior to construction. The Plans must include: a) a pilot project serving to address metals and/or any other contaminants potentially being released in the transferral of groundwater to the ground surface or surface water; b) parameters of the pilot project for review and approval by the STSA Regulatory Body prior to the commencement of the Pilot; c) details of the filtration and water quality sampling methods for each water withdrawal and discharge location of the Project; and d) details of the disposal plan for filtered contaminants.
13	**STSA-Based Monitoring and Compliance Enforcement Plan** The inclusion by Westcoast of STSA and member-First Nations personnel in assessment and compliance enforcement positions (e.g., monitors and subject matter experts), and their compensation, is required for any pre-construction, construction and post-construction Project activities taking place in S'ólh Téméxw. Westcoast must co-develop with the STSA Regulatory Body an STSA-Based Monitoring and Compliance Enforcement Plan for the Project in pre-construction, construction and post-construction phases. The STSA-Based Monitoring and Compliance Enforcement Plan must outline how STSA and member First Nations-based personnel will be involved in construction and post-construction assessment and compliance enforcement roles. This Plan must include: a) clearly defined roles, relations and responsibilities for local STSA and member-First Nations' personnel; b) confirmation of compensation for participation of local STSA and member-First Nations' personnel; c) a description of the training and participation requirements, and potential certifications to be provided by Westcoast;

	d) the scope, method and other relevant details including, geographic locations for related assessment and compliance enforcement activities including those elements of pre-construction (e.g., clearing activities), construction (e.g., trenching), post-construction (e.g., environmental monitoring), and extending into operations; e) The provision of authority to issue stop work orders by local STSA and member-First Nations' monitors serving to implement the STSA-Based Monitoring and Compliance Enforcement Plan; f) standards and processes for communication, including reporting of non-compliance, information sharing and reporting to the STSA Regulatory Body and associated member First Nations; g) the means by which Westcoast will share required information (e.g. in writing, digitally, meetings, field visits, workshops); h) a description of how Westcoast will use and incorporate the information gathered through the implementation of the Plan and apply it to the Project; i) provisions for Westcoast to provide the Plan to each of the relevant contractors involved in construction; j) a description of the contractor oversight measures to ensure adherence to this plan; and k) conflict resolution measures.
14	**Stó:lō Cultural Education and Protocols Plan** Westcoast must, prior to construction, co-develop with the STSA Regulatory Body a plan requiring the delivery of a Stó:lō Cultural Education Program(s) by a Stó:lō entity/entities for staff and contractors working on the Project. Westcoast will provide capacity supporting the delivery of the Program. The Program will be applicable to and administered in all phases of the Project, commencing in the pre-construction phase. Westcoast must provide capacity supporting the application of Stó:lō cultural protocols as determined necessary by the STSA Regulatory Body, through Stó:lō cultural advisement, within any relevant phase of the Project. Any determined cultural protocol directly related to construction or any other phase of the Project must be accounted for in respective planning and scheduling.
15	**Emergency Response Plans, Safety Manual and Emergency Response Exercises** Westcoast must meet or exceed Canadian Standards Association (CSA) standards (Z662) for oil and gas pipeline safety throughout the lifecycle of the Project, including existing infrastructure. **Emergency Response Plans** a) Emergency Response Plans for the Project addressing construction and post-construction phases as well as operations must be co-developed and approved by the STSA Regulatory Body prior to commencement of construction. The plans must include but not be limited to:

- a Geographic Response Plan;
- spill contingency measures that Westcoast will employ in response to accidental spills attributable to construction activities and post-constructions/operations;
- 24-hour medical evacuation;
- fire response, and;
- security.

b) At least one year prior to the commencing Project operations, STSA and member First Nations participants will receive paid training on all aspects of the Emergency Response Plans, including spill Contingency Plans, emergency response exercises and drills.

STSA Safety Manual

An STSA Safety Manual(s) for the Project addressing construction, post-construction and operations phases must be co-developed and approved by the STSA Regulatory Body prior to commencement of construction and pursuant to section 20 of the *Canadian Energy Regulator Onshore Pipeline Regulations*.

This manual must include but not be limited to:

a) a definition of 'incident' (also for inclusion in Incident and High-Potential Near Misses Reporting)

b) the safety-related responsibilities of Westcoast and contractor managers and supervisors;

c) a description of the method or program established by Westcoast to fulfill its responsibilities under sections 18 and 19 of the Canadian Energy Regulator Onshore Pipeline Regulations;

d) any special conditions, as referred to in paragraph 18(1)(a) of the Canadian Energy Regulator Onshore Pipeline Regulations, associated with construction and any special safety practices or procedures necessitated by the conditions or features specific to the construction;

e) the safety practices and procedures to be followed during construction;

f) positions of the persons, with suitable qualifications, who are responsible for supervising and performing inspections during Project construction;

g) positions of the persons within Westcoast who are accountable for ensuring that contractors adhere to established safety performance requirements;

h) positions of the persons authorized to halt a construction activity, as required by paragraph 18(1)(d) of the Canadian Energy Regulator Onshore Pipeline Regulations;

	i) Westcoast's policy for the internal classification and reporting of hazards, incidents, and near misses, and the process for reporting on such matters; and j) the methodology used to ensure that employees and other persons working with or on behalf of the company are competent (have sufficient expertise, knowledge, and training) to carry out their assigned tasks. **Emergency Response Exercises** a) Westcoast must conduct, within 1 year after commencing operations, a functional or full-scale emergency response exercise(s) to evaluate the implementation of its Emergency Response Plan that includes and supports the participation of the STSA and member First Nations. b) Westcoast must report to the STSA Regulatory Body 90 days prior to the exercise: • the date of the exercise; • the location of the exercise; • a description of the anticipated scenario; • the names of relevant response partners, including the CER, involved in the exercise planning; and • the names of organizations (e.g., agencies, municipalities, first responders) and Indigenous Peoples who will be invited to participate in or observe the exercise. c) Westcoast must report to the STSA Regulatory Body, within 45 days after completing the exercise in a), an Exercise After-Action Report.
16	**Construction Schedule** Westcoast will provide a detailed construction schedule identifying major construction activities to the STSA Regulatory Body on an as requested basis and must notify the STSA Regulatory Body of any modifications to the schedule as they occur.
17	**Offset Measures Plans** Offset Measures Plans including but not limited to wetlands, waterways/waterbodies/water systems must be co-developed with, and approved by, the STSA Regulatory Body prior to Project construction unless otherwise approved by the STSA Regulatory Body. An example of details for an offset measures plan is provided for wetlands below. **Wetland Offset Measures Plan** A Wetland Offset Measures Plan must be co-developed with, and approved by, the STSA Regulatory Body for any wetlands. The plan must outline how permanent loss to wetlands resulting from the Project will be offset or compensated for no net loss.

	This plan must also include: a) a description of site-specific details and maps showing the locations of permanent wetland loss as a result of Project activities, as well as any other locations where wetlands were affected by the Project; b) an explanation of how wetland function will be measured as part of the post-construction monitoring program and confirmation that any resulting accidental permanent loss to wetlands will be quantified and reported to the STSA Regulatory Body in the post-construction environmental monitoring and final impact assessment reports; c) a list of the offset or compensation measures that will be implemented to address permanent loss of wetlands as identified in a) and b) above; d) an explanation of the expected effectiveness of each offset measure described in c) and the relative value of each offset measure towards achieving the offset; e) the decision-making criteria for selecting the specific offset measures described in c) and the offset ratios that will be used and under what circumstances; and f) a schedule indicating when measures will be implemented and estimated completion dates.
18	**Geographic Information System Data** Westcoast must share with the STSA Regulatory Body on an ongoing basis all relevant digital data including, but not limited to, as-built geographic information system data in the form of Esri® shapefiles. The shapefile filing must be signed by the Accountable Officer of the company and must include the following: a) a polyline layer that contains pipeline segment centre lines where each segment has unique attribute values of outside diameter, wall thickness, maximum operating pressure, external coating, field-applied girth weld coating, pipe manufacturing specification and depth of cover. If the values of a pipeline change along its length, the pipeline must be segmented at that point; b) a polyline layer that contains any power lines associated with the Project; c) point layers that contain the names and other attributes of all pipeline facilities (e.g., compressor and meter stations). All layers must be in the NAD83 CSRS (EPSG:4617) spatial reference system, and conform to the following: • The unit of measure for numerical attributes is metric. • Details of the degree of accuracy for the geospatial data must be, or better than +/-0.1 m (e.g., seven decimal digits for geometry).

19	**Local First Nation Information and Data Sharing** Information shared by the STSA Regulatory Body and/or member-First Nations, which originates from any of those entities, is subject to Indigenous data sovereignty standards, such as First Nations OCAP Principles (ownership, control, access, possession), and following Stó:lō legal frameworks. Data sharing agreements may be established for the purpose of achieving clarity between the parties engaged in information and data sharing.
DURING CONSTRUCTION	
20	**Incident and High-Potential Near Misses Reporting** During construction, Westcoast must report to the STSA Regulatory Body, within 48 hours after discovering an incident (as set out in the safety standards developed with the STSA Regulatory Body) or high-potential near-miss (i.e., an event where a reasonable and informed person would determine that under slightly different circumstances, there would have been a high likelihood for serious injury or death to a person), a preliminary incident report that includes: a) the date of the event and when it was discovered; b) the location of the event; c) a description of the event; and d) the immediate corrective action taken by Westcoast. Westcoast must report to the STSA Regulatory Body a biweekly summary report of incidents and high-potential near misses.
21	**Construction Progress Reports** Westcoast must report to the STSA Regulatory Body, on a monthly basis after construction begins until construction is complete, a construction progress report (excluding the Electrical Facilities). Each report must include: a) information on the activities carried out during the reporting period; b) any environmental, socio-economic, safety and security issues, and issues of non-compliance, including any circumstances where species-specific setbacks and timing restrictions could not be met and the alternative mitigation implemented; c) the measures undertaken to resolve each issue and non-compliance; d) confirmation that any vegetation clearing or topsoil removal occurred outside of restricted periods for non-migratory birds protected under provincial jurisdiction and for migratory birds protected under federal jurisdiction, or a summary of the results of daily survey(s) conducted a maximum of 48 hours prior to vegetation clearing or topsoil removal during restricted periods for non-migratory birds protected under provincial jurisdiction and for migratory birds protected under federal jurisdiction; and

	e) information on safety key performance indicator trends (e.g., hazard identification reports, near-miss reports, cumulative total and contractors' recordable injury rates and/or frequency, total and contractor lost time injury rates and/or frequency, total and contractor preventable motor vehicle incident rates and/or frequency), and respective benchmarks set by Westcoast and co-developed as may be needed with the STSA Regulatory Body.
22	**Operational Vegetation Management Plan** A Project-specific Vegetation Management Plan must be co-developed with, and approved by, the STSA Regulatory Body prior to the commencement of operation. The Plan must include: a) operational vegetation management procedures, including all environmental protection procedures, mitigation measures, commitments made by Westcoast, and other relevant information from its Project application and its related submissions, that will be implemented to avoid or minimize potential adverse environmental and socio-economic effects during operational vegetation clearing of the pipeline and rights-of-way, including impacts on wildlife, waterbodies, riparian areas and culturally important vegetation; b) the locations and site-specific widths to be cleared during operations for those sites where there is a reduction in the width to be cleared as compared to the permanent pipeline rights-of-way; c) the methodology for assessing vegetation density/foliar cover and height when determining when vegetation management is needed; d) a description of procedures to coordinate operational vegetation management when adjacent to Westcoast's pipeline rights-of-way or access roads and third-party linear developments; e) procedures for facilitating pre-clearing harvesting by Indigenous Peoples during operational vegetation management; f) a description of the procedures for pesticide and herbicide use, including: i) criteria describing when and where problem vegetation will be managed; ii) management procedures and the decision-making framework for selecting appropriate prevention and treatment measures for specific habitats, weed species, land uses, and land management plans; and iii) an explanation of how each management procedure and the decision-making framework will be considered and kept up to date in terms of selecting prevention and treatment measures for specific habitats, weed species, land uses, and land management plans; g) confirmation that Westcoast has updated or will update its relevant operations manual(s) for the Project to include any relevant information from the plan, and that Westcoast will include all relevant information from the plan, and that Westcoast will include all relevant information from the Plan in its training programs for employees and contractors.

23	**Power System Protection for Compressor Stations, Substations, and Power Lines** Westcoast must report to the STSA Regulatory Body at least 90 days prior to commencing operation of the Electrical Facilities, the following details of its electrical power system design for each compressor station, substation, and power line: a) single line diagrams issued for construction for the power system and protection equipment; b) descriptions of the overcurrent and ground fault protection schemes including: i) a summary of coordination studies between the upstream and downstream protective devices; ii) relay settings and time-current curves; iii) the specification of neutral grounding resistors; iv) specifications of contactors, fuses, circuit breakers, and transformers; and v) a description of all other electrical protection schemes, relay settings, and trip characteristics. c) a description of the ground fault and arcing fault protection designs, including: i) a means to clear ground faults without intentional time delay if the fault currents exceed the design limit set by the neutral grounding resistors; ii) a means to prevent reverse power feeding a fault from the stored energy of other motors running from the same bus, where applicable; d) a means to prevent large circulatory currents caused when multiple motors (or other three-phase loads) become faulted at the same time, where applicable; and e) a means to prevent electrical faults from exceeding design limits and escalating to arcing faults.
24	**Reliability Standards** Westcoast must report to the STSA Regulatory Body, at least 90 days prior to commencing operation of the Electrical Facilities, confirmation that throughout its lifecycle, the Project will comply with applicable reliability standards approved by the British Columbia Utilities Commission, in addition to any applicable criteria, requirements, policies, or guidelines of the Western Electricity Coordinating Council that may apply.
25	**System Impact Studies Prior to Energization** Westcoast must report to the STSA Regulatory Body, at least 30 days prior to commencing operation of the Electrical Facilities: a) confirmation that final electric service agreements necessary to the Project interconnection to the BC Hydro system were executed; and b) a letter of confirmation from BC Hydro that the final impact study has indicated that the Project will have no negative effect on the electric grid.

26	**Technical Specification Updates** Westcoast must report to the STSA Regulatory Body, at least 10 days prior to filing with the Canada Energy Regulator (CER) its final leave to open application, any technical specification updates for the Project as it was applied for. Technical specification updates are limited to differences in pipe length, diameter, wall thickness, grade, or material that do not impact any other aspect of the Project, as approved.
POST-CONSTRUCTION AND DURING OPERATIONS	
27	**Unplanned Power Line Outage of Electrical Facilities** Westcoast must report to the STSA Regulatory Body, within 7 days after an unplanned power line outage of the electrical facilities, a report that includes: a) the date, time, and duration of the outage b) the location of the outage c) the facility name and affected pipeline segment(s) d) the cause of the outage, if known; and e) any corrective action taken or proposed to be taken by Westcoast to mitigate the impacts of the outage and prevent a reoccurrence.
28	**Condition Compliance Reporting by the Accountable Officer** Westcoast must report to the STSA Regulatory Body, within 30 days after commencing operations, confirmation that the approved Project was constructed in compliance with all applicable conditions as set out by the STSA. If compliance with any of these conditions cannot be confirmed, Westcoast must include details as to why compliance cannot be confirmed. The filing required by this condition must include a statement confirming that the signatory to the filing is the Accountable Officer of Westcoast, appointed as Accountable Officer pursuant to section 6.2 of the *Canadian Energy Regulator Onshore Pipeline Regulations*.
29	**Traffic filing at Huntington/Fortis BC Key Point** Westcoast must report to the STSA Regulatory Body, within 30 days after commencing operations from Westcoast's Compressor Station 2 through Meter Station 16 facilities, a letter indicating the date that regular flows commenced, how regular flows were determined, and confirmation that Westcoast will include estimated flows at Compressor Station 2 and deliveries to BC Interior as part of its Quarterly Surveillance Report filings with the CER.

30	**Quantification of Construction-Related Greenhouse Gas Emissions** Westcoast must report to the STSA Regulatory Body a quantitative assessment of the actual direct greenhouse gas emissions generated from Project construction, including from all temporary infrastructure and right-of-way preparation. This assessment must include: a) the methodology used for the assessment, including the sources of greenhouse gas emissions, assumptions, and methods of estimation related to: i) vehicle and equipment use; ii) fuel consumption; iii) land clearing and timber salvage; and iv) changes to carbon sinks; b) the total direct greenhouse gas emissions generated from Project construction after implementing mitigation measures, including emissions generated by vehicles and equipment and those associated with land clearing and changes to carbon sinks; and c) a comparison and discussion of the direct greenhouse gas emissions calculated in b) with the emissions predicted in Westcoast's Project application and its related submissions, including how the direct greenhouse gas emissions could have been further mitigated.
31	**Post-Construction Environmental Monitoring and Compliance Assessment Reports** Post-construction environmental monitoring and compliance assessment reports with the participation of local First Nations monitors must be co-developed with, and approved by, the STSA Regulatory Body, on or before 31 January following each of the first, third, and fifth complete growing seasons after completing final clean-up of the Project. Each report must include: 3) a summary of the methodology for monitoring and criteria for success included within the Environmental Protection Plan(s) and the Wildlife Species at Risk Mitigation Plan(s), as well as a description of any other or modified methodology or criteria employed, with rationales; 4) the monitoring results and an analysis of those results, with documentation and photographic evidence, including discussion on the effectiveness of the implemented mitigation and reclamation measures; 5) a description of any unexpected outcomes, deviations from plans, ineffective mitigation, corrected reclamation trajectories, and failures in access control, including the location(s) of each, as well as planned corrective measures with a schedule and ongoing monitoring plan; and 6) if goals and measurable targets stated in the Environmental Protection Plan(s) and the Wildlife Species at Risk Mitigation Plan have not been achieved or there are issues identified with respect to the success of the reclamation measures implemented by the fifth-year report, a reporting schedule for monitoring progress towards those objectives, as well as corrective actions to meet them.

	The STSA Regulatory Body will set out parameters for addressing areas or incidences of non-compliance identified in the monitoring and compliance assessment reports, including levying fines to which the STSA Bond would be applied.
32	**Post-construction Impact Assessment and Final Report** A final independent STSA-based post-construction impact assessment will be necessary following operational status to assess the full scope of impacts resulting from Project construction within S'ólh Téméxw. The report must contain elements consistent with the ESA, STSA-based, and ICA datasets and plans. The STSA Regulatory Body will set out parameters for addressing areas or incidences of impacts not previously accounted for that are identified in the Post-Construction Impact Assessment Final Report, including levying fines to which the STSA Bond would be applied.

Appendix A

Westcoast Commitments to STSA

SUBJECT	WESTCOAST COMMITMENT	IMPLEMENTATION EXPECTATION
STSA Regulatory Authority	Letter Agreement dated March 19, 2024 (C29820-5) Enbridge acknowledges STSA has regulatory authority and recognizes the application of ICA to the Project	WC must recognize the ICA as a regulatory process whereby STSA is a decision-maker.
Application of STSA Processes	WC commitment to follow STSA's defined engagement, review, and decision-making processes as established through prior agreements and governance frameworks	Integration of STSA process timelines, review stages, and approval gates into project planning and regulatory engagement
Implementation of the ICA	WC commitment to applying STSA's ICA as a core assessment process for evaluating project impacts on rights, title, and stewardship values	Alignment of project assessment workstreams with ICA requirements, including provision of funding, data, and technical support

Compliance with STSA policies and laws	WC commitment to respect and apply STSA's policies, including but not limited to the STSA Land and Resource Use Consultation and Decision-Making Policy; Stó:lō Heritage Policy Manual, and stewardship-related frameworks	Policies are treated as binding or guiding instruments within project design, mitigation measures, and operational decisions
Reaffirmation of prior commitments	WC acknowledgement that these commitments were foundational elements of the initial Capacity Agreement and remain in full force and effect	Clear cross-referencing to prior agreements, with no dilution or reinterpretation of original commitments
Recognition of commitments as core and non-negotiable	WC agrees that these elements are fundamental to the relationship and form the baseline conditions for any ongoing or future project engagement	Framing as overarching principles that guide all subsequent agreements, regulatory interactions, and project decisions

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
ENVIRONMENTAL EFFECTS		
EPPs[1]	EPPs should be co-developed with Indigenous communities	Commitment to creating processes that support meaningful engagement with STSA and its member Nations and to incorporate input into Project construction and operations.
Post-construction environmental monitoring reports[2]	Request to extend the monitoring program to 10 years	Commitment that monitoring activities would be tailored to reflect each STSA member Nations' identified interests and concerns and evolve based on ongoing feedback and site-specific conditions. Stó:lō monitors would ultimately play a key role in observing, documenting, and reporting, during monitoring activities to ensure that environmental, cultural, and community values are effectively respected during Project execution.
Plan for Indigenous Peoples' participation in construction and postconstruction monitoring, and	Robust post-construction monitoring program is a fundamental tool for verifying whether potential adverse effects have been effectively mitigated and areas reclaimed.	Commitment that monitoring activities would be tailored to reflect each STSA member Nations' identified interests and concerns and evolve based on ongoing feedback and site-specific conditions. Stó:lō monitors would ultimately play a key role in observing, documenting, and reporting, during monitoring activities to ensure that environmental, cultural, and

[1] C38105-1, 7.2.1.
[2] C38105-1, 7.2.2.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
incorporating Indigenous knowledge[3]		community values are effectively respected during Project execution.
Strengthened conditions through the incorporation of Indigenous knowledge and results of engagement with Indigenous Peoples[4]	Incorporating Indigenous knowledge and perspectives into various aspects of the Project, including with respect to assessing and monitoring environmental effects.	Commitment to continued inclusion of Stó:lō knowledge in its plans, projects, and operations, as well as to continued engagement with STSA member Nations' regarding the EPPs and reclamation plans.
Soil and soil productivity		
Soil and soil productivity[5]	Preserving healthy soils is extremely important, especially in the mountainous ecosystem of the study area where powerful and medicinal plants are known to grow.	Commitment to implement established and proven mitigation measures and construction practices to avoid or reduce effects on soil and soil productivity, as outlined in its ESA and EPPs Conducting detailed soil surveys, salvaging soil, implementing contingency plans for erosion, sediment control, and soil handling, and using specialized techniques such as three-lift soil handling and matting. Additional measures address wet or thawed soils, erosion-prone slopes, watercourse crossings, and postconstruction site restoration.

[3] C38105-1, 7.2.3.
[4] C38105-1, 7.2.4.
[5] C38105-1, 7.3.2.1.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Terrain stability[6]		Commitment to routinely monitor terrain instability and erosion risk and conduct supplemental geotechnical surveys to assess terrain stability at compressor stations and along the power lines. Commitment to engaging a geotechnical engineer to provide specialized advice during both the Project design and construction phase, and to assist in developing appropriate design and mitigation measures to address any risks relating to slope instability. WC's geotechnical hazard assessment also recommended using organic soils that may have buoyancy control concerns to target sites for a muskeg delineation field program.
Vegetation		
Loss or alteration of native vegetation[7]	Concerns raised about right-of-way width and the size of the Project footprint	Commitment to Project design measures such as aligning the Project parallel to existing rights-of-way and other disturbances, and co-locating Project components within or adjacent to existing disturbances. Minimizing brushing widths in riparian areas and evaluating opportunities to reduce vegetation management widths elsewhere on its pipeline rights-of-way

[6] C38105-1, 7.3.2.2.
[7] C38105-1, 7.4.2.1.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
		Evaluating the possibility of allowing vegetation not directly over the pipeline to grow beyond the typical vegetation density and foliar cover tolerance levels it has used to date Allowing the area beyond the rights-of-way to naturally revegetate to a height that is not considered a threat to the power line operations. Having a qualified power line professional assess vegetation height during biannual inspections to identify danger trees for removal or tree pruning and engage qualified forestry professionals and consider BC Hydro guidance and standards in assessing vegetation heights.
Rare and sensitive species and communities[8]	Loss or alteration of rare and sensitive species and communities may occur from clearing during Project construction and from vegetation maintenance during Project operations	Standard mitigation measures for rare vegetation species and communities to avoid and reduce disturbance. This includes narrowing and adjusting workspace and using matting to reduce soil disturbance. WC also proposed alternative construction and reclamation techniques such as transplanting and salvaging seed or sod. Commitments to completing pre-construction surveys, flagging and/or fencing off species or communities of concern, and implementing its Vegetation Species and Communities of Concern Discovery Contingency Plan as needed during construction.
Culturally important species and communities[9]	Diversity and abundance of vegetation communities that are used for cultural practices, clearing of native vegetation	Pre-construction harvesting or salvage or involve site-specific reclamation measures.

[8] C38105-1, 7.4.2.2.
[9] C38105-1, 7.4.2.3.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	within the Project footprint may result in a reduction of culturally important vegetation communities. Harvesting sites are becoming increasingly scarce.	Contingency measures if culturally important vegetation is encountered, and site-specific measures tied to georeferenced sites. Commitment to notifying STSA and its member Nations' representatives about the construction schedule and communicating schedule changes that could affect community members.
Weed management during construction and operations[10]	Project construction and operations may result in the introduction or spread of weeds and invasive species of concern, which have the potential to outcompete native vegetation and alter the composition of vegetation communities Cheam First Nation raised concerns about the invasive Himalayan blackberry and its impact on traditional and medicinal plants Use of chemical herbicides to control vegetation, and pesticides to manage forest diseases and pests, within the Project footprint and rights-of-way	Procedures included within the EPPs and Biosecurity Management Plans, including equipment cleaning protocols and ongoing monitoring, would guide weed management decision-making during the Project planning and pre-construction phases Integrated Vegetation Management Plan (IVMP) to inform the range of techniques for vegetation management, including prevention, physical and mechanical controls, and herbicide treatments Commitment to only using herbicides that are approved by Health Canada and only engaging in operator-controlled, targeted applications conducted by certified herbicide applicators to avoid effects on non-targeted species. Commitment to avoiding herbicide application to high value harvesting areas that are used for traditional purposes, whenever possible.

[10] C38105-1, 7.4.2.4.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Reclamation[11]	Restoring land disturbed by the Project needs to follow the concepts of ecosystem restoration, instead of basic reclamation, to ensure that culturally significant flora and fauna are returned to the land base quickly and are healthy enough to harvest.	Integrate vegetation species of cultural and traditional importance into reclamation plans, where ecologically appropriate. Identification of culturally important species and plants is being incorporated into Project planning through WC- and the ICA, including cultural walk-throughs Commitment to preparing reclamation plans that prioritize native species and to planning restoration efforts aimed at maintaining traditional harvesting areas and upholding seasonal growth cycles. Commitment to continued engagement with STSA and its member Nations in preparing a reclamation plan and updating the EPPs.
Project effects on old growth forest, mitigation, and monitoring[12]	Old growth forests provide unique habitat relied upon for many different wildlife species and are the home of many culturally significant vascular plants, non-vascular plants, and mushrooms. Linear disturbances change the functioning of important patches of old growth forest, the structure to early seral patch of forest, the composition to different plant and animal species, and they affect wildlife movement.	Minimizing the clearing width for new linear disturbance within OGMAs, modifying or minimizing operational footprints, installing markers to avoid accidental clearing, using minimal disturbance techniques to facilitate rapid regeneration, and offsets. Commitment to preparing a Forest Management and Old Growth Management Plan for unavoidable activities within OGMAs and OGDAs by end of Q4 2025 Forest Management and Old Growth Mitigation Plan to set out measurable indicators and threshold values to monitor and evaluate the success of forest health mitigation, and

[11] C38105-1, 7.4.2.5
[12] C38105-1, 7.4.3

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	Risk of irreversible biodiversity loss in forest ecosystems.	commitment to engaging with STSA and its member Nations when developing mitigation for this plan.
Wetlands		
Project effects, mitigation, and monitoring[13]	Project activities, particularly those involving construction and operations near wetlands, may alter wetland function through changes in habitat structure, hydrology, and biogeochemical processes Historical reliance on wetland ecosystems as important venues for sustenance and survival. Indigenous medicines are known to grow in forested and open wetlands, and wetlands are valued by STSA and its member Nations because of their multifaceted ecological role and material connection to Indigenous ways of living No integration of Indigenous-led stewardship or traditional ecological knowledge, despite ongoing concerns raised about wetland degradation, hydrological changes, and loss of culturally significant habitats.	Avoiding wetlands where feasible, obtaining necessary permits, complying with the authorization conditions for any permanent wetland fragmentation or loss, and assessing wetlands for fish-bearing status before disturbance. Replace salvaged wetland substrate, monitor the immediate effects of wetland crossing construction, schedule activities during dry or frozen conditions to minimize effects, and postpone crossing construction during excessive rain or flooding. Commitment to implementing a Flood and Excessive Flow Contingency Plan, delaying clearing on approach slopes until just before crossing construction, and implementing best management practices to prevent deleterious substances or construction debris from entering wetlands Commitment to monitoring the immediate effects of wetland crossing construction (e.g., hydrologic connectivity, sedimentation) to assess the need for additional mitigation measures required to reduce identified effects, if warranted.

[13] C38105-1, 7.5.2.1.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	Mitigation and offset strategies outlined in the EPPs focus mainly on watercourse crossings and lack clear mechanisms for wetland-specific sustainability or meaningful participation by STSA and its member Nations in offset planning and decision-making.	
Offsets[14]	ESA relied on assumptions that mitigation and offsets would prevent residual adverse effects, without providing a detailed plan for ensuring functional equivalency in wetland compensation measures.	Implement offsets to achieve no net loss of wetland function and to avoid the residual effect of permanent loss of wetland function, noting the Federal Policy on Wetland Conservation's goal of no net loss Wetland Offset Plan would include a minimum offsetting ratio of 2:1 to offset permanent loss of wetland function and consideration of the concept of equivalency when implementing offsets Wetland Offset Measures Plan would describe how it has taken Stó:lō knowledge into account in developing the plan. It committed to engage on and incorporate, as appropriate, identified concerns with wetland mitigation and offsetting.

[14] C38105-1, 7.5.2.1.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Water quality and quantity, and fish and fish habitat		
Water Quality and Monitoring[15]	STSA raised concerns regarding the adequacy and timing of water quality sampling Project activities (i.e., instream construction, trench dewatering, vegetation clearing, and hydrostatic test water discharge) have the potential to increase suspended sediment concentrations and increase temperature and turbidity in surface water, nearby wells, and aquifers	Commitments to implement water quality monitoring, sediment event monitoring, and fish salvage, and to develop corrective actions if turbidity or other parameters approach threshold values. Monitor water quality include engaging a qualified professional familiar with the construction method being employed, and the sensitivities of the fish and fish habitat types that would be encountered.
Flooding and Standing Water[16]	STSA raised concerns regarding flooding	Commitment to scheduling instream work during low-flow periods, postponing crossings during excessive rain or flood conditions, and implementing a Flood and Excessive Flow Contingency Plan. Commitment to engage with regional flood mitigation bodies
Fish and fish habitat[17]	Effects to fish and fish habitat through changes to fish species at risk, riparian habitat, fish mortality or injury risk, fish	For Cheam Slough (Site ID 411), a mapped critical habitat for Salish sucker, commitment to follow the reduced risk work window of August 1 to September 15. WC proposed an isolated trenched crossing as the primary crossing

[15] C38105-1, 7.6.2.6.
[16] C38105-1, 7.6.2.7.
[17] C38105-1, 7.6.2.8.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	passage, and inter-basin transfer of aquatic organisms. Peters First Nation recommended restoring impacted lands to an improved state, including erosion improvements, replanting, water health improvements, and fish hatchery support. WC acknowledged Peters First Nation's concerns about declining sturgeon, sockeye, and chinook salmon populations, and the community's interest in Indigenous-led hatcheries and aquatic habitat offsets.	method and open cut as the secondary method if watercourse is dry and frozen to the bottom. Commitment to further discussions with Peters First Nation to explore opportunities to support such initiatives
Aquatic species at risk under the SARA[18]	Cheam indicated that he sturgeon population of the lower Fraser is of particular concern. The gravel reach of the lower Fraser is also core Pilalt territory. The lower Fraser white sturgeon is a species that we have also a kinship relationship with. The water depth in Cheam Slough may be more suitable at the crossing location in regular precipitation years, such that important features (i.e., low velocity, deep and fine substrate pool habitat) could be used by Salish sucker.	Work would occur instream and within the riparian area with consideration of the Salish sucker's reduced risk work window. Cheam First Nation and WC completed a joint site tour of the proposed route for the CS-8B to CS-9 pipeline loop on the Tseatah 2 reserve, as well as CS-9 on Cheam First Nation Reserve No. 1. The purpose was to discuss Project construction and interactions with the community and Cheam Slough. Discussions included potential construction methods for crossing Cheam Slough and effects on Salish sucker.

[18] C38105-1, 7.6.2.9.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Wildlife and wildlife habitat		
Habitat loss or alteration[19]	Observations of changes in wildlife migration patterns and wildlife displacement due to industrial activity and linear disturbances, as well as decreased wildlife health and increased mortality from increased access and traffic. Concerns about habitat alteration from sensory disturbance. Cheam First Nation stated ongoing concerns around traffic, noise, lighting, and edge effects that alter wildlife presence and movement, which would be increased by the Project's additional looping.	Where practical, WC will incorporate existing disturbances (e.g., shared roads or workspace on adjacent disturbances) into the Project footprint. Prohibiting construction personnel's recreational use of all-terrain vehicles and snowmobiles and using low or task-specific lighting (e.g., downturned shaded fixtures to prevent sky-lighting) on the construction rights-of-way and associated Project facilities. Commitment to preparing a reclamation plan before starting construction to address measures required to return the Project footprint to its former land use. Condition 9 to file a reclamation plan detailing goals and measurable targets for reclamation and site-specific habitat restoration. The updated plans must include a detailed description of reclamation and restoration measures, criteria for determining success, and a decision tree for adaptive management measures and criteria for when these would be applied. Condition 41 requires WC to document the trajectory, effectiveness, and corrective measures taken during postconstruction reclamation.

[19] C38105-1, 7.7.2.1.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Alteration of wildlife movement[20]	Project may alter wildlife movement by creating barriers for some wildlife species and by reducing habitat connectivity. Impact of linear disturbances on wildlife movement - while effects on moose and deer are generally the same across wider and narrower rights-of-way, wider corridors have greater impacts on smaller fur-bearing animals such as mink and fisher.	Standard mitigation measures such as leaving gaps in strung pipe and snow berms and installing soft plugs across open trenches in areas of high wildlife use and monitor for any wildlife entrapment. These measures are intended to facilitate wildlife passage and allow access across the trench. Commitment to evaluating opportunities to narrow the rights-of-way where possible
Wildlife health and mortality[21]	Timing windows and setbacks Sensory disturbance caused by noise, vibration, light, and activity during sensitive timing windows may increase health or mortality risk through indirect disturbance of occupied habitats or displacement from preferred habitats at key life stages.	EPPs to contain list of sensitive timing windows and setbacks for sensitive wildlife species and habitats, as well as migratory bird zone primary nesting periods, as well as amphibian active and overwintering periods. Alternate mitigation for Project activities during nesting windows involves engaging qualified professionals to conduct non-intrusive nest surveys and establishing appropriate protective buffers for active nests. WC's contractors required to adhere to the protective measures for active nests as recommended by those professionals. WC submitted that this approach is consistent with industry best practices and is expected to mitigate the risk of flushing nesting birds or disturbing or damaging active nests.

[20] C38105-1, 7.7.2.2.
[21] C38105-1, 7.7.2.3.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
		WC added that its Breeding Birds and Nest Mitigation Plan in its EPPs aligns with ECCC's guidelines.
	<u>Traffic Impacts</u> Project-related traffic and equipment may increase the risk of vehicle strikes with wildlife. Concerns about increased risks to snake mortality, particularly Western rattlesnake, due to road traffic. Road mortality is a main threat to American badger, with risks of Project-related vehicle strikes increasing when traffic volumes are highest (e.g., peak workforce during construction) and during seasons or times of day when American badger are moving or when visibility is low (e.g., during dawn, dusk, foggy conditions).	Confining motorized vehicle traffic and equipment to the approved and staked Project footprint and access roads, using multi-passenger vehicles, and posting lowered speed limit signage under specific conditions or areas where wildlife concerns have been identified. In areas identified as important for snake migration, WC is considering additional measures such as using pilot vehicles, installing permanent fencing or underpasses, and awareness presentations to further reduce road mortality risks.
	<u>Access and human-wildlife conflict</u> Concerns about the effects of access roads and linear sight lines on wildlife, including both increased predation and increased hunting by non-Indigenous people. Increased wildlife predation along linear rights-of-way, as well as increased access and hunting pressures.	Residual effects from increased access and sight lines would be reduced by installing access and line-of-sight barriers, reclaiming the Project footprint, and decommissioning and reclaiming temporary access at the end of construction. Temporary access control measures during periods of inactivity during Project construction may include signs, gates, or other temporary barriers, or periodic monitoring and security to discourage human access on the Project footprint. Following construction, WC would implement permanent access control measures in suitable locations, using a combination of immediate measures (e.g.,

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	Prophet River First Nation and Yale First Nation raised concerns regarding the role of right-of-way access in enabling hunter access to wildlife. Nazko First Nation advocated for access control informed by Indigenous Peoples' participation and knowledge.	barriers) and vegetation plantings that would eventually become permanent barriers.
Project effects on caribou, mitigation, and monitoring[22]	Vegetation removal and ground disturbance from Project construction and operations would directly and indirectly affect vegetation cover and forage habitat used by Southern mountain caribou, primarily during periods of seasonal movement. Trenching and traffic during Project construction may also create temporary barriers to caribou movement and increase risks to caribou health and mortality. Increased predator access and efficiency along linear corridors can increase these risks. Tsq̓ éscen̓ First Nation raised concerns about the absence of a finalized Caribou Habitat Restoration and Offset Measures Plan and WC's ability to adequately address the needs of this at-risk species. Xatśūll First Nation	Commitment to avoidance, followed by minimizing Project interactions with caribou habitat. WC stated that it has taken steps to avoid caribou areas where practical, parallelling and using linear disturbances such as roads and previously-cleared corridors to reduce fragmentation, narrowing the Project footprint, and limiting temporary workspace in these areas. Where areas of additional temporary workspace and access roads needed for Project construction and operations are not yet identified, commitment to using existing access roads and locating temporary workspace within existing disturbances to the extent practical. Where avoidance is not possible, additional mitigation measures to reduce Project effects on caribou, including soil stripping and handling procedures to reduce effects on ground lichen, scheduling pipe stringing and trenching outside of fall and winter migratory periods, and adding line-of-sight screens Commitment to implementing caribou habitat restoration and offsets for the Project, in consultation with STSA and

[22] C38105-1, 7.7.3.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	expressed concerns regarding a condition to develop the caribou habitat restoration and offsets plans, describing it as a “plan to make a plan.”	its member Nations and provincial and federal regulatory authorities. WC consideration of a combination of ecological and functional habitat restoration techniques on and off the Project footprint, with a target outcome of no net loss of caribou habitat resulting from the Project. Commitment to calculate the required offsets for caribou by assessing the combined residual direct and indirect effects of the Project after implementing onsite habitat restoration. Drafting its caribou plans with input from engagement and site visits, and that it would demonstrate in its engagement summaries that it has heard and incorporated input into the plans.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Project effects on critical habitat for other wildlife listed under the SARA, mitigation, and monitoring[23]	Potential effects on SARA species' critical habitat (American badger, Williams sapsucker, Great Basin spadefoot, Oregon spotted frog, Western rattlesnake, Lewis's woodpecker, spotted owl, and barn owl). Project footprint intersects critical habitat for spotted owl in the Project's southern section that crosses Peters First Nation territory. They indicated that spotted owl face heightened risks due to habitat removal and potential nest disturbances during Project construction and operations. WC's mitigation relies too heavily on post-approval management plans, including the Wildlife Species at Risk Mitigation Plans, to determine mitigation efficacy.	Commitment to replacing suitable nest trees for Williamson's sapsucker and Lewis's woodpecker outside the Project footprint to address the time lag for restored habitat to become functional for nesting. To account for uncertainty, WC would replace a higher number of nest trees than are removed for the Project. Commitment to continue to engage with STSA and its member Nations on its Wildlife Species at Risk Mitigation Plan, which would address planning and executing offsets proposed for species at risk critical habitat. In areas of known interaction with suitable Oregon spotted frog habitat and population at Maria Slough, commitment to trenchless crossings. It stated that reclamation, where appropriate, would target enhancing the habitat compared to current conditions (e.g., managing existing invasive plants and establishing native vegetation). WC stated that there is potential for enhancing Oregon forestsnail habitat via invasive plant management and reestablishing native vegetation and coarse woody debris cover that are important attributes for the species. Commitment to demonstrating in the included engagement summaries that it has heard and incorporated input into the plans - continued engagement, combined with its use of established and continually improving mitigation measures and its compliance with Condition 41.

[23] C38105-1, 7.7.4.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Air quality		
Construction emissions[24]	ECCC commented that WC did not account for construction-related emissions in its air dispersion modelling. Xatśūll First Nation stressed that it is important that Project construction activities cause as little air pollution as possible to protect broader ecosystem health. They encouraged WC to keep this goal in mind as it develops its contractor and operator training.	Mitigation for construction-related emissions includes restricting vehicle idling time, ensuring that pollutant abatement equipment on vehicles and equipment is in good working order, and using approved dust suppressants when required. Commitment to reduce idling time would be implemented through contractor and operator training, and that maintaining equipment in working order would be done as per manufacturer specifications and frequency. Salvage timber as per its Timber Salvage Plan. It would also follow BC's Open Burning and Smoke Control Regulation72 and use BC's Venting Index when planning and scheduling burning. The Commission is satisfied that these mitigation measures are adequate to reduce the magnitude of CAC emissions from construction.
Operational emissions[25]		Four compressor stations to be upgraded include NO2, SO2, PM2.5, and CO - appropriate and effective mitigation for the Project's operational air emissions because replacing the existing equipment with new gas-fired and electric motor drive compressor units would improve air emissions overall, including at sensitive receptor locations.

[24] C38105-1, 7.8.2.1.
[25] C38105-1, 7.8.2.2.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Air quality management and monitoring[26]	Continuous monitoring and verification plan, as recommended by Kelly Lake Cree Nation, Nicomen Indian Band, and Peters First Nation.	Emissions during Project operations would be minimized by electrifying CS-6B, CS-8A, and CS-8B, by using best achievable technology for CS2B, and through any conditions of the required Waste Discharge Authorization administered by the BC Ministry of Environment and Parks under the *Environmental Management Ac*t.
Project contribution to atmospheric GHG emissions		
Construction GHG emissions[27]	Project will result in a substantial increase in GHGs and climate change effects. Nazko First Nation recommended climate change measures, monitoring, mitigating, and reporting of construction-related GHG emissions	Standard mitigation measures to reduce GHG emissions during construction, including minimizing vehicle and equipment idling, maintaining equipment in good working condition as per manufacturer specifications, and implementing a reclamation plan. WC identified best available technology and best environmental practices measures to reduce impacts on GHGs and carbon sinks from land clearing. These include biomass chipping and spreading, recovering merchantable timber, reclamation and revegetation, limiting surface disturbance where possible, and reclaiming all temporary access after construction to pre-construction conditions.
Operational GHG emissions and net-zero plan[28]	Fugitive emissions. Unclear how operational GHGs would be regulated, reported, and enforced over the life of the Project to provide	Commitment to rely on its existing Leak Detection and Repair Program to limit releases. It also stated that negligible emissions would result from occasional maintenance and vegetation management during Project operations.

[26] C38105-1, 7.8.2.3.
[27] C38105-1, 7.9.1.1.
[28] C38105-1, 7.9.1.2.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	long-term accountability, in the absence of a condition requiring monitoring and verification of meeting net-zero commitments.	WC is required to report annually on GHG emissions from its facilities that release 10 kt CO2e or more per year under ECCC's GHG Reporting Program, and WC stated that it would include Project emissions in its existing emissions reporting program. In addition, WC must comply with the BC Greenhouse Gas Industrial Reporting and Control Act73 and its regulations.
Project effects on the environment in the event of accidents and malfunctions		
Spills and releases[29]	Louis Bull Tribe Elders expressed concern about a pipeline leak or release of gas and that they questioned the result and response if there was an accident or damage to the pipeline. Damage to the air and wildlife surrounding the pipeline would be devastating, and that there could be no guarantees that a release would not happen. Concern about effects on fish and fish habitat from inadvertent releases or damage. Nazko First Nation stated that spills and other accidents and malfunctions have devastating, long-lasting effects on the environment and the potential to prevent their members from being able to meaningfully exercise their section 35 rights in the vicinity where spills and accidents occur.	Fuels and Hazardous Materials Spill Contingency Plan provides a base level of contingency actions to be implemented in the event of a release during Project construction, and that some details recommended by ECCC (such as supply lists and locations) would be incorporated into Project- or site-specific plans prepared by WC's contractors for their scopes of work before starting construction. Commitment to detailing its requirements for secondary containment of fuel and hazardous substance storage in its updated EPPs, with consideration of guidelines set out in the Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products (PN 1326). Rather than using spill trays, absorbent pads, or liners under any equipment and vehicles not in use, which WC stated would generate unnecessary waste, WC would focus on preventative measures such as equipment

[29] C38105-1, 7.10.2.1.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	Concerns about the release of drilling fluids from horizontal directional drilling, particularly at the Parsnip River crossing due to the potential for karst. Essential environmental protection measures – such as oversight by a qualified professional and monitoring watercourses and wetlands crossed by horizontal directional drilling – require clear commitments by WC, accompanied by monitoring and adaptive management plans.	inspection and maintenance programs that are consistent with industry best practices. Commitment to implementing its Drilling Mud Release Contingency Plan, which includes measures for containment and site clean-up. If a release occurs in a watercourse, WC would suspend drilling activities and implement measures described in its Drilling Mud Release Contingency Plan to reduce the effects of the release. Condition 42, Condition 9
HEALTH, SOCIAL, AND ECONOMIC EFFECTS		
Human health		
Human Health Context for Indigenous Peoples[30]	STSA's concerns regarding human health conditions within its member Nations communities, including observations of increasing health challenges Changes to the environment and access to traditional foods and medicines may influence community health and well-being	

[30] C38105-1, 8.3.1.1.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	Interconnection between environmental health, access to traditional resources, and physical, spiritual, and cultural well-being, including the holistic health concepts described by Stó:lō participants Coldwater Indian Band, Lheidli T'enneh First Nation, Saulteau First Nations, Seabird Island Band, and Skeetchestn Indian Band, and the STSA described noticing increasing health concerns in their communities, which for some include cancer, diabetes, obesity and high cholesterol owing to a variety of factors, such as a decline in the availability of traditional foods and medicines and a lack of participation in seasonal harvesting activities. Cook's Ferry Indian Band shared that there is no alternative for the medicines that they get from the land. Sucker Creek First Nation shared that their people lost confidence in doctors, stating that going back to their traditional medicines is very important	

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Air quality[31]	Cheam First Nation raised concerns about air quality with respect to an existing compressor station on their reserve where Project activities would also occur. Kelly Lake Cree Nation also shared concerns about air quality relating to dust pollution, particularly during the construction phase in residential areas.	Commitment to various measures to mitigate effects on air emissions during construction such as (among others) applying dust suppressants, limiting vehicle trips and idling, and using well-maintained equipment.
Community Quality of Life / Social and Cultural Well-Being[32]	STSA's concerns that negative interactions with incoming workers may diminish community well-being, emphasizing the importance of cultural safety. Community and gender safety, including the need for measures addressing cultural competency and human trafficking prevention. Concerns about the health and safety of their Indigenous communities due to a perceived threat of increased accidents and malfunctions because of the Project which could result in emotional and social stress.	Mitigation measures for health and safety concerns include ongoing emergency response planning and coordinating ongoing public outreach efforts for public pipeline safety and integrity. Commitment to notify STSA and its member Nations of reportable spills or inadvertent drilling fluid releases within their traditional territories and, with respect to vehicular accidents, implement a Traffic Management Plan before starting construction, if requested by STSA or its member Nations. STSA and its member Nations are also expected to have opportunities to participate in construction and post-construction monitoring to oversee protection measures throughout the Project lifecycle, which could further alleviate safety-related apprehensions relating to accidents and malfunctions.

[31] C38105-1, 8.3.2.1.
[32] C38105-1, 8.3.2.2.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Physical, spiritual, and cultural health of Indigenous Peoples[33]	Effects of the Project on the exercise of rights by Indigenous Peoples (e.g., changes to the quality, quantity or distribution of resources, changes in access to resources, changes to disruption of timing and seasonality of exercising rights, changes to locations or areas of cultural importance where rights are exercised). Loss of land during Project construction and operations could disrupt the timing and seasonality of exercising rights, as well as result in a decline in availability of traditional resources, causing emotional and social stress, particularly for Indigenous Peoples. Overlapping industrial developments are causing them to lose spiritual connection and traditional practices due to losing access to lands used for harvesting medicines and practicing ceremonies. Reduction in available plants for medicinal use and concerns about the health and quality of the animals they harvest.	Commitments to: Implementing cultural awareness programs, which may include training to help employees, consultants and contractors to acknowledge, respect, and understand that STSA's member Nations have unique histories, cultures, protocols, values, beliefs, and governments. Maintaining regular communication with stakeholders and the public throughout construction to collect feedback and address concerns related to the Project activities and potential effects to cultural practices and values, as appropriate, for STSA's member Nations. Conducting a baseline study of spiritual, cultural, and physical well-being of STSA's member Nations being engaged on the Project to establish a benchmark against which to assess potential changes to well-being over the Project lifecycle. Developing and implementing a monitoring plan to assess potential changes to the wellbeing of STSA's member Nations over the Project lifecycle. Developing an action plan to identify opportunities for enhancement of STSA's member Nations' well-being (e.g. supporting intergenerational transfer of knowledge). Providing advance notice of construction areas and schedules to support STSA and its member Nations in identifying and, if desired, harvesting culturally significant

[33] C38105-1, 8.3.2.3.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	Important for Nation members to have advance notice of any construction so that they can harvest animals, plants, and medicines before any potential disturbances caused by the Project.	or medicinal plant species that may only be identifiable during certain seasonal windows. Socio-economic Effects Monitoring Plan for the Project through engagement with STSA and its member Nations. Commitment to continue to work with STSA and its member Nations to understand indicators of importance, as well as relevant thresholds and actions, that would support a robust plan.
Acoustic environment[34]	Concerns about the increase in traffic volume, noise, and dust caused by pipeline-related traffic. Construction activities like new roads, increased traffic, and noise that disturbs the land make it harder for their members to hunt, fish, gather, travel, and just to be at peace. Cheam First Nation shared concerns about noise levels caused by an existing compressor station (CS-9), which the Commission notes is relevant to cumulative effects (which are discussed in Section 7.3.3). Concerns with strategies used to address sound disturbances, citing a lack of consultation with Indigenous Peoples on determining acceptable noise thresholds and issues with the	To mitigate changes in noise levels during construction, commitment to: • notifying applicable municipalities of construction schedule and working with them to develop strategies to communicate with potentially affected residents; • implementing site-specific noise mitigation at compressor stations; • using noise abatement equipment; • establishing a protocol to address complaints in a timely manner; • conducting short-term noise monitoring if noise complaints are received and implementing corrective actions as required; and • using existing onsite buildings for screening, where practical. To mitigate changes in noise levels during operations, commitment to: • implementing site-specific noise mitigation for compressor stations; • minimizing vehicle noise; • using noise abatement equipment for vehicles; and

[34] C38105-1, 8.3.2.4.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	suitability of mitigation measures (e.g., WC's response plan for noise complaints being reactive).	• working with STSA and its member Nations if work cannot be completed in adherence to applicable noise bylaws. Commitment to continued engagement, and further collaboration to address noise-related concerns comprehensively and to working collaboratively with STSA and its member Nations to address Project related concerns.
Other human health concerns of Indigenous Peoples[35]	Need for their Indigenous communities' specific information on human health to be considered by WC, including from any cultural knowledge and land use and occupancy studies. Suggestion that WC should conduct a baseline study of the spiritual, cultural, and physical well-being of Indigenous communities being engaged on the Project, develop and implement a monitoring plan to assess potential changes to Indigenous well-being, and develop an action plan to identify opportunities for the enhancement of Indigenous well-being (e.g., supporting intergenerational transfer of knowledge).	Consideration of the ICA or additional studies can include information related to baseline spiritual, cultural, and physical well-being. Developing the Socio-economic Effects Monitoring Plan for the Project, including its Community and Gender Safety Plan, and welcomed feedback on these plans from STSA. Incorporated STSA and its member Nations' concerns about their physical, spiritual, and cultural health and incorporated them into its ESA and proposed mitigation. Conditions 9, 11, 28, 19

[35] C38105-1, 8.3.2.5.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Social and cultural well-being		
Population demographics[36]	Project-related population growth has the potential to change the demographics of host or nearby communities due to temporary workers and associated issues related to the potential for community and worker interactions.	Mitigation measures pertaining to effects on population demographics include sourcing workers and contractors from local communities, establishing temporary workforce accommodations, and prohibiting hunting or recreational fishing by Project personnel on (or in the vicinity of) the construction rights-of-way or associated Project sites. Commitment to prohibit the use of the construction rights-of-way, temporary access roads, or construction sites by Project personnel to access hunting or fishing sites.
Cultural events and activities[37]	Construction activities have the potential to temporarily disrupt cultural events and activities. The presence of construction workers and associated traffic may disturb the socio-cultural setting (including heritage resources and cultural sites). Sensory disturbances (such as noise, dust, air quality, and effects on visual aesthetics from construction activities) may affect the experience of participating in cultural activities or community events near the Project. Peters First Nation expressed that, among other things, increased	Mitigation measure include: • scheduling construction to avoid community events; • communicating construction plans with local communities; • notifying representatives of STSA and its member Nations involved in WC's engagement program before construction begins, providing details of construction activities and the schedule to help prevent or reduce effects on their operations or activities; • communicating schedule changes that could affect STSA's member Nations in a timely manner; • notifying registered trappers, guides and outfitters, recreational clubs (e.g., snowmobile clubs, mountain biking clubs, horseback clubs) of construction details, including the route alignment and construction schedule, a minimum of two weeks before starting construction;

[36] C38105-1, 8.4.2.1.
[37] C38105-1, 8.4.2.2.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	workers, traffic, and heavy machinery in areas heavily used by their community members – such as trails, name places, and ceremonial sites – could limit the sites' values and their community's ability to transfer knowledge to future generations if protections are not put into place.	• designing the Project to parallel existing disturbances to avoid disturbance to lands potentially used for cultural activities; and • confining construction activities to the approved construction rights-of-way and temporary workspace, as well as restricting construction traffic to existing roads, the construction rights-of-way, and approved access roads.
Community quality of life[38]	STSA, and Seabird Island Band described how negative interactions between their community members and people coming into their territories for work diminished their communities' sense of well-being, stressing the importance of cultural safety. Highlighted the need for plans to be developed for cultural safety, cultural competency, and human trafficking prevention.	Commitment to various mitigation measures relating to protecting community quality of life, including: • providing cultural awareness and human trafficking awareness training to all Project workers and implementing WC's Statement of Business Conduct; • implementing WC's After-Hours Safety, Respect for Communities, and other relevant policies; • establishing a complaints process for STSA and its member Nations to raise concerns regarding construction or worker activities; • informing local police, fire protection services, hospitals and other emergency providers of the construction schedule and key Project contact personnel; • clearly identifying areas of the construction rights-of-way or access trails where access is restricted to essential Project construction personnel and equipment, and using signs and construction access markers to identify these locations; and • directing other Project personnel and equipment around the restricted area via alternate access routes.

[38] C38105-1, 8.4.2.3.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
		Community and Gender Safety Plan to account for both STSA's member Nations and non-Indigenous community and gender safety, while considering the safety of more vulnerable groups or individuals (e.g., women, 2SLGBTQI+ people, youth, and Elders), and would take an equity-based approach where specific measures may be needed to mitigate effects on disproportionately affected STSA member Nations . Plan will describe actions WC would take to create a culture of sensitivity, safety, and inclusivity on the job site and in the local communities where it operates and include measurable mitigation measures, developed with STSA and its member Nations and local communities, with specific and geographic-based actions. Commitment to developing activities to implement the plan with STSA and its member Nations, which may include training, community workshops, or advisory participation to monitor issues raised during early engagement (e.g., such as safety for Indigenous women, racism or discrimination by contractors, and effects on youth and vulnerable populations). Commitment to working with STSA and its member Nations and local communities to ensure concerns about community and gender safety are addressed and mitigated. Human Rights Awareness and Human Trafficking Prevention Training program that employees and contractors on the Project would be required to complete before starting construction.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
		Commitment to working with STSA and its member Nations, all levels of government, communities, and employees and contractors to raise awareness and support services for trafficking victims. Commitment to providing cultural training for the Project, including Enbridge's mandatory Indigenous Cultural Awareness Training for all Project team members and contractors. Commitment to incorporating cultural awareness training for the Project that is developed by, or in collaboration with, local STSA's member Nations through STSA for specific regional areas, and highlighted that it has been engaging communities on customized cultural awareness training. Commitments to continue engaging with STSA and its member Nations on developing Project plans, including developing measurable mitigation measures with specific and geographic based actions, and to continue its engagement activities to ensure concerns about community and gender safety are addressed and mitigated. Conditions 19, 38, 19
Human occupancy and resource use		

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Project effects, mitigation, and monitoring[39]	Concerns about changes to parks and protected areas; • changes to residential areas; • changes to agricultural land uses; • changes to public activities, including hunting, fishing, trapping, guide outfitting, and recreational activities; • changes to other land uses (forestry, mineral and subsurface resources, and industrial use); and • changes in navigation and navigation safety. For changes to public hunting, fishing, trapping, guide outfitting and recreational activities, WC indicated that it anticipates these activities would be disrupted due to construction activities, which would overlap with hunting seasons and trapping activities. It is expected the Project construction activities would create land disturbance, affect access, and create nuisance effects. Some recreational activities would also be affected by the Project's effects on wildlife species, and fish and fish habitat.	Commitment to implement mitigation measures: • using route and site selection to avoid or minimize Project effects on sensitive environmental features and residential areas to the extent practical and establishing plans for alternate access routes to residential areas; • obtaining permits and approvals, as required; • using signs, construction access markers, and barriers where required, including placing warning signs 50 m upstream and downstream from construction sites along watercourse crossings; • maintaining access to established recreation features throughout construction, to the extent practical; • assisting in the safe passage of waterway users, completing instream activity as quickly as practical, complying with applicable notification requirements and confirming that vehicle crossings do not interfere with navigation at navigable watercourses or wetlands; • communicating the construction schedules with landowners and land users; • confining construction activities to the right-of-way and temporary workspace; • limiting disturbance to ornamental trees, windbreaks, and shelterbelts, to the extent practical; • providing compensation, as required and appropriate; • completing cleanup along the construction right-of-way promptly after construction; • following relevant soil-handling guidelines; • cleaning mud off access roads after equipment crossing; • advising if livestock are seen within construction right-of-way;

[39] C38105-1, 8.5.2.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
		• prohibiting construction personnel from all-terrain vehicle and snowmobile use, and hunting and recreational fishing on right-of-way and facility sites; • following existing tenure consultation agreements; • educating on protocols for crossing pipelines with trucks and heavy equipment; and • handling salvage wood appropriately. Conditions 9, 19, 38

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Heritage resources		
Project effects, mitigation, and monitoring[40]	Mitigation measures do not adequately account for the involvement of STSA's member Nations in managing heritage resources, such that the potential residual effects have not been properly identified and accounted for. It is important to involve Indigenous Peoples in determining appropriate protections for heritage sites. Notifying communities of heritage resource discoveries, a notification window is advisable (i.e. no more than 24 hours after discovery of the artifact). Indigenous communities that have dedicated monitors or guardians, or in the case of STSA a dedicated natural resources department (with environmental and cultural protection and stewardship in its mandate), WC must endeavor to inform these communities as soon as possible, with a minimum notification standard in line with the provincial archaeology branch. Importance of having monitors from their respective communities onsite during Project construction to ensure	Cultural Resource Discovery Contingency Plan - if a chance discovery of heritage resources is made, STSA's member Nations would be notified by WC within a reasonable timeframe or as per specific community requests and relevant STSA policies (Stó:lō Heritage Policy Manua) in addition to WC's established practices. 1. if an archaeology site is identified, is site avoidance. Avoidance may be achieved by, among other things, changing the footprint so that it no longer intersects the archaeological site, staking and flagging the archaeological site boundary for avoidance, matting the archaeological site, or using trenchless construction methods where practical. 2. suspending work in proximity to archaeological, paleontological or historical artifacts or sites (e.g., arrow heads, modified bone, pottery fragments, fossils) discovered during construction; clearly marking the discovery site with fencing, flagging, and signage installed along the buffer perimeter; pausing work at that location until permission is granted by the BC Ministry of Forests, Archaeology Branch and following the contingency measures identified in the Heritage and Cultural Resource Discover Contingency Plan in WC's EPPs and the Stó:lō Heritage Policy Manual; and ensuring that all necessary approvals are acquired before starting construction activities, and that all permit and approval conditions are adhered to. This includes, where avoidance cannot be

[40] C38105-1, 8.6.2.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	any potentially discovered heritage resources are handled properly	effected, obtaining the necessary approvals to clear a known heritage resource site and meeting applicable conditions (e.g., monitoring). Commitment to ongoing engagement with STSA and its member Nations on updating its EPPs, which includes its Heritage and Cultural Resource Discovery Contingency Plan. Stó:lō Research and Resource Management Centre, in collaboration with the STSA, has been guiding WC in the development and execution of a custom archaeology program in the area of the CS-8B to CS-9 and CS-9 to Huntingdon pipeline loops. Condition 9, 15, 11, 28, 19

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Infrastructure and services		
Project effects, mitigation, and monitoring[41]	Temporary workforce, would cause temporary effects on infrastructure and services, including: • increased demands on transportation infrastructure to access Project work sites, which could affect traffic volumes and result in increased maintenance costs; • physical disturbances to roads; • increased demands on water, wastewater, and solid waste management systems; • increased demands on emergency and healthcare services and facilities, potentially affecting the levels of service provided to local residents; • increased demands on accommodations; • increased demands on recreational facilities, affecting the availability, use, and enjoyment of those facilities by local residents and tourists; and • changes in demand for educational services	Commitment to notifying STSA and its member Nations and stakeholders involved in WC's engagement program of the construction schedule before commencing construction, or as otherwise required by crossing agreements and follow the mitigation measures identified in its Access Management Plan and Traffic Management Plan. Commitment to transporting, handling, using, and disposing of hazardous materials safely, following all applicable laws and its Waste Management Plan and Fuels and Hazardous Materials Spill Contingency Plan. Commitment to identifying and marking registered water wells within 100 m of the Project footprint and replacing the potable water supply if a well is damaged during construction. WC would sample and analyze domestic water intakes and wells, as part of its engagement with landowners. WC would also verify that adequate stream flow or volume is present for its wells testing programs. Commitment to making sure Project personnel are aware of emergency contact information included in its EPPs. WC would also notify local emergency service providers of the construction schedule and provide details for key Project contacts. Commitment to engage and coordinate with local authorities, service providers, and businesses on the issue

[41] C38105-1, 8.7.2.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
		of worker accommodation, as required, and committed to continuing engagement with local communities, governments, and stakeholders to address local requirements and concerns.
Employment and economy		
Project effects, mitigation, and monitoring[42]	Concerns from Indigenous Peoples that they may not receive satisfactory economic and employment benefits from the Project. Subsistence activities serving served spiritual, cultural, social, and economic systems founded in sharing resources from fishing, hunting, and gathering. Seabird Island Band and Stó:lō Peoples engaged in trade of dried fish, although Stó:lō Peoples have more recently begun participating in wage roles, shifting away from their traditional economic system. The evidence indicates that hunting, fishing, and trapping are no longer economically viable for Indigenous Peoples as the sole source of economic activity.	Commitment to use dedicated resources from its Supply Chain Indigenous Engagement team to implement and oversee the deployment of Enbridge's Socio-Economic Requirements of Contractors process for engaging STSA's member Nations' businesses. Requires the prioritization of businesses affiliated with STSA's member Nations based on proximity to Project work locations, as part of WC's contracting and subcontracting procurement strategy; • use dedicated personnel to engage with STSA and its member Nations about their interests and needs as it relates to skills, training, and employment. This support is intended to take place at an the community level of STSA's member Nations to assess community needs and goals, and to assist with community workforce development plans; • engage Indigenous Skills and Employment Training Strategy service delivery organizations across Project areas to create a common understanding of job and training requirements, and program offerings, that may support STSA's member Nations and non-Indigenous workers and reduce barriers to employment;

[42] C38105-1, 8.8.2.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	STSA expressed dissatisfaction with inadequate and/or short-term opportunities for economic inclusion, such as potential jobs, subcontracting, and procurement opportunities. Prioritizing Indigenous participation in Project enhancements on employment and economy, including through employment, contracting, procurement, and training opportunities.	• engage with Working Warriors, an Indigenous-owned business, which provides an online platform designed to connect Indigenous people with employment opportunities, training programs, and resources; and • support STSA and its member Nations with capacity requirements and training for STSA's member Nations' community members to participate in ongoing fieldwork as environmental team members and cultural guardians, as well as for future construction monitoring. Conditions 11, 12, 19, 28
PROJECT EFFECTS ON FEDERAL LANDS		
Environment		
Agricultural Land Reserve[43]	Seabird Island Band's reserve and Cheam First Nation's Tseatah 2 reserve. Cheam First Nation mentioned in their oral Indigenous knowledge session that the community has taken back control of all their agricultural lands and bought two farms to begin a regenerative farming initiative to feed their people and others locally. Concerns about decreased soil quantity and quality due to soil	EPPs and mitigation including salvaging soil and implementing contingency plans for erosion, sediment control, soil handling and spills. WC would implement a Fuel and Hazardous Material Spill Contingency Plan as mitigation for soil contamination. For Agricultural Land Reserve, WC may use minimal disturbance techniques to narrow the right-of-way width or trench width stripping to reduce the extent of disturbance to soils and vegetation. Commitment to monitor soil as part of the post-construction environmental monitoring program -

[43] C38105-1, 9.4.2.1.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	handling activities; compaction, rutting, or pulverization during construction activities; changes in contour following construction; and wind or water erosion after removing vegetation cover. Effects also include decreased soil quality due to the presence of bedrock and stones following construction, contamination from spot spills, and exposing already contaminated soils.	reclamation efforts and environmental rehabilitation are addressed through mitigation included in the EPPs.
Wetlands[44]	Potential Project changes to wetlands may occur on federal lands. Anticipated that these effects may occur on Seabird Island Band's reserve and Cheam First Nation's Tseatah 2 reserve.	Commitment to try to achieve no net loss of wetland function as set out in the *Federal Policy on Wetland Conservation*'s - developed mitigation according to the standard hierarchy – avoid, mitigate, restore, and, if warranted, offset. WC developed its mitigation measures in accordance with its standards, as well as industry and regulatory guidelines. Examples of mitigation measures to protect wetlands include installing signage at the riparian management areas around wetlands, delineating areas where riparian vegetation is to be maintained or salvaged, scheduling instream work during periods of anticipated low precipitation and runoff, and implementing best management practices to prevent deleterious materials or construction debris from entering wetlands. Conditions 9, 21, 39
Fish and fish habitat[45]	Project changes to fish and fish habitat may occur on federal lands, including	Implement established and proven mitigation measures and construction practices to avoid or reduce adverse

[44] C38105-1, 9.4.2.3.
[45] C38105-1, 9.4.2.4.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	the loss or alteration of fish and riparian habitats. In particular, there is an increased risk to fish health and mortality, of creating obstacles to fish movement, and of transferring invasive aquatic organisms between watersheds. Anticipates that these effects may occur on the McLeod Lake 5 reserve and Seabird Island Band's reserve. Cheam First Nation submitted that the Project runs adjacent to the Fraser River, which would increase sedimentation, change runoff, or create barriers to access and can adversely affect coho, chum, and trout habitat. Concerns by Cheam about effects on water and the environment that could affect Maria chinook and Christmas sockeye, which are unique to Maria Slough on their reserve. They also stated the need for offsetting requirements to ensure that the Project does not affect riparian restoration and efforts to reopen the slough to the river. Seabird Island Band also provided comments on flooding and erosion on their reserve lands, potential widening of Maria Slough, and their interest in flood and erosion mitigation for the Fraser River.	effects on fish and fish habitat and to protect riparian areas and maintain habitat quality, as outlined in its EPPs. Examples of measures that may be implemented include fish salvage by a qualified professional, complying with DFO's measures to protect fish and fish habitat, and avoiding clearing within riparian areas. The measures also include cleaning instream equipment and applying bank and riparian protection, reclamation measures as per WC's Site-Specific Watercourse Crossing Execution Plan, and measures associated with trenchless crossings. Commitment to scheduling instream work during periods of anticipated low precipitation and runoff, postponing crossings if excessive rain or flood conditions exist or are anticipated, and implementing its Flood and Excessive Flow Contingency Plan. WC committed to continued engagement with the Sumas Prairie Flood Mitigation Committee regarding the development of infrastructure and mitigation planning for largescale flooding events in the Fraser Valley. Conditions to 9, 21, 22

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
Rights of Indigenous Peoples		
Project effects, mitigation, and monitoring[46]	Cheam identified the effects of right-of-way "stacking" as a challenge in reviewing the Project because it highlights that they did not provide free, prior, and informed consent for the original pipeline and they have never been properly compensated for rights-of-way that have permanently and adversely impacted their reserve lands. Spiritual impacts on their members, who live with fear of explosions and the presence of natural gas on-reserve, resulting in limitations on future uses of the land, not just the rights-of-way but also the adjacent lands due to setbacks. The presence of the rights-of-way also restricts Cheam First Nation's preferred use of their reserve lands for member housing, cultural and spiritual uses, and for economic development. The exercise of traditional practices cannot occur within the pipeline right-of-way because the right-of-way area is disturbed. The Project runs next to the Fraser River, which can adversely	Conditions 9, 111, 12, 15, 16, 19, 28, 38 include requirements for WC to file information on its engagement and collaboration with Indigenous Peoples; how Stó:lō knowledge informed the condition filings; mitigation and enhancement measures related to Indigenous rights, land, and resource use; and specific roles Indigenous Peoples would have during pre-construction, construction, and post-construction activities. WC directed to specify in its condition filings whether any site-specific mitigation or enhancement measures were developed for the on-reserve Project components through negotiated agreements, and to describe the measures.

[46] C38105-1, 9.6.2.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	affect their fishing patterns and frequency relating to coho, chum, and trout.	
EFFECTS ON THE RIGHTS OF INDIGENOUS PEOPLE		
Project effects on the rights of Indigenous Peoples		
Change to quality, quantity, or distribution of resources[47]	Cheam First Nation is concerned about potential effects on food security. Plant and earth harvesting centers along the Fraser River. Concerns about the loss of fish populations jeopardizing communitywide harvesting, sustenance, and well-being.	• Locate extra temporary workspace to avoid sensitive environmental features, heritage, and cultural locations. • Confine construction activities to the approved construction rights-of-way and approved temporary workspace. Restrict construction traffic to existing roads, the construction rights-of-way, approved access roads, and shooflies. • Prohibit the recreational use of all-terrain vehicles and snowmobiles by construction personnel on the construction rights-of-way or at associated Project facility sites. • Install signage following clearing to alert workers of the presence of sites to be avoided or where special measures are necessary. • Craft inspectors, in collaboration with environmental inspectors, would re-confirm that feature markers installed during survey activities to identify site-specific resources are in place and are maintained throughout topsoil salvage and grading activities.

[47] C38105-1, 10.4.2.1; 10.5.1.1.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
		• Provide cultural awareness training to all workers and contractors employed on the Project. • Implement the mitigation measures associated with known traditional land and resource use sites. • Develop an communications protocol for notifying STSA and its member Nations of construction-related and cultural activities happening in the Project areas. • Notify STSA and its member Nations of reportable spills or inadvertent drilling fluid releases within their traditional territories. • Implement WC's post-construction environmental monitoring program.
Change in access to resources used or required to exercise rights[48]	Peters First Nation said that the health and access of the lands and resources within the area are imperative to their way of life. Tsq̓ ésceո̓ First Nation raised concerns about Project effects (e.g., habitat fragmentation, increased public access, and disrupted trapline access) that could threaten trapping. Xatśūll First Nation noted that maintaining access ensures intergenerational knowledge transmission, cultural continuity, and Indigenous rights. Industrial development pressures underscore the urgency of preservation, stewardship,	• Develop a communications protocol for notifying STSA and its member Nations of construction-related and cultural activities happening in the Project areas. • Before starting construction, notify representatives of STSA and its member Nations involved in WC's engagement program of the construction details and schedule to prevent or reduce effects on their operations or activities. Communicate schedule changes that could affect these communities in a timely manner. • Maintain access to established recreation features throughout construction, to the extent practical. • Prohibit the recreational use of all-terrain vehicles and snowmobiles by construction personnel on the construction rights-of-way or at associated Project facility sites. • Confine construction activities to the approved construction rights-of-way and temporary workspace. Restrict construction traffic to existing roads, the

[48] C38105-1, 10.4.2.2; 10.5.1.2.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	and the protection of these significant cultural landscapes. Yale First Nation wants to retain access to cultural sites without impeding the Project. They also raised concerns regarding existing pipeline right-of-way access management that provides the broader public with easy access to Yale First Nation's territory. This includes use by non-Indigenous hunters resulting in increased access and overhunting.	construction rights-of-way, approved access roads, and shooflies. • Use existing access to the extent practical, including existing municipal, provincial, industrial, and private roads. Upgrade and maintain roads to the applicable Project engineering/construction specification to accommodate construction equipment during the period of planned use. • If warranted, use signage, gates, and barriers to block unauthorized travel along the construction rights-of-way and access roads following clearing. Keep access blocked and assign security personnel, if warranted. • Where warranted, employ matting along access roads where potential for compaction and rutting exists (i.e., low-lying lands) or soil durability is anticipated to be poor. • Construct access roads using existing trails, where suitable. • Implement a series of identified mitigation measures when deactivating and reclaiming access roads. • WC proposed several other mitigation measures related to soil, vegetation, water quality and quantity, fish and fish habitat, wetland function, wildlife and wildlife habitat, and acoustic and atmospheric environments.
Change to, or disruption of, timing and seasonality of exercising rights[49]	Concerns about the broader effects of climate change on hunting grounds, medicinal grounds, and seasonal rounds.	• Develop a communications protocol for notifying STSA and its member Nations of construction-related and cultural activities happening in the Project areas. • Before starting construction, notify representatives of STSA and its member Nations involved in WC's engagement program of the construction details and schedule to prevent or reduce effects on their operations

[49] C38105-1, 10.4.2.3.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
		or activities. Communicate schedule changes that could affect these communities in a timely manner. • Consult the Line List regarding limitations to the placement of waste collection receptacles and portable toilets. Prohibit installing waste collection receptacles or portable toilets on sensitive land uses and environmental features. • Engage with representatives of STSA and its member Nations involved in WC's engagement program to seek alignment with Stó:lō land use plan objectives. • Engage with representatives of STSA and its member Nations involved in WC's engagement program to codevelop measures to avoid interference with cultural practices. • WC proposed several other mitigation measures related to soil, vegetation, water quality and quantity, fish and fish habitat, wetland function, wildlife and wildlife habitat, and acoustic and atmospheric environments.
Change to locations or areas of cultural importance where rights are exercised[50]	Concerns about changes to culturally important sites. Tsq̓ ésceṉ First Nation advised that sacred places, archaeological sites, named places, and ancestral trails are integral to Aboriginal title, cultural identity, and knowledge transfer. These require protection from disturbance. Project effects on their ability to fish, hunt, and gather plants, medicines, and berries are significant, as are	• Develop a communications protocol for notifying STSA and its member Nations of construction-related and cultural activities happening in the Project areas. • Before starting construction, notify representatives of STSA and its member Nations involved in WC's engagement program of the construction details and schedule to prevent or reduce effects on their operations or activities. Communicate schedule changes that could affect these communities in a timely manner. • Implement the mitigation measures associated with known traditional land and resource use sites.

[50] C38105-1, 10.4.2.4.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	effects on their ability to travel throughout their territory, their displacement from their territory, their ability to govern their title lands, and effects on Green Lake.	• Consult the Line List regarding limitations to the placement of waste collection receptacles and portable toilets. Prohibit installing waste collection receptacles or portable toilets on sensitive land uses and environmental features. • If sites not previously identified are discovered during construction, implement the contingency measures identified in the Traditional Land and Resource Use Sites Discovery Contingency Plan, which is included in the EPPs). • Notify STSA and its member Nations of reportable spills or inadvertent drilling fluid releases within their traditional territories.
Change to an Indigenous community's cultural traditions, laws, and governance systems[51]	Seabird Island Band, and Yale First Nation spoke of how their different worldviews share a common understanding that future generations are stewards of the land. Seabird Island Band has concerns about how the Project may impede future Indigenous land use plans that the community has developed, including their proposed Cultural Centre and Community Land Use Plan. Several Indigenous communities shared concerns about effects that development in general has had on	• Develop a communications protocol for notifying STSA and its member Nations of construction-related and cultural activities happening in the Project areas. • Engage with representatives of STSA and its member Nations involved in WC's engagement program to: o obtain applicable permits or approvals; o seek alignment with Stó:lō land use plan objectives; and o codevelop measures to avoid interference with cultural practices.

[51] C38105-1, 10.4.2.5.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	their cultural traditions, language, and way of life.	
Mitigation		
Additional Project-specific mitigation measures identified through ongoing engagement[52]	<u>Harvesting</u> Concerns regarding the protection of culturally important vegetation, including clearing and opportunities to pre-harvest traditional plants, berries, and medicines before starting construction (e.g., diamond willow, ragroot, bullrushes, medicinal plants, lichen for caribou, huckleberries).	WC provided Indigenous communities with notice and information on potential construction timelines, as well as shapefiles of early activities planned for the spring and summer of 2026, so Indigenous communities have the opportunity to locate and harvest those areas.
	<u>Community and cultural safety</u>	Engaging STSA and its member Nations to develop its Indigenous Cultural Awareness and Human Trafficking Prevention training, which would be mandatory for all Project staff. Input from STSA and its member Nations would guide actions that reflect community, gender, and cultural safety priorities. Community and Gender Safety Plan

[52] C38105-1, 10.5.1.6

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	Ongoing engagement and monitoring	Cultural Walk-Through Program and commitment to continue incorporating the Stó:lō knowledge gained through this program into Project planning. Commitment to include STSA and its member Nations in ongoing environmental field studies, offered cultural walk-throughs within Project areas of interest to them, and engaged in site-specific mitigation discussions for identified cultural sites of significance. This work would continue leading up to Project construction.
	Access and traffic management Concerns about the need for further access management planning, including how to manage a potential increase in use of access roads by non-Indigenous hunters.	Commitment to engaging STSA and its member Nations further regarding a potential access management plan. Commitment to implement a traffic management plan in response to Kelly Lake First Nation's and Seabird Island Band's concerns regarding increased construction traffic and vehicles.
	Cultural preservation Peters First Nation submitted that more Indigenous-centric, community-specific mitigation and response measures are required to address concerns related to social and cultural well-being.	Commitment to continue engaging STSA and its member Nations regarding socio-economic effects, including through socio-economic community roundtables, to understand how to best mitigate those effects, while being cognizant that effects on social and cultural well-being may vary by community.
Indigenous-led assessments or studies[53]	Concerns from Indigenous intervenors regarding the opportunities available to complete an Indigenous-led assessment or study during the hearing process, and about how the	Commitment to continue working with STSA and its member Nations to incorporate the ICA and additional studies as they become available, including to identify agreed-upon mitigation measures, have them incorporated

[53] C38105-1, 10.5.3.1.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	results of those assessments or studies would be incorporated into the Commission's assessment on the Project. WC should not unilaterally determine the weight or relevance of Indigenous Peoples' findings. Rather, the Commission should require that all Indigenous-led assessments or studies, including those undertaken by Indigenous communities, be received, reviewed, and applied as independent and authoritative evidence in the Commission's report. Concerns from about inability to complete their traditional land and resource use study in time to be considered through the hearing process.	into the Project plans, and track concerns raised through the Community Interest and Response Tables. Condition 15 requires WC to report on the status of the outstanding ICA or studies that are underway or planned. Through this condition, WC would be required to describe, before starting construction, how it would integrate any assessment findings into the Project, as WC continues to refine the Project's design. This includes any Project-specific mitigation measures that WC and STSA and its member Nations may agree upon as a result of the ICA or additional studies, as well as any revisions that may be required to other plans for the Project.
Indigenous monitoring and oversight[54]	STSA expressed an interest in an updated construction plan, monitoring methods, and recommended screening during low water table. Concerns about the need to be involved in monitoring activities and programs related to construction and post-construction activities and about	WC explained that it developed a Cultural Walk-Through Program for each Project component. The intent of this initiative is to complement the ongoing collection and integration of Stó:lō knowledge into Project planning, and to continue identifying any culturally significant areas or sites that should be considered and that may be added to the EPPs and within the draft Indigenous Monitoring Plan, as appropriate.

[54] C38105-1, 10.5.5.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	defined roles for Indigenous environmental and cultural monitors. Indigenous participants shared their interest in helping to shape the monitoring plans being developed for the Project. They provided views on key roles that would be required, including cultural and land guardians, resource specialists, and environmental and archaeological monitors. They also noted the importance of Indigenous monitors in ensuring that regulatory standards and outcomes related to the protection of both rights and environmental effects are achieved. Leq'á:mel First Nation explained that they have well-trained cultural guardians and environmental monitors with degrees in wildlife and biology available for subcontract work. They noted the importance of involving cultural guardians in post-construction environmental monitoring and reclamation work. Cheam First Nation requested the inclusion of water and wildlife technicians and Cheam First Nation's guardian program in ongoing field studies. They argued that they require and opportunity to adequately review	• WC submitted that it was developing the draft monitoring plan and that the ICA or additional studies and pending cultural walk-throughs are key sources of information that would directly inform the plan. WC acknowledged Indigenous communities' engagement capacity constraints, in particular over the summer months, and the importance of taking the necessary time to engage with them to design and scope the draft monitoring plan. • WC confirmed that the monitoring plan would be adaptive, incorporate Stó:lō knowledge, support training and employment, and include community-specific monitoring during construction and the implementation of protection measures. • WC confirmed that it would incorporate STSA and its member Nations' input and recommendations into the monitoring plan prior to filing it with the CER.

SUBJECT	STSA OR OTHER CONCERNS	WESTCOAST COMMITMENTS
	and to be consulted by the CCC and WC on construction and post-construction monitoring, including the development of the monitoring program in conjunction with WC in a process funded by WC.	

Appendix B

Westcoast and STSA Co-developed and Applicable Materials

This appendix contains the Westcoast and STSA co-developed materials that inform and support the findings and recommendations presented throughout the Integrated Cultural Assessment. Reference information for each document, including version / document status, is provided in the below table for reader convenience.

Document	Reference Information
Resource Specific Mitigation Tables (RSMT) and Environmental Alignment Sheets (EAS)	*STSA-Westcoast co-produced drafts as of March 20, 2026.
Environmental Protection Plans (EPP)	*STSA-Westcoast co-produced drafts as of March 20, 2026.
Site Cards and Field Plans	*STSA-Westcoast co-production drafts as of March 20, 2026
Watercourse Crossing Plan	*STSA-Westcoast co-production draft report as of March 13, 2026.
Construction Alignment Sheets	*STSA-Westcoast co-produced drafts as of March 20, 2026.
Construction Plans	*STSA-Westcoast co-produced drafts as of March 20, 2026.
Cultural Heritage Overview Assessment (CHOA)	*State of completion as of June 11, 2025.
Cultural Heritage Impact Assessment (CHIA)	*State of completion as of March 20, 2026.
Chance Finds Procedure	*Per STSA as included in the ICA Conditions March 27, 2026.

22 - REFERENCES

Almond, G. A., & Powell, G. B. (1966). Comparative Politics: A Developmental Approach. Boston, MA: Little, Brown and Company.

Armstrong, C. G., Lyons, N., McAlvay, A. C., Ritchie, P. M., Lepofsky, D., & Blake, M. (2024). Historical ecology of forest garden management in Laxyuubm Ts'msyen and beyond. *Agroforestry Systems, 97*(1), 1–15. https://doi.org/10.1007/s10457-024-01096-2

Blumer, H. (1969). Symbolic interactionism: Perspective and method. Prentice-Hall, U of Michigan.

Bourdieu, P. (1977). *Outline of a theory of practice*. Cambridge University Press.

Canada Royal Commission on Aboriginal Peoples. (1996). *Looking forward, looking back: Report of the Royal Commission on Aboriginal Peoples* (Vol. 1). Canada Communication Group. https://data2.archives.ca/e/e448/e011188230-01.pdf

Carlson, K. (2010). *The power of place, the problem of time: Aboriginal identity and historical consciousness in the cauldron of colonialism*. University of Toronto Press.

Carlson, K. T. (2001). Expressions of collective identity. In K. T. Carlson (Ed.), *A Stó:lō Coast Salish historical atlas* (pp. 24–29). Douglas & McIntyre.

Crey, E. (1993). *Address to "Action agenda for self government" conference* [Speech]. Stó:lō Government House Records, Stó:lō Nation Fisheries.

Environment and Climate Change Canada. (n.d.). *General nesting periods of migratory birds*. Government of Canada. https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html

Fisheries and Oceans Canada. (2025). *Fish, floods and habitat connectivity in the Lower Fraser*. https://www.dfo-mpo.gc.ca/publications/habitat/highlights-faitssaillants/pac/connectivity-connectivite-eng.html

Fisheries and Oceans Canada. (2020). *Recovery strategy for the Salish Sucker (Catostomus sp. cf. catostomus) in Canada* (1st amendment). Fisheries and Oceans Canada. https://www.sararegistry.gc.ca/

Fisheries and Oceans Canada. (2025). *Region 2 – Lower Mainland: Recreational salmon fishing limits, openings and closures*. Government of Canada. https://www.pac.dfompo.gc.ca/fmgp/rec/freshdouce/region2eng.html

Garibaldi, A., & Turner, N. J. (2004). Cultural keystone species: Implications for ecological conservation and restoration. *Ecology and Society, 9*(3), Article 1. https://www.ecologyandsociety.org/vol9/iss3/art1/

Government of British Columbia. (2004). *Flood hazard map user guide* (Integrated Flood Hazard Management). https://www2.gov.bc.ca/assets/gov/environment/air-

land-water/water/integrated-flood-hazard-mgmt/flood_hazard_map_user_guide.pdf

Government of British Columbia. (2026). *Riparian Areas Protection Regulation (RAPR)*. https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/fish/aquatic-habitat-management/riparian-areas-regulation

Human Environment Group (1999) Indicators of Cultural Change (1960-2009): *A framework for selecting indicators based on cultural values in Fort McKay*. Prepared for Fort McKay Industry Relations Corporation.

Kass, M. D., Sluder, C. S., & Kaul, B. C. (2021). *Spill behavior, detection, and mitigation for emerging nontraditional marine fuels* (Report No. DTMA91X20A65). Oak Ridge National Laboratory; U.S. Department of Transportation, Maritime Administration. https://rosap.ntl.bts.gov/view/dot/56542

Labun, E. R., & Emblen, J. (2007). Health as balance for the Stó:lō Coast Salish. *Journal of Transcultural Nursing, 18*(3), 208–214. https://doi.org/10.1177/1043659607301298

Lepofsky, D., Lertzman, K., Hallett, D., & Mathewes, R. (2005). Documenting ancient plant management in the Northwest of North America. *Botany, 83*(2), 129–145. https://doi.org/10.1139/b05-004

Lloyd, S. (2009). Agricultural expansion and its effects on culturally significant plants: A regional analysis. *Environmental Management Review, 33*(4), 456–470.

Miller, B. D. (2011). *Cultural anthropology in a globalizing world* (3rd ed.). Pearson.

Ned, M. (n.d.). *Future of fish and fisheries* [PowerPoint slides]. Lower Fraser Fisheries Alliance.

Oilpaw Environmental Services Inc. (2026). *Watercourse impact avoidance and mitigation assessment: Summary of recommendations* [Unpublished draft report]. Stó:lō Research and Resource Management Centre.

Pusey, B. J., & Arthington, A. H. (2003). Importance of the riparian zone to the conservation and management of freshwater fish: a review. *Marine and freshwater Research*, *54*(1), 1-16. https://doi.org/10.1071/MF02041

Schaepe, D. (2001). Stó:lō communication and transportation routes, c. 1850. In K. T. Carlson, D. Schaepe, & K. L. Galois (Eds.), *A Stó:lō Coast Salish historical atlas* (pp. 12–16). Douglas & McIntyre; University of Washington Press; Stó:lō Heritage Trust.

Schaepe, David M. (2009). *Pre-colonial Stó:lō -Coast Salish community organization: an archaeological study*. [Doctoral thesis] Department of Anthropology, UBC: Vancouver.

Schaepe, D., Stamp, J., Berkey, M. and Halstad, T. (2004). Sumas Energy 2 Inc. *Traditional Use Study Phase Two: Stó:lō Cultural relations to air and water.* Unpublished document on file in the Stó:lō Nation Archives, Chilliwack.

Schaepe, D., Smith, J., & Johnson, L. (2004). Traditional gathering practices and their impact on social wellbeing and health. *Journal of Indigenous Studies, 18*(3), 45–63.

Stó:lō Nation Lalems ye Stó:lō Si:ya:m. (2003). *Stó:lō heritage policy manual*. https://thestsa.ca/wp-content/uploads/2020/01/Stolo-heritage-Policy.pdf

Stó:lō Research and Resource Management Centre. (2024). *Cultural heritage overview assessment* (Project No. H2024-015) [Unpublished report prepared for Westcoast Energy Inc.]. Stó:lō Library and Archives.

S'ólh Téméxw Stewardship Alliance. (2015). *S'ólh Téméxw stewardship alliance land use consultation and decisionmaking policy*. https://thestsa.ca/wp-content/uploads/2020/02/Solh-Temexw-Stewardship-Alliance-Land-Use-Consultation-and-Decision-Making-Policy-Approved-January-2015-1.pdf

S'ólh Téméxw Stewardship Alliance. (2018). *S'ólh Téméxw use plan policy (v1.1)*. https://thestsa.ca/wp-content/uploads/2020/01/Solh-Temexw-Use-Plan-Policy.pdf

S'ólh Téméxw Stewardship Alliance. (2020). *Strategic Engagement Agreement: STSA SEA agreement consolidated 2020 summer minor amendment*. https://thestsa.ca/wp-content/uploads/2020/03/STSA-SEA-Agreement-consolidated-2020-Summer-Minor-Amendment.pdf

S'ólh Téméxw Stewardship Alliance. (2019). *STSA terms of reference framework*. https://thestsa.ca/wp-content/uploads/2020/02/STSA-Terms-Of-Reference.pdf

Taylor, C. (1985). *Philosophical papers: Volume 2, philosophy and the human sciences* (Vol. 2). Cambridge University Press.

TerraFauna Wildlife Consulting Inc. (2026). *S'ólh Téméxw terrestrial values report: Baseline review, impact considerations, and restoration opportunities relating to the Westcoast Energy GP Inc. Project* [Unpublished report]. Stó:lō Research and Resource Management Centre.

Ts'elxwéyeqw Tribe Management Limited, Human Environment Group, and Stó:lō Research and Resource Management Centre. (2013). *Appendix A: Indicator Report for the Integrated Cultural Assessment for the Proposed Trans Mountain Expansion Project.*

Ts'elxwéyeqw Tribe Management Limited, Stó:lō Research and Resource Management Centre, and Human Environment Group. (2014). *Integrated Cultural Assessment for the Proposed Trans Mountain Expansion Project*. http://www.theheg.com/wp-content/uploads/2016/05/Stolo-Chapter-1-to-11-Integrated-Cultural-Assessm…

Turner, N. J. (2014). *Ancient pathways, ancestral knowledge: Ethnobotany and ecological wisdom of Indigenous peoples*. McGill-Queen's University Press.

United Nations. (2007). *United Nations Declaration on the Rights of Indigenous Peoples* (A/RES/61/295). United Nations. https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf

Victor, W. M. (2012). *Xexá:ls and the power of transformation: The Stó:lō, good governance and self-determination* [Doctoral dissertation, Simon Fraser University]. https://summit.sfu.ca/_flysystem/fedora/sfu_migrate/13597/etd7544_WVictor.pdf

Wellman, G. W., Melof, B. M., Luketa-Hanlin, A. J., Hightower, M. M., Covan, J. M., Gritzo, L. A., & Morrow, C. W. (2004). *Guidance on risk analysis and safety implications of a large liquefied natural gas (LNG) spill over water* (No. SAND2004-6258). Sandia National Laboratories. https://doi.org/10.2172/882343

Westcoast Energy Inc. (2024a). C29824-22 Appendix 8-1: Environmental and socio-economic assessment report (Part 1 of 8). Canada Energy Regulator. https://apps.cer-rec.gc.ca/REGDOCS/File/Download/4457651

Westcoast Energy Inc. (2024b). C29824-23 Appendix 8-1: Environmental and socio-economic assessment report (Part 2 of 8). Canada Energy Regulator. https://apps.cer-rec.gc.ca/REGDOCS/File/Download/4458410

Westcoast Energy Inc. (2024c). C29824-24 Appendix 8-1: Environmental and socio-economic assessment report (Part 3 of 8). Canada Energy Regulator. https://apps.cer-rec.gc.ca/REGDOCS/File/Download/4457981

Westcoast Energy Inc. (2024d). C29824-25 Appendix 8-1: Environmental and socio-economic assessment report (Part 4 of 8). Canada Energy Regulator. https://apps.cer-rec.gc.ca/REGDOCS/File/Download/4457861

Westcoast Energy Inc. (2024e). C29824-26 Appendix 8-1: Environmental and socio-economic assessment report (Part 5 of 8). Canada Energy Regulator. https://apps.cer-rec.gc.ca/REGDOCS/File/Download/4458212

Westcoast Energy Inc. (2024f). C29824-27 Appendix 8-1: Environmental and socio-economic assessment report (Part 6 of 8). Canada Energy Regulator. https://apps.cer-rec.gc.ca/REGDOCS/File/Download/4458116

Westcoast Energy Inc. (2024g). C29824-28 Appendix 8-1: Environmental and socio-economic assessment report (Part 7 of 8). Canada Energy Regulator. https://apps.cer-rec.gc.ca/REGDOCS/File/Download/4458305

Westcoast Energy Inc. (2024h). C29824-29 Appendix 8-1: Environmental and socio-economic assessment report (Part 8 of 8). Canada Energy Regulator. https://apps.cer-rec.gc.ca/REGDOCS/File/Download/4458306

Westcoast Energy Inc. (2024i). C298264 Appendix 81ESA: Appendix H – Aquatics Technical Data Report (Part 1 of 29) – A8Y4W7. Canada Energy Regulator. https://apps.cer-rec.gc.ca/REGDOCS/File/Download/4457987