

Tl'azt'en
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Traditional
Knowledge
Study

Prince Rupert Gas Transmission Project
Regulatory Traditional Knowledge Study

Final Report

Prepared for:
PRGT - TransCanada Corporation
British Columbia Environmental Assessment Office
British Columbia oil and Gas Commission
June 2014
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This project had been a cooperative undertaking between Tl'azt'en Nation and Pacific Heritage Research.



Terms Used in this Report

This is a study of Tl'azt'en land use interests and associated Aboriginal rights, and not of traditional use. The term “traditional”, as typically applied to studies like this one, is a misleading concept that suggests outdated habits frozen in time, and carries colonial baggage that we prefer to leave behind. Tl'azt'en land use may be traditional in the sense that it is rooted in tradition, but the use itself is current, and is critical to supporting the culture and identity of Tl'azt'enne. The distinction is not just semantic: “traditional” land uses and Aboriginal rights are inextricably bound, and both are protected by Section 35 of Canada's constitution.

Glossary

Keyoh – territories used and managed by specific extended families within the larger Tl'azt'en territory

Tl'azt'en – the nation

Tl'azt'enne – a person or people belonging to Tl'azt'en Nation

Koh – river, creek or stream

Abbreviations

BCEAO – British Columbia Environmental Assessment Office

BCOGC – British Columbia Oil and Gas Commission

EA – Environmental Assessment

PRGT – Prince Rupert Gas Transmission line

TK – traditional knowledge

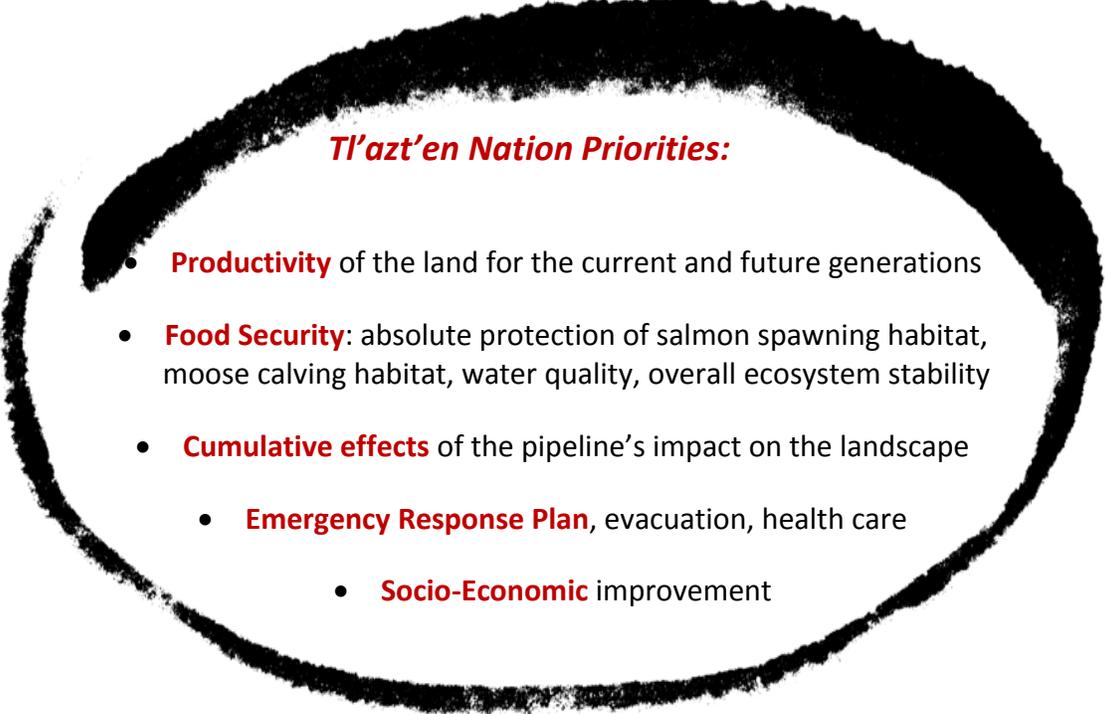
TEK – traditional ecological knowledge

TLUS – traditional land use study

Executive Summary of Tl'azt'en Interests in the PRGT Project

"We want BC to keep our country nice and clean." (3-2)

The following topics emerged repeatedly throughout our interviews with keyoh (family territory) holders and family members:



Tl'azt'en Nation Priorities:

- **Productivity** of the land for the current and future generations
- **Food Security:** absolute protection of salmon spawning habitat, moose calving habitat, water quality, overall ecosystem stability
- **Cumulative effects** of the pipeline's impact on the landscape
 - **Emergency Response Plan**, evacuation, health care
 - **Socio-Economic** improvement

The overriding priority of participants is that the land be preserved for their children, and grandchildren as a trust for the future, to ensure the survival of Tl'azt'en cultural identity and subsistence practices. Keyoh holders have a strong sense of stewardship toward the land, water, air, wildlife, and the people who depend on them, and a have a clear feeling of duty to protect the keyoh's ecological integrity. **Environmental protection** and **economic improvement** are closely tied to **food security** concerns in the short and long term. Finding balance between the environment, the economy, and the constitutionally-enshrined rights of Tl'azt'enne is a grave responsibility that must be shared between all parties involved in this project.

Table 1. Tl'azt'en criteria and indicators relating to the proposed PRGT project.

Criteria	Tl'azt'en Values	Indicators
Ecological sustainability	unpolluted land for the future	<ul style="list-style-type: none"> • most stringent environmental management plan
	moose: healthy and stable population and habitat protection	<ul style="list-style-type: none"> • avoidance of critical moose habitat • minimize disturbance to wildlife(e.g. noise, duration) • moose survey and population studies • mitigate increased hunting pressure due to increased access
	salmon: healthy and stable populations and habitat protection	<ul style="list-style-type: none"> • avoidance of critical spawning habitat • annual water quality, spawning habitat and stream assessments
	furbearers: healthy and stable populations, protection of critical habitat features	<ul style="list-style-type: none"> • minimize habitat loss: avoid harvest of spruce and Douglas-fir • minimize disturbance to wildlife(e.g. noise, duration) • mitigate increased hunting pressure due to increased access
	culturally significant food & medicine plant species	<ul style="list-style-type: none"> • minimize habitat loss • vegetation inventory to assess habitat change
	Effective emergency response program	<ul style="list-style-type: none"> • preparedness for worst case scenario accidents and malfunctions
Economic sustainability	Employment	<ul style="list-style-type: none"> • prioritized local hiring • reduced barriers to access • partner with Tl'azt'en Nation for contracting and procurement
	Training and education	<ul style="list-style-type: none"> • proponent-supported training opportunities
	Capacity for continuity and development	<ul style="list-style-type: none"> • reliable, perpetual opportunities • support for new initiatives
	Compensation for infringement of Aboriginal rights	<ul style="list-style-type: none"> • shared responsibility for infringements (Crown involvement) • acknowledgement of cumulative impacts
Social sustainability	Functional community institutions	<ul style="list-style-type: none"> • communication and negotiation within keyoh system • construction & monitoring employment by keyoh system • support of community initiatives
	Respectful relationships	<ul style="list-style-type: none"> • include all community groups (youth, women, Elders) • dispersal of benefits to all groups • reliable, open communication
	Capacity for continuity and development	<ul style="list-style-type: none"> • stable communication lines
Procedural sustainability	Fair and effective decision-making	<ul style="list-style-type: none"> • maximize meaningful, practical opportunities for input into the processes (decision-making, implementation and evaluation) • respect and work within Tl'azt'en traditional roles and systems • commit to improvement of human capital and partnerships
	Free, prior and informed consent	<ul style="list-style-type: none"> • maximize communication opportunities • prioritize sharing the best available information
	Management effectiveness	<ul style="list-style-type: none"> • intensive oversight of contracting and hiring practices • shared oversight of construction and maintenance impacts
	Honest accounting of cumulative impacts	<ul style="list-style-type: none"> • rigorous, realistic cumulative-impact assessment strategy

(borrowing from Sherry et. al's 2005 local-level criteria and indicators for sustainable forest management)

***“If you lose your identity, your home,
then you're lost forever. And I don't
want my grandchildren, their children
to be lost and have no roots.
I have a root – right there!” (2-1)***



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Introduction

This report summarizes the results of the Tl'azt'en Nation's 2013-2014 regulatory Traditional Knowledge assessment of the proposed Prince Rupert Gas Transmission pipeline (PRGT) project. Initiated in November 2013, the study was designed to document the views and concerns of the people within our territory whose lives are most likely to be affected by the pipeline, and can therefore be described as a **Tl'azt'en land users** study. Our focus on the anticipated effects of this pipeline on our territory and our people serves the sovereign interests of Tl'azt'en Nation in communicating our position to the project proponent, TransCanada Corporation, and its regulators, the BC Oil and Gas Commission (BCOOG) and the BC Environmental Assessment Office (BCEAO).

The study report is presented in four major parts:

Part One is an overview of the proposed development project, PRGT, the nature of Indigenous knowledge and its role in regulatory processes, and the methods used in this particular study.

Part Two provides the context for understanding the Tl'azt'en interests in the project, focusing on the connection with the land. It describes the physical territory, history, culture, contemporary land uses and traditions, and a summary of relevant land use changes that have shaped today's Tl'azt'enne and their territory.

Part Three presents the project-specific concerns, observations, and interests raised by participants in the study, organized to reflect the British Columbia Environmental Assessment Office's five pillars of environmental assessment: ecological, social, economic, health, and heritage.

Part Four briefly addresses the Tl'azt'enne experience with the initiation of this project and the regulatory approvals process. It is included to encourage all parties to consider the sustainability of the existing process and the quality of the relationships it fosters.

1 Overview

1.1 The Prince Rupert Gas Transmission project

The TransCanada Corporation is proposing to construct and maintain the Prince Rupert Gas Transmission pipeline, intended to carry sweet natural gas over 900 km from northeast BC to the Pacific coast for compression and export to overseas markets (PRGT 2014a, 2014b). Should it be permitted, the pipeline is expected to cross approximately 90 kilometers of Tl'azt'en Nation's unceded traditional territory (Figure 1).

The pipeline will deliver up to 101.9 million m³ of gas per day on behalf of Progress Energy, a Canadian-based gas company owned by Petronas, an energy giant wholly owned by the Malaysian government. According to the proponent's provisional timeline, construction is expected to begin in 2015.

The portion of the PRGT project in Tl'azt'en Territory will consist of:

- 48" pipe embedded in a trench about 1 m deep
- construction right-of-way ranging from 40 m to 100 m wide
- watercourse crossings by trench or horizontal directional drilling (HDD)
- one compressor station
- temporary infrastructure such as access roads, temporary bridges, stockpile sites, borrow sites, contractor yards and construction camps

The pipeline burial, proposed sub-riparian waterway crossing drilling, camp/facilities construction and maintenance, and the maintenance of an unforested right-of-way are anticipated to have short- and long-term consequences for the land, air and water that support all life in the territory.

Additional information about the PRGT pipeline can be found on the proponent's project website, www.princerupertgas.com.

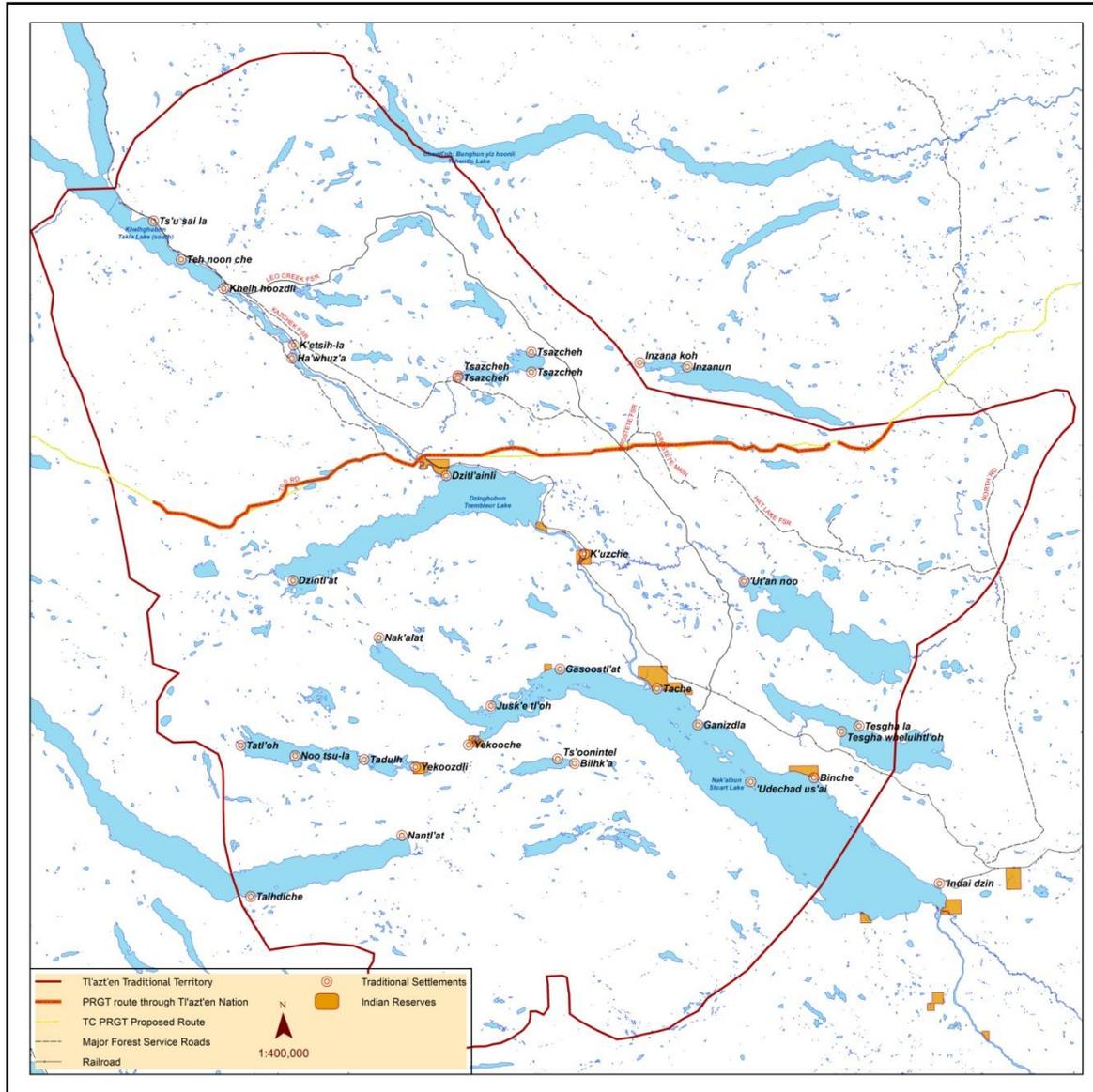


Figure 1. Overview map of Tl'azt'en traditional territory showing proposed PRGT route.

IMPORTANT ROUTING NOTE

Information collected for this assessment was undertaken using the proposed PRGT pipeline alignment made available to Tl'azt'en Nation in October, 2013 (Figure 1). Subsequent routing alterations and/or infrastructure location decisions (camps, roads, etc.) resulting in substantive changes to project footprint may require additional TK assessment, to be determined by Tl'azt'en Nation in consultation with the proponent and regulators.

1.2 Traditional Knowledge and the Regulatory Process

As stewards of this land, Tl'azt'en Nation is undertaking community-driven assessment to determine the ecological, social and economic effects of this pipeline project from the perspective of those who live there. Indigenous knowledge will be used in the Environmental Assessment (EA) process to understand and assess potential effects on subsistence activities, access to the land, heritage and other culturally important sites, species important to traditional activities and the habitats they depends on.

What is Traditional Knowledge?

Traditional knowledge (TK) is knowing the land. It is the information held by a community about the environment—biophysical, social, cultural—in which they live. It consists of an understanding of the properties, function, and value of all parts of the ecosystem, *and the techniques for using and managing them.* TK is:

- based on teachings and experiences passed on from generation to generation
- grounded in the profound spiritual and cultural connection to place
- an understanding of the sacred interconnection between all components of the social, biophysical and spiritual environment
- a way of life—it is using the heart and the head together
- a traditional knowledge system that sets out rules for culturally appropriate use

TK is sometimes referred to as Traditional Ecological Knowledge (TEK), or the study of Traditional Land Use and Occupancy (TLUO). There are, however, important distinctions. TEK pertains specifically to the biophysical components of the environment that environmental assessments tend to address such as air quality, water quality and quantity, wildlife fecundity, and so on. TLU, while connected to and dependent on detailed knowledge of the environment, is the use of the air, land, water, wildlife and plants to support and sustain living communities of people who identify as Aboriginal.

TK in a Regulatory Role

TK can be used to formulate the community's recommendations about if and how a project should be designed, constructed, operated and maintained. Provided during the environmental assessment period, this information can help reduce the environmental, social, and legal risk associated with negative effects of a project.

According to proponents and regulators, TK can contribute to regulatory assessment in a fluid way throughout the environmental assessment and subsequent regulatory approval processes to “help ensure that the proposed Project identifies and addresses issues of concern to Aboriginal groups” (PRGT 2013). We have made recommendations on how to proceed ***should the pipeline receive regulatory approvals*** for construction and operation.

1.3 The TI'azt'en Traditional Knowledge Study

The 2013-2014 TI'azt'en Traditional Knowledge study is a community-led project to research the land, its resources, and their management. It is a regulatory study in response to the proposed Prince Rupert Gas Transmission project.

Goals

The main goal of this TK study is to support TI'azt'en Nation's informed engagement in the environmental assessment process for the proposed Prince Rupert Gas Transmission project. The study will encourage the community to advise regulators and proponents on such aspects as routing, timing, sensitive habitat and community harvesting locations, social and economic interactions, and community health and safety.

It is an opportunity for the community to weigh the costs and benefits of the pipeline with specific attention to potential impacts to Aboriginal rights, title, and interests.

Guiding Principles

The collection and use of TK for this study were guided by the following principles, adapted from World Intellectual Property Organization (WIPO) guidelines (2001), and built upon by professional experience and the principle of free, prior and informed consent:

- Study personnel serve as consultant-facilitators and help scope, design and execute the assessment in a community-driven manner;
- Community leadership, in consultation with community members, select the sample/participant cohort;
- Participation in the study is voluntary;
- TK is fully documented and reported;

- TK is the intellectual property of individual participants and, collectively, the community;
- Decisions about distribution and release of this material are those of participants and leadership;
- Use of TK in the EA by the proponent requires formal permission of the community;
- Study results are reviewed and verified by participants before release of the report; and
- Proponents may respond to the report, but original comments, recommendations and content approved for release by the community must remain unchanged.

1.3.1 Methods

The Tl'azt'en Nation TK study is qualitative, evaluative and participant-oriented, aiming to inform decision-making through feedback. Our study centres on the five Tl'azt'en keyoh directly affected by the proposed PRGT project. Our sources include oral testimony of community members, a robust body Traditional Land Use information developed over many years by Tl'azt'en staff and members, and documentary references.

The study cohort of 54 people is a peer-nominated, purposive sample of land users and knowledge holders from each of the affected keyoh and the wider community. They are range of people that represent the broader community: Elders and youth, men and women, employed, unemployed, and self-employed, with and without families to support, those who use the land intensively and those who use it occasionally, people who have spent their entire lives in the territory and those who have returned from time spent elsewhere. Thirty-nine people attended our 2013 TK assessment interviews. Input from another 15 people was drawn from information shared in previous interviews, project-related meetings, and during field assessments. In this report, participant names have been coded to support confidentiality, freedom of speech and freedom from hardship due to participation. Numbers and letters in brackets after quotes (e.g., 6-2, F-9) are the source participant codes.

Research materials were developed for this study with goal of supporting free, prior and informed consent. They include available visual and written project information, an interview guide and consent form developed from professional experience, world intellectual property standards, and the expectations of keyoh holders (see WIPO 2001). Digital voice recordings, field notes and maps were used for data collection during this study. Interviews were recorded and

transcribed verbatim for use in the final report. Individual 1:40,000 scale and 1:100,000 scale mark-up maps were used for spatial data collection. Following interviews, mark-ups documented on maps are compiled, cross-referenced with the interview transcript, and digitized using ESRI geographic information system software.

Interviews were conducted in Tache in November and December 2013, with family groups (n=9) and with individuals (n=4). Information packages about PRGT and the TK study were delivered to participants prior to interviews. Interviews began with an overview description of the PRGT project and the review and signing of consent forms. Interviews were semi-structured in nature, and utilized a general interview guide of potential topics of concern to the community and of interest to regulators. During interviews, participants were encouraged to lead discussion to topics they deemed significant, and were asked to provide recommendations for mitigation, compensation and restitution measures with respect to identified potential project effects. Interviews were transcribed verbatim, verified by the TK study's language experts, and coded by subject.

Fieldwork was not a major component of this study due to practical considerations of winter fieldwork. The timeline for the study precluded multi-season surveys that would be required to collect sufficient site data. The budget structure discouraged multiple, failed attempts at field work that are a feature of inclement weather situations. Fieldwork will be required to fulfill many of the recommendations in this report, and we anticipate working with PRGT to better plan for summer fieldwork opportunities.

Information exchange was a significant part of the study in an effort to support informed engagement. The TK team fielded questions intended for the proponent and provided answers to the community through meetings and newsletters. We also maintain a project-specific website for this purpose, tlaztentk.ca.

Review and verification of the TK assessment data took place at a invitation-only TK study meeting on March 17th, 2014 in Tache. Participants and their families discussed the contents of this final report, validated the findings of the TK assessment, and contributed additional critiques of the report, the PRGT project, and the regulatory review process.

Participants in this traditional knowledge study and traditional use **informants** include:

Alexis, Rosie (deceased)*	John, Edgar	Moore, Darryl
Austin, Janice	John, Simon	Morris, George
Austin, Richard	John, Vincent	Murdock, Steven
Austin, Theresa	Johnnie, Helen	Murray, Amy
Dionne, Nellie	Johnnie, Theodore	Pierre, Art
Duncan, Barry	Johnnie, Thomas	Pierre, Carolyn
Duncan, Ronald	Joseph, Alex	Pierre, Cheryl
Felix, Bertha	Joseph, Chad	Pierre, Margie
Felix, Josephine	Joseph, Gammale	Pierre, William
Felix, Isaac	Joseph, Henry C.	Prince, Daniel
Felix, Philip	Joseph, Shane	Rivard, Charlie
Felix, Ronnie	Joseph, Walter Jr.	Rivard, Jack
Felix, Tony	Mitchell, Renel	Thomas, Celestine*
Hanson, Marie	Mattess, Annie	Tom, Fabian
Hanson, Robert (deceased)*	(deceased)*	Tom, Jarrod
Holmes, Jessica	Monk, Gloria	Tom, Stanley
John, Bernadette	Monk, Ronald	William, Justyne
	Monk, Petrinia	William, Paul

(* interview testimony taken from Tl'azt'en 1994)

Support for and participation in this study by individuals and Tl'azt'en staff and government should not be construed as support for the PRGT project. Tl'azt'enne participated freely in this study to exchange information with the proponent and the regulators on an issue of great concern to the entire community.

1.3.1 TK Study Scope

The TK study area encompasses the lands and waters subject to potential direct or indirect effects of the PRGT project in Tl'azt'en territory, and includes the project footprint (primary facilities and related sites, staging areas, compressor station, ancillary structures), surrounding landscapes, and any major or minor watercourses in proximity to the Project. Geographic scope is based on the opinions and experiences of TK holders.

The temporal scope of the study is also judgmental and context-dependent. We consider current, historic and future Tl'azt'en land use and occupancy and forces affecting these. From the perspectives of participants, the period from which change can be measured is the 1950s, when



Figure 2. Tl'azt'en Nation members and TK Study team at the March 2014 review session.

mining and logging began to noticeably increase in the region, but it was “in the 1970s things started to go downhill” (4-2).

Future use relates to Aboriginal cultural security and continuity: the ability of young and future generations to lead the life they choose free from discrimination and ill health, maintain their spiritual and cultural values and identity, and have resources of appropriate quality, quantity and availability necessary to do so.

Research Questions

Our TK study sought to collect information that could answer the following thematic questions:

- baseline conditions – what are the resources and practices like now?
- trends over time – how have things changed over the years?
- anticipated effects - how might things change due to the project?
- suggested mitigation – how can we lessen these impacts?
- possible residual effects – what if mitigation is not enough?

2 TI'azt'en Nation in Context

2.1 Physical and Historical Overview

Both Dakelh and English placenames are used throughout this report. Please see Appendix 2 for lists of placenames with translations (where available), their meaning, their locations, and the features with which they are associated.

2.1.1 Biophysical setting

The traditional territory of the TI'azt'enne is located in the forested uplands of Central British Columbia where the Nechako Plateau meets the Omineca Mountains. This region of rolling upland hills and deep river and lake valleys is populated by subalpine and montane forests of spruce, Douglas-fir, lodgepole pine, trembling aspen and western white birch. The heart of the TI'azt'en territory is the Stuart-Takla watershed.

Koh 'ink'e Bun (rivers and lakes)

TI'azt'en traditional territory straddles the three large water bodies that comprise the Stuart-Takla watershed, the headwaters of the Fraser River Basin. From the north to the south, Takla Lake (*Khelghubun*) drains into Trembleur Lake (*Dzinghubun*), which in turn feeds Stuart Lake (*Nak'al bun*) onward, out of the territory, to the Nechako-Fraser River confluence. These water bodies are connected by the major arteries the Middle River (Yoonoo'-i Koh) and Tachie River (*Duzdli koh*). This system comprises nearly 300 km of waterways.

This chain of waterways is part of the longest migration route of Chinook and sockeye salmon in British Columbia. The Stuart-Takla river system contains significant salmon spawning channels, rearing grounds for up to 25% of the entire early and late Stuart sockeye population. The Early Stuart sockeye spawn in the smaller tributaries, particularly the smaller, intermittent creeks flowing down the Hogem mountain ranges that drain into Middle River. The Late Stuart sockeye spawn within the larger river systems of Tache and Middle Rivers. Kokanee fisheries are abundant in the Kuzkwa River, Pinchi Creek, Tsilcoh Creek, Tache River, Stuart River, Kazchek Creek, and

Middle River. Vegetation-rich bays support waterfowl and shorebirds, and large river mouths provide winter homes for trumpeter swans.

Dzulh 'ink'e Chuntoh (mountains and forests)

The southern portion of the territory is a plateau with an extensive network of lowland wetlands, bogs, and small lakes characteristic of northern sub-boreal plateau. Moving north, the mountain ranges meet the plateau in a continental uplift. These are the foothills of the Omineca mountain ranges including the Hogem Range, the Mitchell Range, and other large mountain peaks such as Mount Sidney Williams (*Tsel k'un*) and Tsitsutl Mountain (*Dzulh tsul*). These high elevation alpine habitats support caribou, mountain goat, groundhogs, and sheep.

Diverse forest ecosystems provide habitat for a range of wildlife. Aspen and cottonwood riparian corridors criss-cross spruce/pine/black spruce forest and support a diversity of mid-size carnivores such as cougar, coyote, wolf, fisher, wolverine, marten, and the small prey that sustain them—mice, voles, shrews, snakes, and toads. Also plentiful are habitats for aquatic mammals like beaver, river otter, and mink. Ranging over larger swathes of the landscape are the large ungulates—moose, elk, white-tail deer, and mule-deer—as well as black bears and grizzly bears.

Atop rocky bluffs over lakes stand large Douglas-fir in which birds of prey nest and perch (eagles, osprey, and red tailed-hawks). Douglas-fir ridges provide important ungulate winter range. Old forests—vulnerable to heavy logging for mountain pine beetle salvage—provide habitat for owls, northern goshawks, and cavity nesters and perching birds.

2.1.2 Ethnography and history

NOTE: Ethnography is the documentation of a peoples' culture, often by outsiders. It is typically used to frame the conditions of Aboriginal life—a “snapshot” of daily living—at a particular moment in the past. In British Columbia most ethnographic research, including the sources used in the following sections, occurred during a time of rapid change to Indigenous peoples' lives brought about by contact with Europeans. A critical eye must be used when considering this information.

Tl'azt'enne, or “people by the edge of the bay”, are a nation of Northern Athapaskan-speaking people with historical and cultural connections to a larger group known first by Europeans as the Carrier. The term Carrier, *Aghelh Ne*, means ‘ones who pack’, a reference made by their Sekani neighbours to the north—who used horses—to refer to Tl'azt'en and others' pre-contact mode of transporting goods by back, by dog, or by canoes around their vast territory (Hall 1992: 4; Furniss 1993: 3). Others attribute the name ‘Carrier’ to the practice of widows packing the ashes of their late husbands on their back, who after a period of time would ritually dispose of the remains (Morice 1895; Brown 2002; Furniss 1993; Hudson 1983). Another explanation is possible:

Father told me, the natives who gave information to the priest for his book got so tired and annoyed at all the persistent questions he asked them that finally in desperation, they told him some things they made up themselves, anything to get rid of him. (Furniss 1993: 3)

Carrier people call themselves Dakelh, which means “we travel by water”, shortened version of *'uda ukelh*, “people who travel by boat on water in the morning” (Brown 2002; Hudson 1983; Morris and Fondahl 2002; Gall 2011). Dakelh is also used to refer to the dialect of Carrier spoken by the Tl'azt'en.

Traditionally, Tl'azt'en lands and people were guided by local governance systems including the *keyoh* (family territory), the matrilineal clan system, and *balhats* (potlatches), which operated separately and parallel to one another (Dewhirst 2011: 18-19). The *keyoh* provided for the basic needs of daily life—food, clothing and housing—while the clan and potlatch system provided a mechanism for re-distributing resource surpluses, mediating conflicts between resource users, and commemorating clan members (Morris & Fondahl 2002: 111; Dewhirst 2011: 19; Hall 1992: 16).

Seasonal Rounds

Traditional Tl'azt'en life on the land depended on learning relationships and patterns observed in the animals, plants, climate and topography of the country, and detailed mental mapping:

“Because our ancestors were nomadic, they call them nukehududeh ‘inle’ [they travelled]. They used to go from place to place. In any given keyoh they used to go maybe ten different places in a year to do ten different things ... they had different locations for everything.” (4-2)

Dakelh subsistence has followed this seasonal pattern since time immemorial. Fishing, plant gathering, hunting, and trapping relied on an extensive network of waterways and trails to time

movements to coincide with the availability of these foods. Settlement patterns reflected this: main village sites were located at major salmon harvesting locations where people cooperatively exploited large runs, then smaller family groups dispersed to whitefish habitat, then to hunting and trapping grounds where they remained for the majority of the winter months (Marshall 2002: 22).

Information in the following sections have been drawn from community-generated documents housed at TI'azt'en Nation (TI'azt'en Nation n.d. a).

Spring marked the end of winter scarcity. Families began collecting plants, fishing, trapping for beaver, and hunting migratory waterfowl. When the ice started to break-up on the lakes, families moved to smaller lakeshore camps at the confluence of rivers or on the islands in Stuart Lake. Rainbow trout and suckers were caught at their spawning grounds in *'us* (fish traps) or in nets woven of *k'altai* (inner bark of willow). When lake ice melted, ducks returning from their winter migration gathered in bays and were netted from canoes. They were eaten fresh and their valuable fat rendered and saved.

Beaver were hunted in the late spring and were an important source of food, and later valued in the fur trade. They were netted with *tsambilh*, a method of catching the beaver as it swam out of its house under the water or ice. Returning to the same area year after year, hunters knew much about the beaver families in their areas, the relative abundance of the regional population, and the impact of the beaver's activities on the surrounding environment.

Sap flowing in the warming weather primed many tree species for use by TI'azt'enne. Today, thousands of culturally modified trees (CMTs) recorded in TI'azt'en territory attest to the use of a variety of tree species for technological and subsistence applications:

- Lodgepole pine: thin strips of the inner cambium were peeled and eaten fresh and dried for winter use, pitch was collected for use as medicine and as a sealant.
- Birch: bark was cut and stored in large rolls stored for future uses such as lining winter food storage cache pits, and for the roofing for winter lodges
- Spruce: roots are collected for making baskets
- Willow, stinging nettle and poplar: gathered to make fibers for nets and ropes
- Cottonwood: felled for construction of dugout canoes

Medicine plants were considered most potent in the spring as new buds, leaves and berries are growing. Roots and early shoots of plants were gathered: fiddleheads, wild onion, wild celery (wild rhubarb), and wild parsnip were cooked in pits or soups. Moss was gathered and stored for the yearly supply of “diapers”.

Summer brought the life-giving salmon to Tl'azt'en territory. Tl'azt'enne gathered in large camps near productive fish weirs and traps that spanned the mouth of rivers. Women dressed and prepared the salmon for drying and smoking for winter use. Much work was done preparing for the late summer arrival of the runs: nets, hooks, harpoons and spears were made and repaired, dams, weirs, drying racks and smoke houses were built and maintained.

Hunting in summer focused on bear, lynx and muskrat. Rabbits, groundhogs and squirrels were snared or trapped regularly. Berries began ripening and were harvested. Some were eaten fresh, but the majority were cooked and dried in cakes for the winter, using spruce trays over fires (Hall 1992).

Fall was a time to prepare huge amounts of food for winter cache. Salmon, char, and whitefish were dried and smoked, firewood was cut, deer, moose, bear, and waterfowl were hunted. Invaluable fat was rendered and stored. Hides were stretched and dried and used for clothing and bedding (Hall 1992: 13). Later, with the introduction of subsistence agriculture, vegetables from gardens were picked and cellared, and hay was made for livestock's winter supply. Fall berries picked by women and children at hereditary gathering sites included blueberries, saskatoons, soapberries and huckleberries. All were dried and stored for winter use. Fall hunting trips to mountain camps focused on caribou, mountain goat, and groundhog.

After salmon fishing, families moved to fish camps on the islands of *Nak'albun* (Stuart Lake) to exploit the char spawning on the rocky reefs (*teh noo*) that figure prominently in *Dakelh* cultural geography. The many islands on the lake were “owned” by different families, who returned year after year for the lucrative char fishing:

“Every island there's people they got smokehouse... And every reef, you know, somebody owns it... They go to their own place for char ... Where my parents hunt char that's where I go.” (Robert Hanson in Tl'azt'en Nation n.d. a: 32)

Winter was primarily a trapping time. Families dispersed to the traplines and cabins in the northern parts of their territories to pursue furbearing animals for meat and skins, and later, for sale of furs.

Control of winter food supplies was critical: food was divided into monthly packets, and one was forbidden from starting early on the next month's food. To make sure there was enough food to last the winter a precise inventory was needed:

“They count the salmon, they pile it up put it together and they count it for winter and they tie it—they tie it with 'uzus tl 'oolh [moose skin rope] skin they used to make rope out of it—with that one they tie it for one winter, like one they tie up, that's November until December then January they tie up another one for January, February and March, they got to have about three like that to go all winter.” (Willie Mattess in Gall 2011: 89)

Interactions and European contact

Tl'azt'enne had regular and reasonably peaceful relationships with their Carrier and Sekani neighbours, with whom they participated in trade and intermarriage. Elaborate trail networks and arterial river systems eased the flow of goods between areas of relative abundance to those of relative scarcity.

When the first Europeans arrived on the Nechako Plateau, they found that many of their goods had preceded them, having been traded from the coast through an already active economic network (Hudson 1983: 83). The furs sought by Europeans were abundant in Dakelh territory, and within three years of Simon Fraser's arrival in 1805, four forts were built in the area: Fort McLeod (1805), Fort St James (1806), Fort Fraser (1806), and Fort George (1807) (Gall 2011: 64-65)

At the southern end of Stuart Lake, Fort St. James was strategically located at a major salmon fishing location at the intersection of river routes to the Fraser and overland trails to Fraser Lake and Babine Lake (Hudson 1983: 88). Dakelh were essential to the early forts, providing labour, furs, and food to the trading companies (Hudson 1983: 24). Control of fishing in the Stuart Lake watershed allowed Dakelh to use salmon as currency until the HBC established their own fisheries and trails (Hudson 1983: 90).

Fort St. James provided new income for the TI'azt'en, who expanded their domestic trapping for trade (Morris & Fondahl 2002: 111). Hudson's Bay Company journals describe the Dakelh as astute traders who demanded high quality goods and accepted no substitutions (Gall 2011: 73). Dakelh around Stuart Lake took control of trading west and north of the Fort, taking European goods to their partners, along with traditional wares, and preventing others from trading directly at the Fort (Gall 2011: 66). By the late 1800s, the influence of the fur trade persuaded TI'azt'en families to gather in central communities, where emissaries of the Roman Catholic Church encouraged them to settle for indoctrination and "civilizing".

Epidemics

The trading networks that brought Europeans and their goods also brought smallpox, measles, tuberculosis and influenza. For TI'azt'en, one of the most catastrophic epidemics was the Spanish influenza pandemic of 1918-1919 (Gall 2011: 83). People living in Fort St. James, Tache, Pinche, Trembleur Lake, and those trapping in the area were hit hard. (Gall 2011: 83-84) In *Sai'kuz* (Stoney Creek), one third of the population was lost. At Fort St. James, 14 people died and were buried in a single day (Whitehead 1988:173 in Gall 2011: 83-84). Those in more remote communities escaped the worst effects due isolation (Gall 2011: 84). The sudden deaths of so many people meant that vast amounts of traditional knowledge died with them, and systems of governance and kinship that relied on oral histories and heritage were difficult to re-establish.

Early legislation affecting Indigenous land use

Starting in the 1800s, a range of federal and provincial legislation was enacted restricting Native peoples' ability to access and manage their own resources and lands, and lives. With continual re-definition of rights by the federal and provincial governments, aboriginal autonomy was severely restricted. Table 1 presents a brief summary of the key legislative measures that have affected how TI'azt'en traditional territories are managed.

For a comprehensive overview of historical, legal and legislative aspects of the relationship between the governments of BC and Canada and Aboriginal peoples, please see the historical timeline compiled by the Union of BC Indian Chiefs (UBCIC), available on their resources webpage, ubcic.bc.ca/resources.

Table 2. Summary of significant early regulations affecting Indigenous land use.

Government Regulation	Date of Enactment	Implications for traditional land use
Indian Act	1876	<ul style="list-style-type: none"> established Aboriginal peoples as wards of the Crown. provided mechanisms for cultural assimilation regulated daily lives and movement within territories
Fisheries Acts	1876 and 1880s	<ul style="list-style-type: none"> established set fishing seasons and methods prohibited the use of native fishing techniques for salmon fishing on rivers and non-reserve lands imposed food fishing permit system for Native people
Indian Reservations	1871	<ul style="list-style-type: none"> legally define Indian Lands to facilitate the allotment of lands to settlers and industrial activities restriction and re-definition of land base, usage and access, traditional Aboriginal property rights and title lands held in trust for Indian Bands by the Crown imposed dependence on the Crown
BC Game Protection Act	1880	<ul style="list-style-type: none"> established fixed hunting seasons for deer, mountain goat, moose, beaver, bear and game birds affected the timing and duration of hunting activities restricted use of traditional technologies
Potlatch Act (Indian Act Amendment)	1884	<ul style="list-style-type: none"> amendment to Indian Act banned participation in ceremonies or dances where goods were given away restricted gatherings and redistribution of resources
Barricade Treaty	1911	<ul style="list-style-type: none"> prohibited traditional salmon weir technology in favour of government approved net fisheries imposed controls and restrictions on fishing locations, timing and harvesting techniques
BC Registered Traplines	1926	<ul style="list-style-type: none"> imposed a system of individual ownership of traplines loss of access to trapping territories for failure to register sale of traditional traplines for use by non-natives rights to traplines could be lost or taken away at the discretion of the regional Provincial Game Warden.
BC Game Protection Act	1931	<ul style="list-style-type: none"> required native trappers to obtain permits permits allotted at discretion of Game Warden loss of access to traplines if deemed not fully utilized (punishment for traditional stewardship)

Indian Act and Indian Reserves

The 1876 Indian Act consolidated various pieces of legislation that managed First Nations and their relationship with Canada. Ostensibly designed to protect the land that First Nations still occupied, eventually it stripped Native peoples of their autonomy to own and use their

traditional lands where and when they sought fit. The Act was seen as a means of assimilating and "civilizing" Indians. Indian status was regarded as a temporary stage on the road to assimilation. The Act's provisions to bring an end to hereditary government and deport Aboriginal children for enforced assimilative education have proven to have devastating effects lasting into the present.

The creation of Indian Reserves was one mechanism to solve the 'Indian Land Question', as settlers, miners, rail and timber companies all wanted clarity on land acquisition, and a mechanism by which to acquire lands without conflict. The establishment of reserves served to further sever the ties between TI'azt'en, their lands, and their families. The colonial imposition of the Reserve system failed to take into account the dynamic and fluid nature of traditional land use and interactions between TI'azt'en and their neighbours (for example, the seasonal use of portions of clan territories by extended relations was poorly understood by Euro-Canadian regulators, who assigned Reserves to groups whose land use was temporary and based only on permission of keyoh holders). After the imposition of the reserve system in 1871, TI'azt'en continually lobbied to expand their government restricted land base in order to meet the needs of the communities.

Residential Schools

In 1914 the first school in the Stuart Lake area was opened at Fort St. James (Hudson 1983:118). Attendance was low among Dakelh families who lived a great distance away and were reluctant to relocate. The Lejac Indian Residential School, which most TI'azt'enne were forced to attend, was built in 1922 at Fraser Lake and managed by an order of the Roman Catholic Church (Hudson 1983: 119; Indian Claims Commission 2008: iv, 7).

Each year in early September students from five TI'azt'en villages (Tache, Portage, Pinchi, Grand Rapids, and Trembleur) were collected by an official from the Department of Indian Affairs for delivery to the school (Moran 1994: 39).

"Because of that this place was developed [Tache] and they used to take our kids to school. They threatened to take them away, so our parents had no choice to move further away from their homeland. That's how Tache and these places were developed." (4-2)

The Indian Residential school system aimed to remove children from the 'negative' influences of their community and eradicate their language and culture. "Taking the Indian out of the child" was seen as the way to integrate native people into mainstream society (Gall 2011: 85). Children were away for most of the year and quickly lost touch with their culture, subsistence skills, language, and oral traditions (Hudson 1983: 119). Alfred Joseph recalls being warned before he went to school by Isaac Jan, "you gonna go to school pretty soon so you gonna have two worlds; don't forget where you come from, he told me, and learn as much as you can" (Alfred Joseph: 18 September 2008 in Gall 2011: 85). Lejac was closed in 1976 (Gall 2011: 84).

The legacy of residential schools is horrific. Children were robbed of their culture and the love of their families. Parents, robbed of their children, suffer mentally from "letting" them go. Some children were educated, many were not. Successive generations have to relive the tragedy as they turn to the abusive and neglectful practices they themselves endured as children: "they turned us into monsters" (12-1).

*"They pick us up 1945... I woke up 1947 I was in Lejac, I thought that was my first year. But **those two years I don't remember. Nothing, just blank.** And after that I remember, 1950 they took me out of there, after I come out of hospital. My parents they took me back told me not to go back. So I was pretty young and I was already spoiled by then. **In terms of having a normal childhood, and normal education, all those things were gone, and I ended up on the street when I was fourteen.**" (12-1)*

Twentieth century resource development

Logging

Few industrial activities occurred in Tl'azt'en territory until the 1940s, when horse logging began along the shores of Stuart Lake and slowly penetrated inland along waterways. Tl'azt'en men participated at every stage of the forestry activity in their territory, from falling and skidding, to

driving the logs down the Tache River and towing booms down Stuart Lake to the mills at Fort St. James, and working at the numerous portable sawmills that sprouted up across the landscape. Rough estimates suggest Tl'azt'enne constituted at least 50 percent of the labour force for forestry operations in Tl'azt'en territory at mid-century (Hudson 1983).

Logging was selective, seasonal and relatively small-scale, and generally did not conflict with Tl'azt'en hunting, fishing and trapping. Its seasonal nature allowed Tl'azt'en to pursue a blend of bush and wage economies. In this time, most of the harvesting was concentrated around rivers, but no logging took place above Trembleur Lake on Middle River - the area most important for moose hunting and beaver trapping (Morris and Fondahl 2002: 113).

In the late 1940s and early 1950s, forestry's wage economy began to compete with the fur trade. Small-scale destruction of the forested areas could be seen on traplines, and many trapline trails, traps and cabins were destroyed by logging operations: "Now it's all logged out. All my traps have been bull dozed over. All my traps are gone now" (Cassiar Robert in Tl'azt'en Nation n.d. a: 50).

By the mid 1960s forest companies were amalgamating to feed growing pulp mills, and year-round clear-cutting replaced selective seasonal logging. Tl'azt'en opportunities in forestry declined as mechanized operations required few people with more training. The perennial work conflicted with valued seasonal subsistence activities.

Many long-term leases offered by the province to forest companies included family hunting areas registered as traplines by Dakelh hunters in the 1920s and 1930s. Year-round harvesting and modern silviculture (clear-cutting, herbicide use and re-planting of commercially desirable species) have significantly affected animal abundance in the keyoh (Dewhirst 2011: 39; Brown 2002: 52). Resources that have sustained Tl'azt'enne for generations have been greatly reduced.

Tl'azt'en Nation traditional territory lies in the heart of the 21st century's mountain pine beetle (MPB) epidemic, the largest ever recorded in British Columbia. The province's Chief Forester's "pine salvage" policy has allowed timber licensees to recover vast amounts of dead trees before they became unmerchantable. The projected amount of pine killed in the Fort St. James Forest District is expected to be approximately 73% of the total mature pine volume by 2021 (Tl'azt'en

Nation n.d. b: 24). The salvage logging operations have meant the creation of new roads, reactivation of old roads, and increases truck volume on all transportation routes. Impacts of this include wildlife habitat fragmentation, animal mortality due to vehicle collisions, spread of invasive species, and the alteration of predator-prey dynamics (TI'azt'en Nation n.d. b: 27).

BC Rail

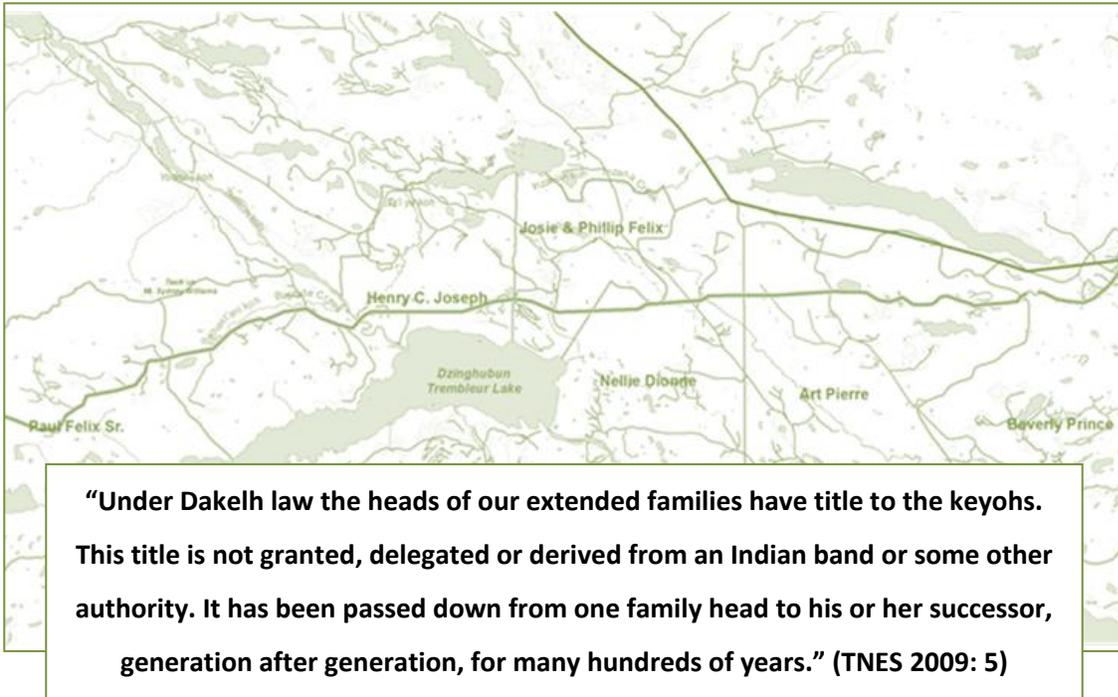
In 1969, the Pacific Great Eastern Railway Company (PGE, a Crown corporation) began constructing a rail line north from Fort St. James to Takla Landing and Dease Lake to facilitate access to large tracts of forest and other resources (Wedley 1998 in Morris and Fondahl 2002: 114). The line would pass through seven TI'azt'en reserves, and concerns were raised about this and the impact of a railway on wildlife. TI'azt'en were able to negotiate compensation for the trespass with PGE and the province, and a three-to-one deal was settled: three acres were awarded for every one surrendered, giving TI'azt'en 1134 acres of new reserve lands (Morris and Fondahl 2002: 115). By 1973 the line was complete, before anyone had signed an agreement (Morris and Fondahl 2002: 115). TI'azt'en began to notice a significant reduction in wildlife on their hunting grounds along the railway route, and members began to ask the Department of Indian Affairs for compensation for this loss (Morris and Fondahl 2002: 116). In 1984 an agreement was ratified that included timber harvesting rights on crown land, and a Tree Farm License was granted in the area between Stuart and Trembleur Lakes west of the Tache River (Morris and Fondahl 2002: 119).

2.2 Contemporary Use

2.2.1 Keyoh

TI'azt'en lands and community members continue to be guided by Dakelh law, and maintain the extended-family based system of land tenure in which the territory, divided into keyoh, is managed for perpetuity by keyoh holders who oversee the use and occupancy of these family territories. While TI'azt'en families value sharing and mutual support, people have a strong tradition of respect for a family's territorial rights: "**permission to come into a territory is very important**" (4-2).

Today's keyoh boundaries generally follow those of the registered trapline areas, imposed on Tl'azt'enne in the 1920s. These traplines are widely viewed as “an afterthought, something Indian Affairs and game wardens drew up the lines around boundaries we already had” (12-1). The colonial governments' imposition of the Band system and the trapline system have served to undermine the independence of the keyoh, but the traditional keyoh holders stand firm on the system's authority and integrity.



The keyoh structure continues to influence contemporary Tl'azt'en land use, as well as community and political relations. Since the keyoh holders have not “authorized any other entity to broker or negotiate the use of our lands” (TNES 2009: 5), the keyoh holders maintain a leadership structure that parallels the Indian Act chief-and-council system.

People living in their keyoh at some distance from the main reserve at Tache (the seat of local government) find the Indian Act system fails to meet their needs:

“We have a band that's got a big office in Tache, but they don't do nothing for us. I don't hate them for it, it's just circumstances our people are in. That's just the way Indian Affairs, the way it's set up.” (12-1)

In 2013, a Keyoh Holders' Working Group (KHWG) was formed to manage the flow of information and decision-making regarding the proposed PRGT pipeline and similar projects.

2.2.2 Life on the land

Tl'azt'enne are deeply attached to the land. It is perceived as an entire way of life, as all of history, and as the sum of potential for the future. Generations of Tl'azt'enne have survived, not just on the resources the land offers, but on the knowledge gathered and transmitted about *this* land. Land users past and present relate to the territory as with a family member: with intimacy, memory, mutual respect and responsibility, and a deep sense of reliance.

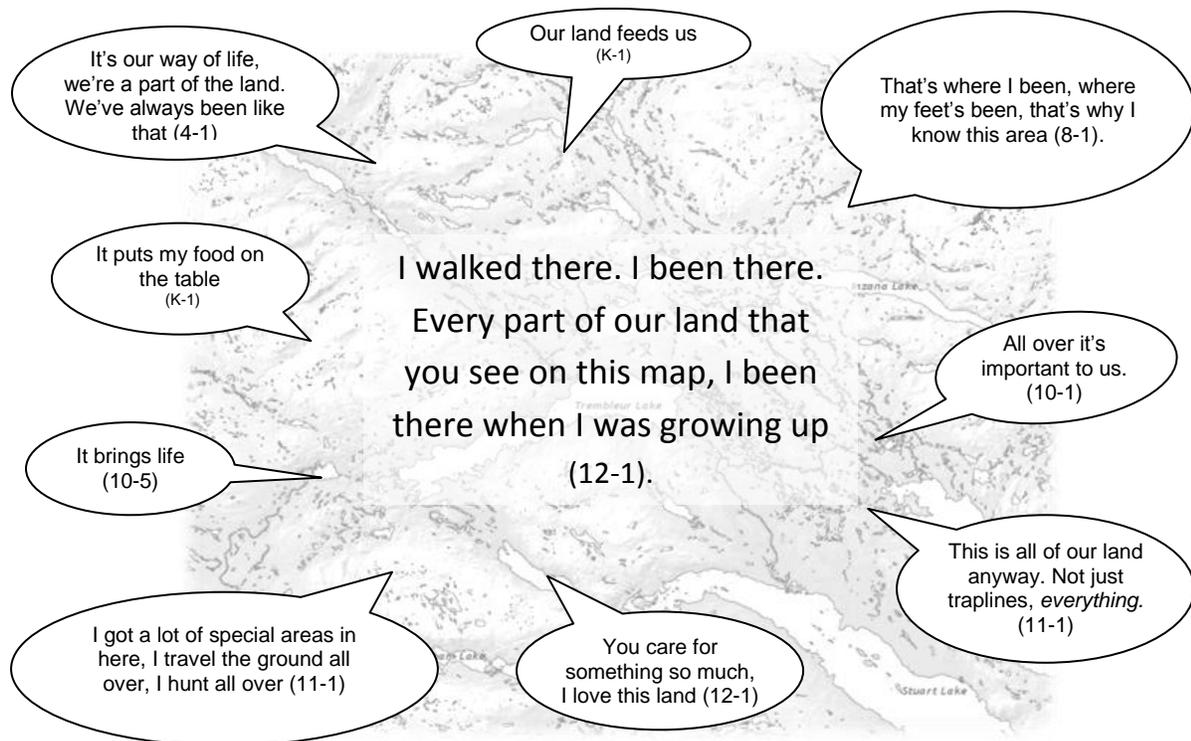


Figure 4. The meaning of land for Tl'azt'en keyoh holders.

Land users often expressed their connection with the land through stories and placenames, which also give some indication of the depth of history and memory here. At the mouth of the Kuzkwa River at Tezzeron Lake, for example, a place called *'Ut'an Noo* evokes one pivotal event in Tl'azt'en history:

"Our great-great grandparents were there, they said five canoes went by, but they didn't know who it was. First time they seen white people...Same place where we got cabin now (1-1)"

Placenames can have ancient references or modern ones. *Udnah Betel 'Usdla*, the name for two mountains east of *Tsendzut* (Mount Copley), describes how “those little people long time ago they turned over those big canoes”, and the land looks like that today. Another location, *Tsel k'un* (Mount Sidney Williams), is known locally as Wally's mountain, after Walter Joseph Sr., a Tl'azt'enne whose hunting grounds span the mountainsides. History written on the land like this makes for “storyscapes”, able to “instruct, guide and teach the people within their own collective ancestral and territorial background” (Elsey 2013: 11). Tl'azt'en land users are a part of the story.



Elders recall growing up with a complete reliance on the land and a routine inherited from generations that came before:

“They used to bring us all over the place to survive... They have to bring us out there and stay there ‘til we make enough dry fish and meat.” (10-3)

“In any given keyoh they used to go maybe ten different places in a year to do ten different things... they had different locations for everything (4-2)

Many aspects of modern life have influenced the changing patterns of land use here. A gradual introduction of wage-based economies across northern communities, the exploitation of natural resources from the gold rush through to forestry, and the ever-expanding road-and-rail network are primary drivers of change. State-mandated education, in particular, had an immediate effect of severing land users from the land. Families relocated to central places like Tache as colonial governments swept children up into residential schools or reserve-based classrooms:

“We were forced to live here and raise our kids here...Our people adapt to the white man's way. They still live off the land, but they have to go live somewhere else to raise their kids and send them to school. They still come back and use it” (4-2)

These colonial systems have been superimposed over traditional ones, but they have not replaced them. Today Tl'azt'enne find themselves living on reserves too distant from commercial centres to benefit from mainstream economic growth, and rely on a patchwork of means to survive. The land and its resources remain at the heart of this strategy:

“Mostly we live off the land. We live in our homes up here, and we still pay our bills like everybody else. But we got to make ends meet, by what we have on our land.” (12-1)

"We depend on it a lot. Basically what you got is welfare around here, no jobs and that. So a lot of the stuff that we get we get is off the land." (4-1)

"Everybody calls it a trapline, it's not a trapline, it's a life style. It's what people survive on." (10-5)

Keyoh holders and others who make a living from the land are providers for extended family who cannot. Their hunting, fishing, trapping and gathering contribute widely to the well-being of Tl'azt'enne living on and off reserves:

*"We all do that and look after them. We got a few cousins downtown, they're elders too, we look after them. So, they **use all this area, from us too.... through us**, you see, not only the family use it." (5-3)*

The burden of providing is beginning to shift, with population change, to the younger generation of Tl'azt'enne. With the cultural disruptions of reserves and residential schools, many of today's adults lacked the opportunities or social structures to pass on the traditions relating to land use. Today's youth, though, with young families and few economic opportunities, are beginning to find a place in the keyoh:

*"I'm just starting to get into all traditional ways of life in the keyoh and learning about the keyoh system itself within this past summer. Yeah, **it's something I really wanted to know.**" (13-2)*

*"They're out there using it and **that's something to be proud of, that's a good thing to do.** They want to get some dollars and they utilize the land and the water, I'm proud of them for that." (9-1)*

As land use patterns change from generation to generation, so too do the tools and methods people use to make their living. The term "traditional" brings to mind images of an ancient way



Figure 5. James Luna, Hot Medicine Bag, 1996.

of life, and can suggest that adopting modern conveniences is somehow less than genuinely traditional. So while Tl'azt'enne are the *traditional land users*, sticking to the "old ways" cannot be a measure of the strength of tradition. Particularly when newer ways—gas engines, GPS, and smartphones—are widely available and often very effective tools:

"I never do it that way, but long time ago my grandpa used to, but it's 2014: I got the easiest way!" (8-1)

For a complete account of Tl'azt'en's social and economic situation, and for specific details and recommendations relating to these issues, please see *Tl'azt'en Nation's Socio-economic Study for the PRGT project*.

2.2.3 Hunting, fishing, and gathering food: “something we can rely on” (9-1)

Tl'azt'enne land users rely on hunting, fishing and gathering to supply dietary staples:

“Our people don't have jobs and stuff like that we can't afford the store bought stuff all the time. So that's where our moose meat, bear meat, fish and trout, char comes in.” (9-1)

Meat, fish and berries are eaten fresh in season, shared among extended family, and preserved for use throughout the winter by drying, smoking, canning and freezing (1-1, 1-2, 9-1). People report eating wild meat, fish and plants on a daily basis (4-1, 5-1, 6-6, 9-1, 13-1, 13-2), with more than half of a week's meals containing wild foods:

“We consume wildlife every day. Fish, whatever. If we got it, we'll eat it.” (4-1)

“We never get tired of eating fish, we boil it, we fry it, we bake it—all different ways of eating the fish” (F-2)

Moose, deer, bear, lynx, beaver, muskrat, rabbit, grouse, ducks, geese are among the terrestrial species more commonly harvested (4-1, 6-1, 9-1, 12-1, 13-1). Hunting areas throughout the territory are shared by land users, though most people pursue game within their own keyoh. Habitat areas for key species, like moose, are well known and highly valued by keyoh holders and their families: “well, it's been passed down through generations, people know about it” (1-1).

Rivers, lakes and streams throughout the territory house an abundance of food fish, particularly salmon, char, whitefish, ling cod, rainbow trout, Dolly Varden and suckers (1-1,2-1, 3-2, 3-4, 4-1, 5-3, 9-1, T-1, 13-1):

“We've got a lot of native fish here that we still have and a lot of other places don't have.” (13-2)

Salmon are a key food staple: “that's what everybody lives on is salmon” (11-1). They are available and seasonally abundant in Stuart Lake, Middle River, and many smaller streams including *Ts'iyá koh*, Felix Creek and Sidney Creek. The salmon spawning grounds at Middle River are well-known and highly valued habitat, home to the early and late Stuart-Takla sockeye salmon runs.



Salmon and moose are critical to TI'azt'en's food supply and are considered *cultural keystone species* (Garibaldi and Turner 2004). They are discussed in greater detail in the TK assessment in Section 3.2.2.



Table 3. Culturally-significant animal species in TI'azt'en traditional territory.

Dakelh name	Common name(s)	Scientific name(s)
khuda	moose	<i>Alces alces</i>
whudzih	caribou	<i>Rangifer tarandus</i>
sus	black bear	<i>Ursus americanus</i>
shaş	grizzly bear	<i>Ursus arctos horribilis</i>
chunih cho	fisher	<i>Martes pennanti</i>
chunih	marten	<i>Martes martes</i>
wasi	lynx	<i>Lynx canadensis</i>
tsa	beaver	<i>Castor canadensis</i>
talo	sockeye salmon	<i>Onchorhynchus nerka</i>
ges cho	spring salmon	<i>Onchorhynchus tshawytscha</i>
gesul	kokanee	<i>Onchorhynchus nerka</i>
bit	char	<i>Salvelinus alpinus</i>
lhecho	white sturgeon	<i>Acipenser transmontanus</i>
tsabai	Dolly Varden trout	<i>Salvelinus malma</i>
duk'ai	rainbow trout	<i>Oncorhynchus mykiss</i>
lhoh	mountain whitefish lake whitefish	<i>Prosopium williamsoni</i> <i>Coregonus culpeaformis</i>

¹Lhecho, or white sturgeon, is a provincially red-listed species considered "critically imperilled". It is not harvested by TI'azt'enne but is present in the waterways of the Nechako basin.

For detailed descriptions of specific hunting, fishing, gathering and trapping practices and techniques, refer to TI'azt'en Nation's comprehensive 1999 Traditional Use Study, and Part One of the TI'azt'en Nation Land Use Plan (TI'azt'en *n.d.* a).

TI'azt'enne subsistence includes a variety of plant species used for food, medicine or processing (e.g. alder for fish smoking) The list in Table 4 contains the most significant for TI'azt'enne, a mix of most commonly used, most powerful, and most favoured plants.

Table 4. Culturally significant food and medicine plants in TI'azt'en traditional territory.

Dakelh name	Common name(s)	Scientific name
Chundoo	lodgepole pine	<i>Pinus contorta</i>
Datsan' angut	juniper	<i>Juniperus communis</i>
Duje	huckleberry	<i>Vaccinium membranaceum</i>
Dunih t'an	kinnikinnick (leaves)	<i>Arctostaphylos uva-ursi</i>
Hoolhghulh	devil's club	<i>Oploponax horridus</i>
K'emai'	Saskatoon	<i>Amelanchier alnifolia</i>
K'entsi	red willow, red osier dogwood	<i>Cornus stolonifera</i>
K'us	alder	<i>Alnus tenuifolia</i>
Latalba	yarrow	<i>Achillea millefolium</i>
Ludi musjek	Labrador tea	<i>Ledum groenlandicum</i>
Ningwus	soapberry	<i>Shepherdia canadensis</i>
Tsalhtse'	cranberry	<i>Viburnum edule</i>
Ts'ootsun	balsam, subalpine fir	<i>Abies lasiocarpa</i>
T'ughus	trembling aspen, poplar	<i>Populus tremuloides</i>
'Ut'ankal	raspberry	<i>Rubus idaeus</i>
Yuntumai'	low bush blueberry	<i>Vaccinium angustifolium</i>

2.2.4 Trapping

"We trap for sale, mental, physical, and spiritual health." (4-2)

Trapping has long been an important occupation for TI'azt'en. Furbearing species populate watersheds throughout TI'azt'en territory. The *Ts'iyah koh*, *Khast'ani koh*, *Ningwus koh*, *Dzink'azdli koh* and *Yoonoo' i koh* (Middle River) areas are particularly important traditional trapping locations (1-1, 3-4, 4-1, 10-3). TI'azt'en trappers commonly catch beaver, marten, weasel, wolverine, lynx, fisher, squirrel, mink, otter and muskrat (1-1, 3-1, 3-4, 4-1, 4-2, 5-3, 8-1, 12-2, 13-3). Trapping families typically have two or three hundred traps on the keyoh, set on the land or stored in trees (5-4, 3-1). Pelts are dressed and sold, and the meat of most species is consumed fresh or dried:

"We skin them and we use the meat, part of the meat, we dry it and then we get, get it lighter to pack." (5-3)

Many keyoh holders and their families were raised on the proceeds of their parents' trapping, and many grew up in the tradition:

"They trapped while furs were good, and good price, and they make good money. That's how they brought us up, all of us."(1-1)

"I been trapping years, way back, since I was 18 years old I trap, I trap with my dad, I trap with my brother-in-law Alfred, I trap with Tony, even my grandfather up at Inzana Lake I trap with them. I trap with a lot of people, here on our trapline" (3-1)

The viability of trapping has been affected by a number of factors, and trapping incomes have been declining since the 1960s. People attribute the change partly to the impacts on the environment from logging in the region:

*"Most of our trapline is **logged out**".* (1-1)

*"if there's no more trees, there's no more squirrels. So **all the marten and everything they move away** to where there's parks and stuff like that where they have least amount of damage to their habitat"* (4-2)

*"Last year we only got nine marten, out of the whole year, nine marten, and this year we trap over two months and we still haven't gotten anything yet. That's every day going out, every other day checking different lines, two weasels. **Directly from the logging.**"* (12-2)

Forestry also provided employment for Tl'azt'enne, who found they had little time left to pursue trapping (1-1, 4-2, 5-3, 13-3). These changes through the 1980s coincided with the rise of animal-rights protest groups, like Greenpeace and PETA, whose activism reduced demand for furs and drove down prices on the international markets (4-1, 8-1).

Many people who grew up in the tradition now pursue it part time to supplement wage income or social assistance:

*"You'll never make a living on trapping, at the end **it helps you survive.**"* (10-5)

*"Our only way of life, **that's the only thing that we got.** In the fall time that's the only thing we got in the spring time too. To feed, **to feed our family.**"* (5-3)

Despite the low return, people continue to trap for cultural and family reasons, and many make a great effort to try to continue the tradition:

*"We sell the pelts of the animals that we trap but it barely covers the gas. We do it as a tradition in the family. **We bring the kids out to teach them**"* (5-2)

These efforts appear to be working. A number of the younger generation, eager for work, money, and a connection with the land, are returning to the keyoh in the winter and working the traplines that their parents and grandparents grew up on:

“these young people, they say ‘I want to go trapping’... I see more of them doing it than I used to before.” (9-1)

*“They’re right back on to it, these younger generations. **They’re back.**” (9-1)*

2.2.5 Land use infrastructure: cabins, camps and trails

The variety of ecosystems around TI'azt'en territory mean that food and material resources, though diverse and abundant, are distributed unevenly across the landscape. And this means a lot of travel is necessary to make a living from the land. For example:

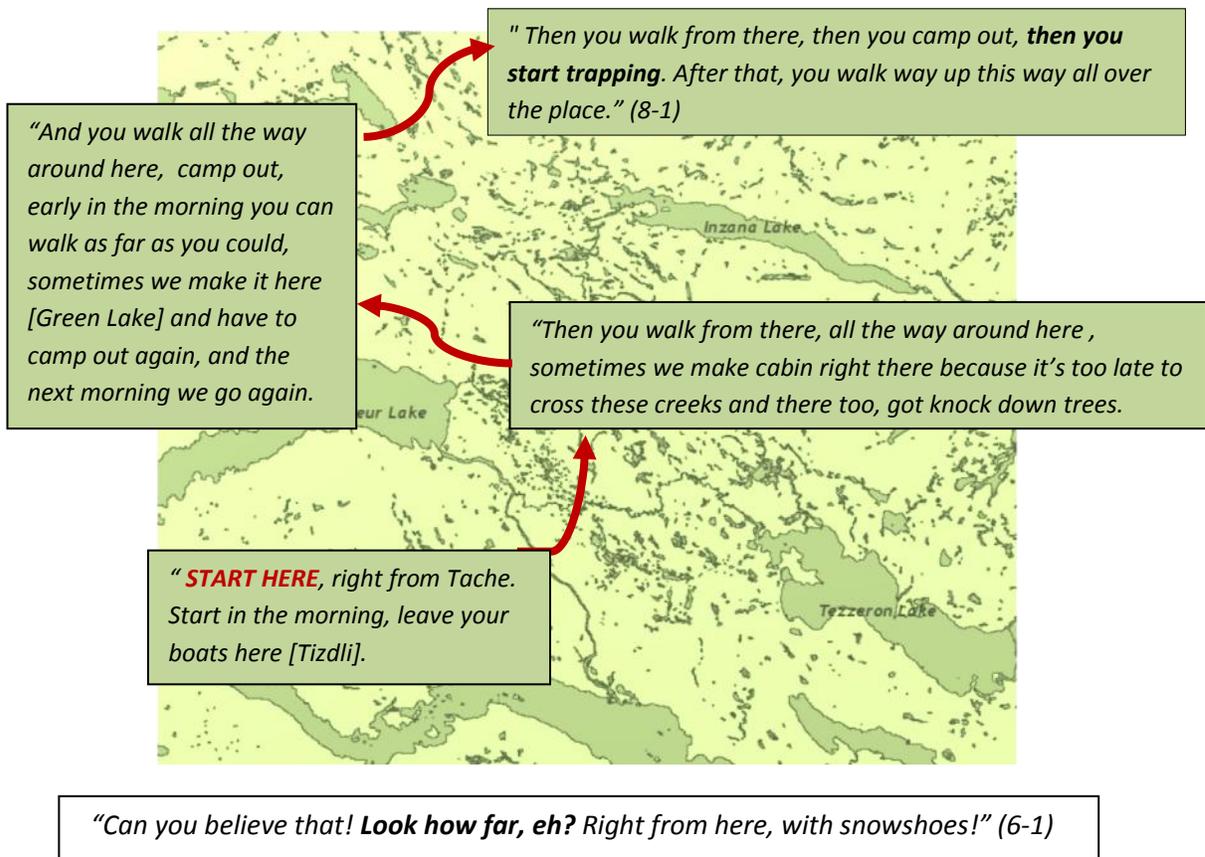


Figure 6. Travelling through the keyoh (participant 8-1).

TI'azt'en hunting, fishing, gathering and trapping rely on the construction and maintenance of cabins and camps at key locations across the landscape, and the network of trails that connect them to resource sites (1-1, 2-1, 2-2, 3-1, 3-2, 3-5, 4-1, 4-2, 5-3, 6-1, 8-1, S-4). This trail-and-camp infrastructure is critical to the success of the TI'azt'en approach to resource harvesting described as "trail networking" (4-2):

*"There are cabins throughout an area **in case you got stuck out**" (4-2)*

*"**Everywhere** our people hunt and fish, **there's camps, campsites**" (12-1)*

*"wherever your lay-over for the night on your trapline was, their stuff was there, your traps were there, your tools, your pots and pans, whatever you put, **whatever gear you needed it was always there left on the trapline in your camps**" (2-1)*

TI'azt'en's land use infrastructure is subject to repeated disruption from competing interests, primarily forestry but also other non-resident hunters and road and rail building. Land users have reported vandalism and destruction of cabins, camps and traps by non-resident land users:

*"We had cabin here but forestry **they burned that down** in the 50s." (1-1)*

*"Loggers just come in and **destroy their land, they destroy their traps**, they destroy their life style. What kind of world are we living in when our government allows other people to step on it?" (10-5)*

Main trails are turned into roads, smaller ones are erased by clearcutting:

*"That's mom and dad, they had those trail in there, but **it's not there cause it's all logged out**" (3-3).*

*"**We lost all our trails**. Now we're forced to use white man trails, we go on logging roads." (4-2)*

Adapting to the use of vehicles and logging roads, where practical, is one way TI'azt'en have maintained a connection with their historical traditional rounds, and many see the advantages:

It take me a whole two months to get to Takla, from Fort St. James to Takla and back to Fort St. James, that's how long it take me. Today it'll take me about five hours (10-4).

The older generations of TI'azt'enne continue to invest in the future ones by maintaining and elaborating on this land use infrastructure:

*We're starting to build more cabins and that, we're building more cabin, **eventually the younger ones will start trapping** in here in here along the lake"*

2.2.6 Food, Culture, Health, Happiness

"All of us used to be just heavy packs going back downhill. Don't care, don't feel it. So happy, a successful hunt, it's just like getting a big pay cheque" (12-1)

Food is life. It is also culture, and family. There is a "vast amount of cultural knowledge and cultural practices surrounding foods and the social bonds that the acquisition, processing, eating, and celebrating food provided" (Turner and Turner 2007: 57). The relationship between Tl'azt'enne, and the wild foods that sustain them, are deeply embedded in cultural systems through which knowledge is passed through generations:

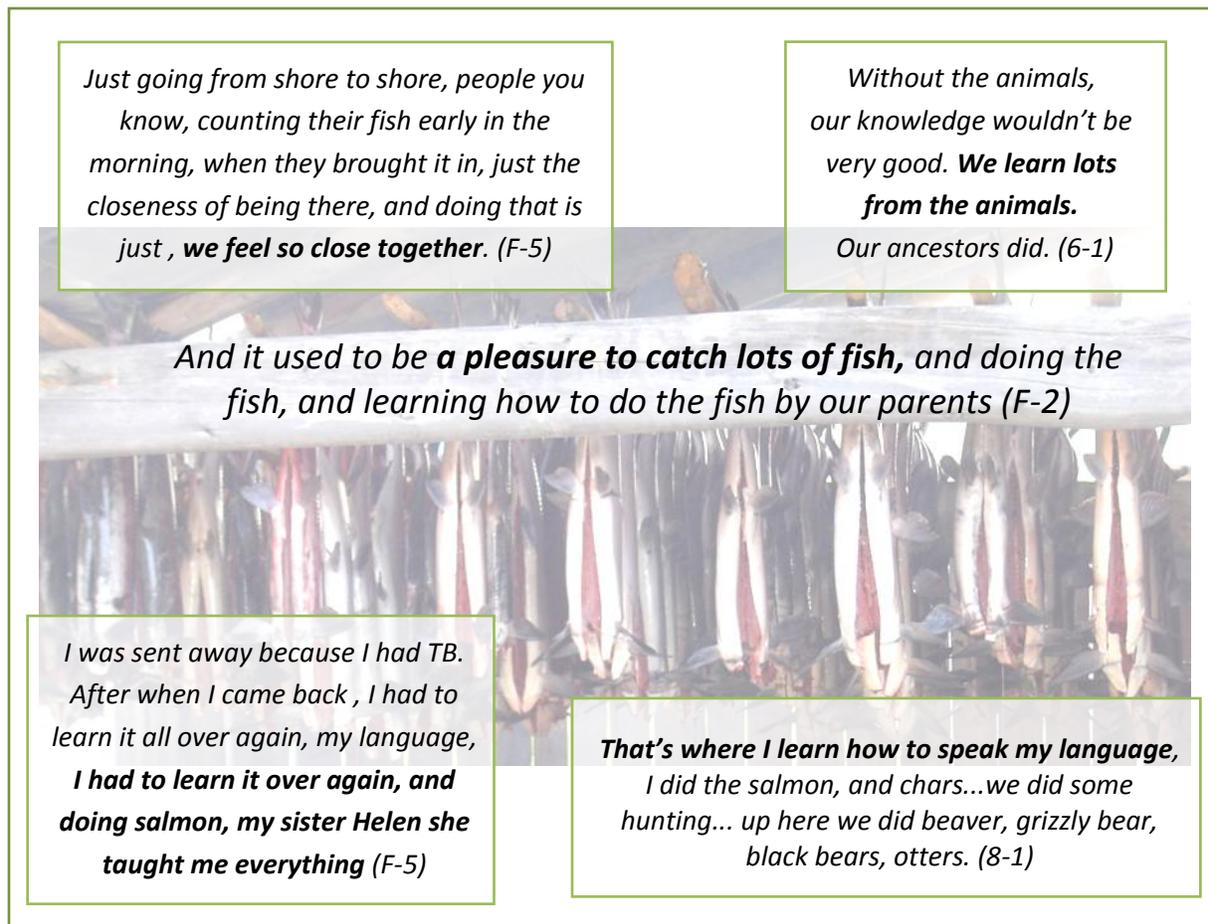


Figure 7. Tl'azt'en food, culture, health, and happiness (photo Tl'azt'en Nation n.d. A)

Historically, Tl'azt'enne achieved a measure of economic security by diversifying food sources and intensifying production, a system that “took them hundreds of years to perfect” (4-2). Today, Tl'azt'enne are increasingly alienated from their traditional resources and harvest locations by a number of factors, including the reserve system, land privatization and legislated restrictions, industrial resource extraction, populations changes, low income, fuel costs, lack of transport, fragmentation of trail networks, government mismanagement, poaching, and overharvesting.



Food security is a major concern for Tl'azt'en Nation and is discussed in detail in Section 3.4.2.



2.2.7 Tl'azt'en stewardship and identity

“Protect it, share it for generations to come.” (9-1)

Stewardship of the land and its people is central to Tl'azt'en culture, and an ethic of personal responsibility is embodied in the traditional keyoh system:

*“Long time ago we used to manage our keyoh, each every person. They **never did overharvest any one keyoh**...if you stay over here one year, and you harvest moose, beaver, bear, up that way, give it time to replenish itself.” (4-2)*

*“You have to eat what comes out of the land. So **you got to look after it**” (6-1)*

*“Cause grandpa told us maintain that house, when I die maintain it, **if you don't maintain it, your grand kids going to get hungry, they wouldn't know where to go.**” (8-1)*

Tl'azt'en's traditional reliance on the plants and animals of the territory engender a particular respect and concern for their wellbeing:

*“They have to live, you know. We're invading ... that's their land, **it doesn't belong to us, it's their land.**” (6-1).*

Tl'azt'en culture is deeply intertwined with the land, and land stewardship is more than an environmental concern. Keyoh holders recognize that “the success of our language and traditional practices depend on the Keyoh being protected and managed by the people who live

off of them.” (TNKH 2009: 8). So when people emphasize their role as stewards, they are expressing a desire for future generations of Tl'azt'en to benefit, and to belong:

*“That’s what I want to see happen for my grandkids that’s growing up, for their children, **somewhere they could have a home and know where they come from**, identity. Know who you are, when you walk down the street anywhere in the world, you should be doggone proud of who you are. You should have that in you.” (12-1)*

2.3 Land alienation and resource exploitation: “I’ve seen changes man, holy!” (9-1)

*“How this world change. It’s not the same anymore. What we were used to growing up, **we use to be rich with what we had in our clean country**” (3-2)*

Like all of BC’s Indigenous peoples, Tl'azt'enne and their lands have been subject to relentless colonial forces since the time of first contact, and have suffered continuous losses of land, health, and culture.

Land alienation began and continues through Indian Act legislation (1869-present), which along with provisions to bring an end to hereditary government and deport Aboriginal children for enforced assimilative education, constrained people to a fraction of their original territories:

*“Long time ago the government **gave out pocket-size reserves** to our ancestors and it’s called village and **took away our land** and call it Crown Land.” (3-2)*

The location of these reserves, distant from most centres of commerce and services, serves as a barrier to participation in an otherwise healthy, wealthy, regional economy:

*“Even trying to make money around here yeah, **we’re in a bad spot, we’re in a hole.**” (11-1)*



Today, much of what Tl'azt'enne value about the land has been “transformed into commercial/industrial commodities that are managed for profit in the private sector or taxed to generate revenues for the public sector” (Brown 2002: 60).

*“Different types of disruption to the way of life up there already: one being the railroad and the other is forestry. **That’s not the only problem we have**, besides these industries coming in, it’s been overharvested by outside people too.” (4-2)*

People who continue with hunting, trapping, and gathering activities to sustain their families have often found their access to traditional resources blocked by non-aboriginal ownership, resource use rights, and regulations imposed on the keyoh (see Brown 2002). Tl'azt'en's keyoh-based system of stewardship has been circumvented by game and fisheries protection regulations:

*“You have to have permission to go on somebody else’s trapline to hunt, to fish, to gather food. And **now you just go to any government office** you go for any licenses **and you’re allowed to go anywhere you want.**” (10-5)*

The construction of BC Rail (BCR) right-of-way, beginning in 1969, is blamed for fragmentation of wildlife habitat, contamination of water, and direct destruction of traditional use uses and infrastructure:

*“They put that railway all the way along here, they, what they did was **they killed all those little creeks and streams**. They use a lot of that [creosote] and they really damaged a lot.” (4-2)*

*“They [BCR] **blast this thing off the map** [fish camp TUS 1019], to bring that railroad tracks through there.” (8-1)*

Forest harvesting is considered by many Tl'azt'enne to be the biggest force of change on the landscape. One resident of Middle River describes the first time logging happened close to the community:

*“You could see it, both sides **just like some monster been in here...** that’s just in two days... ‘uba [father] just sat down there on that stump and just like something hit him, shock! That something happen like that, **it’s just overwhelming**, sat there for a long time, didn’t talk, we knew what he was feeling, **what he was feeling was just, like somebody came up to him from behind and just hit him.** (12-2)*

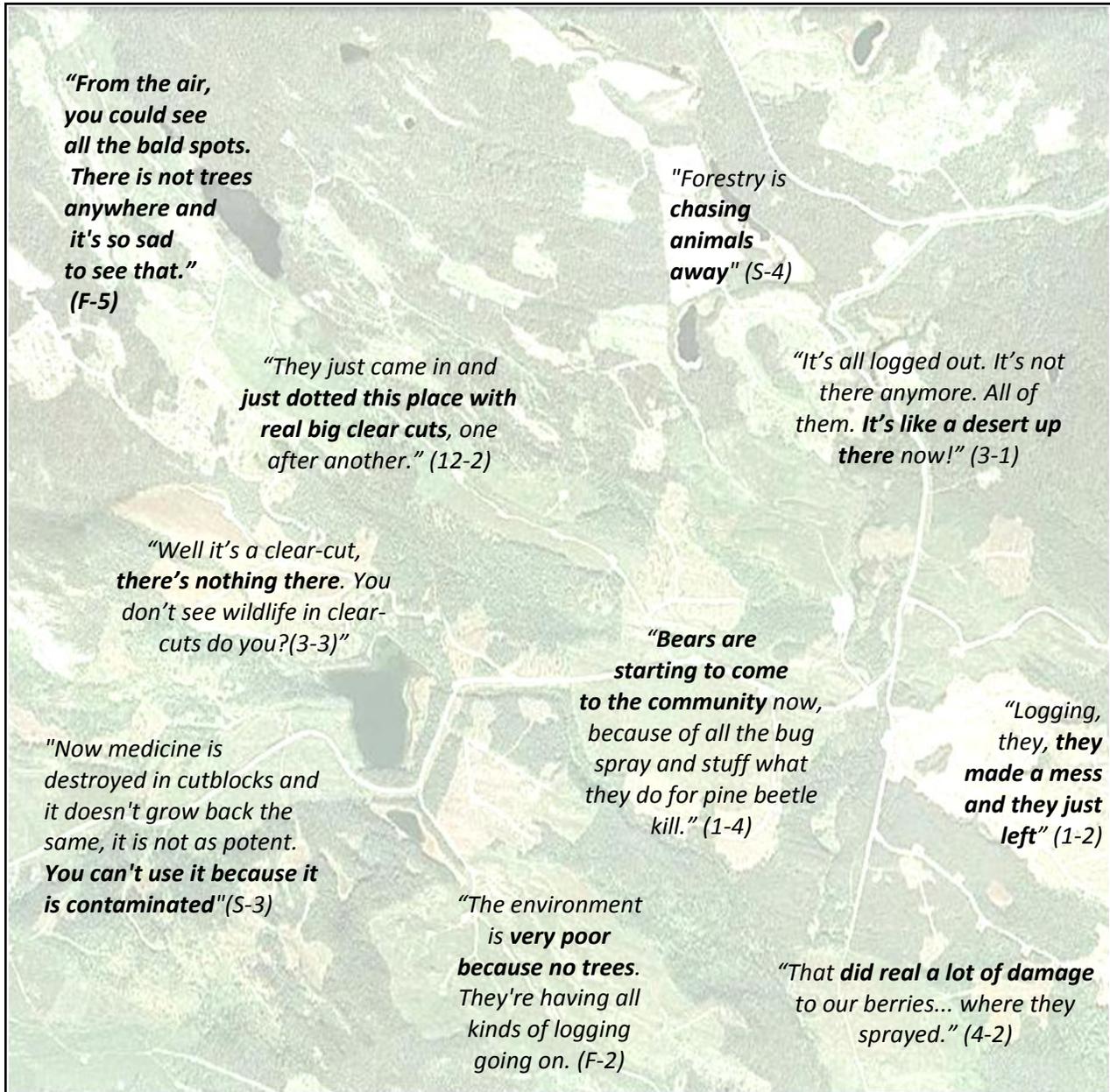


Figure 8. The effects of logging for TI'azt'en.

The cumulative effects of these forces on TI'azt'en lands are now a part of the TI'azt'en story, written on the land alongside a deeper heritage and occupancy. TI'azt'enne see them every day. Cumulative and residual effects are a critically important part of TI'azt'en land use history, and are discussed in further in Section 3.2.4.

2.3.1 Effects on the People: a legacy of social injustice

*"You know the only fault we had, **we were too generous**, we welcome them into our house and then they took it over!" (12-1)*

Dispossession of Tl'azt'enne of their lands and resources has resulted from social and economic policies imposed on them since before confederation. Such policies have resulted in a level of poverty among First Nations that is staggering: half of Canada's aboriginal children live in poverty, a situation that has been described as a "a massive, systemic human rights problem" (Turpel-Lafonde 2013). Tl'azt'enne are acutely aware of this situation:

"Right now we got no income. Most of us are on welfare."(1-1)

"They can't afford to go to Overwaitea every two weeks, like he said you only get \$200 a month." (4-2)

"There's no jobs up there, we live off the land." (4-1)

Tl'azt'enne, like most First Nations, have gained very little from a century and a half of aggressive resource extraction and social engineering policies. The result is "we are getting pushed back into further areas"(S-3). The wealth of our unceded lands and resources feed an economy from which we have been largely excluded. The chronic social injustice of this situation weighs heavily on people and influences how Tl'azt'enne are responding to the PRGT project.

Expediting the removal of natural resources for profit has become a major preoccupation of the British Columbia and Canadian governments and their constituent agencies. Reducing "red tape" in the service of corporate interests has been to the detriment of both the environment and Aboriginal rights. The BC government's 2005 shift to online staking of mining claims, for example, allows individuals and companies to seize subsurface rights with a few mouse clicks, circumventing a respectful and informative consultation effort. Nak'azdli Chief Leonard Thomas described that program as "legally suspect and it should not go unchallenged" (Prince George Free Press 2005).

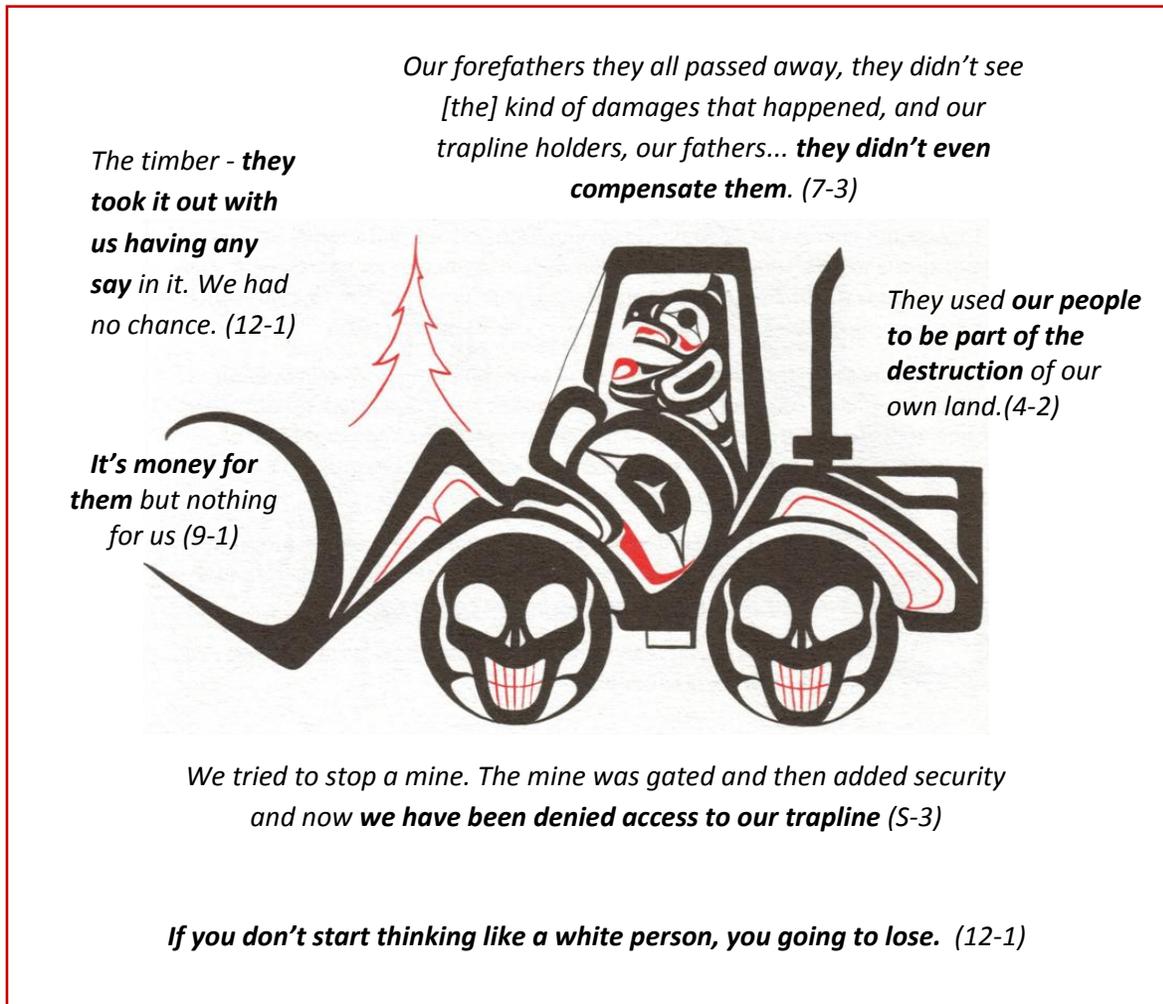


Figure 9. Land exploitation for Tl'azt'enne. (Artwork Wii Muk'willixw, 1996, *Seizure on Luulak's Land*)

This kind of streamlining of regulatory processes that are designed to serve a key protective function directly affects First Nations' ability to be part of decision-making processes. Systems like online mining staking puts the onus of First Nations to identify issues, rather than proponents or government initiating consultation processes, "creating an undue strain on our band's time and resources by constantly forcing us to monitor our territory against their infringements" (Thomas in Prince George Free Press 2005).

“And they won’t stop, those loggers, and everybody else that’s doing these things, they don’t see it. Us we live here, we see it. I tell people that, “You’re killing yourselves” just like a drug, going to end up in a box in the ground. Killing us, killing themselves too. That’s me, you, you, you they’re killing all of us. Can’t see that, can’t see that they’re killing us. Nobody sees that, they just see money that’s all.”(12-1)

It is an underlying goal of this TK assessment, and Tl'azt'en governance as a whole, **“to right the balance, and to balance the rights, that existed at the time when we first met.”** (Justice Murray Sinclair, Chair of the Truth and Reconciliation Commission of Canada).

“We have nothing, but it’s not going to happen anymore. That’s the biggest message you should put on your report.” (12-1)

3 Tl'azt'en Traditional Knowledge Assessment

"We have things to say about whether it does go through or not, it shouldn't matter about how much money we're going to get, but think about the animals, environment, it going to be good for us?"

This section assesses the anticipated effects of the proposed Prince Rupert Gas Transmission line (PRGT) on our territory and our people. This assessment serves the sovereign interests of Tl'azt'en Nation in communicating our position to the proponents and regulators.

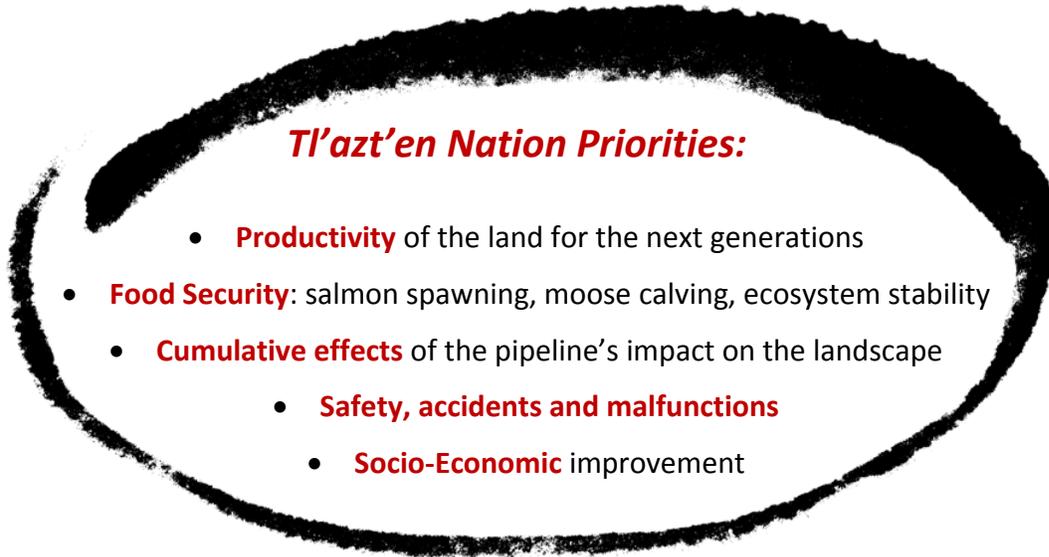
The Traditional Knowledge Assessment considers the issues of ecological, social and economic importance from the perspective of those who live here. We acknowledge that the BC Environmental Assessment Agency (BCEAA) favours a process wherein Valued Ecosystem Components (VECs) stand as proxies by which to measure a project's impacts. The BCEAA looks for VECs under five "pillars": environment, economic, social, heritage, and health (EAO 2013). The proponent is permitted to select these VECs and related indicators in consultation with various interest groups. In the case of this project, PRGT aims for VECs and indicators that are measurable, accurate, predictable, legally and scientifically defensible, and support an efficient, and effective assessment process (PRGT 2013).

Tl'azt'en Nation staff and our TK Study team have found these criteria fail to capture the experiences and concerns of Tl'azt'enne. First, the selection of a VEC requires placing a higher value on one particular environmental component over another. It is a reductionist approach that devalues much of what is intrinsic in Traditional Knowledge and central to Tl'azt'en's relationship with the land (see NERB 2005). Many of the concerns brought forward by Tl'azt'en about PRGT cannot, and should not be isolated under a single "pillar". Salmon, for example, are not only components of Tl'azt'en ecosystems, but also integral to the community's health, to family economic security, and to cultural cohesion and endurance.

The following assessment is therefore specific to our territory, our people, our culture, and our future.

3.1 A Summary of Our Interests: Land, Water, Air, People, Life

"TransCanada gas: 'oh we're going to go through your living room, you know, this pipeline—you have any concerns about that?'" (6-1)



The overriding priority of participants is that the land be preserved for their children, and grandchildren as a trust for the future, to ensure the survival of Tl'azt'en cultural identity and subsistence practices. Keyoh holders have a strong sense of stewardship toward the land, water, air, wildlife, and the people who depend on them, and a have a clear duty to protect the Keyoh's ecological integrity:

"I wouldn't want my grandchildren to grow up on the land where they cannot fish or hunt anymore ... I want them to learn so they could survive, like we did." (10-3)

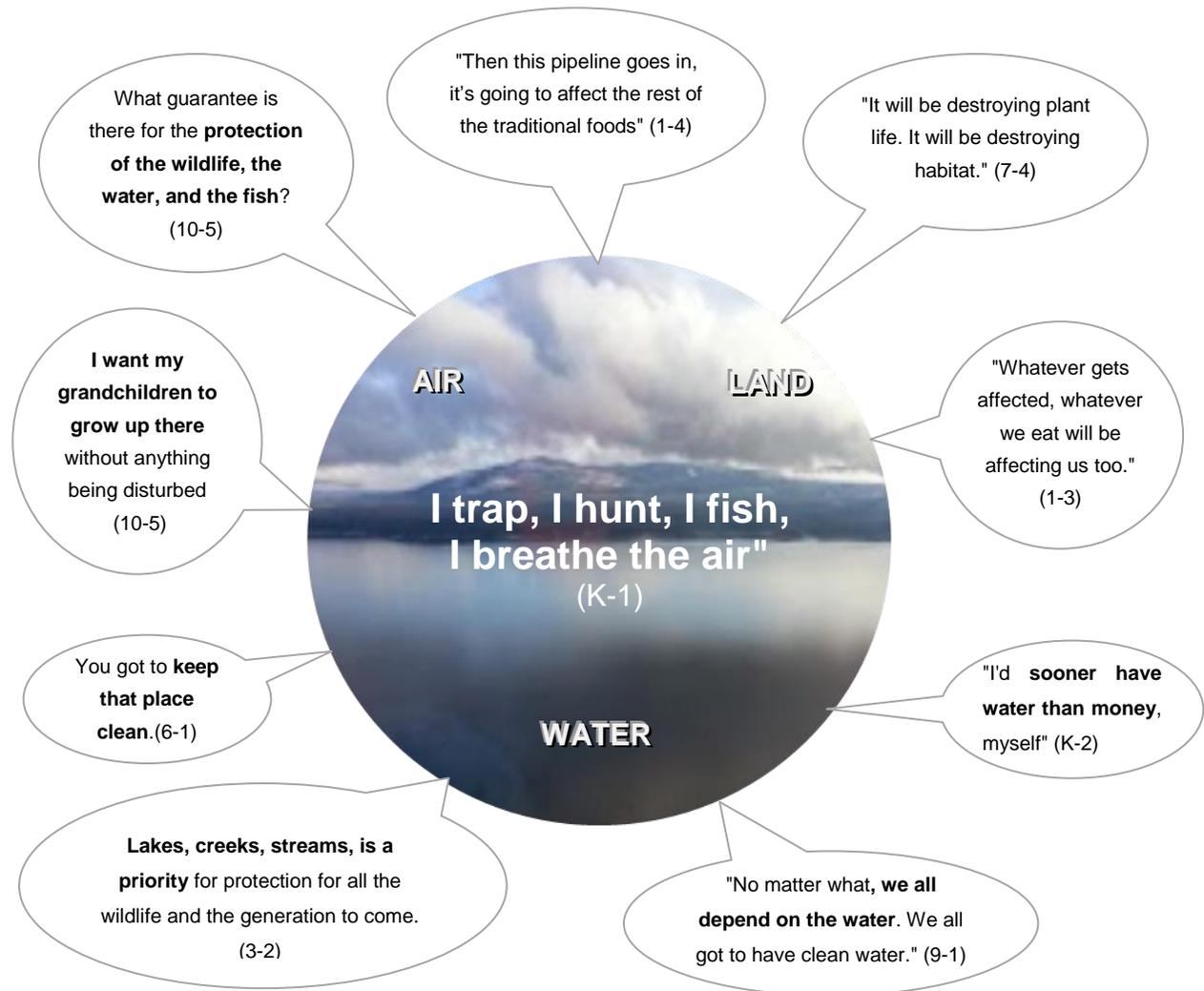
Tl'azt'en economic security has always depended on the soundness of the surrounding physical environment. This economic base has supported our way of life since the last ice age (Brown 2002: 21).

"That's our wealth, that's our land." (12-1)

3.2 Ecological sustainability

Many TI'azt'enne see this pipeline as a threat to those who rely on the land for subsistence, and are gravely concerned about the risks to long-term ecological integrity:

"We know some day our clean country will be damaged. Polluted our clean water. Us people will be crying like those people suffering down south." (3-2)



TI'azt'en recommendations: Working in our territory

- "When you go into somebody else's territory, you all have respect for that place" (10-5)
- "Quick work, and get out of there" (4-1)
- "Bring it back to the way it was so that wildlife have a chance" (6-1)

Tl'azt'enne see no useful distinction in discussing an animal separate from its habitat. Assessment methods that divorce species from habitat ignore critical relationships and reduce the effectiveness of the study. Our TK assessment focuses instead on the inseparable **cultural landscapes** and **cultural keystone species** that support our people, and the **pipeline components** with which they are likely to be in conflict.

General concerns with the effects of the pipeline on wildlife include:

- Construction disturbance effects on wildlife life-cycle behaviours (e.g. moose calving, grizzly bear pre-winter hibernation feeding)
- Health effects of disturbance avoidance behavior (e.g. malnourishment resulting from displacement into suboptimal habitat, or suboptimal forage areas)
- Increased hunting mortality due to increased in road access
- Increased vehicular mortality
- Alteration of predator-prey dynamics; especially increase predation on moose by wolves
- Increased habitat fragmentation
- Habitat loss

General concerns with the effects of the pipeline on vegetation and ecosystems include:

- Reduced access to preferred plant harvest locations
- Alteration of the physical and chemical environment;
- Reduced abundance and predictability of culturally-valued plant species
- Reduced abundance of and access to preferred moose browse
- Introduction of exotic species.

3.2.1 Cultural Landscapes at Risk

Participants understood that while the pipeline is expected to open up a relatively narrow corridor, it will bisect a number of critical use areas as it crosses the entire territory (see Figure 10, below). This potential disruption is seen as severing one part of the landscape from another, fragmenting the worlds of animals and people alike.

Five cultural landscapes are considered to be in conflict with the proposed PRGT project: *Yoonoo'-i Koh/Dzit'ainli* watershed, *Ts'iyá koh* watershed, *Khast'ani-Tsintizdli* watershed, *Whelulh tl'oh - 'Udedo tsendzut* Habitat Area, and *Ningwus koh* watershed (Figure 10). They are discussed individually in this section.

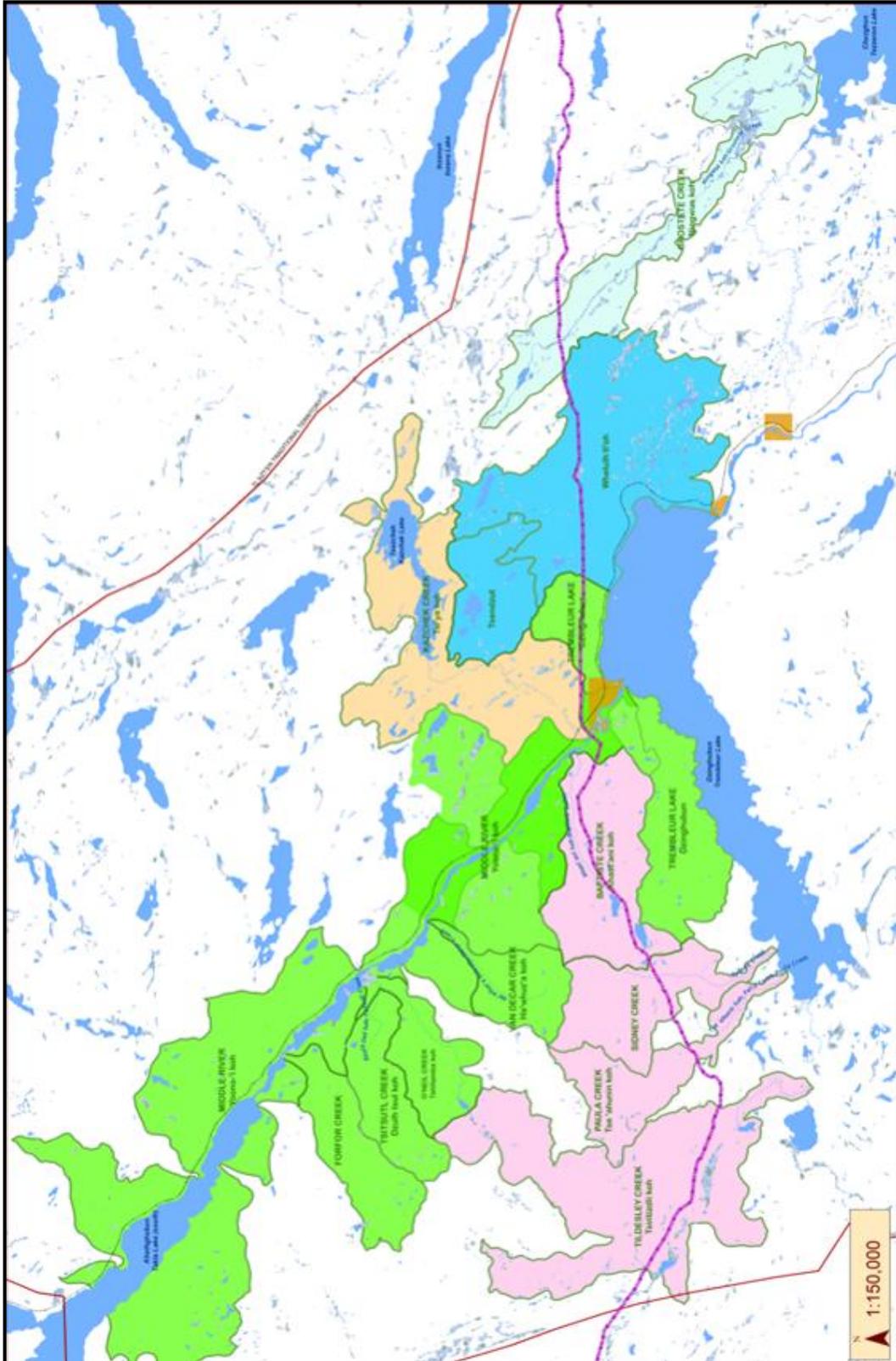


Figure 10. Five cultural landscapes potentially affected by PRGT.

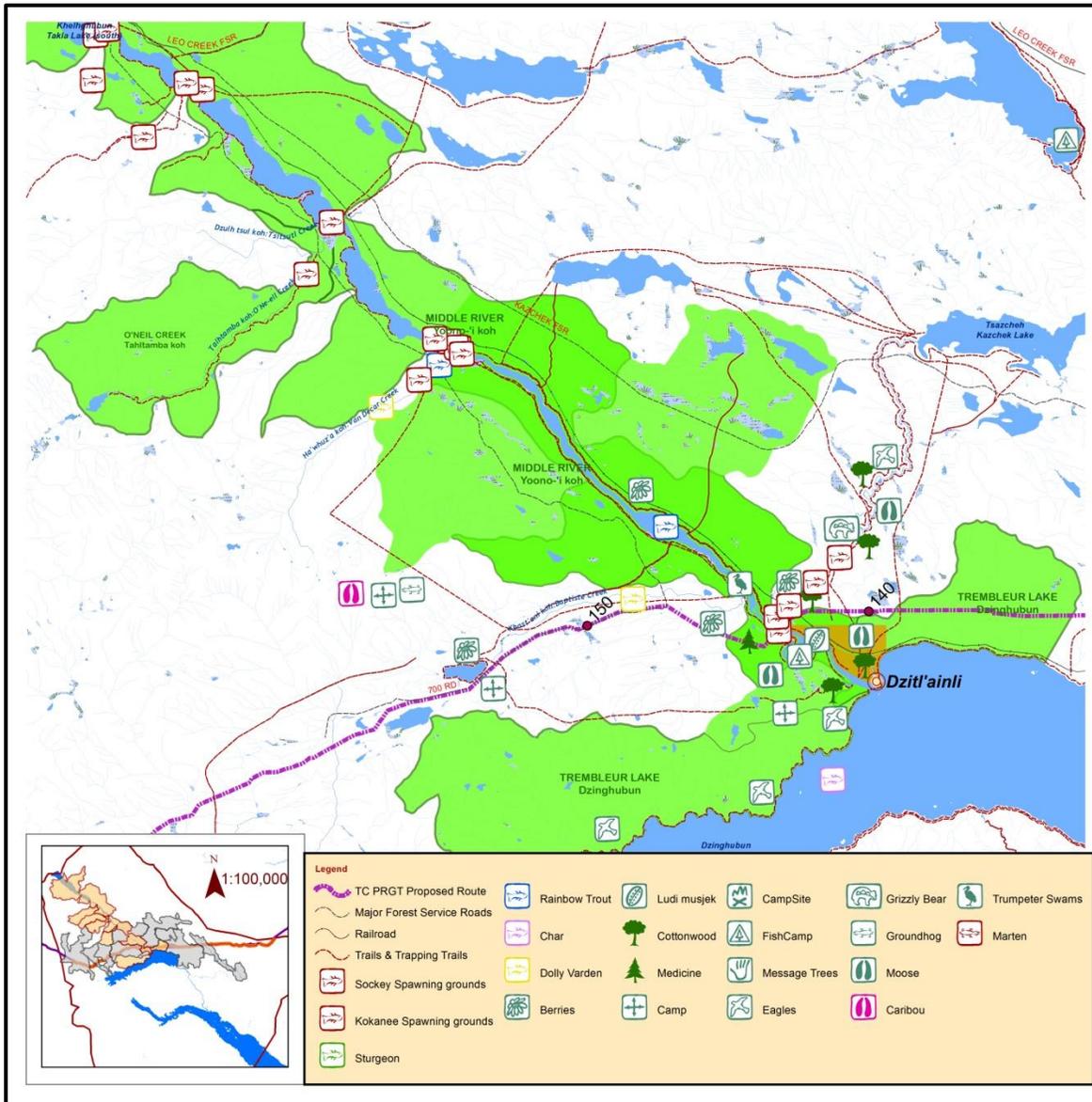


Figure 11. Yoonoo'-i koh and Dzitl'ainli Cultural Landscape. Numbers along the PRGT route are the proponent's KP markers.

Yoonoo'-i koh Watershed and Dzitl'ainli: “this here is very very valuable to us” (7-4)

Yoonoo'-i koh (Middle River) and Dzitl'ainli (the village at the mouth of Middle River) are critically important areas for Tl'azt'en land users, past, present and future. The river and its tributaries in this area are the arteries of a diverse ecosystem that has sustained Tl'azt'enne for centuries. It is

at the centre of the keyoh held by Henry C. Joseph and his family, but is used and beloved by many, many more:

"I bet you, you'd get about a thousand people saying 'that's where my family's from'." (13-3)

*"Even though it's been depleted over the past thirty years... everybody can say this: that **people lived there year round, for the past one hundred, two hundred years.**" (4-2)*

History is written on the land here: the area is dotted with traditional use sites related to fishing, hunting, trapping, plant gathering, speciality wood harvesting, food and skin processing, and canoe manufacture. The village at the mouth of *Yoonoo'-i koh, Dzitl'ainli*, is the beginning and end of numerous trails, a place for boats to launch and land, as well as home to historically important cultural sites such as birth and burial places, settlements and gathering places.

Many TI'azt'enne have a deep emotional connection with *Dzitl'ainli* and the surrounding land and waters, which reflects the profound cultural significance of the place:

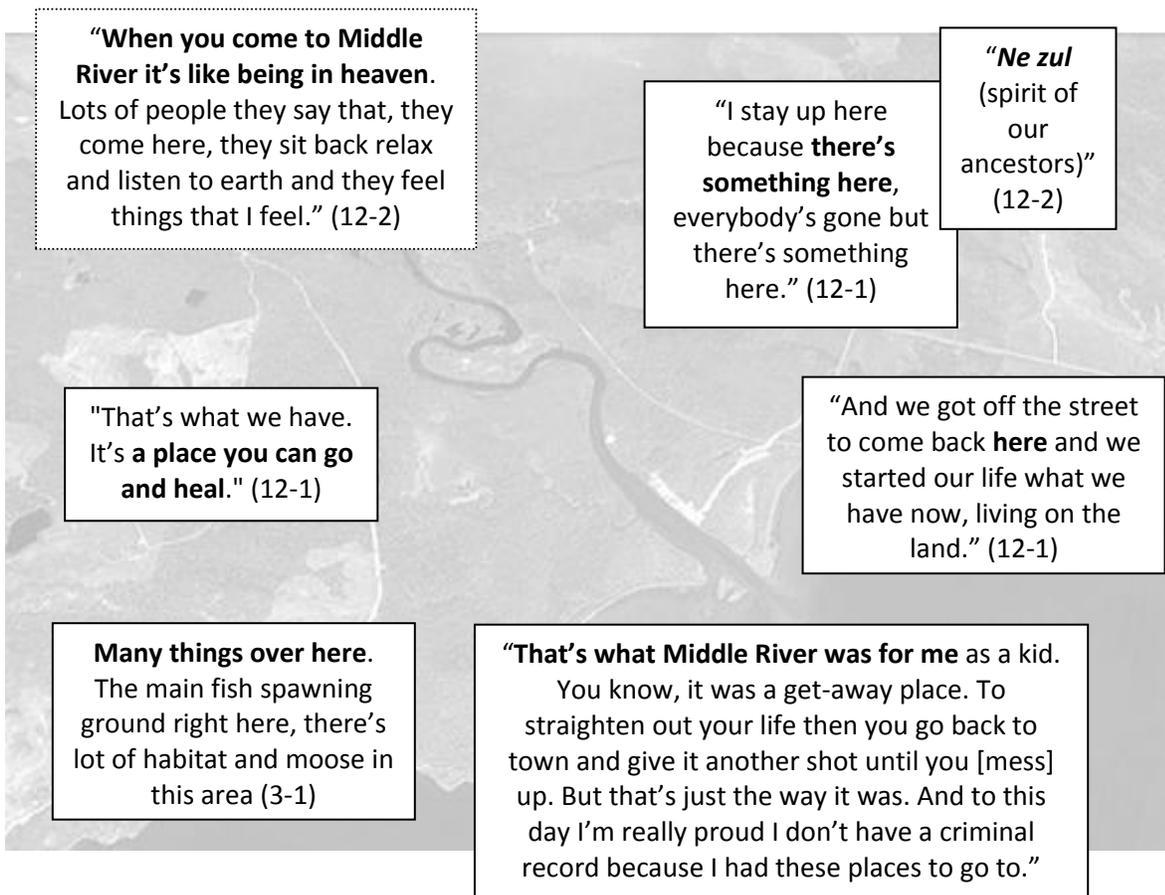


Figure 12. The meaning of *Dzitl'ainli* for TI'azt'enne.

Yoonoo'-i koh is home a variety of fish important food fish including sockeye, kokanee, whitefish, rainbow trout, Dolly Varden, and char (2-3, 10-1, 13-2, 11-1). Major spawning grounds for Early and Late Stuart-Takla sockeye salmon runs are located in the lower reaches of the river (1-1, 1-3, 3-1, 3-3, 3-4, 7-9, 10-1), and around the outlets of its upstream tributaries, near *Ha'whuz'a koh* (VanDecar/Rossetti Creek) (10-3, T-1, T-5) and at 12 Mile Lake (4-2, 7-9). The river provides critical habitat for rearing young salmon through their first year (also BC Ministry of the Environment 2014). Because of the size and length of these runs, the management of this location "affects everybody....Every other Nation going along the Fraser" (13-3).

Riparian areas along the length of the river are important moose habitat, providing browse and cover (10-3). *Ch'a bunk'ut*, a flood plain area south of Ts'iyá koh, is a well-known and highly valued moose calving area (1-1, 4-1, 4-2, 6-1,7-9, T-1, 12-1).

The PRGT pipeline is expected to cross Yoonoo'-i koh between Dzitl'ainli and Ts'iyá koh, and can affect moose and furbearer habitat and population dynamics across the region. Salmon spawning areas and the lives of the residents of Dzitl'ainli may also be affected.

Crossing of Yoonoo'-i koh (Middle River): "Is it safe?" (7-4)

The significance of *Yoonoo'-i koh* and its resources on the Tl'azt'en cultural landscape cannot be overstated (as discussed in Section 3.2.1). PRGT's proposed method of crossing of this waterway by drilling under the river is a new concept to many. The combination of these factors makes this crossing ***an emotional and contentious issue*** for the community:

"The most important one is here, the crossing" (7-4).

"I'm really concerned about that pipeline going under." (9-1)

"Everybody is concerned about it." (5-3)

"I don't know what'll it do too, especially the spawning area.... No matter how far down you are [underground], you know, the fish they are pretty sensitive" (5-3)

Many acknowledged that the underground crossing method, known as Horizontal Directional Drilling (HDD), was preferable to going through (damming the river) or over (aerial crossing):

"I think it's safer to go under" (5-3)

"If it is going to be put underground then it will be alright to do that." (10-3)

Some people have suggested alternative crossing locations further upriver, farther from the village and wildlife habitat. PRGT and TI'azt'en Natural Resources have been engaged in ongoing discussions in an effort to reach a compromise on this issue. However, the TK study has found that while people felt generally cautious about the Middle River crossing, many thought relocating the crossing is unnecessary:

"They're still going to go across anyways like it here or not, they might as well just go across right there." (8-1)

"There's no way you can lessen the impact by moving that place to another location. Just another place on our land you going to move it to." (12-1)

Some think the proposed upriver crossing locations would create greater risk for environmental degradation through erosion (T-4), and would interfere with the hunting (7-4) and caribou grounds (12-2) along the river. An alternative crossing location would entail crossing Ts'iya koh, an unwarranted disturbance of a highly valued resource area.

People require more evidence about the soundness of this process:

"We need to have a guarantee from them that the vibration and the noise will not affect this [spawning areas]" (4-2)

"As long as this one is a 110% percent good, then it's okay" (8-1)



TI'azt'en recommendations: Take the time to educate and assess the alternatives.

"Our elders' advice: 'don't go shortcut', they tell us. Go the long way around, you'll make it home." (12-1)

It takes time to do the right thing. The principle of free, prior, and informed consent is violated by pushing people to participate in a process in the absence of crucial information and adequate time to become informed.

**The burden of responsibility
is on the proponent to demonstrate that the
HDD crossing method and location are the
safest options.**

We recommend research, refinement, and reassurances about this process. We encourage TransCanada to arrange for an *external review* of the proposed horizontal direction drilling method, associated technologies, best practices and outcomes based on global experiences. This research should include comparing in-the-field outcomes with baseline data on fish habitat and population (quantity and quality). *Demonstrating that HDD at the proposed location is the lowest-impact option is essential for Tl'azt'en Nation.* Sharing research with leadership and community members will be critical to effective consultation.



Should HDD be undertaken at Middle River, we recommend the following restrictions:

- drilling be undertaken ONLY from Late November to February to reduce interactions with denning grizzly bears and spawning salmon
- horizontal directional drilling sites are placed at the *maximum possible distance from the riparian habitat and floodplains* along Middle River
- potentially contaminated drilling muds be safely disposed of off-site
- full and ongoing discussions to refine and tailor the process to the Middle River location

Ts'iyá koh Watershed (Kazchek Creek)

This watershed north of the proposed Middle River crossing is a valued subsistence area characterized by a rich and extensive riparian ecosystem supporting a number of cultural keystone species, including a number of fish species, furbearers, moose browse, grizzly bear populations, old-growth cottonwoods (traditionally harvested for dugout canoes), and numerous medicinal and food plants. The area has recently seen the return of the beleaguered Chinook (spring) salmon (11-1).

"It's a habitat for wildlife there, the last place we have. Ts'iyá Koh" (12-1)

"That's all kokanee, and spawning area and that... and moose, grizzly bears....They all use it there, pretty much all animals use that area." (3-4)

"Lots of eagles nests around that area." (3-4)

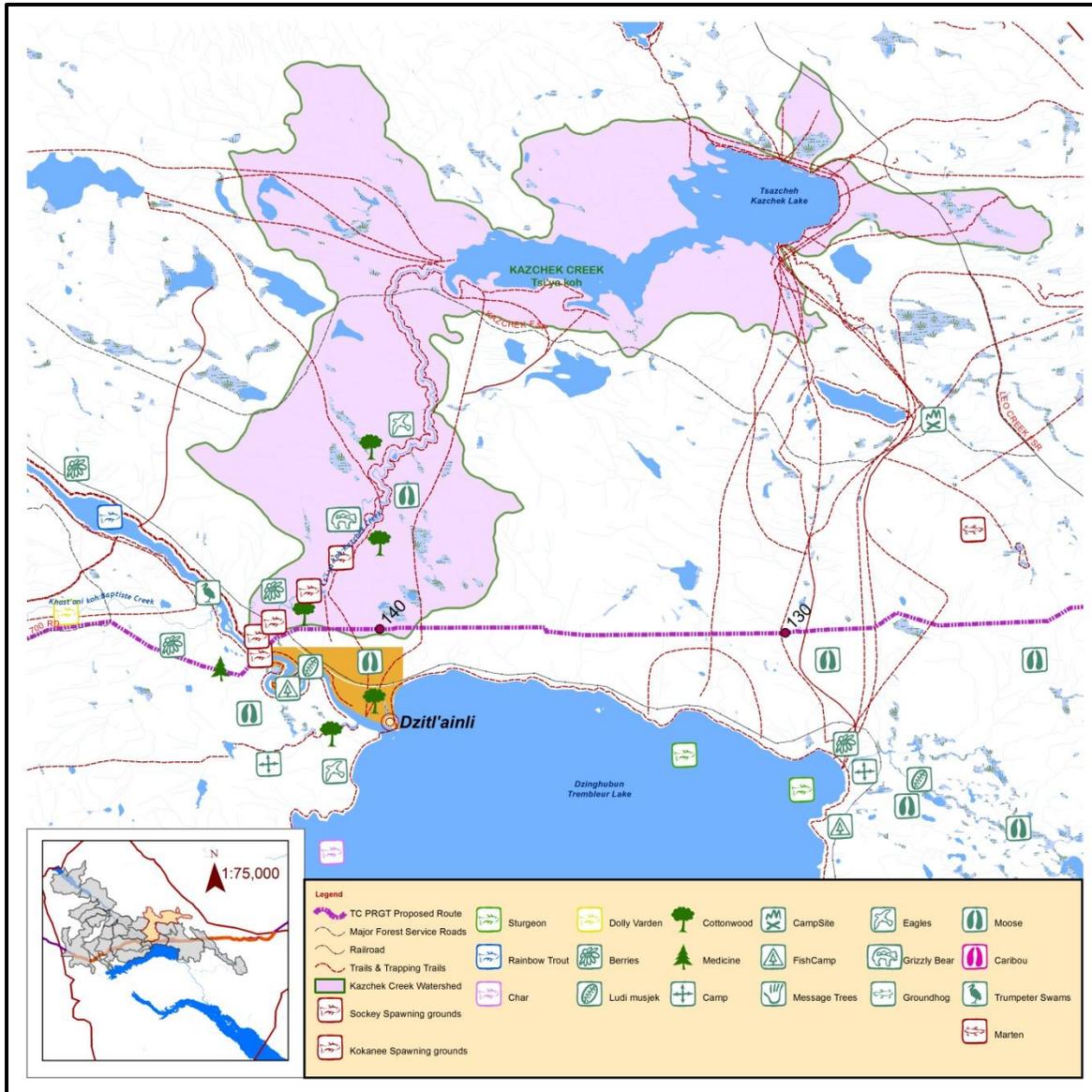


Figure 13. Ts'iyá koh Cultural Landscape. Numbers along the PRGT route are the proponent's KP markers.

Ts'iyá koh is a key trapping watershed and traditional travel corridor between the Dzitl'ainli settlement and seasonal occupation sites north at *Ts'azcheh* (Kazchek Lake).

The PRGT pipeline is expected to run adjacent to the lower reaches of Ts'iyá koh, and could potentially affect moose and furbearer habitat and salmon spawning areas.



Tl'azt'en recommendations: complete avoidance of the lower reaches of *Ts'iyá koh* (Kazchek Creek), and special consultation and planning for any entry into this area, including air traffic: “Stay away from this creek here” (11-1) and “lessen the blow on the salmon” (3-4).

Khast'ani-Tsintizdli Watershed (Khast'ani koh, Khast'anghubun, Tsel k'un, Tse 'ahunin koh, Sidney Creek, Tsintizdli)

The valley between *Tsel k'un* (Mount Sidney Williams) and *Dzinghubun* (Trembleur Lake) along *Khas'tani koh* and *Khast'anghubun* (Baptiste Creek and Baptiste Lake), is an important moose habitat, hunting grounds, and historic travel route (3-2, 7-9, T-4). *Khast'anghubun* is a historic trapping location and houses archaeological remains important to Tl'azt'en's cultural past. The mountains on the north of the valley are valued hunting territory and have special spiritual

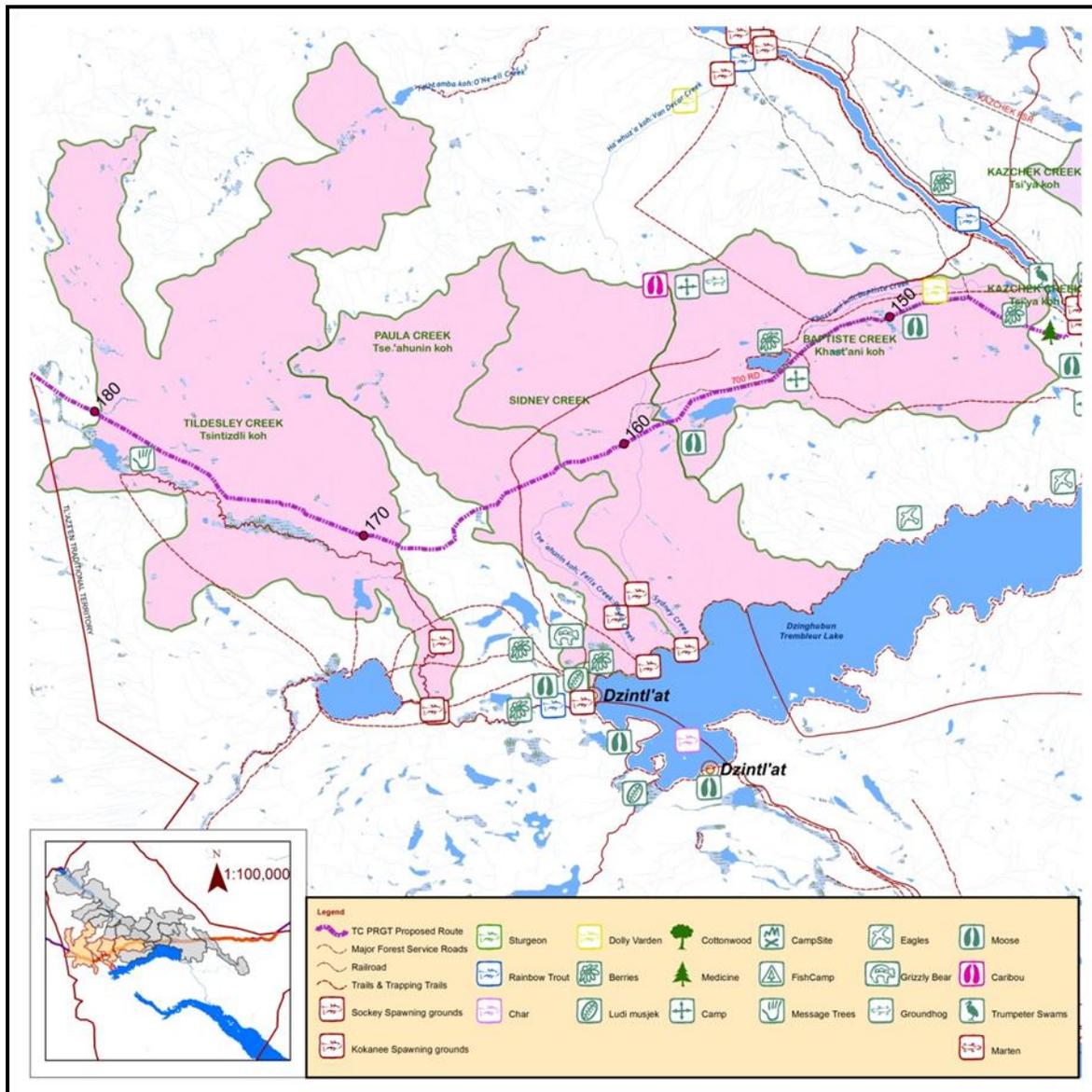


Figure 14. Khast'ani-Tsintizdli Cultural Landscape. Numbers along the PRGT route are the proponent's KP markers.

importance (4-2, 7-9). *Tse 'ahunin koh* (Felix/Paula Creek) and Sidney Creek are valued salmon spawning waterways and traditional fishing areas(5-1, 5-3, 12-1).

"A lot of salmon goes up there too [Tse 'ahunin koh & Sidney Creek]... this is very important to us." (5-3)

At the western end of this cultural landscape, *Tsintizdli* (Tildesley Creek) and *Lhetank'ut* are traditional trapping areas and travel corridors. An historic arboglyph site containing message trees is located around *Lhetank'ut*.

The PRGT pipeline is expected to run parallel to Khast'ani koh and south of Khast'anghubun, along an existing forest service road (700 Road), and is not expected to have a long-term negative effect on wildlife habitat or land use in this area following the construction period.

The PRGT pipeline is expected to cross Tse 'ahunin koh (Felix/Paula Creek) and Sidney Creek and could potentially affect salmon spawning habitat in these creeks.

The PRGT pipeline is expected to abut the arboglyph site at Lhetank'ut (TUS 5104) and could potentially affect the site's integrity. See section 3.3 for recommendations on this and other cultural heritage concerns.

Whelulh tl'oh - 'Udedo tsendzut Habitat (*Tchentsut Mountain to Trembleur Lake*)

The area between *Whelulh tl'oh* at *Dzinghubun* and *'Udedo tsendzut* spans an elevational gradient that houses a diversity of wildlife of value to Tl'azt'enne, from geese in the lake (2-1) to bears and wolves on the mountainsides (11-1). Numerous trails, used historically and in the present, weave through the area north to traplines around *Ts'azcheh* (Kazchek Lake). This is a key moose calving habitat (3-1, 3-2, 3-4, 4-2, T-5), rich with wetland vegetation important for browse and cover (10-3).

The PRGT pipeline is expected to cross the 'Udedo tsendzut Habitat Area and could potentially affect moose, bear, and wolf habitat in this area and population dynamics across the region. The pipeline here will also bisect a number of culturally significant trails.



Tl'azt'en recommendations: complete avoidance of the 'Udedo tsendzut Habitat Area. Reroute pipeline around Tchentsut Mountain.

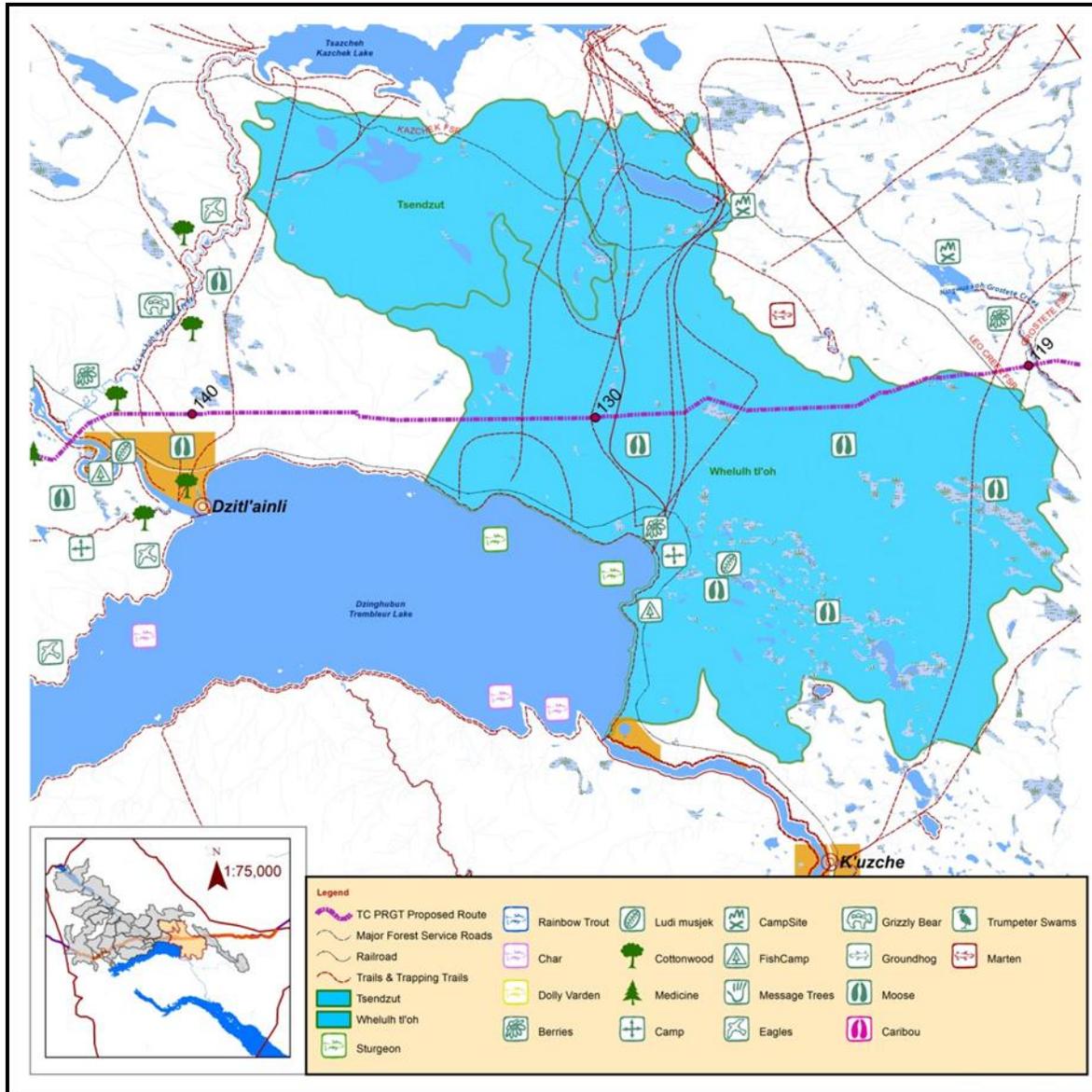


Figure 15. Whelulh tl'oh-Udedo Tsendzut Cultural Landscape. Numbers along the PRGT route are the proponent's KP markers.

Ningwus koh Watershed (Grosetete Creek)

This creek and extensive wetland complex east of and parallel to the Leo Creek road is a sensitive wildlife corridor and moose habitat. Food plants are common around the creek—it's name, *ningwus*, means soapberry—and the area is traditional beaver trapping territory:

“That’s where we get most of our beaver, eh? Beaver in the fall and spring. The pipeline is going through that.” (1-1)

The original crossing of the creek (between markers EAKP 302 and EAKP 303 on proponent's maps) was considered unnecessary disturbance. TI'azt'en Nation and TransCanada have worked together to determine a more suitable location, 0.4 km upstream from the first, at a location previously disturbed by a bridge.

The PRGT pipeline is expected to cross Ningwus koh at a previously disturbed location and is not expected to have a long-term negative effect on wildlife habitat or land use in this area.

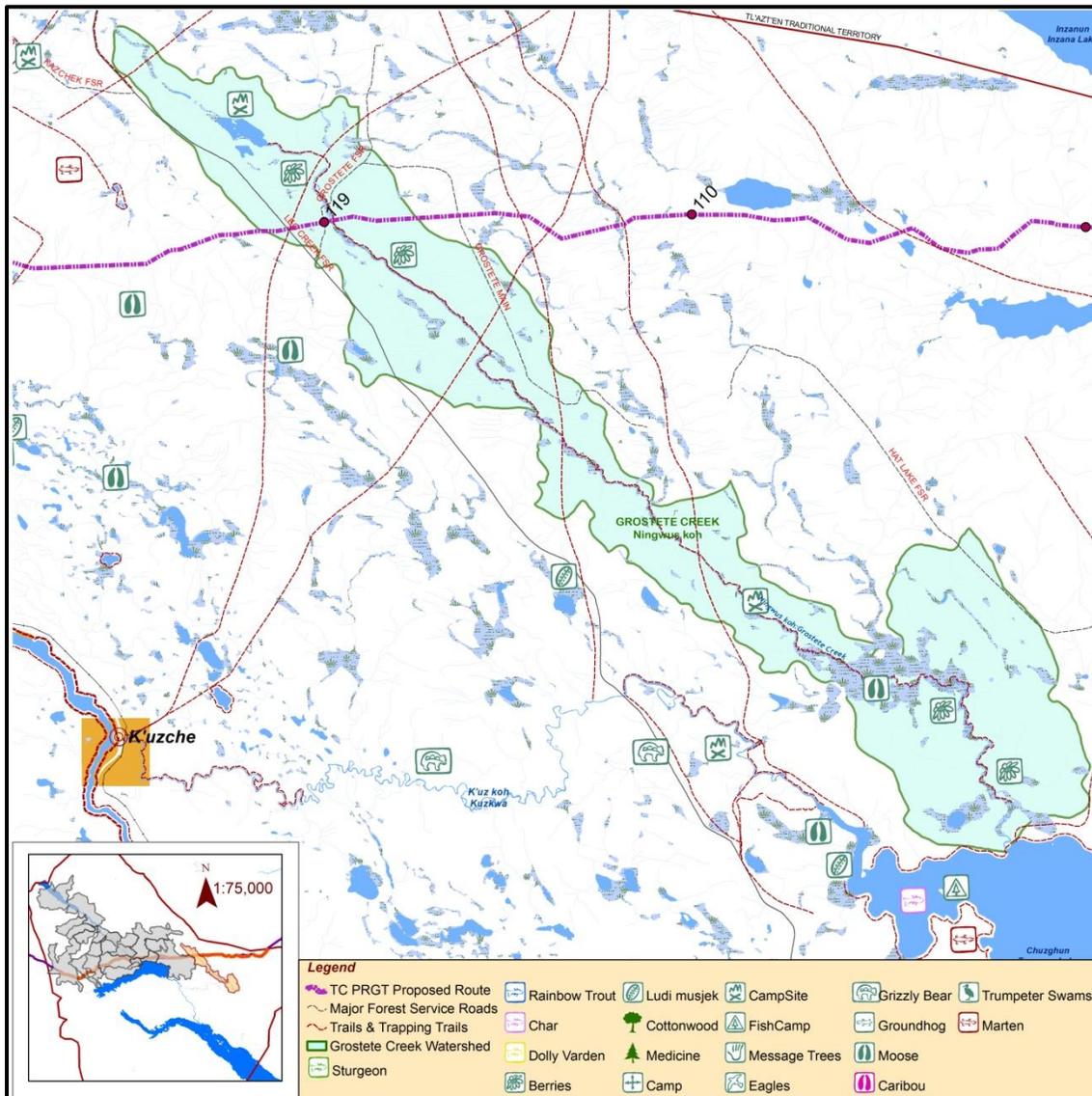


Figure 16. Ningwus koh Cultural Landscape. Numbers along the PRGT route are the proponent's KP markers.

3.2.2 Cultural Keystone Species

Tl'azt'enne economic and cultural survival depends on continued access to a variety of animal species (see Tables 2 and 3 in Section 2.2.3). Maintaining biodiversity that sustains cultural practices and wild food collection is a grave concern for participants: responsible, informed decision-making requires additional data in order to quantify and describe habitat and population changes resulting from this and other projects.



Tl'azt'en recommendations: Baseline biophysical data collection in priority areas:

- **Salmon-bearing stream** assessment
- **Moose** collaring and winter track count programs
- Winter aerial survey of **moose** and **caribou**



Tl'azt'en recommendation: Follow-up studies and monitoring to compare with EA baseline data to determine actual, not predicted, effects:

*“Before the pipeline goes through there check the berries out, check the plants out, have it on record. Now after the pipeline goes through, two months, three months, **check it again and see if there’s any difference.**” (6-1)*

Healthy, sustainable populations of *key subsistence species*—are essential to Tl'azt'en community members who hunt, trap, and gather to sustain their families. These **cultural keystone species** play a primary role in shaping cultural identity through their prominent use in diet, materials, medicine, and/or spiritual practices (Garibaldi and Turner 2004).

Moose and Salmon

Moose and salmon are **our cultural keystone species**. The *protection, restoration, and avoidance of their habitat is a priority* and should be undertaken in direct collaboration with Tl'azt'en Chief and Council, members, and the Natural Resources Department.

Cultural keystone species: Moose (khuda)

Moose are critical to Tl'azt'en's food supply, household economies, and cultural identity. Tl'azt'enne have watched moose populations in the area decline over many decades, and have witnessed first-hand the fragmentation of moose habitat, the degradation of their food and water sources, and the increased mortality by accident and competition.

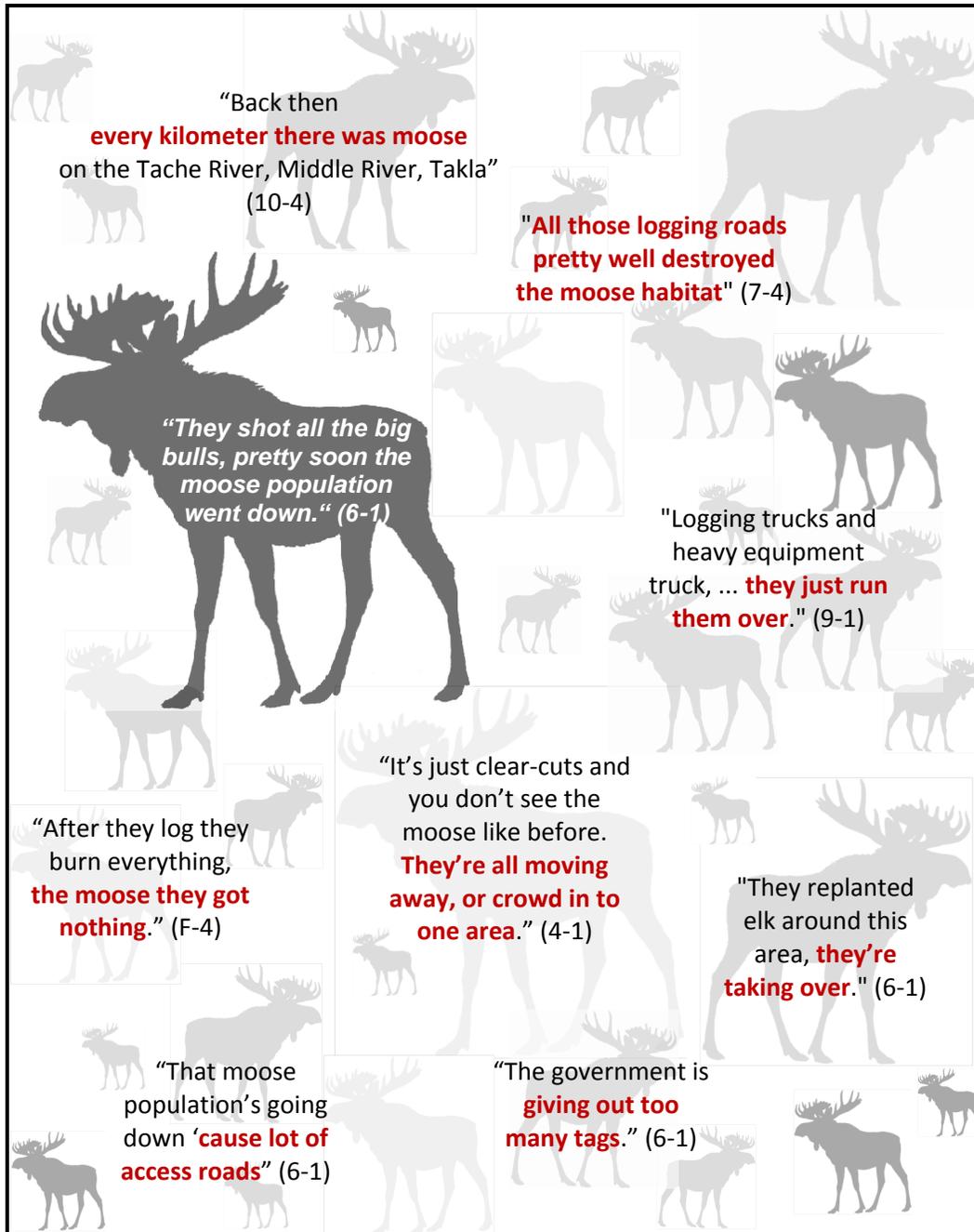


Figure 17. Tl'azt'en TK observations of the cumulative and residual effects of land and resource exploitation on moose.

The cumulative and residual effects of past decisions about land and resource use influences how Tl'azt'enne view potential effects of the PRGT project: "Right about now the moose are slowly coming back, and, with the pipeline, I don't know." (7-4)

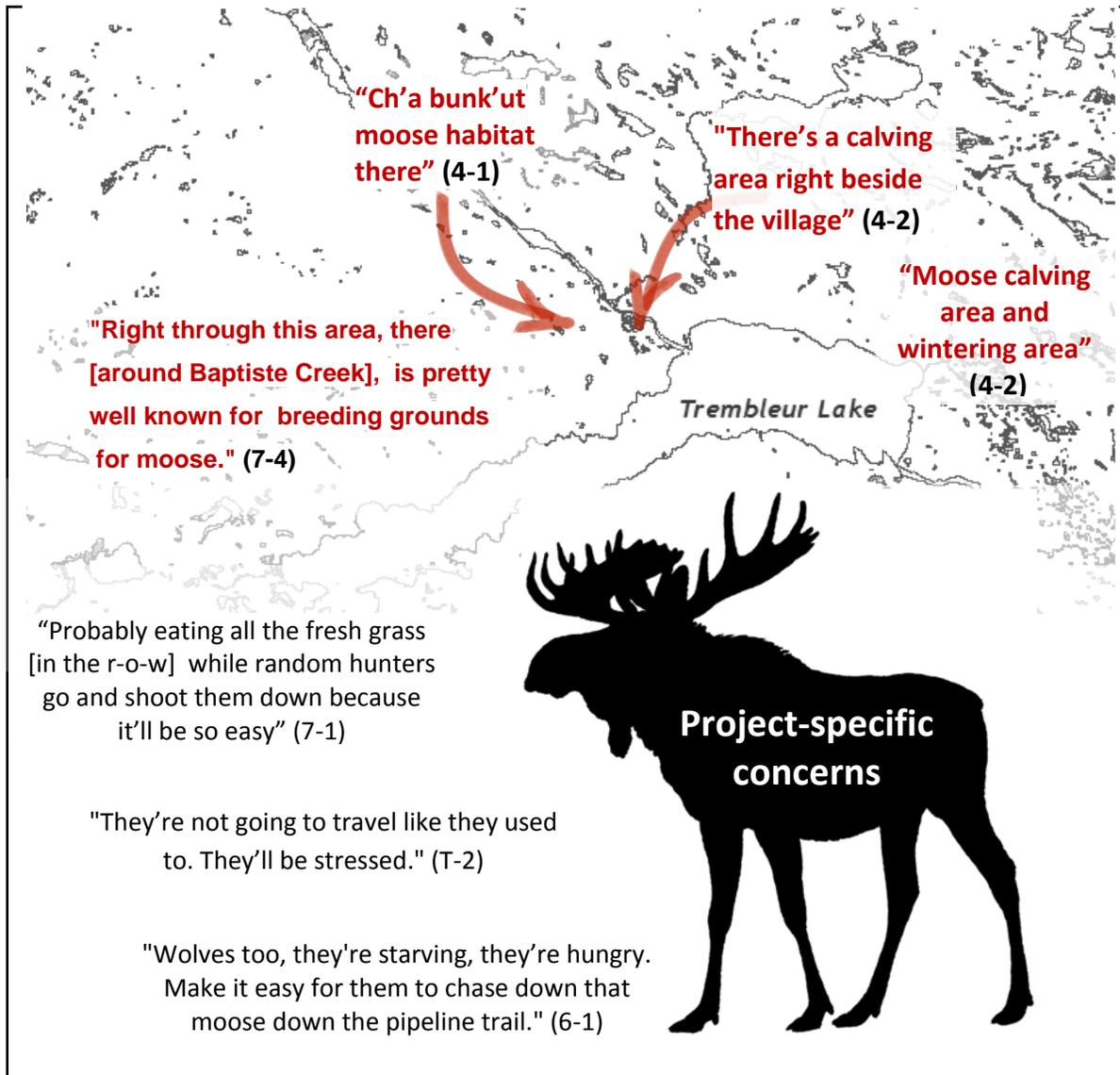


Figure 18. Tl'azt'en's project-specific concerns about moose in the PRGT area.

The PRGT pipeline is expected to cross numerous moose habitat areas, including Yoonoo'-i Koh (Middle River) and Dzitl'ainli, Ts'iya koh, Khas'tani-Tildesley, Ningwus koh watersheds and the Whelulh tl'oh - 'Udedo tsendzut Habitat area.

Pipeline construction is expected to have negative effects on moose, particularly in the vicinity of calving grounds. Because moose here are also known to share the trails that people use to access traplines and hunting grounds (3-2), disruption of these travel routes may also affect how moose use the territory.

TI'azt'en anticipate the following negative effects on moose:

- Construction disturbance effects on life-cycle behaviours (e.g. calving)
- Health effects of disturbance avoidance behavior (e.g. malnourishment resulting from displacement into suboptimal habitat, or suboptimal forage areas)
- Increased hunting mortality due to increased road access
- Increased vehicular mortality
- Alteration of predator-prey dynamics; especially increase predation on moose by wolves
- Increased habitat fragmentation and loss



TI'azt'en recommendations:

- *"They got to stay away from that cause that's where the moose, they mate in swampy areas. Like where there's lots of willows" (6-1)*
- *"Map it out better to avoid as much creeks and small lakes and marshy areas" (13-2), "whenever you see a little lake I think they should do their utmost to go around it." (6-1)*
- *"Get them to build those moose blinds here" (6-1)*
- *"Make sure government does not hand out tags for this area, along the pipeline here." (6-1)*

Cultural keystone species: Salmon (talo, ges cho, gesul)

Salmon are critical to TI'azt'en's food supply, household economies, and cultural identity. The spawning grounds around Stuart Lake also have a broader significance as the terminus of the Stuart-Takla sockeye runs. The Middle River spawning grounds are a source of food for all of "Salmon Nation", a concept embracing all the people and communities where Pacific salmon run.

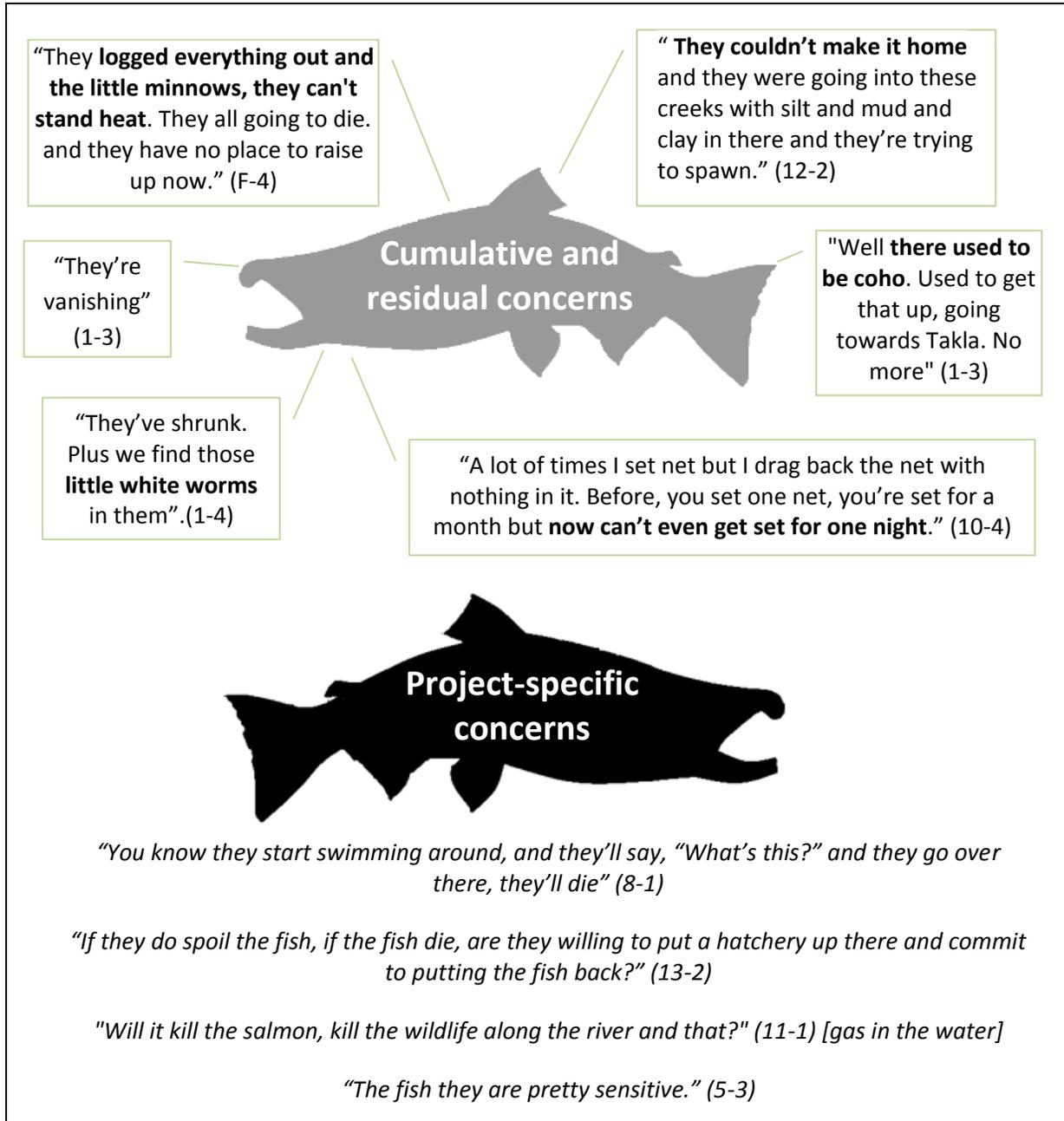


Figure 20. Tl'azt'en observations of cumulative effects on salmon, and PRGT-specific concerns

As with other regions in the province, irresponsible forest practices and mismanagement of commercial fisheries are linked to declining salmon populations and health. Many creeks and streams that were historically good spawning locations have been logged right to the edges, choked with woody logging debris, and layered with silt from destabilized landscapes (12-2, 1-1, 10-5, 3-1, 3-2, 4-2, F-4). For the Stuart-Takla run in particular, the sheer distance they must travel

increases the risk of mortality. Declining populations may be due not only to “what’s happening here, but because of what’s happening down south. Overharvesting down on the coast.” (4-2).

People are concerned that the proposed stream and river crossings will have a negative effect on fish. The crossing of Middle River by horizontal directional drilling (HDD) in particular raises questions about habitat integrity and spawning returns. See the full discussion on this issues in Section 3.2.1.

The PRGT pipeline is expected to cross numerous salmon spawning areas (Yoonoo'i koh, and Tse 'ahunin koh and Sidney Creek) and approach others (Ts'iya koh), and could potentially affect salmon spawning habitat in these creeks.



TI'azt'en recommendations regarding water quality and habitat are made under individual pipeline components, Section 3.2.3

Cultural keystone species: Beaver (tsa)

“It’s watching the territory. Spiritual beaver”. (1-1, 1-2)



Beaver play an important role in TI'azt'en history, economy, and culture. Beaver are hunted in the fall and spring with traps and guns (5-3), and trapped out from under the ice in the winter (1-1). Pelts are sold on consignment markets in the US and Europe, and the meat is commonly eaten. Beaver castor (oil from glands) is considered strong medicine (4-2), and is also used to scent traps as bait (5-3).

Beaver are found along waterways throughout TI'azt'en territory, but *Yoono 'i koh* (TUS 3224), *Ts'iya koh* (TUS 3095), *Khastani koh* (TUS 3225, 8014) and *Ningwus koh* (1-1, 6-1, TUS 3180, 8019) drainages are particularly important habitats for trapping (1-1).

People expect the beavers to “probably move away from there” once construction starts (4-1), but in general are confident these animals can thrive elsewhere:

*"they adapt so easily...they used to have houses in ponds, and stuff like that. But all of those are destroyed. So now **where ever there's enough water, they'll have a house**-there right beside logging roads!" (4-2)*

The PRGT pipeline is expected to cross a number of beaver habitat areas. Because of the abundance and resilience of beaver, the pipeline is not expected to have a long-term negative effect on their habitat or on Tl'azt'en resource use.



Tl'azt'en recommendations: Plan to have keyoh holders to trap out beavers in advance of construction activities in the vicinity of key beaver watersheds (Yoonoo'-i Koh, Khas'tani koh, and Ningwus koh).

Furbearers

Furbearing species populate watersheds throughout the proposed PRGT corridor. The *Ts'iyá koh*, *Khas'tani Koh*, *Ningwus koh*, *Dzink'azdli koh* and *Yoonoo'-i koh* watersheds are important habitat for beaver, marten, weasel, wolverine, lynx, fisher, squirrel, mink, otter and muskrat (1-1, 3-1, 3-4, 4-1, 4-2, 5-3, 8-1, 10-3, 12-2, 13-3). Based on past experiences with timber harvesting, people are concerned that the land clearing, noise and traffic will disrupt furbearers' use of these areas:

"They [furbearers] wouldn't want to go back there again, until they feel safe about it" (3-4)

Still, others are optimistic that the regenerating vegetation along the completed pipeline corridor will provide attractive habitat to some species, and easy access to traps: "Looking forward to nice trapping trail we going to have!" (11-1).

Other species

The PRGT route traverses the habitats of countless other species of mammals, fish, birds, insects and plants. While many of these are not as critical to Tl'azt'en culture and livelihoods as salmon, moose, and beaver, they are nonetheless a significant part of the regional ecosystem:

Caribou

"We saw their trail from Sydney Mountain going behind Sydney Mountain they go down towards Babine, the caribou." (5-3)

"The caribou corridors and that, because they do still go by the lake." (13-3)

"We got concerns about caribou down here [area around Baptiste Lake]. Mountain caribou." (4-2)



Tl'azt'en recommendations: Ongoing winter caribou survey to determine population movements, habitat use and effects of pipeline construction.

Caribou survey on the Mount Sidney Williams area has been an ongoing project for Cliffs Natural Resources Exploration Canada's Decar Nickel-Iron Project, which aims to develop facilities in the area. We encourage PRGT to partner with this and other entities to achieve mutually beneficial exchange of the best available information.

Grizzly bear

Grizzly habitat on Mt. Sidney Williams (5-3, 12-1),

Grizzly habitat around Ts'iyá koh (11-1, 12-1)

Project-specific concerns:

- Construction disturbance effects on life-cycle behaviours (e.g. pre-hibernation feeding)
- Health effects of disturbance avoidance behavior (e.g. malnourishment resulting from displacement into suboptimal habitat, or suboptimal forage areas)
- Increased habitat fragmentation and loss
- Human health and safety from risk of displaced bears



Tl'azt'en recommendation: "Don't disturb that bear, because if you do, it'll come out and start bothering us over here. It'll start attacking our dogs and kids" (12-1)

3.2.3 Pipeline components

The Corridor

A pipeline corridor between 18 to 100 m across will span Tl'azt'en territory from end to end, and people anticipate wildlife will be affected:

Changes in habitat along the regenerating corridor are expected to be used by some wildlife species, potentially contributing to overall changes in land use and predation patterns:

"Be lots of moose tracks, lots of bears walking down there, wolves, be good trapping this trail." (11-1)

"Animals they'll use it for travel, especially bears." (11-1)

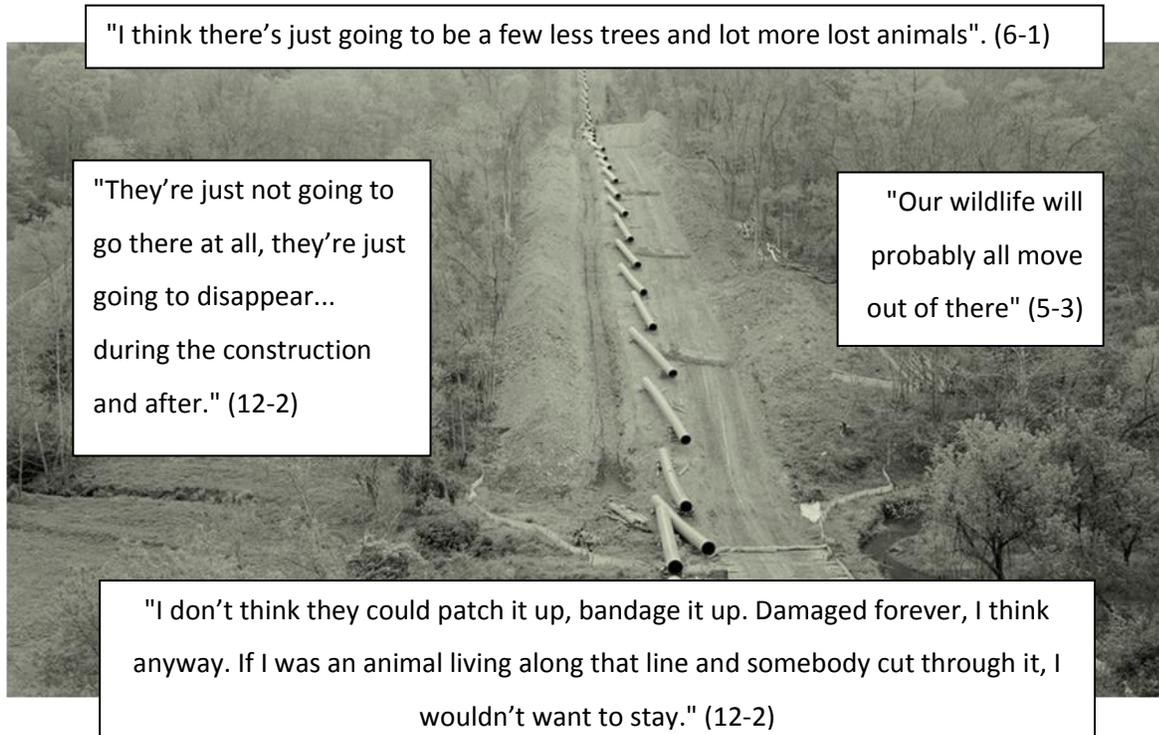


Figure 21. **Tl'azt'en concerns about the pipeline corridor.** (photo credit Noah Addis/Corbis)

The landscape-level changes created by the pipeline corridor may also affect the abundance and distribution of culturally significant plant communities. People anticipate changes in access to harvest areas that are currently preferred for their productivity, ease of access, or traditional associations.

Watercourse and Wetland Crossings

The pipeline is expected to cross 44 fish bearing watercourses and 101 non-fish bearing streams in Tl'azt'en territory. Countless wetland areas will be impacted.

Anticipated negative effects of watercourse and wetland crossings include:

- land disturbance and water contamination resulting from the construction of the pipeline in the vicinity of stream, river and wetland crossings
- loss of wetland ecosystems, including preferred ungulate browse
- impacts of the proposed directional drilling method on spawning salmon and other fish
- potential for accidents or malfunctions in the vicinity of river and creeks

People are generally comfortable with procedures for crossing small creeks, and most understand the measures taken to mitigate long-term effects:

"As long as they re-route it and keep it flowing the same way, don't think they'll do that much damage." (3-4)

People are concerned with crossings of sensitive wetland areas. Construction through wetlands can interfere with local hydrological cycling that keeps these habitats healthy. Disruptions due to pipeline crossings are expected to reduce the quantity and quality of preferred browse for moose living in the area. Willow habitat in wetland areas is important winter range for moose (5-3), and should be protected (6-1, 4-1).



Tl'azt'en recommendations: Explore and apply best-practices for wetland construction, including the "French drain" method of maintaining porosity and percolation on wetland substrates.

Compressor Station

The original routing plan proposed building a pipeline compressor station adjacent to the community of *Dzitl'ainli*, near Middle River and *Ts'iya koh*. Abundant negative feedback was given about this location, and Tl'azt'en Nation and TransCanada have worked together to determine a more suitable place for this facility (Figure 22).

The new location, distant from habitation, has reduced worries about human health and well-being, but people remain concerned about impacts to wildlife and habitat:

"It's going to scare away the animals" (3-1)

"They'll never go back to that area. They're cleared of that area forever. As long as it's there buzzing away." (2-1)

People anticipate negative impacts of the compressor station might be:

- decline of locally-occurring wildlife species essential to subsistence;
- displacement of locally-occurring wildlife species essential to subsistence;
- potential for accidents or malfunctions at the compressor station; and
- wildlife disturbance resulting from the construction of the station.



Figure 22. Map of original and alternative compressor station locations near Middle River.

"You can say we can tolerate the noise that machine is making over there, but we still going to hear it even you put it 100 miles away, we know it's there. It's just a destruction of our land. Doesn't lessen the pain any." (12-1)



Tl'azt'en recommendations:

- Targeted community education, through field visits to comparable locations
- Fair compensation for the loss of use surrounding the compressor station

Road use and Access

People are concerned about the general increase in traffic from activities related to the PRGT project (2-1, T-3, 9-1). People anticipate increased rates of roadkill and dislocation of animals to other areas:

"It's going to be a lot of traffic and a lot of noise eventually animals will probably move away." (9-1)

The construction of additional access roads and upgrading of existing ones "opens up the country" (2-1) to non-residents and to predators, and may represent increased competition for important subsistence species.

"Now, if they open that [Udedo tsendzut habitat] they'll be people going there with skidoos, quads, even maybe hiking. So I think they should avoid that area." (6-1)

Land users acknowledged that they currently found logging roads to be useful for hunting and for access to traplines (3-4, 4-1, 7-9), and would benefit from project-related upgrades.



Tl'azt'en recommendations:

- **Strict oversight of compliance with speed, size, and load limits**
- **Development of a wildlife reporting system to assess road use by wildlife and quantify vehicle-related mortality**

3.2.4 Interactions, cumulative and residual factors

"... well, I can't put blame on one thing eh? It's a whole bunch of different things" (10-4)

Cumulative effects are the sum total effects of the project being considered in the current assessment in combination with other past, present and future projects and activities: the result

of all documentable human development and activities within a given temporal period. Cumulative effects assessments are dynamic in nature, and change with available information.

Mitigation, restitution and compensation measures are put in place by proponents and responsible authorities to reduce, eliminate or control the nature, significance and/or duration of direct, indirect and cumulative effects. Recommendations for some of these measures are made by, and presented from, the perspective of knowledge holders (e.g., buffer zones, moose blinds, fish ladders). **Residual Effects** are what remains after mitigation measures have been applied.

It is notoriously difficult to quantify cumulative effects on the environment, and few EA processes have succeeded in doing so (Duinker and Greig 2006). Effects pathways are too often isolated and simplified, fragmented into ever-smaller subcomponents, and in this way the effects appear very small indeed. Interactions are simplified or omitted due to complexity. Residual effects, framed as “potential”, described in some unknown future, are made to seem unlikely.

These are grave concerns for TI'azt'enne when considering the PRGT:

"You're going to be crowding animals out, that the loggers have done and the mining is going to do, that they're going to do." (12-2)

*"Now these guys are going to come... and **that's just like another hammer**, those lumber companies took all the wood out of our land. Mining companies they're going to take our resources up there." (12-1)*

Cumulative Effects are Lived effects

TI'azt'enne have no difficulty anticipating the cumulative effects of the PRGT project; they are confronted every day interactions resulting from other land and resource exploitation (for descriptions of these impacts, see Sections 2.4 and 3.2.2). For TI'azt'en Nation and others, cumulative effects are lived effects:

"The animals are different, they taste different, they act different." (12-2)

"They say don't drink the water out of Stuart Lake; don't drink the water out of Trembleur Lake and we start scratching our heads and we wonder why? Well, now it's obvious, there's just too much growth and there's just too much logging. At the end, there's just too much happening in one area." (10-5)

"I notice about animals being displaced like, grizzlies...Because there's no more food for them, less and less salmon...some given years there's no berries.... they never used to come around villages unless they were hungry. That's because of activity that's happening here. Their habitat is being destroyed." (4-2)

Because of the depth and intensity of the TI'azt'en relationship with their land, these kinds of changes affect people in a deeply personal way:

"Those kind of things are a huge impact on our way of life. I think that's why there's so much unhappiness and there's some really lost people in First Nations communities. People don't know where to turn cause they've kind of lost what it is that they had." (2-1)

With respect to the PRGT project, the concerns and fears that TI'azt'enne have are rooted in their experiences with past exploitation of the environment they rely on. Their concerns are cumulative and residual.



TI'azt'en recommendation: PRGT and the BCEAO must consider the entirety of effects of all previous and future land uses on TI'azt'en life and culture.

The BCEAO, as agent of the Crown, has an obligation to ensure the most rigorous accounting of all potential effects—direct, indirect, cumulative and residual—on TI'azt'enne and their lands when determining effects thresholds.

Cumulative and Residual Factors for TI'azt'en

"Moose, marten, deer, beaver and muskrat, declining since 1970s, when forestry and rail picked up." (4-2)

The following is a list of factors that have affected, are affecting, or are likely to affect TI'azt'enne and the use of their traditional territory:

- Pinchi Lake Mine, Teck Cominco (decommissioned): mercury mine in TI'azt'en territory
- Mount Milligan mine, Thompson Creek Metals (active): copper and gold mine 90km north of Fort St. James
- Decar mine, Cliffs Natural Resources Exploration Canada (proposed): nickel-iron alloy mine at Mount Sidney Williams

- Mt. Sidney Williams Property, Alita Resources (proposed): nickel mine at Mount Sidney Williams
- Fort Green Energy Project (approved for construction): 40MW biomass energy production project taking in 200,000 tonnes/year of fibre supply
- Kilometer 26 project, Fort St James Nickel Corp (proposed): Nickel mine at confluence of Kuzkwa River and Grostete Creek
- Pinshon Jade (in development): jade mine at O'Neill Creek
- Northern Gateway pipeline (proposed)
- Timber licences (past, present, future): Total annual allowable cut for all Fort St. James licensees 1,577,116 cubic metres (District of Fort St. James 2014)
- Expansion and upgrading of transportation infrastructure (past, present, future): construction of new forest service roads; resource extraction-related upgrading of existing roads, rail lines and bridges
- Kemess North, AuRico Gold (proposed): up to 14 trucks/ day on Omineca Resource Access Road & rail
- Tas Gold Property, Rich Rock Resources (proposed): Gold mine east & southeast of Inanza Lake
- Indata Property, East Field Resources, (proposed): east and west sides of Indata Lake, 130 km northwest of Fort St. James), proposed use of rail line
- Tourism as economic development (present, future): increase in outfitter hunts, sport fishing, and infrastructure development

3.2.5 Accidents and malfunctions

The proponent's ability to plan for and respond to accidents and malfunctions emerged as a grave concern for most participants: "*The main thing we got to know: is it going to be safe?*" (3-1)

Specific issues raised were:

- Absence of personnel on site at the compressor station (1-1, 1-4, 2-1, 3-4, 6-1, 7-2)
- Adequate emergency management plan (1-1, 1-3, 3-1, T-1, 6-1, 7-3, 11-1)
- Contamination of food and water by spills or leaks (1-1, 3-1, 3-2, 6-1, 7-3, 8-1, 9-1, 11-1)
- Evacuation of residents/land users if required (2-1, 3-1, T-3)

- Financial responsibility for cleanup/recovery following spills, leaks or accidents (11-1, 13-2)
- Vandalism to the pipe, valves, and facilities (1-4, 1-6, 9-1)

Tl'azt'enne are aware that TransCanada and their partners invest heavily in building better infrastructure: "they're trying to come up with different technology to make it more safe, I know that." (9-1). But they are also practical, and know that because pipeline planners and engineers are "learning themselves too" (9-1), not every problem can be foreseen:

*"They try to plan for that and to protect the water but **accidents happen.**" (9-1)*

*"Something's got to go wrong, **there's nothing perfect in this world.**" (3-1)*

*"Somewhere along the way it will [leak]. Nothing is safe that man build. **We have to be prepared and talk about this.**" (3-2)*

As land stewards, the Tl'azt'enne view looks far into the future, and people take very seriously the responsibility for the future of their keyoh. Their concerns stretch beyond their lifetimes, and include due care and consideration for those generations to come:

*"After a while it'll start breaking down. In time, **everything gets old.**" (11-1)*

*"If we say, "Yes", and something goes wrong, 80 years from now, these kids going to they're going to get bugged, on account of us. **And we're right in the middle.**" (8-1)*



Tl'azt'en recommendation: Acknowledge, plan for, and discuss the *worst case scenario*.

In the event of an accident or malfunction, Tl'azt'enne members must be involved. Based on past experiences, people are skeptical that they will be given the right information when they need it. People need assurances from trusted sources:

"We need First Nations to be trained like that because how do we know if they're going to tell us if something happens along this line?" (9-1)

"If they have an accident, Tl'azt'en people should know about it, they should have a special group that will go and check it out right now." (6-1).

"Monitors! Forget the computers, monitors, get people at the sub-station [compressor]... people that would look after the place that are concerned about the environment." (6-1)



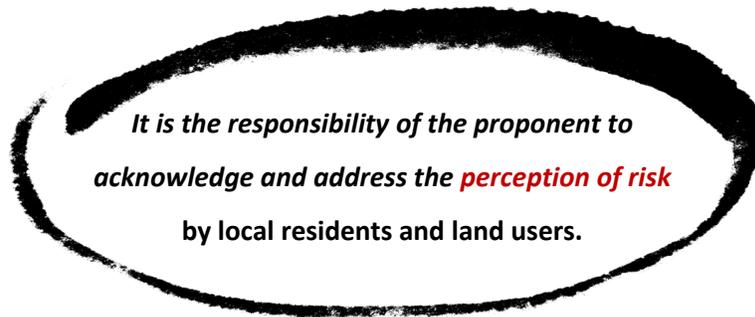
Tl'azt'en recommendation: Support for Community-based pipeline stewards and liaison

This recommendation can contribute to **effective communication** and can **reduce the perception of risk**, and is discussed in greater detail below (Section 3.2.6).

People are open to learning more about the pipeline's safety measures and plans, and will require additional information to feel comfortable with the procedures:

"Got no problems with it, I mean if the safety's there" (8-1)

"I don't know if they can prove that. I would like to see them come up show me, if they had a spill or rupture or something, show us in a way- safety" (9-1)



Tl'azt'en recommendations: Community Education on pipeline safety and Involvement in Emergency Management Planning

Tl'azt'enne require assurances from the proponent that the most stringent measures will be taken to reduce the risk of environmental degradation and contamination. This targeted education may be accomplished through:

- **Community-information session** to describe the complete Emergency Management Plan and mitigation strategies;
- Report on **past experiences and outcomes** based on TransCanada's global track record; and
- **Field visits to comparable locations** (e.g. other HDD locations, compressor stations, or forested rights-of-way)

Community members are concerned that those living at *Dzitl'ainli* have unreliable communication (i.e., one-way telephone) and would be not be reachable by emergency services or pipeline employees should an accident or malfunction occur.



Tl'azt'en recommendation: Assessment of and upgrades to community telecommunications services at *Dzitl'ainli* to enable emergency response.

3.2.6 Keyoh Liaison and Stewardship Program

"I think there should be somebody from start to finish on that keyoh to make sure that we know it's getting done right." (10-5)

"We shouldn't believe things, we should see for our own eyes that they done right" (10-5)



Tl'azt'en recommendation: Creation and support of a Keyoh Stewardship and Liaison Program.

We recommend the creation of a **proponent-funded position for a permanent *Tl'azt'en Pipeline Liaison* and a system of *Keyoh Stewards* to maximize the flow of information related to the pipeline throughout planning, construction, and operation.** The liaison will support communication between the proponent, regulators and leadership, and the community at large. The liaison's role will be to relay information on the project to the community, to report concerns to leadership, and to collect information from the Keyoh Stewards. The Keyoh Stewards will be formed of representatives from each of the five affected keyoh, and will be the "eyes on the ground" for Tl'azt'enne. The perspective of people who are intimately familiar with normal environmental processes and local variation can promote confidence and trust in the project amongst community members.

"Some of these young people could be trained to be with them to make sure that everything is okay...and they know about it and they tell neighbors and other people what happened out there." (9-1)

"At least one family member from start to finish monitoring" (10-5)

"I think that's[going through the keyoh] pretty fair" (8-1)

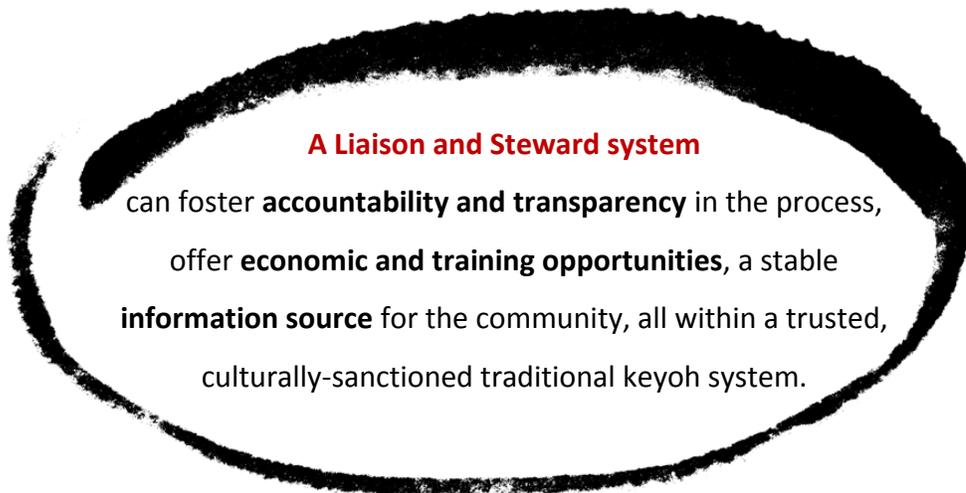
"Having someone there 24/7 while they're laying it down, right? Someone with the knowledge from the community... Then they can go to the community and talk to everybody to let them know what's going on." (13-2)

"It's to give the community and everybody that has a stake in it a little bit more confidence." (13-3)

The Stewards may accompany work crews during the construction phase, and conduct periodic surveys throughout the life of the project. They may also be trained to participate in ongoing maintenance (e.g. brushing) or data collection (e.g. water, air, vegetation sampling) of the area.

A Keyoh Stewardship program can contribute to other measures that could be part of a fair compensation package geared toward sustainable development, which might include:

- Joint stewardship arrangements;
- Wildlife habitat studies;
- Mitigation follow-up to learn the impacts of new economic activities on traditional resources; and
- Ongoing research and monitoring activities to identify sustainable methods of natural resource management.



3.3 Protection of Cultural Heritage: *Ne zul*, the spirit of our ancestors

3.3.1 Cultural heritage sites and objects

Archaeological sites and objects predating 1846 are protected under BC's Heritage Conservation Act. Tl'azt'enne expect the archaeological investigation and mitigation to be performed to the highest standards afforded under the Act (2-1, 4-2).

Archaeological research in this portion of Tl'azt'en territory has been meagre. Forestry-related archaeological assessments of beetle-killed pine forests have tended to focus on mapping culturally-modified trees to the exclusion of other, more difficult to identify archaeological sites. The intensity and depth of the traditional uses of this area would have left a physical evidence in the form of archaeological sites, materials and features.

Tl'azt'en keyoh holders have identified a number of areas likely to have pre-contact cultural sites or materials in the vicinity of the pipeline corridor. A schedule of areas recommended for archaeological investigation will be prepared and submitted to the proponent and their archaeological contractors under separate cover from this report.



Tl'azt'en recommendations:

- Archaeological investigation of selected sites and areas identified as high potential by Tl'azt'en Nation
- Develop an archaeological strategy in consultation with Tl'azt'en Nation
- Undertake fieldwork with full participation of Tl'azt'en Nation representatives
- Tl'azt'en review of any archaeological impact assessment or overview (AIA or AOA) reports relating to the project prior to submission to the Archaeology Branch to ensure Tl'azt'en concerns have been addressed



As discussed in Section 2.3, trails and cabins have particular significance for Tl'azt'enne:

*“To see that trail, I was going to re-cut in that area. Cause I want to see where my grandfather went. I never met my grandfather, I wish I did. **So I’m going to cut the trail, see where I could follow in his footsteps**”(6-1)*

*“These trails here, these three trails here [two trails from Whelulh tl’oh to Kazchek Lake & the Kazchek Creek trail], **they’re probably over 300 years old, and that’s where the pipeline is going to go through**, so these three lines [the trails] are really, really really protected.” (8-1)*



Tl'azt'en recommendation: Develop and support a heritage trail management and restoration plan in consultation with Keyoh holders and Tl'azt'en leadership.

"If they pass an old hunting trail or trapline trail, that **would be good if they could try to preserve what they can** out of that, **or move it from there.**" (13-2)

"This is where our ancestors used to walk". And note it... **so other people can see, and see the importance of it.**" (13-3)



Tl'azt'en recommendation: Respect keyoh property. No physical works or machinery within 500 m of Tl'azt'en cabins or camps.

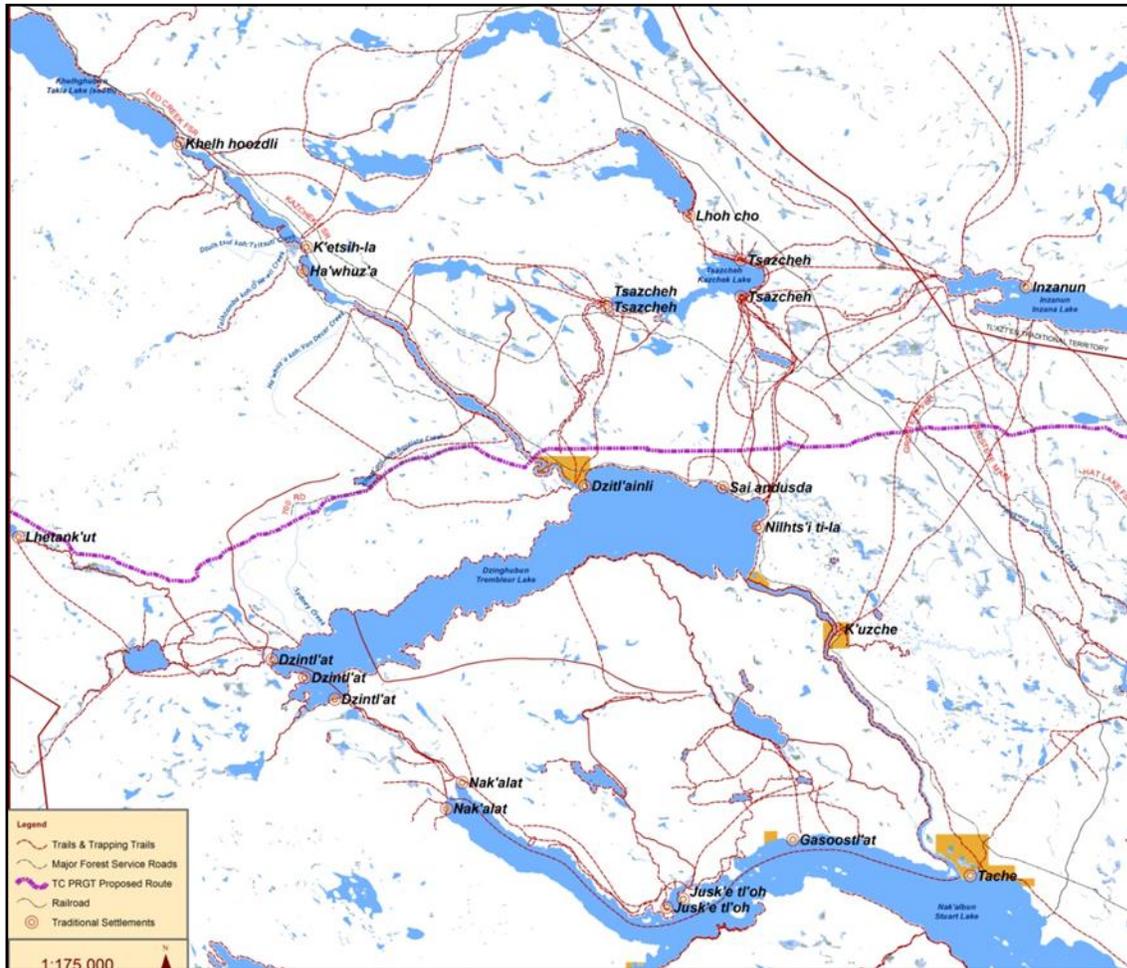


Figure 23. Map showing Tl'azt'en trails in the northern portion of the territory.

A stand of culturally modified trees containing arboryglyphs (TUS 5104) is located around the eastern end of *Lhetank'ut* (Klaytahnkut Lake) along the *Dzint'izdli*-Tildesley Creek Trail. The proposed pipeline corridor is expected to pass close to this location.



Tl'azt'en recommendation: Complete avoidance of arborglyphs at *Lhetank'ut*. Support for Tl'azt'en monitors to complete field reconnaissance and field marking of the area prior to works. Support for Tl'azt'en monitors on site during land-clearing activities during all phases of the project.

A stand of culturally modified trees is located southwest of Yoonoo'-i Koh in the proposed corridor.



Tl'azt'en recommendation: Complete avoidance of CMTs where possible. Support for Tl'azt'en monitors to complete field reconnaissance and field marking of the area prior to works. Support for Tl'azt'en monitors on site during land-cleaning activities during all phases of the project.

3.3.2 Intangible cultural heritage

In addition to material heritage sites and objects, like cabins or culturally modified trees, Tl'azt'enne cultural heritage includes entire landscapes, named places, story locations and unmarked sacred locations that are to be afforded the same respect and protection as our tangible history. Tl'azt'enne enjoy a sense of place in the territory that must be preserved:

*"Two things they used to go into the mountains for, one was to hunt and fish and the other one was **to regenerate their spirit.**" (12-1)*

*"People going to their keyoh and **sitting outside and seeing this big corridor go through their backyard.**" (7-1)*



Tl'azt'en recommendation: Respect the cultural landscape by minimizing impacts to the land and its people, including noise reduction and prescribed air traffic patterns.

3.4 Health and well-being

Because of their deep reliance on the land and its resources, the cumulative negative effects of marginalization and land and resource exploitation have had serious repercussions for Tl'azt'en health and wellbeing:

*"It started a while back in time now and we're slowly feeling it... **it's the changes in our life style and our way we live; the way we gather our food.**" (10-4)*

3.4.1 Traditional Food and Medicine Plants

*"We still have medicine people living amongst us. We still have Elders that go and believe in gathering things, **it's very important to them.**" (2-1)*

Access to traditional medicine plants is a concern for many TI'azt'enne (3-2, 4-2, 10-2, 10-3). Red willow, Labrador tea (*ludi musjek*, Indian tea), balsam (subalpine fir), and a variety of berries are reported to be particularly important (1-1, 1-2, 4-1, 4-2, 10-4, S-4):

*"**All of these things are important to us for us to make for people. And they're all over in this land.**" (10-3)*

*"Pretty much the whole line, pipeline, there's different species of plants like ludi musjek (Labrador tea), there's huckleberries, there's soapberries, **all these are medicine to us.**" (10-4)*

People find that past resource extraction has had a negative effect many of these plant species:

*"Now medicine is destroyed in cutblocks and it doesn't grow back the same, it is not as potent. **You can't use it because it is contaminated.**" (S-3)*



TI'azt'en recommendations:

- Where possible, avoid uprooting plant communities that contain culturally significant plant species.
- Provide TI'azt'en Nation with mapped ecosystem data pertaining to the location of culturally significant plant species
- Acknowledge and compensate for inevitable losses of preferred food and medicinal plant gathering locations.

A full list of culturally significant plant species can be found in Table 4, Section 2.2.3.

3.4.1 Environmental toxins

Based on their past experiences, land users are concerned with the use of harmful chemicals in the course of land clearing, construction, and right-of-way maintenance:

*"You figure that's clean, but it spews out oil and diesel that goes all along the side puddle by the road which **it finds its way into the creeks**, back into the river ... wherever. Animals drink it get contaminated. We shoot the animals, we get contaminated." (6-1)*

*"That did real a lot of damage to our berries and stuff like that...**they were picking berries right where they sprayed.**" (4-2)*



TI'azt'en recommendation: Avoid fuel storage and fueling within 500 m of waterways or wetlands.



TI'azt'en recommendation: NO application of chemical herbicides in TI'azt'en territory:

"You use people with brush-saws go there and cut it...No pesticides or herbicide. Just use people. Use brush-saws. No mulchers" (6-1)



TI'azt'en recommendation: Immediate communication with TI'azt'en regarding location and amounts of any potentially harmful spills or discharge.

3.4.2 Country foods and food security

*"How important it is to us, it is to the people of this reserve and surrounding area. That **we live on this Indian food all our lives. Them, they sit a cafe, they don't care.**" (F-1)*

TI'azt'enne depend heavily on wild food sources from the land. The issue of food security permeated the TK interviews, and is intertwined with ecological, social, economic and procedural concerns. Food security "exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (UNFAO 2014). Traditional, wild, or country foods are important component of food security for TI'azt'enne, and are critical to peoples' health:

*"We still hunt, fish, and live off the land, or, whatever is left of it! Little harder time, but we still do it. **If we don't do it, you know we really suffer.** Pretty hard to live off of \$235 a month" (4-1)*

*"I didn't get my moose last year. I didn't get it this year and **that's one of the main thing I do because I don't have a job.**" (10-4)*

Many people prefer wild foods to store-bought ones:

*"Most of wild meat like it's natural. The food nowadays, not pure, no good, even the meat that you eat, no good. **Moose meat, now that's better.**" (6-1)*

Because of the importance of fish and game in the diet, people's health is critically dependent on animals being where they are now:

*"Especially people in Middle River **people go hunting up here, setting net in this area.**" (3-4)*

*"Especially the salmon because that's **what everybody lives on is salmon.**" (11-1)*

Tl'azt'enne are seriously concerned that the PRGT project will displace animals and degrade or even contaminate their habitats.

"Maybe they'll be scared, too scared to get the salmon... even if there's no spill they'll be scared to fish there." (1-1)

Elders and Keyoh holders demand that industrial interests in their territories conduct development in such a way as to not threaten their food security. Aboriginal rights to hunt, fish, and trap for subsistence purposes are constitutionally enshrined rights, hard won, and protect the cultural survival of Canada's First Nation people. Maintaining and strengthening food security through the revival of traditional food systems is "a vital step in rebuilding individual and community health and overcoming the most negative socio-cultural impacts of colonialism" (Turner and Turner 2007: 58). **Long-term food security is a critical consideration of ecological and economic management decisions relating to the PRGT pipeline.**

"If somebody can prove to me that it doesn't have an effect [on food harvesting], then I'll walk away and let them go" (4-1)



Tl'azt'en recommendation: Food security assessment of Tl'azt'en communities.

A full-scale country foods assessment is **required to provide the BC EAO with a meaningful assessment of the degree and extent of infringement or adverse impacts** on Tl'azt'enne's ability to maintain their current level of reliance on country foods. This should include both an absolute measure of country foods as well as an economic analysis of how country foods contribute individual household economy in monetary terms.

3.5 Socio-Economic sustainability

"I just want to see the community benefit from all this." (11-1)

Social and economic improvement emerged as a major concern among all land users. Tl'azt'en people have long been marginalized and alienated from an economy that owes much of its growth to exploitation of resources harvested from unceded First Nation territories.

"Let's talk about benefits. What benefits are First Nations people going to have?"(2-1)

The proposed project must translate into economic opportunities for Tl'azt'en Nation members.

People are very conscious of how vulnerable they are, as individuals and as a community, due to the socioeconomic and environmental stresses that currently affect them. They are hopeful that PRGT can offer a way forward:

"If we don't get ahead now, we're just going to be pushed back to, yeah, Keyoh living off the land again. If we don't have the resources within our own communities to survive." (7-1)

"The final nail in our coffin, you put that line through there and not compensate our people." (12-1)

We emphasize **that multi-national corporations are agents of colonization and have the potential to further marginalize Aboriginal peoples.** The project proponents and regulators have a responsibility, and social license, to address existing social inequities and avoid creating new ones. It is essential that this project make every effort to prevent further disenfranchisement of Tl'azt'enne by unjust exploitation of their lands.

"Every individual should have a choice, but you have to train, if you have a chance, if we have a school, a health, a community work here. Our kids growing up will have a choice." (12-1)

For a complete account of Tl'azt'en's social and economic situation, and for specific details and recommendations relating to these issues, please see *Tl'azt'en Nation's Socio-economic Study for the PRGT project.*

3.5.1 Jobs and Partnerships

TK study participants expressed a strong desire for jobs that would allow them to remain in their traditional territory, and are very supportive of the prospect for improving community members' opportunities (1-1, 3-1, 4-2, 6-1, 7-1, 7-9, 8,-1, T-1):

"As long as there's long term work there, they can go right ahead. That's what I think." (8-1)

However, people are aware of the short-term nature of the construction opportunities, and see the jobs as a dead-end unless they build skills that are transferable to other jobs (1-2, 6-1, T-1, 9-1):

*"Unless we **train some of our people** you know to be biologists and all that". (5-3)*

*"Training- then they can have **skills for other jobs.**" (9-1)*

*" That way we get a **little bit of income and something to work with.**" (1-1)*



Tl'azt'en recommendation: Pipeline-related apprenticeships, training and employment of Tl'azt'en personnel should be **maximized and diversified**.

TransCanada should explore opportunities for on-the-job **training and apprenticeships in a variety of professional fields**. Expose community members to the spectrum of occupations that contribute to building a pipeline: not only labour, but services, administrative support, technical and professional trades. Capacity-building initiatives like job-shadowing, mentorships, apprenticeships and co-op education are some ways to maximize the socio-economic benefits of this pipeline.



Tl'azt'en recommendation: Stringent oversight of Aboriginal employment and equity *in policy and in practice*.

Pipeline-related training and employment of Tl'azt'en personnel should be overseen directly by TransCanada. Tl'azt'enne have experienced employment inequity in the past with corporations that "say they'll hire local then they turn around and give it to contractors. They never said anything to the contractors about who they're going to hire" (11-1).

*"That's what we have to stress to TransCanada. To the contractors. TransCanada got to stress them contractors to **hire locally.**" (11-1)*

*"You should pay the same amount to our people, because **our people are professional at what we do.** We live off the land, we know how to treat and walk the land. I know everything about it. You have to pay us the same as you*

pay those guys, the highest. We shouldn't be low wage earners because we are Natives." (12-1)



Tl'azt'en recommendation: Community-based pipeline stewards

*"They could create **some long-term jobs** that's where our people could be trained to monitor these pipelines."* (T-1)

*"[they would be] **really proud to have a job and doing something that's important**, and that would be important, monitoring"* (13-3)

This recommendation can contribute to individual, family, and community economic security and is discussed in greater detail in Section 3.2.6.

3.5.1 Social effects and benefits

*"I'm hoping that somebody from the community benefits: **you get employment, the kids go to school; you go to school, you get a better job**"* (13-3)

Hand-in-hand with jobs, Tl'azt'enne are looking for ways to address and resolve social problems, enhance community cohesiveness and build better relationships among different community groups. Inclusive dealing with community members, recognition of traditional leadership and other culturally-appropriate communication are key to the social sustainability of the project:

*"It's a chance for our community to **get back our unity back again**. If we get successful at this."* (12-1)



Tl'azt'en recommendation: Plan to support a community visioning project.

It is well documented that influx of revenue from industrial development can disrupt social relations and the basic social structure of First Nation communities. Increased income exacerbates inter-generational impacts of colonial burdens, such as residential schools and alienation from traditional lands:

*"It will bring a lot of money, but a lot of **that money will come with greed.**"* (1-4)

"Money does evil to people that don't know how to handle it." (2-1)

Corporate partners must work together with TI'azt'en Nation to establish community-level supports to help in the transition to economic prosperity that comes with increased employment. To properly identify gaps in social, mental health, subsistence abuse, and life skills support programs in the community, we recommend a **Community Planning & Visioning project** be initiated to identify support needs within the community



TI'azt'en recommendation: Prioritize spending on community social infrastructure.

"Things have to start happening. Like if we don't, we're going to get left behind. That's it." (7-3)

Some suggestions we heard from participants:

- *"Put a store on the reserve for one thing. And you know an arena would be nice for the children you know for the young people." (5-3)*
- *"A healing place up here (Middle River)" (12-1)*
- *"A transition house in Fort St. James area for our kids when they finish school here. They have a place to go to where they can go the next step." (12-1)*
- *"Build better roads...but I mean just the vital lines, right? To Middle River, and Takla. To give people work. Better bridges." (7-1)*
- *"Education, health system, mostly education and health..., looking after senior citizens" (2-1)*

3.5.2 Rent, royalties, and compensation

"The First Nations people have to be compensated for the land." (2-1)

"In order for our future generations to have a chance, they have to pay for it." (12-1)

Financial compensation in exchange for the pipeline's land use was a serious issue for TK study participants, who expect remuneration for this encroachment:

"So there's a price that has to be paid for pushing that through. Which is, I personally believe, there should be part-ownership, percentage of the income, shared benefits, and compensation for these people." (7-3)

*"I want to see them come here: 'We going to take part of your land away, how much do we owe you?' **That's just a basic business thing, very basic thing when you come on somebody's land, you have to pay for parking.**" (12-1)*

Participants had a clear vision for the kind of revenue-sharing they would like to see from PRGT:

*"**Royalties** to should be coming in to us." (8-1)*

*"That pipeline is sitting in our territory, making money from that thing sitting on our land, we should get royalties... **not just for ten years, twenty years. Not one big lump sum payment. Like forever.**" (6-1)*

*"Whatever you make is **a lifetime commitment for our people.** As long as our people are here they should be compensated for that thing that's destroyed our land." (12-1)*

Fair distribution of benefits within the community was also important:

*"If they are going to give us lots of money, I think, you know, the band shouldn't get it, I think **the people should get it.**" (6-1)*

*"The guys that are going to be impacted by this, the guys, **the trapline holders, they should get compensated** for that, for all the stuff that's going to happen." (7-3)*

Those living in the community of Dzit'ainli, at Middle River, are particularly concerned about equity:

*"They're giving money to Tl'azt'en for meetings and stuff, we haven't seen anything out of it here. We're the ones that's suffering. **We're the ones that going to lose the land.**" (12-1)*



Tl'azt'en recommendation: Meaningful, good-faith, community-specific negotiation of benefits by proponents and government representatives alike.

We remind the proponent, regulators, and government that First Nations are not "stakeholders". Appropriate government-to-government negotiations are required so that the **rent of the land is fairly and effectively compensated, with Tl'azt'en socio-cultural sustainability as the highest priority.**

4 The Process: First Nations, Pipelines and Environmental Assessment

*"This is something new, never expected in our whole life, and all of a sudden, we got hit by it. **And now we got to deal with it.**" (8-1)*

Considering the potential effects of the PRGT pipeline has been challenging for TI'azt'enne, who have little or no personal experience with pipelines, other energy-sector projects, or the environmental assessment process: "This all seems just so brand new!" (7-1). Likewise, TransCanada, the PRGT team, and their contractors began this process with no knowledge of the TI'azt'en Nation, their lands, their people, or their ways of life.

In 2013, residents at *Dzitl'ainli* were taken by surprise by the appearance of PRGT personnel in their territory, on the ground, conducting biophysical studies and marking terrain. In the TI'azt'en keyoh system, "permission to come into a territory is very important" (4-2).

"If somebody steps on your land you going to know it. Somebody touches something in your reserve, you going to know it. That's how I found out. Hunting up the river, I start seeing pink ribbons along the river too, here and there." (12-2)

The sudden appearance of contractors signalled the start of something about which residents had not been consulted, a disrespectful and unwelcome intrusion:

"What would you say if I went there and I park in front of your house?...And go in your backyard and say, "I'm going to set up tent here for a while". (12-1)

Likewise, ignorance of the TI'azt'en keyoh system led to biophysical study teams seeking TK input seemingly at random, rather than contacting keyoh holders to determine appropriate representation:

"They've been in and out of this reserve with helicopters, and pick up anybody, "You guys want to go for a ride in helicopter and look at the land?"... They're picking our people up off the street... they pay these guys a little bit of money for that, and they would jump at it, I don't blame them." (12-1)

We emphasize the importance of incorporating traditional TI'azt'en keyoh roles and systems into business relationships, which tend to be institutionalized and faceless:

"I think these things got to go through the keyoh holders... It's only right." (1-1)

4.1.1 Free, prior, and informed consent

"We have to talk about how everything is going to change for us, we're used to the way we live, we don't have any pipeline for oil in our country and we're just used to the way we live, it's going to be different for us. For the new generation." (3-2)

The principle of **free, prior, and informed consent** is critical to building respectful relationships and fostering social justice. TI'azt'en members, staff, and leadership are being coerced into participating in a process about which little was known until Fall 2013, and to do so within a timeframe that allows for only the most superficial input:

"It's time-lined, it's short, we got to make agreement quick. That is not right, that don't sound right at all" (12-1)

"Can I have a better idea of how it's going to get built?" (7-3)

The constricted timeline for this study and for the regulatory approvals for the pipeline have been a challenge for all. TI'azt'en staff and leadership have had a steep learning curve. Community members came to our interviews with dozens of questions. PRGT failed to furnish the Nation *at the outset* with the information required to make sound decisions and form rational opinions about this project and its effects.

This process violates TI'azt'en Nation's free, prior, and informed consent for the use of our lands and for risks to our wildlife, habitats, and people.

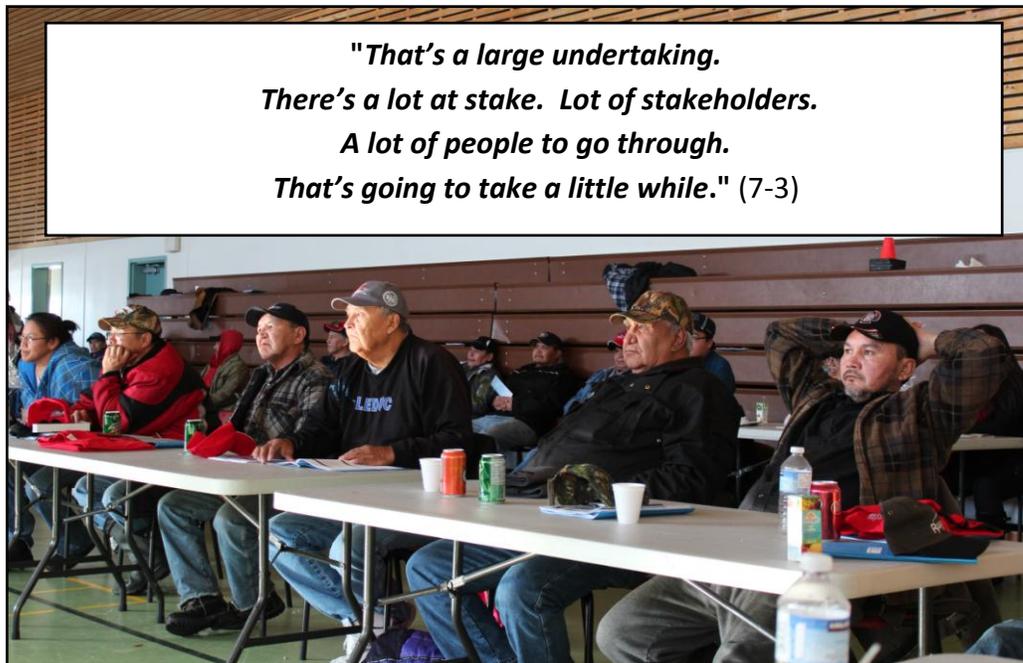
People have noticed that "the way they're going about this is they're rushing everybody" (12-1), and feel pushed to adhere to an aspirational timeline and process based on TransCanada's

business commitments, not the best interests of the Nation or of the environment. Despite this, Tl'azt'enne worked hard to understand the project and the process, because of the enormous significance of its possible effects :

"I think there should be more education on this pipeline too. It's just starting and people really don't know nothing about it." (1-1)

"You guys who's going to put this line through should sit here and explain to us how you going to do it, how it's going to affect our land, our water, our air. How is it safe?" (12-1)

"We need all them things before we can say "go ahead" on the pipeline." (5-3)



Resignation is not consent

Many lifetimes of social injustice and environmental exploitation have had a serious effect on how Tl'azt'enne respond to proposed projects like PRGT. And many generations of favouring corporate rights and righteousness have set the tone for how industry players and government representatives approach communities:

"Look at the forest companies- they come in and do anything they want." (10-5)

"They dam that place over there, even they said they can't do it, they did it. That mercury mine right up here, they tell them "no you can't do it", they still did it." (7-3)

"Whatever the government wants he does it, we cannot stop it" (3-2)

Almost everyone who participated in our TK study, including staff, expressed resignation about the PRGT project:

"They going to beat us. We say, yes or no, they going to come." (8-1)

"How do you stop the thing when you know you don't have a chance?" (10-5)

"It's a whole bunch of baloney about getting an "okay" from us, though... You know, progress. Can't stop progress" (6-1)

People are extremely skeptical that their contributions to this TK project and the biophysical studies will have an effect on the outcome of the regulatory review:

"Nobody cares about moose and eating berries! They say "berries?"... it's just not going to work. It's going through regardless." (7-1)

"Why do we do these assessments when industry just keeps coming?... I don't go into anybody's back yard and write things down and then cut it all down" (S-3)

The existing regulatory approvals process gives the impression of dialogue with First Nations, but in practice does not seem capable of incorporating our feedback. We strongly encourage the proponent, regulators and legislators to consider ways to help restore confidence in the process.

"There is no certainty for Aboriginal people in the current relationship. They are forced to rely on the grace and favour of government and industry for development benefits, and governments can create new third-party interests both before and during negotiations." (Canada 1996: 683)

4.1.2 Infringement

"Anywhere they put this pipeline it's going to have an effect." (10-4)

Tl'azt'en sovereignty is intimately bound to Tl'azt'en's connections with the land and their traditional stewardship of natural resources (Brown 2002: 57). The self-reliance of our communities depends on access to and use of traditional lands and resources. Aboriginal rights to hunt, fish, and trap for subsistence purposes are constitutionally enshrined and protect the

cultural survival of Canada's Aboriginal people. Potential infringement on these rights is a serious concern.

The complex nature of land use is such that all arguments cannot be reduced to "facts" about "sites"... There is a constant pressure to simplify First Nations' relationships with land and resources into some sort of congruence with Western notions of instrumental practices such as hunting, fishing and gathering which happen on delimited sites.... Aboriginal rights are best seen as associated with activities and relationships between peoples and their territories. (Thom and Washbrook 1997)

Infringement must be recognized and compensation provided "proportional to the loss incurred by the First Nation and the benefits gained by the non-native interest group(s)" (Brown 2002: 61). As a government agency, the BC EAO must represent the Crown in their duty to consult and to determine potential infringements on Aboriginal rights and title. To do so effectively, the BC EAO must address specifically how they will accommodate the persistence and continuation of TI'azt'enne's Aboriginal rights to the use and enjoyment of our lands.

5 Outlook

"The same thing is going to happen over and over and over again
until we really sit down and think" (10-5)

Tl'azt'en members, staff, and leadership have used the opportunity of this Traditional Knowledge study to organize and express their priorities about the land and its people. In our interviews and meetings people reflected on the past, described their present, and anticipated different futures. Their contributions allowed us to understand their interests in the project on an individual level, and to summarize them on a community scale.

It is essential to Tl'azt'en physical and cultural survival that the environment be protected and every attempt made to preserve and enhance its productivity.

Tl'azt'enne use of the land and its resources for subsistence purposes—survival—must take the highest priority, over other interests.

It is not incidental that many of the objections raised to the PRGT project related to the overall balance, or imbalance, of the benefits and costs foreseen for the project. Tl'azt'enne who participated in the TK study did not, in general, support the construction of this pipeline, which is widely acknowledged to be for financial gain of foreign and domestic governments:

"It's not helping us, it's helping Asia, it's helping overseas market. It's helping them to fuel the world." (10-5)

Based on their experiences living with the devastating effects of racist social policies, economic discrimination, human rights crises, and the very real physical toll of extractive industries, Tl'azt'enne have difficulty believing the PRGT pipeline will be any different. They see a fundamental unfairness in the distribution of benefits on a local and global scale. The proponents and regulators are encouraged to address this problem not just through salesmanship, but by identifying and acting on ways to right this balance.

Tl'azt'en Nation must see real benefits from the PRGT project. PRGT and regulators must make every effort to prevent further marginalization of Tl'azt'enne by addressing existing inequities and avoiding new ones.



This process, perhaps necessarily, has been an emotional one for many Tl'azt'enne, and these emotions are evident in much of the source material presented in this report. And why not? We have talked about wildlife and community, water and jobs, land and air and culture and food and family, and money, and survival. We are talking about Tl'azt'enne lives, and it should be emotional.

Part of the contribution of studies like ours is the addition of different perspectives to the decision-making process. The balance the Tl'azt'en TK Study offers is a view in which physical, mental, and spiritual wellbeing are integrated, not separated. Where relationships—between the land and its people, between the community and others—are valued as highly as the gas that will travel through this pipeline. Mutual respect for our different approaches and values is critical to our future together.

It bears repeating that certain issues, therefore, are not merely biophysical ones, or financial ones, but transcend many boundaries. Tl'azt'enne's fiercely protective response to the potential conflict surrounding Yoonoo'-i Koh and Dzit'ainli, for example, is about more than the salmon, or moose, or even childhood memories. The depth and complexity of the Tl'azt'enne relationship with this area, its wildlife, people, and the village itself requires a different approach than simply planning the safest, or most efficient, or most profitable project. It requires the proponents and regulators to enter that relationship, too, and to pursue a strategy that honours it.

We're stuck with just one land (4-1).

We encourage all those associated with the PRGT project to consider the information in this report, take a deep breath, and pursue a new relationship based on equity, respect and the best available information.

6 References

NOTE: In-text references with dashed numbers or letters (e.g. 8-2, F-9) refer to informants in our 2013-14 study, coded for confidentiality.

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Appendix 1. Written submission from Josephine Felix

Josephine Felix

Nov 18 2013

I want to speak behalf of my people
How this world change. its not the same
any more. What we were use to
growing up we use to be rich
with what we had in our
clean country.

long time ago the government
Carve out. pocket size reserve. to
our ancestors its call'd village
and took away our land. and
call it crown land. But we still
walk in there Moccasin and
remember the history pass on to
us.

every living thing in the
water and on land. we are
connected together. Survived the
land for all nation in this
world. our food water come
from land.

We survive of our land
Lake's Creek's stream's is a
Priority for protection for all
the wild life. and the generation
to come.

We know they'll be more
project. mining logging. what else

We know some day our Clean
Country will be damage.
Polluted our clean water.
us people will be crying
like those people suffering
down south.
Gas leak - Bubble come up ✓
on farm land.

subridge - leak - spill
Did a lot of damage.

Kazcheck cabin
my parents

Bring us children with them.
we spend part of the summer
in Kazcheck. we walk from
Whel'ukh to ok to half way
have cabin. spend a night
continue on to Kazcheck
that's how I know our trap line
Beautiful Country.
Philip and I did a lot of trapping.
in our young days. the Boys
took over. Fabian trap every
year. they go out. they like
the Bush life.

Question see map

Kazcheck Creek.
is this the one we call Inzama
Creek, its inside our trap line
if it is then. should be protect.
for wild life. and beaver trout
Steel head. its spawning ground.

Appendix 2. List of placenames: Dakelh-English, English-Dakelh

Table 5. Dakelh-to English placenames discussed in 2013-2014 TNTK interviews.

Dakelh Name	English Name	Meaning	Location	Feature
-	Twelve Mile Lake		Middle River, third lake	River
-	Sidney Creek		Trembleur Lake, NW corner	River
'Eguz bunghun		"middle lake"; or "a lake between two points"	between Whelulhtl'oh-Kazchek Lake	Lake
Binche	Pinchi IR 2	"river mouth in the middle of the lake [Stuart Lake]"	Binche	IR
Binche koh	Pinchi Creek	"the creek in the middle (Binche)"	Pinchi Creek	River
Bisk'i noo	Seagull Island	"seagull island"	Trembleur Lake, west end (Dzintl'at)	Island
Bisk'i noo		"seagull island"	Trembleur Lake, small island west of Middle River	Island
Bun yiz		"long lake"	Lake W of Steamboat Bay	Lake
Ch'a bunk'ut			swamps near s-curve Middle River	
Choo yus	Chuius Mt.		Chuius Mt.	Mountain
Chundoo cho whedin'a		"where there are big pines"	Tezzeron Lake, area north of	Site
Chuntl'e lhi	Wolf Lake	"wolf lake"	Trembleur Lake, NW Steamboat Bay	Lake
Chuz tizdli		"outlet of Chuzghun"	mouth of K'uzkoh	Site
Dabit oobunghun		"David's (Joseph) lake"	Lake W of Middle River	Lake
Dadzi nadilh	Hat Lake	"where the loons gather"	Hat Lake	Lake
Dzin tizdli	Tildesley Creek		Tildesley Creek	River
Dzithubun	Trembleur Lake	"tranquil; calm lake"	Trembleur Lake	Lake
Dzink'azdli	Fleming Lake		Fleming Lake	Lake
Dzink'azdli koh	Fleming Creek	"creek that flows to Dzinkazdli"	Fleming Creek	River
Dzintl'at	Steamboat Bay	"end of the lake Dzithubun"	Trembleur Lake, west end	Bay
Dzintl'ainli	Middle River I.R. # 1	"where the water flows into Dzithubun"	Middle River, mouth of	IR
Dzulh tsul	Tsitsutl Mt.	"smaller mountain"	Tsitsutl Mt.	Mountain
Hadoodatelh bun	Hatdudatelh Lake		Hatdudatelh Lake	Lake
Ha'whuz'a		"an opening"; "clearing"	Middle River, by Van Decar Creek	Site

Dakelh Name	English Name	Meaning	Location	Feature
Ha'whuz'a koh	Van Decar Creek; Rosetti Creek	"creek that flows to Ha'whuz'a"	Van Decar Creek	River
Hazghun	Six Mile Lake		Middle River, first lake	River
Inzanun	Inzana Lake		Inzana Lake	Lake
Khast'anghun	Baptist Lake	"fireweed leaf lake"	Baptiste Lake	Lake
Khast'ani koh	Baptiste Creek	"creek that flows to Khast'anghun"	Baptiste Creek	River
Khelh hoozdli		"mouth of Khelhghubun"	Takla Lake, inlet of Middle River	River
Khelhghubun	Takla Lake		Takla Lake (southern part)	Lake
K'uz koh	Kuzkwa River	"half way river"	Kuzkwa River	River
K'uzche	Grand Rapids	"the outlet of K'uz koh"	K'uzche IR #5	IR
Lhk'etat'a	Leo Creek		Leo Creek	River
Lhoh cho	Kloch Lake	"big whitefish"	Kloch Lake	Lake
Nak'al bun	Stuart Lake		Stuart Lake	Lake
Nata'uzduti'oooh	Natazutlo Lake; Rice Lake	"set snares along the lake"	Natazutlo Lake	Lake
Nilhts'i tila		"bordered by the wind"; "maybe it is windy"	Trembleur Lake, east end	Point
Ningwus koh	Grostete Creek	"soapberry creek"	Grostete Creek, Tezzeron Lake	River
Raymond Lake		"lake of Raymond Prince"	Between Trembleur Lake & Kazchek Lake	Lake
Sai andusda	Soyandustar		Soyandustar	Site
Tache		"three tail"	Mouth of Tache River	River
T'acho tl'oh	Tranquility Bay	"mallard bay"	Trembleur Lake, Tranquility Bay	Bay
Tagatoot	Airline Lake	"three bodies of water"	Airline Lake	Lake
Talhtamba	Trembleur Mt.	"green slippery moss covered mountain"	Trembleur Mt. W of Sydney Williams	Mountain
Talhtamba koh	O'Neil Creek	"creek flowing from Talhtamba"	O'Neil Creek	River
Tanizul	Tarnezell Lake	"warm water"	Tarnezell Lake	Lake
Tesgha	Pinchi Lake	"where we sleep overnight"	Pinchi Lake	Lake
Tizli	Teeslee IR 3	"outlet of a lake"; "mouth of a river"	Teeslee I.R. #3	Site
Tooti	Chuchi Lake	"great water way"	Chuchi Lake	Lake
Tsazchek	Kazchek Lake		Kazchek Lake	Lake

Dakelh Name	English Name	Meaning	Location	Feature
Tse 'ahunin koh; Felix Creek	Paula Creek			River
Tselkun	Mt. Sidney William	"red rock"	Mt. Sydney William	Mountain
Tsendzut	Mt. Copley	"rock slide"	Mt. Copley	Mountain
Tsi cho latho		"big head point"; "it's got a big head"	Trembleur Lake, big point at Steamboat Bay	Point
Ts'i ya koh	Kazchek Creek	"little canoe creek"	Kazchek Creek	River
'Udedo tsendzut	Tchentsut Mt.	"the next mountain over from Tsendzut"	Tchentsut Mt.	Mountain
'Udlah koh			creek from Tsa ken k'eh bun on White Crater to Kloch Creek, NW of Kloch Lake	River
Udna betel usla		"little people's canoes turned over"	'Udeda tsendzut & Tsendzut & one more mountain	Ridge
'Ut'an noo		"leaf island"	Tezzeron Lake, point at mouth of Kuzkwa River	Point
Wasi Point	Lynx Point	"lynx point"	Kazchek Lake, east side	Point
Whelulh tl'oh		"swampy bay"	Trembleur Lake, east bay	Bay
Whulanghun koh	Butterfield Creek		Trembleur Lake, SW corner	River
Yoonoo'-i Koh	Middle River	"river furthest north"	Middle River	River

Table 6. English-to-Dakelh placenames discussed in 2013-2014 TNTK interviews.

English Name	Dakelh Name	Meaning	Location	Feature
-	Bisk'i noo	"seagull island"	Trembleur Lake, small island west of Middle River	Island
-	Bun yiz	"long lake"	Lake W of Steamboat Bay	Lake
-	Ch'a bunk'ut		swamps near s-curve Middle River	
-	Chundoo cho whedin'a	"where there is big pines"	Tezzeron Lake, area north of	Site
-	Chuz tizdli	"outlet of Chuzghun"	mouth of K'uzkoh	Site
-	Dabit oobunghun	"David's (Joseph) lake"	Lake W of Middle River	Lake
-	'Eguz bunghun	"middle lake"; or "a lake between two points"	between Whelulhtl'oh-Kazchek Lake	Lake
-	Ha'whuz'a	"an opening"; "clearing"	Middle River, by Van Decar Creek	Site
-	Khelh hoozdli	"mouth of Khelghubun"	Takla Lake, inlet of Middle River	River
-	Nilhtsi' tila	"bordered by the wind"; "maybe it is windy"	Trembleur Lake, east end	Point
-	Raymond Lake	"lake of Raymond Prince"	Between Trembleur Lake & Kazchek Lake	Lake
-	Tache	"three tail"	Mouth of Tache River	River
-	Tsi cho latoh	"big head point"; "it's got a big head"	Trembleur Lake, big point at Steamboat Bay	Point
-	'Udlah koh		creek from Tsa ken k'eh bun on White Crater to Kloch Creek, NW of Kloch Lake	River
-	'Ut'an noo	"leaf Island"	Tezzeron Lake, point at mouth of Kuzkwa River	Point
-	Udna betel usla	"little people's canoes turned over"	'Udeda tsendzut & Tsendzut & one more mountain	Ridge
-	Wasi point	"lynx point"	Kazchek Lake, east side	Point
-	Whelulh tl'oh	"swampy bay"	Trembleur Lake, east bay	Bay
Airline Lake	Tagatoot	"three bodies of water"	Airline Lake	Lake
Baptist Lake	Khast'anghun	"fireweed leaf lake"	Baptiste Lake	Lake
Baptiste Creek	Khast'ani koh	"creek that flows to Khast'anghun"	Baptiste Creek	River
Butterfield Creek	Whulanghun koh		Trembleur Lake, SW corner	River

English Name	Dakelh Name	Meaning	Location	Feature
Chuchi Lake	Tooti	"great water way"	Chuchi Lake	Lake
Chuius Mountain	Choo yus		Chuius Mt.	Mountain
Fleming Creek	Dzink'azdli koh	"creek that flows to Dzinkazdli"	Fleming Creek	River
Fleming Lake	Dzink'azdli		Fleming Lake	Lake
Grand Rapids	K'uzche	"the outlet of K'uz koh"	K'uzche IR #5	IR
Grostete Creek	Ningwus koh	"soapberry creek"	Grostete Creek, Tezzeron Lake	River
Hat Lake	Dadzi nadilh	"where the loons gather"	Hat Lake	Lake
Hatdudatelh Lake	Hadoodatelh bun		Hatdudatelh Lake	Lake
Inzana Lake	Inzanun		Inzana Lake	Lake
Kazchek Creek	Ts'i ya koh	"little canoe creek"	Kazchek Creek	River
Kazchek Lake	Tsazcheh		Kazchek Lake	Lake
Kloch Lake	Lhoh cho	"big whitefish"	Kloch Lake	Lake
Kuzkwa River	K'uz koh	"half way river"	Kuzkwa River	River
Leo Creek	Lhk'etat'a		Leo Creek	River
Middle River	Yoonoo'-i Koh	"river furthest north"	Middle River	River
Middle River I.R. # 1	Dzitl'ainli	"where the water flows into Dzinghubun"	Middle River, mouth of	IR
Mt. Copley	Tsendzut	"rock slide"	Mt. Copley	Mountain
Mt. Sydney William	Tselkun	"red rock"	Mt. Sydney William	Mountain
Natazutlo Lake; Rice Lake	Nata'uzdutl'ooh	"set snares along the lake"	Natazutlo Lake	Lake
O'Neil Creek	Talhtamba koh	"creek flowing from Talhtamba"	O'Neil Creek	River
Paula Creek	Tse 'ahunin koh; Felix Creek			River
Pinchi Creek	Binche koh	"the creek in the middle (Binche)"	Pinchi Creek	River
Pinchi IR 2	Binche	"river mouth in the middle of the lake [Stuart Lake]"	Binche	IR
Pinchi Lake	Tesgha	"where we sleep overnight"	Pinchi Lake	Lake
Seagull Island	Bisk'i noo	"seagull island"	Trembleur Lake, west end (Dzintl'at)	Island
Six Mile Lake	Hazghun		Middle River, first lake	River
Soyandustar	Sai andusda		Soyandustar	Site
Steamboat Bay	Dzintl'at	"end of the lake Dzinghubun"	Trembleur Lake, west end	Bay
Stuart Lake	Nak'al bun		Stuart Lake	Lake

English Name	Dakelh Name	Meaning	Location	Feature
Sidney Creek	-		Trembleur Lake, NW corner	River
Takla Lake	Khelhghubun		Takla Lake (southern part)	Lake
Tarnezell Lake	Tanizul	"warm water"	Tarnezell Lake	Lake
Tchentsut Mt.	'Udedo tsendzut	"the next mountain over from Tsendzut"	Tchentsut Mt.	Mountain
Teeslee IR 3	Tizli	"outlet of a lake"; "mouth of a river"	Teeslee I.R. #3	Site
Tildesley Creek	Dzin tizdli		Tildesley Creek	River
Tranquility Bay	T'acho tl'oh	"mallard bay"	Trembleur Lake, Tranquility Bay	Bay
Trembleur Lake	Dzinghubun	"tranquil; calm lake"	Trembleur Lake	Lake
Trembleur Mt.	Talhtamba	"green slippery moss covered mountain"	Trembleur Mt. W of Sydney Williams	Mountain
Tsitsutl Mt.	Dzulh tsul	"smaller mountain"	Tsitsutl Mt.	Mountain
Twelve Mile Lake	-		Middle River, third lake	River
Van Decar Creek; Rosetti Creek	Ha'whuz'a koh	"creek that flows to Ha'whuz'a"	Van Decar Creek	River
Wolf Lake	Chuntl'e lhi	"wolf lake"	Trembleur Lake, NW Steamboat Bay	Lake

Tl'azt'en
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Traditional
Knowledge
Study

Schedule 1 - Areas recommended for archaeological assessment

Prepared for:
PRGT - TransCanada Corporation,
Stantec,
Archer CRM Partnership,
and other archaeological contractors
March 2014
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Archaeological sites and objects predating 1846 are protected under BC's Heritage Conservation Act. It is an offence to disturb such sites, knowingly or unknowingly. Tl'azt'en keyoh holders expect the archaeological survey and assessment of portions of the PRGT project in their territory to be performed to the highest standards afforded under the Act. We believe the **intensity and depth of the traditional uses of specific areas has likely left physical evidence in the form of archaeological sites, materials and features predating European arrival in the area.**

We are aware of the tendency to consider archaeological potential to be reduced in areas of heavy land disturbance and caution the proponent and its contractors against dismissing such areas in Tl'azt'en territory. As with the territory at large, Tl'azt'en's pre-contact sites have suffered disturbance due logging, road and rail building, but many remain unidentified. Material evidence of Tl'azt'en ancient past appears sparse due to meagre research in the region, **and we recommend the proponent and its contractors help fill the gaps in the archaeological record with thorough, unbiased survey of all areas of potential, regardless of the level of disturbance.** In addition to shovel-testing, road exposures, cutbanks, logging-related surface disturbances and all other sub-surface exposures should be closely examined for any evidence of archaeological sites, materials or features.

Tl'azt'en keyoh holders have identified a number of areas likely to have pre-contact cultural sites or materials in the vicinity of the pipeline corridor. These areas are recommended **in addition to those selected by Archaeology Branch modelling and the contract archaeologists' best professional judgment.** From west to east they are:

1. Lhetank'ut and Portion of Dzint'izdli-Tildesley Creek Trail (EAKP 362, 359)

A stand of arborglyphs (culturally modified trees with writing) is located around the eastern end of Lhetank'ut (Klaytahnkut Lake) along the Dzint'izdli-Tildesley Creek Trail (TUS 5104). Survey recommended for CMT site and portions of trail adjacent to pipeline R-o-W southeast of EAKP 359.

2. 'Ude 'az ("next one over")

Small lake west of Khast'anghubun (Baptiste Lake). Survey recommended of shoreline and terrain around inlet/outlets.

3. Khast'anghubun (Baptiste Lake)

Survey recommended for southern shoreline and terrain around inlet/outlets.

Survey recommended for portion of Baptiste Lake-to-Dzitl'ainli trail bisected by proposed pipeline at east end of lake

4. 700 Road-Khast'ani koh (Baptiste Creek)

Survey recommended for portion of 700 Road adjacent to Khast'ani koh (Baptiste Creek)

5. Yoonoo'-i Koh (Middle River)

Intensive survey and testing within a zone approximately 800 meters on either side of the river along and adjacent to the pipeline R-o-W (between EAKP 326 to 328)

6. Ts'iya koh (Kazchek Creek) Trail

Survey recommended for portion of Ts'iya koh (Kazchek Creek) Trail that veers south from the creek toward Dzitl'ainli. Two possible trails have been named and require ground-truthing by keyoh members (vicinity of EAKP 323-324).

7. Whelulh tl'oh – Kazchek Lake trails

Survey recommended for portions of north-south running trails crossing proposed pipeline R-o-W. Several possible trails have been named and require ground-truthing by keyoh holders (between EAKP 309 and 316).

8. Ningwus koh

Survey recommended for terrain within 150 m on either side of creek.

9. Unnamed creek east of Ningwus koh

Survey recommended for terrain within 150 m on either side of this unnamed creek (between EAKP 295 and 296).