



STK'EMPLUPSEMĆ TE SECWÉPEMĆ PANEL RECOMMENDATIONS REPORT -
REDACTED

FOR THE HIGHLAND VALLEY COPPER MINE LIFE EXTENSION PROJECT

Citation: Stk'emplupsemc te Secwépemc Nation. 2024. SSN Panel Recommendations Report for the proposed Highland Valley Copper Mine Life Extension Project

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In addition, it is understood and acknowledged by all parties that the rights of Indigenous Peoples are,

- embedded within our customary laws and structures, and are inclusive of our intellectual and cultural properties;
- protected under Section 35 of the *Canadian Constitution Act* and are inherent, sui generis legal rights;
- supportive of the principles, guidelines, and implementation of the United Nations Declaration on the Rights of Indigenous Peoples;
- and further declared within our collective position to honour the political relationship proposed in the Memorial Sir Wilfrid Laurier, Premier of the Dominion of Canada.

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List of Acronyms

| | |
|------------------------|--|
| 2SLGBTQIA | Two-spirit, lesbian, gay, bisexual, transgender, queer, questioning, intersex, and asexual |
| AAC | Annual Allowable Cut |
| BC | British Columbia |
| BCUC | BC Utilities Commission |
| BC Hydro | British Columbia Hydro and Power Authority |
| CHA | Cultural Heritage Assessment |
| DFO | Department of Fisheries and Oceans Canada |
| EA | Environmental Assessment |
| EAO | Environmental Assessment Office |
| ECCC | Environment and Climate Change Canada |
| ECDA | Economic and Community Development Agreement |
| EMLI | BC Ministry of Energy, Mines and Low Carbon Innovation |
| ERA | Ecological Risk Assessment |
| FAA | <i>Fisheries Act</i> authorization |
| FDMP | Fugitive Dust Management Plan |
| GHG | Greenhouse Gas |
| Ha | hectares |
| HHRA | Human Health Risk Assessment |
| HVC | Highland Valley Copper |
| HVC Mine | Highland Valley Copper Mine |
| HVC MLE Project | Highland Valley Copper Mine Life Extension Project |
| IAA | <i>Impact Assessment Act</i> |
| km | Kilometre |
| kV | Kilovolt |
| LoM | Life of Mine |
| LSA | Local Study Area |
| m³ | Cubic metres |
| mg/L | Milligrams per Litre |
| MVA | Megavolt-Amperes |
| OGDA | Old Growth Deferral Area |
| OIC | Order-in-Council |
| OMS Manual | Operation, Maintenance and Surveillance Manual |
| ppm | Parts Per Million |
| RSA | Regional Study Area |
| SAMP | Sulphate Adaptive Management Plan |
| SNRC | Skeetchestn Natural Resources Corporation |
| SSN | Stk'emlúpsemc te Secwépemc |
| TARP | Trigger Action Response Plan |
| TEM | Terrestrial Ecosystem Mapping |
| TSA | Timber Supply Area |
| TSF | Tailings Storage Facility |
| TSP | Total Suspended Particulate |
| WHO | World Health Organization |
| UNDRIP | <i>United Nations Declaration of the Rights of Indigenous People</i> |
| WMP | Wildlife Management Plan |

Glossary of Secwepemctsín Words

| | |
|---|---|
| <i>Ckmúlecw</i> | Burbot |
| <i>Ctseltsálnéws</i> | Highland Valley area |
| <i>Ctkwílcmeñten</i> | Quiltanton Lake |
| <i>Ctsalétkwe</i> | Twenty-Four Mile Lake |
| <i>Étsxem</i> | Spirit-guardian questing, training for spiritual powers. Involves going into the mountains in solitude to practice skills necessary for life, and to acquire spirit helpers who show themselves to the trainee |
| <i>Kecmentsút</i> | Reciprocal relations |
| <i>Kukpi7</i> | Chief |
| <i>Kw'séltkten</i> | All our relations, the land, the water, the sky and all the creatures and plants in our territory |
| <i>qwempúlecw</i> | The land has become bare. |
| <i>Qwenqwént yiri7 re sexlítemc</i> | Guests are pitiful. |
| <i>Re sqlélten ri7 re xetéqs re stsmémelt</i> | The salmon are our first children. |
| <i>Secwépemcúlecw</i> | Secwépemc Traditional Territory |
| <i>Seméc</i> | Spirit guardian power acquired during étsxem |
| <i>Seítemc</i> | The Canyon division who lived on the west side of the Fraser River near the mouth of the Chilcotin River canyon |
| <i>Sexlítemc</i> | Non-Member/Guest |
| <i>Sexqéltkemc</i> | The Shuswap Lakes division |
| <i>Sextsínemc</i> | The people who live(d) on the lower Main Thompson, Bonaparte and Pavilion |
| <i>Skwtúse7</i> | Refers to both Face Lake and Lac Le Jeune |
| <i>Slleqwaqín</i> | Tree Frog |
| <i>Smi7níp</i> | Western Toad |
| <i>Spitem</i> | Bitter Root |
| <i>Stémcúlemcwemc</i> | The Fraser River division in the area between High Bar and Soda Creek |
| <i>Stk'emlúpsemc</i> | The people at and near the confluence of North and South Thompson Rivers, including the people of Tkemlúps and Skeetchestn |
| <i>Stk'emlúpsemc te Secwépemcúlecw</i> | The portion of Secwépemc Traditional Territory which SSN own, care for, and are responsible for the protection and management of |
| <i>Stspetékwll</i> | Ancient oral traditions and histories |
| <i>Stsq'ey'</i> | Indigenous Laws |
| <i>Styétemc</i> | The people of the Canim Lake to Lac La Hache area |
| <i>Sxúsem</i> | Soapberries |
| <i>Tkwenemiple7</i> | Councillors or Advisors |
| <i>Tkwilc</i> | Indigenous doctors from Secwépemc communities and neighbouring nations |
| <i>Tmicw</i> | The land, earth, waters, and territory under our care, which also includes the physical and spiritual beings that live on the land, and the sentient powers inherent in places where physical and spiritual activities take place |

| | |
|------------------------|--|
| <i>Tqéqeltkerc</i> | The Simpcwerc on the mid-North Thompson and those on the upper reaches by Tete Jaune Cache and to Jasper |
| <i>Ts'elilcstem</i> | Stood ourselves up |
| <i>Tseqwtseqwéscen</i> | Copper |
| <i>Tsensúnkwem</i> | Tunkwa Lake |
| <i>Tseqwmús</i> | Sucker Fish |
| <i>Xqelmechwétkwe</i> | Water People |
| <i>Xyemémsell</i> | Big Divide Lake |
| <i>X7ensq̓t</i> | The sky and earth will turn on you. |
| <i>Yecwmíhmen</i> | Resource caretakers or stewards over land and resources |
| <i>Yéwyut</i> | A nuisance |
| <i>Yúcwmentswécw</i> | To care and look out for one another |

1. Introduction

“[T]here are four things that our ancestors did so we could be here today. ... The first thing that our ancestors did ... from the very beginning is they planned. They planned things. They planned via seasons. You know, the spring, the summer, the fall, the winter, each season had a purpose and had a role in our life cycles, of the animals, the plants, everything... different months mean different things for different types of medicines, as an example. So that's what they did is they planned on a seasonal basis.

The second thing that they did... [was] work. Our ancestors worked really hard. They worked hard to get us to this place. If you think of all that they endured since Contact... the smallpox, you know, the Spanish flu, you start naming all these atrocities, right, the genocide, the residential schools, Sixties Scoop, et cetera, et cetera, et cetera. All the legislation that was -- they enacted legislation -- I call it legislative genocide -- to kill us, but we're still here. It's because our people worked really hard.

And the reason we're still here is the third thing that they did is they never, never, never gave up. They never ever gave up, our old ones, the ancestors. If you think about all they endured, they never ever gave up. So that's what's instilled in you today. You're still -- you're never giving up. You continue to bring forward their voices and their concerns.

The fourth thing that they did is they used ceremony. It was this thing that was a way of life. It was ceremonial. You heard about the hunters talking about the hunting is an act of ceremony, fishing is a ceremony, berry picking is ceremony. That's what we did continuously, and so we did that even here. ... So keep that in mind as you move forward because the work you're doing is really important. You're continuing the work of your ancestors.”

-Kukpi7 Wayne Christian, Panel Chair

Introduction

Stk'emlúpsemc te Secwépemc (“**SSN**”) is a geopolitical governance group of the Secwépemc Nation, situated in the Secwépemc Traditional Territory and centered around Kamloops Lake. SSN includes and is principally comprised of Secwépemc persons who are members of the Skeetchestn Indian Band and the Tkemlúps Indian Band. In accordance with Secwépemc laws, customs, and traditions, members of SSN are the caretakers and stewards who own, care for, and are responsible for the protection and management of that part of Secwépemcúlecw (Secwépemc traditional territory) known as Stk'emlúpsemc te Secwépemcúlecw, which includes Ctselstálnéws (the Highland Valley area) and the land that surrounds it.

This Recommendations Report by the SSN Review Panel follows an Indigenous-led assessment of the proposed Highland Valley Copper (“**HVC**”) Mine Life Extension Project (the “**HVC MLE Project**”) which was conducted in July 2024 in Kamloops, British Columbia (“**BC**”). This is the second Indigenous-led assessment by the SSN Review Panel. The framework for this assessment builds upon SSN's first assessment of the proposed Ajax Mine at Pípsell, which is a cultural keystone site for the Secwépemc. Small portions of this report borrow upon the review and report of the SSN Review Panel further to the Pípsell review.

1.1 The HVC MLE Project Description

In the 1960s, the original HVC Mine (“**HVC Mine**”) was constructed in the Highland Valley area. The HVC Mine is the amalgamation of three smaller mines owned by different mining operations: Bethlehem, Lornex and Highmont. The existing HVC Mine site is located approximately 75 kilometres (“**km**”) southwest of Kamloops, BC and 17 km west of Logan Lake, BC within the traditional territory of SSN.

Teck Resources Limited (“**Teck**”), through its subsidiary company, Teck HVC Partnership, owns the existing HVC Mine. It has advanced two proposals to expand and extend the HVC Mine within Stk’emlúpsenc te Secwépemcúlecw: the HVC MLE Project and the Bethlehem Expansion Project.

Pursuant to a Life of Mine plan, the HVC Mine is currently scheduled to cease mining operations by 2028. Teck originally proposed the HVC 2040 Project to extend the life of mine to 2040, however, during the Environmental Assessment Office’s (“**EAO**”) environmental assessment, Teck changed the name of the HVC 2040 Project to the HVC MLE Project and proposed to extend the life of the project to at least 2043.

Through the HVC MLE Project, Teck proposes to mine an additional approximate 900 million tonnes of ore to yield approximately 1.95 million tonnes of copper. The HVC MLE Project would include, but is not limited to, the following modifications to the existing HVC Mine site and operations:

- Extending the existing Valley and Highmont Pits and the associated Waste Rock Dumps;
- Increasing the production rate of ore by 31% and modifying the Highland Mill to achieve these rates;
- Increasing the annual average volume of water use for mill production by 38% from 77 to 113.5 million cubic metres (“**m³**”);
- Extending the existing Highland Tailings Storage Facility (“**TSF**”) to accommodate the one billion tonnes of tailings which would be produced by the Bethlehem Expansion and the HVC MLE Project;
- Increasing the crest elevation of the L-L and H-H Dams;
- Relocating the existing landfill; and
- Potentially realigning the existing powerline and Highway 97C infrastructure near the L-L Dam.

This SSN Review Panel assessment also considers the application by Teck to continue the use of the Basal Aquifer to pump water for the HVC Mine’s operations, the Bethlehem Project which was approved by the Province in 2019, and the BC Hydro transmission infrastructure upgrade from the Nicola substation to the Highland substation.

1.2 Ctselt’saltnéws is Located within SSN’s Territory

The HVC Mine site is located in the south-central Interior of BC, between the communities of Ashcroft (St’ells) and Logan Lake within the Thompson Nicola Regional District. The watercourses and all of the area’s surrounding tributaries upon which the HVC Mine operations are located is known to us as Ctselt’saltnéws. SSN asserts Aboriginal title and rights over Ctselt’saltnéws and asserts a continuing right to determine appropriate land uses in Ctselt’saltnéws and to preserve the land for future generations.

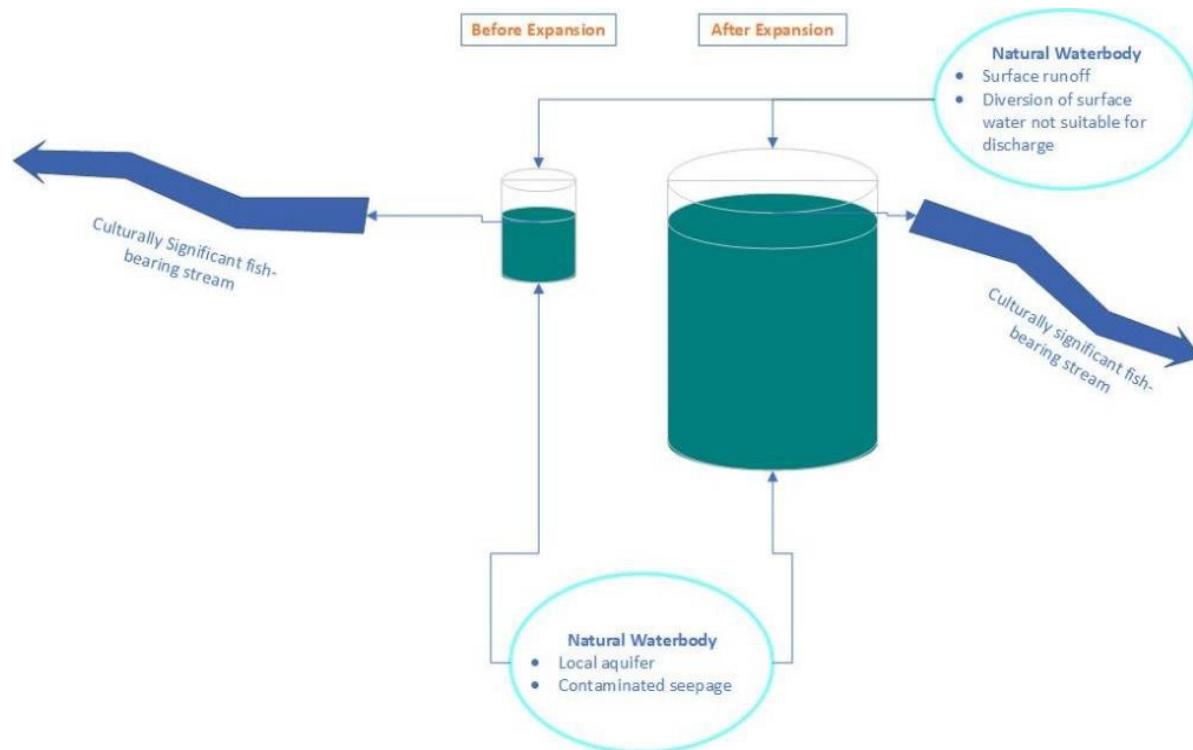
The HVC Mine is located approximately 40 km as the crow flies from Skeetchestn Reserve and approximately 57 km from Tkemlúps Reserve No. 1. There is also a former Tkemlúps Reserve at Logan Lake which is located less than 10 km from the HVC Mine and a Skeetchestn Reserve at Cherry Creek which is located approximately 45 km from the HVC Mine. Ashcroft is located approximately 44 km from the HVC Mine.

1.3 Application for Federal Review of the HVC 2040 Project

On August 28, 2019, the Canadian *Impact Assessment Act* (“**IAA**”) came into force. The IAA created the new Impact Assessment Agency of Canada and repealed the *Canadian Environmental Assessment Act, 2012*. Under the IAA, federal impact assessments are carried out on designated projects, which are designated either by the *Physical Activities Regulations* (commonly known as the Project List) or by the federal Minister of Environment and Climate Change.

SSN applied to the Impact Assessment Agency of Canada to designate the then-HVC 2040 Project as a reviewable project under the IAA, taking the position that the HVC 2040 Project (and SSN maintains this position for the HVC MLE Project) is a water project and ought to be reviewed federally as a project to store water. Figure 1a shows a conceptual diagram of water management at the HVC site in its post-closure phase:

Figure 1a: Conceptual Diagram of Water Management in Post-Closure



SSN's request that the Impact Assessment Agency of Canada formally designate the project under the IAA and the Project List was denied and, as such, there has been no federal review of the HVC MLE Project. SSN maintains its position that the HVC MLE Project qualifies as a designated project under the IAA as a water storage project.

1.4 Basal Aquifer Underlying the HVC Mine

In 2002, the EAO issued a Certificate to Teck for the Basal Aquifer Dewatering Project which SSN was never consulted about. Teck had applied to the Province to increase the rate of groundwater extraction from the Basal Aquifer and allow surplus pumped water to be discharged to Witches Brook until 2009. Teck completed an environmental assessment (“EA”) for the Basal Aquifer Dewatering Project, but did not apply for approval to extract groundwater from the Basal Aquifer.

A March 2019 inspection by the Province (the first since 2002) determined that Teck was out of compliance with the Certificate as Teck had continued to pump water from the Basal Aquifer for more than 11 years without authorization. The EAO issued an enforcement warning, and Teck then applied to amend the Certificate. For further discussion on the Basal Aquifer Dewatering Project, see Chapter 6.

1.5 The Bethlehem Expansion Project

In 2018, Teck simultaneously applied for a mine permit amendment under the *Mines Act* to restart operations at the Bethlehem mine and initiated the pre-application phase of the EA process for the then-HVC 2040 Project. The Bethlehem mine ceased operations in 1980, after which time the mill facility and associated infrastructure were permanently removed. The Bethlehem Expansion Project is a facility that will have an average annual mill throughput of roughly 13 million tonnes, totalling approximately 158 million tonnes over 12 years according to Teck’s project application.

In November 2018, SSN wrote to the BC Ministry of Environment and Climate Change Strategy expressing our concern that by separately reviewing the Bethlehem and the then-HVC 2040 projects, Teck was effectively project-splitting, when the collective adverse impacts of both projects ought to have been reviewed together on a more holistic basis. SSN argued that these projects are intertwined in such a way that they should be considered a single reviewable project, and raised concerns about the Bethlehem Extension Project’s adverse impacts on SSN’s Aboriginal rights and title.

On August 9, 2019, the Province declined to designate the Bethlehem Extension Project as a reviewable project under section 6 of the BC *Environmental Assessment Act*, stating that the Bethlehem Extension Project “does not appear to hold potential for a significant adverse environmental, economic, social, heritage or health effect: and underwent a rigorous regulatory process under the *Mines Act*, including meaningful consultations with Indigenous groups...”. The Province approved the Mine Plan and Reclamation Program Permit M-11 and approved the Bethlehem Extension Project at the HVC Mine.

1.6 Transmission Line Infrastructure

The BC industrial sector, including the HVC Mine, consumes the most electricity in the Province. On June 7, 2024, the BC Hydro and Power Authority (“**BC Hydro**”) sought a Certificate for the IL243 Transmission Load Increase from the BC Utilities Commission (“**BCUC**”). In its application, BC Hydro seeks to upgrade the transmission infrastructure that supports Teck’s HVC operations and seeks to accommodate Teck’s request for an increase in its contract demand from 146 megavolt-amperes (“**MVA**”) to 180 MVA (the “**BC Hydro Highland Valley Copper Load Increase Project**”). The BC Hydro Highland Valley Copper Load Increase Project would consist of the following activities:

- Supply and install a 300 MVA 230/138 kilovolt (“**kV**”)/12.6 kV transformer at Nicola substation;

- Replace the conductor on transmission line 1L243 to increase its capacity and replace or reinforce structures where required;
- Upgrade the disconnect switches and wire/cable infrastructure at the Highland substation; and
- Construct a new line tap to connect Teck's Bethlehem substation to transmission line 1L055 at Teck's expense and under BC Hydro's supervision.

The BCUC has commenced review of the application and as detailed in Order Number G-156-24 issued on June 7, 2024, determined that establishing a public hearing and a regulatory timetable are warranted.

These significant upgrades to add to the Nicola substation, increase transmission capacity and upgrade the Highland substation, and connect to the Bethlehem substation are all excluded from the EAO's assessment of the HVC MLE Project, although the twinning of the entire transmission line from the Nicola substation to the HVC Mine was included in Teck's original application for the HVC 2040 Project.

1.7 The Provincial EA Process

While Teck was required to participate in the provincial EA as well as the concurrent provincial permitting processes, those processes were inadequate to fully and properly assess the impacts of the HVC MLE Project on Ctselt̓saltnéws and on our people. The provincial government's EA process for the HVC MLE Project does not adequately consider the interests of SSN or our Secwépemc laws, governance, knowledge, and decision making.

The Value Component selection methodology and the environmental mitigation principles used by the EAO for the HVC MLE Project, the Bethlehem Extension Project, the BC Hydro Highland Valley Copper Load Increase Project, and the Basal Aquifer Dewatering Project resulted in a significant underestimation of the cumulative impacts of these projects which all relate to the HVC Mine.

SSN repeatedly objected to the use of spatial and temporal boundaries and scales which do not provide a meaningful assessment of cumulative effects on SSN's territory and the ability of SSN members to continue our way of life for future generations.

Temporally, SSN sought an assessment that included a pre-industrial or pre-contact baseline and extended to, at minimum, seven generations beyond closure timelines. This assessment approach was not accepted within the Province's EA methodology guidelines. The importance of measuring the cumulative effects of the HVC MLE Project from this pre-contact timeline is necessary to accommodate ranges in natural variation and to adequately assess cumulative impacts to our relatives. SSN also raised the concern that not all time is equal. This is particularly relevant in the assessment of the loss of intergenerational knowledge transfer and loss of knowledge keepers in SSN communities during the extension of the mine life and post-closure. SSN has identified the near future as a critical time in the cycle of intergenerational knowledge transfer necessary to restore and maintain health and wellbeing in our communities.

In asserting and exercising our right to govern our people and our territory, SSN's Joint Council developed its own Indigenous-led assessment process. We have approached this review from the perspective of our traditional way of governing, which reflects our values and ways of knowing. It reflects and respects our relationship to *kw'séltkten* (all our relations, including the land, the water, the sky and all the creatures and plants in our territory). This process respects the roles

and importance of families, elders, and youth in understanding our past and determining our future, and represents our values, laws and traditional governance.

1.8 Order-in-Council for SSN Review Panel Assessment

SSN's Joint Council is comprised of leadership from the Skeetchestn Indian Band and the Tkemlúps Indian Band. This Project Review Process was created as a modern expression of our traditional governance. SSN's Joint Council has asked the SSN Review Panel (the "**Panel**") to develop recommendations relating to the proposed HVC MLE Project.

This report sets out the Recommendations of the Panel to SSN's Joint Council addressing whether the extension and expansion proposed by Teck in the HVC MLE Project is an appropriate use of the land and resources in Ctsel̓s̓altné̓ws, as well as possible conditions to accompany any approval granted by the EAO for the HVC MLE Project.

The Panel includes 14 SSN members who were appointed by their family groups and are from both Skeetchestn and Tkemlúps. At the commencement of the Panel Hearing, *Kukpi7* (Chief) Rosanne Casimir, the elected Chief for the Tkemlúps te Secwépemc, Joint Council Member, and Tribal Chief for the Secwepemc Nation Tribal Council, spoke to the Review Panel. Kukpi7 Casimir recited the Joint Council Order-in-Council ("**OIC**") which required that the HVC 2040 Project, the Bethlehem Project, and the Basal Aquifer Dewater Project undergo a SSN Project Assessment.

The OIC provided that no government or its agency shall issue a licence or permit for the then-HVC 2040 Project or the Bethlehem Extension Project on SSN lands until the projects underwent an SSN Project Assessment and approval was granted by SSN. The OIC served as formal notice to Teck and the Provincial and Federal Crown that SSN is exercising its jurisdiction and decision-making authority as an Indigenous government.

1.9 SSN's Project Review Process

The SSN Project Review Process is designed to assess the HVC MLE Project through a Secwépemc lens. The review is informed by SSN laws and governance and included assessments which respect SSN's cultural perspectives, knowledge and history, and SSN's rights and title throughout Ctsel̓s̓altné̓ws. The SSN Project Review Process examined the HVC MLE Project in a holistic and interconnected way. It assessed the HVC MLE Project, its potential impacts on lands, people, and culture. It examined the HVC MLE Project from the perspective of the Secwépemc people, honouring the connectedness of the land, sky, water, and cultural aspects of the territory.

The review is grounded in our *stsq'ey'* (Indigenous laws), the Memorial to Sir Wilfrid Laurier (1910), the 1911 Memorial to Frank Oliver, the United Nations Declaration of the Rights of Indigenous People ("**UNDRIP**"), and the laws of BC and Canada.

The concept of "Walking on Two Legs" – the thoughtful combining of Secwépemc and western knowledge – was respected throughout the Project Review Process, with information provided both in oral and written format. Secwépemc knowledge, perspectives, and culture were examined and assessed, as was the historical, current, and future continuity of this knowledge. The potential impacts from the HVC MLE Project on cultural, spiritual, and historical connections within the territory were considered.

The SSN Project Review Process has several components, including independent western science reviews, involvement of Knowledge Keepers and Elders, an SSN Review Panel Hearing,

and SSN assessments designed to review and assess both tangible and intangible impacts of the HVC MLE Project, including impacts of a cultural and spiritual nature.

As part of this process, SSN submitted 360° Reports to the EAO in November 2019 and June 2024, in which it raised several concerns with the EAO's process and provided a detailed SSN Issues Tracking Table. The purpose of the 360° reports is to provide a foundational feedback process in which SSN conducts a "360° Review" assessing the adequacy of consultation and accommodation at key stages during the EA process for the HVC MLE Project. Neither of the 360° Reports were responded to by the Province or Teck.

Skeetchestn Indian Band *Tkwenemiple7* (Councillor) Marshall Gonzales (and Joint Council Member) participated as a witness on the expert panels as well as some SSN staff. Other *Tkwenemiple7* in attendance throughout the hearing included Nikki Fraser, David Manuel, and Andrew Karas. Elder Garlene Dodson attended each day of the hearing. In addition, elder representatives from each community were part of the Panel. The Chair of the Panel was former *Kukpi7* Wayne Christian of Splatsin. *Kukpi7* Christian is a highly respected member of the Secwépemc Nation, and brings to the process the support and strength of our Secwépemc relations beyond the two SSN communities.

The following question was put to the Panel at the commencement of the Review Panel hearing:

In recognition of the Stk'emlupsemc te Secwépemc Nation's ("SSN") Aboriginal rights and title, and the cultural, spiritual and historical and continued importance of Ctseltšaltnéws (more commonly known as Highland Valley), does the SSN give their free, prior and informed consent to allow for the further development of the lands and resources for the purposes of extending the life of mine, increasing production, and expanding the mine footprint as detailed in the HVC Mine Life Extension Project and Basal Aquifer Dewatering Amendment in accordance with the SSN's laws, traditions, customs and land tenure systems supported by the following five assessments: Indigenomics, Health & Wellness, Tmicw, Integrity and Respect.

Throughout the hearing, the Panel was to consider the following over-arching questions:

- Are the impacts of the Project reasonable or sustainable, such that the Project will not result in significant or irreparable harm to the water within SSN territory or to SSN members' right to enjoy clean and abundant water?
- Will the Project adversely impact SSN's ability to exercise good stewardship over the water resources within SSN territory for the health of all SSN's relations and for future generations?
- What mitigation and accommodation measures, and/or Projects conditions, if any, are recommended by the Panel?

When listening to a panelist, the Panel was asked to consider the following specific questions:

- Will the HVC MLE Project impact the relevant world (e.g. Terrestrial World, Sky World, etc.)
- Will the HVC MLE Project infringe the rights SSN asserts in that world?
- If yes to the above, what impacts and infringements are of most concern and why?
- Can the concerns raised be satisfactorily addressed by way of accommodations? If so, what accommodations are required?

1.10 SSN Review Panel Hearing

The SSN Panel received and reviewed a significant amount of written evidence, including the EA Certificate Application prepared by Teck, reports received from SSN's independent experts, and public comments from SSN members.

The Panel also heard oral evidence during the hearing, which took place from July 22-26, 2024 in Kamloops, BC. The hearing consisted of evidence from traditional Secwépemc knowledge keepers and youth, as well as western experts and Teck representatives, the EAO, along with the BC Ministry of Energy, Mines and Low Carbon Innovation ("**EMLI**"), and the Department of Fisheries and Oceans Canada ("**DFO**"). Health Canada also sent a representative to attend and observe the Panel Hearing.

Teck and provincial and federal representatives were invited to attend the Panel Hearing, to ask questions of the technical experts by supplying such questions in writing in advance of the Panel Hearing, and to provide the Panel with any written submissions or information in advance of the hearing. Technical experts who had participated on behalf of Teck in the EA working groups were invited to and did attend the hearing. The final day of the hearing, July 26, 2024, was set aside for the Crown to present on their process to the Panel.

The Panel received oral evidence from almost 70 witnesses, some of whom provided evidence on multiple panels. 21 Secwépemc knowledge keepers and community members appeared as witnesses. 17 technical experts not associated with HVC appeared as witnesses, including experts retained by and from within SSN. Four provincial representatives and one federal representative appeared on July 26, 2024. 19 witnesses, the majority of which were technical experts, appeared on behalf of Teck, and two Teck representatives attended each day of the hearing.

An open house for community members took place on June 13, 2024 to identify community concerns. The Panel received both oral comments at the open house as well as 30 written comments from SSN members. The primary concerns of the communities related to water balance (the use of water for mining operations, balancing the water levels, waterflows and health of the water table, and concerns about a tailings breach) and water treatment for the contact water in the Valley Pit being postponed until 120 years after the mine's closure. Other concerns included the issue of the size of the "buffer zone" around the mine to protect human health, questions about how the mine's operations would respond to drought conditions, and the impact of air emissions and dust particulate on the Coast Mountain View Trailer Park located adjacent to the HVC Mine.

The comments from SSN members were organized according to the five pillars of SSN traditional assessment areas: *Tmicw* (the land, earth, waters, and territory under our care, which also includes the physical and spiritual beings that live on the land, and the sentient powers inherent in places where physical and spiritual activities take place), Integrity, Cultural Heritage, Holistic Health and Indigenomics.

For *Tmicw*, concerns centered upon the lack of interconnectedness of the provincial EA process and the lack of assessment about how the existing HVC Mine was currently functioning. With respect to integrity, concerns were raised about changes to the landscape as compared to the heavily-weighted focus on profits and the lack of information in the EA about the environmental safety of SSN's members. For cultural heritage, SSN members noted SSN's lack of involvement in the field work and the focus on other Indigenous Governments having archaeology programs that did not include SSN. For holistic health, the communities' primary concerns were about the impact of the HVC MLE Project on the health of SSN members who frequent the area or live near

the mine, with cancer rates being a particular concern; questions were also raised about the long-term liability of the mine operator for health impacts. Lastly, for Indigenomics, concerns were reclamation-based and focused on who would pay for the clean-up and the inadequate benefits SSN had received for Teck's use, occupation, and harm to SSN's traditional territory.

Following the hearing, the Panel members returned to their communities and discussed with their families what they had learned, read, seen and heard about the HVC MLE Project and its potential effects on SSN and our territory, including Ctselt'saltnéws. The Panel also met on a number of occasions to discuss what they had learned, both through the hearing process and through discussions with their families, and to determine, as a community, how we wanted to proceed.

As Secwépemc people, we have long governed ourselves by respecting the families in the communities, and developing consensus through discussions with our families. Our values demand respect for our elders and the knowledge they carry, and for the knowledge carried by all of our families. Respecting our traditional ways of governing ourselves, we have collectively, through both communities coming together, discussed all of the evidence before us and the traditional knowledge of our people. We have gone to Ctselt'saltnéws to see and understand the potential impacts on the land. After extensive discussion, the Panel, on behalf of the families of SSN, has developed a number of recommendations to SSN's Joint Council regarding how to proceed in relation to the HVC MLE Project. This report contains those recommendations.

2. Significance of Ctselt̓altnéw̓s and its Watercourses

“As for the Indigenous people, I will give them the land. It is not written. They are to govern themselves according to the law of nature. And I also give them a set of laws. There are not ten but will be seven laws in which they will live by. They are health, happiness, generation, generosity, compassion, power and quietness. They are to protect and care for the land. They'll treat this land like their mother.

... And in time the people will come to know there are seven directions. And he sang another song. When he finished, he said, "We should always think about the next seven generations who are coming. If we don't take care of the lands, many things will happen." He was quiet for a long time. He finally said, "Land, water, air and fire equal life. These are the four elements of life. We take one of these away, we will not have life.”

-Portion of Creation Story written by Kukpi7 Arthur Dick of Eskét,
as shared by Marianne Ignace

Introduction

SSN has an inherent responsibility as *yecwmín̓men* (resource caretakers or stewards over land and resources) to stand up our laws and protect the *tmicw*.

2.1 *Ṭkwilc* in the Highland Valley Area

Ctselt̓altnéw̓s was and is a cultural landscape of spiritual work and power that was a unique and important meeting ground for *ṭkwilc* (Indigenous doctors from Secwépemc communities and neighbouring nations). *Ṭkwilc* underwent years of training to become experts in physical, emotional, spiritual, and mental healing practices, and were called upon by families whose members had fallen sick.

There were certain places where *ṭkwilc* were known to practice together, including at *Cṭkwilcmeḥ̓ten* (Quiltanton Lake), which means the “place where Indian doctors practice”, and includes the entire area around *Cṭkwilcmeḥ̓ten*, Little Divide Lake and its outflow to Witches Brook, and extending to Bose Lake. Our elders tell us that the area between these sites was a unique and important medicine practicing place for the *ṭkwilc*.

The water in this area was special and was used as a medicine due to the high concentration of copper found in that area which had healing qualities. The *ṭkwilc* who were active in this area continue to be remembered by name, and their descendants live in the Skeetchestn and *Tkemlúps* communities.

Skeetchestn Elder [Redacted for confidentiality] recalls her aunt, Mary Uslick, being cured of an ailment at *Skwtúse7* (Face Lake) following an injury that she incurred while at an Indian Residential School in the early 1930s. After two years of being paralyzed and on her back, the western medical doctors “had given up on her”, and so four *ṭkwilc* guided her to *Skwtúse7*. One of the *ṭkwilc* was [Redacted for confidentiality] great-grandfather, *Kestmíc*, who was a well-known *ṭkwilc* from Skeetchestn that practiced at *Cṭkwilcmeḥ̓ten* and had a sweat lodge there. *Kestmíc* and the three other *ṭkwilc* walked Mary into the lake and following this, she began her recovery and re-gained movement and use of her legs.

In an interview conducted by Marianne Ignace in 2019, T'kemplúps Elder Jeanette Jules confirms that Mary Uslick's birth father had an aunt named K'wetmétkwe who was a known *tkwilc* among the T'kemplúps and beyond.

The *tkwilc* also relied on other natural elements. They knew where these powerful places were and they returned there to collect medicines and share information about medicines. The southeast part of Ctselstáalnéws remains a sacred area for the Secwépemc people who practiced there.

2.2 Traditional use of Watercourses in or Near Ctselstáalnéws

For at least 10,000 years, our ancestors have occupied the higher plateaus of Secwépemcúlecw, including Ctselstáalnéws. The lands and waters in this area have served as an integral part of our seasonal round activities that take us throughout the *tmicw*.

There is frequent past and continuing use of the area between *Tsensúnkwe* (Tunkwa Lake) and Logan Lake and the surrounding area of Highland Valley by Secwépemc people for food gathering purposes, specifically harvesting *sxúsem* (soapberries). The area was also, and continues to be, used by SSN hunters, who hunt deer and moose in the area and fishers who had and continue to fish in several of the lakes in Ctselstáalnéws, as discussed in Chapters 6 and 15.

SSN has asserted title over our traditional territory in the Highland Valley area. This title includes a right to healthy waterways and riparian habitat to support our rights to hunt, fish, and gather plants, as well as our right to manage water resources in our territory. We are obligated by our laws to manage water for the good of *kw'séltkten* and to take care of one another in reciprocal accountability for now and all future generations.

Since the HVC mine began operating in the early 1960s, it has led to the depletion of *C'kwilcmenten*, *Xyemémsell* (Big Divide Lake), Little Divide Lake, and *Ct'salétkwe* (Twenty-Four Mile Lake). These lakes had Secwepemctsin names because our ancestors used and relied on them.

SSN Environmental Protection Manager, Travis Marr, shared during the Panel Hearing how our ancestors used to use *Ct'salétkwe* and the surrounding area:

24 Mile, I took a map and I drew a ruler of 24 miles in a circle. That 24 mile touches base on all our communities from Lytton to Lakak to T'kemplúps to Skeetchestn to Bonaparte. It's a full circle. A human being could run 24 miles in a day. ... Kyé7e Garlene, kukwstsemc, told me that that lake was -- the travellers would go there and they would bathe in that lake to become their medicine and gain their medicine teachings, and so that lake would be a gathering spot for all these communities.

Some of the identified watercourses of significance in or near *Ctselstáalnéws* include Guichon Creek, Witches Brook, Bose Lake, Pukaist Creek, and Highmont Creek, however, the whole of Ctselstáalnéws was used. Although portions of this area are now inaccessible to us, and other areas have been rescinded, depleted, or contaminated, we still rely on resources within this area as part of our seasonal round today.

The proposed HVC MLE Project would increase the extraction of water at the Valley Pit from 18,000 m³ to 51,000 m³ per day, further reducing the baseflow to Witches Brook, depleting our aquifers, and continuing to jeopardize the health and cleanliness of our waterways. For more information on the HVC MLE Project's impacts to water, see Chapter 5.

2.3 Cumulative Impacts of Water Consumption and Waste

Mining commenced in the Highland Valley in 1962. While the HVC Mine is currently permitted to run to 2028, Teck has proposed to extend the existing infrastructure and operate the mine until at least 2043 and produce approximately an additional 900 million tonnes of ore and one billion tonnes of tailings. The significant increase in the volume of tailings generated by this expansion raised immediate concerns with SSN, particularly given the Mount Polley mine disaster which occurred in 2014 (as discussed in Chapter 9), and the potential for the HVC Mine's tailing dams (which are also constructed on sand) to breach and enter the Thompson River and other nearby watercourses, killing salmon and other fish which SSN relies on for food.

The HVC MLE Project would see the TSF increase by 12 metres for a total height at completion of 31 metres embankment. In addition, SSN expressed concern about the fugitive dust generated from the waste rock piles which disperses in the air and into watercourses. As was heard at the Panel Hearing, a number of SSN members continue to hunt, fish, and harvest food and medicines from Ctselt̓saltnéws and there are concerns about eating contaminated meat, fish, vegetables, plants, and medicines.

The Panel also notes that the volume of fresh water to be used to facilitate the HVC Mine's operations, including water drawn from the Basal Aquifer, is staggering and questions were raised about whether other more sustainable water practices could be used. For comparison, the City of Kamloops currently uses 19 million m³ of water on an annual basis, and the HVC MLE Project is anticipated to annually use 113.5 million m³. Further, the HVC MLE Project is not expected to achieve a 100% closed loop system for the fresh water it uses, only re-using 80% of fresh water, which is not sustainable. Teck should ensure a closed loop system can be met.

The admission by Teck that its operations necessitate the construction of a water treatment plant and its plan to defer the construction of the plant until approximately 120 years after the mine ceases operations is unacceptable. The EAO ought to require as a condition of any approval of the HVC MLE Project that Teck progressively and sustainably treat water throughout the life of the mine and ensure that it can maintain acceptable levels of water discharge into Witches Brook, as discussed in Chapters 5 and 8. The construction of a water treatment plant now would also assist Teck in meeting the Provincial water quality standards at Pukaist Creek for drinking water and aquatic life, as Teck currently has an effluent discharge permit to exceed water quality standards.

In 2020, Teck notified the DFO that it discovered a number of non-compliance issues under the *Fisheries Act* regarding HVC Mine's operations, including at Witches Brook and other water bodies on an ongoing basis. Since that time, SSN has been engaged with Teck to take remediation measures to rectify its non-compliance, as discussed in Chapter 17.

Conclusion

Both the Province and Teck have failed to consider our communities' cultural and spiritual connectedness to Ctselt̓saltnéws, and how our spiritual values and traditional practices have been altered by the existing mine and would continue to be impeded by the HVC MLE Project.

3. Aboriginal Rights and Title

“Despite SSN's continued actions to prove to BC our ancestral ties to Ctselt̓saltnéws, there's been effectively no change in how BC recognizes SSN's right to self-determination extending to this area of the territory. ... What we hear is your language doesn't matter; your culture doesn't matter; your ancestral ties to the area don't matter; your constitutional rights to be stewards of your traditional lands don't matter; your constitutionally protected right to self-determination doesn't matter; unfettered access that provides for continued use and occupancy pertinent to the concept of intergenerational knowledge transfer doesn't matter; your assertions of sovereignty don't matter. Do these things sound familiar?”

-Jessica Allen, SSN Project Coordinator

Introduction

SSN claims both Aboriginal rights and Aboriginal title to Stk'emlúpsenc te Secwépemcúlecw, including over Ctselt̓saltnéws, which encompasses the HVC MLE Project area. These claims are self-evident and yet we are repeatedly asked to prove that we are indeed the original people and the original caretakers of these lands who have lived in Secwépemcúlecw from time immemorial.

Through its strength of claim assessment process, the Province has systematically preferred the Nlaka'pamux First Nations (“**Nlaka'pamux**”) over SSN based on its review of ethnographic studies on a *prima facie* basis. For instance, the Province has entered into an Economic and Community Development Agreement (“**ECDA**”) with Nlaka'pamux on the basis of its *prima facie* assessment of rights, and has deprived SSN of the same. The ECDA with Nlaka'pamux deals with shared decision-making and revenue sharing in relation to the ongoing operations of the HVC Mine. SSN has not been provided with shared decision-making or revenue sharing opportunities from the HVC Mine's ongoing operations or the proposed HVC MLE Project. This strategy of division and rule has historically been used by sovereign entities who deliberately use divisive measures to create divisions between groups. SSN is hopeful that upon the Province's review of the fulsome evidence presented at the Panel Hearing and in this Recommendations Report, they will initiate steps towards reconciliation.

3.1 Aboriginal Title

Aboriginal title includes the right to exclusive use and occupation of the land for a variety of purposes. As stated by the Supreme Court of Canada in *Tsilhqot'in Nation v. British Columbia*, 2014 SCC 44 (“**Tsilhqot'in**”) at paragraph 73:

Aboriginal title confers ownership rights similar to those associated with fee simple, including: the right to decide how the land will be used; the right of enjoyment and occupancy of the land; the right to possess the land; the right to the economic benefits of the land; and the right to pro-actively use and manage the land.

On November 18, 2016, the Provincial Ministry of Forests, Lands and Natural Resource Operations reviewed the following provincial ethnohistoric reports: “Secwepemc Nation: Review of Ethnographic and Historical Sources” (Revised April 18, 2017); and “Highland Valley Landfill Site: Review of Historical and Ethnographic Sources” (Revised November 2, 2011), and determined that the Secwépemc Main Thompson Band “ceased to exist” as a group sometime in the mid to late 1800s and that the Nlaka'pamux had expanded their territory north, intermarrying with some of the Main Thompson survivors located near Ashcroft.

According to the Province, other Main Thompson Band survivors are indicated to have joined the historic Bonaparte Band and Skeetchestn Band. The Province continues to be of the view that the area in question was historic Nlaka'pamux territory at the time of contact and 1846. The Province also considered the Cook's Ferry Indian Reserve that was established by the government in Highland Valley as evidence of the Nlaka'pamux's rights to the area.

In November 2016, the Province undertook a strength of claim assessment for the existing HVC Mine site and determined that SSN has a weak to moderate *prima facie* claim in the vicinity of the HVC Mine site south of Bose Lake and a weak *prima facie* claim to title in the same area. This assessment was based on ethnographical reports and the Interim Cultural Heritage Study provided by SSN.

Since that time, SSN has engaged with the Province extensively about its concerns with what SSN believes was a flawed strength of claim assessment based on missing information which resulted in conclusions made in the absence of critical information concerning title and rights. After the November 2016 assessment, SSN completed a further Indigenous-led Cultural Heritage Assessment ("**CHA**") which was shared with the Province, and put the EAO on notice that SSN had filed a claim of Aboriginal rights and title over lands which include the areas of the existing HVC Mine and the proposed HVC MLE Project. The Crown must take care to preserve SSN's interests pending final resolution of the title claim, in accordance with paragraph 91 of *Tsilhqot'in*.

Despite receiving the CHA, the Province has not revised its strength of claim assessment or provided a strength of claim assessment for SSN in relation to the HVC MLE Project area. Instead the Province continues to rely on incomplete information to conclude that SSN's Aboriginal title to this area was weak.

For a third time, on August 29, 2024, SSN provided the Province and the EAO with an Addendum 1 Cultural Heritage Study completed by Dr. Marianne Ignace. This information was provided to the EAO's Ms. Tracey Janes who advised that she would forward it to the Province. Dr. Ignace's work was also presented to the Panel at the Panel Hearing. No response has been received from the Province regarding how it has incorporated the Addendum 1 CHS Study into its strength of claim assessment.

SSN has repeatedly advised the Province and the EAO that that the results of SSN's Indigenous-led assessment process will be provided to the EAO for it to review and to enable SSN's Indigenous knowledge and recommendations to be considered and incorporated into the Effects Assessment prior to the conclusion of the EAO's Effects Assessment phase. The Panel Hearing was attended by EMLI's Ms. Tracy Bush, who heard the evidence presented by Secwépemc Elders and knowledge keepers.

SSN has strong Aboriginal title to the HVC MLE Project area which is located within SSN's traditional territory. The consequences of the government's proposed decision to approve the HVC MLE Project would significantly and adversely affect SSN. As such, SSN's concerns require the Province to take steps to avoid irreparable harm or to minimize the effects of infringement, pending final resolution of the underlying claim in accordance with *Haida Nation v. British Columbia (Minister of Forests)*, [2004] 3 SCR 511.

SSN commenced its claim for rights and title to its traditional lands in the fall of 2015 at the BC Supreme Court. Since time immemorial, SSN has governed its lands. It has an established system of governance, which includes respect for and governance of the natural resources in its territories. We assert the right to determine the future land use for Ctselt'saltnéws, including the

HVC MLE Project area. We further assert the right to self-govern and to determine land use objectives for Ctselt̓saltnéw̓s and the surrounding area using our traditional governance models.

In accordance with Secwépemc laws, customs and traditions, members of SSN own, care for, and are responsible for the protection and management of SSN territories. Oral histories associated with Ctselt̓saltnéw̓s and the HVC MLE Project area, and the areas surrounding the Project area, are foundational for Secwépemc *stsq'ey'* that deal with the reciprocal and mutually accountable relationships between humans and the environment. The foundational histories and laws associated with Ctselt̓saltnéw̓s and the HVC MLE Project area are of significance to the whole of the Secwépemc Nation.

The Secwépemc *stsq'ey'* govern the boundaries of Stk'emlúpsemc te Secwépemcúíecw, the Secwépemc relationships with outsiders (or guests on their land), land access and tenure within Secwépemc territory, and the Secwépemc reciprocal accountability with all living things on the land.

The title claim is made over Ctselt̓saltnéw̓s and the HVC MLE Project area, even though such lands are presently held in fee simple by corporations. SSN never consented to the transfer of our lands to private land holders. While there is a long history of Secwépemc people occupying the area around Witches Brook and Ctselt̓saltnéw̓s, as discussed in Chapters 5 and 15, the Secwépemc people were dispossessed of our lands through various colonial laws and expropriations and Provincial decisions which continue to this day.

3.2 Aboriginal Rights

SSN has used Ctselt̓saltnéw̓s, including the HVC MLE Project area, for hunting, fishing, spiritual, and cultural practices since time immemorial. SSN also asserted control over the boundaries to its territory. The HVC MLE Project area is well within the established and protected territory of the Secwépemc Nation, and is an area over which SSN has the responsibility to protect, nurture, and maintain for future generations.

Many of the Aboriginal rights of SSN's members that continue to be exercised today were described by the Secwépemc witnesses at the Panel Hearing and are described throughout this Recommendation Report. SSN claims Aboriginal rights, which include rights to hunt and trap, fish, harvest timber, harvest bark and berries, harvest and cultivate plants for food and traditional medicine, carry on traditional customs and spiritual activities in the historical location where those activities were and are traditionally carried on, engage in a Secwépemc economy, and enjoy sustainable watersheds, airshed, and a healthy ecosystem. SSN also asserts the right to maintain and exercise our traditional and cultural heritage and other practices, and to carry on traditional customs, ceremonial, and spiritual activities in the historical locations where those activities were and are traditionally carried out.

Aboriginal rights which SSN claim in its title claim, and which were and are central to the distinctive culture of the Secwépemc, include the following rights:

1. to determine the uses to which our lands will be put, both now and in the future, in a way that is sustainable for future generations;
2. to protect lands for the purpose of maintaining traditional cultural and other practices, their way of life, and the Secwépemc economy;
3. to use and benefit from resources, including, without limitation, land, timber, and minerals, including copper, gold, silver, salt, jade, obsidian, mica, coal, ochre, and spiritual aggregates (sweat rock) and other minerals;

4. to access and control areas in which the Secwépemc traditionally exercised our Aboriginal rights;
5. to maintain and preserve forest habitat that supports plant and wildlife populations necessary to exercise Aboriginal rights and enjoy the benefits of Aboriginal title;
6. to maintain watersheds and airsheds and a sustainable ecosystem within SSN's territory;
7. to fish in the lakes, streams, and rivers that run through SSN's territory;
8. to hunt and trap various animals including, without limitation, elk, deer, moose, mountain goat, mountain sheep, rabbit, marmot, groundhog, and gophers;
9. to harvest and gather timber and related materials such as bark, sap, and the cambium layer of trees;
10. to gather plants, roots, and parts of plants for food, traditional medicines, and technological uses (such as rope) including, without limitation, tea, wild potatoes, soap berries, other berries, and Indian Hemp;
11. to manage resources, including, without limitation, replanting of tubers and bulbs and controlled landscape burning;
12. to sustainable watersheds, airshed, and a healthy ecosystem;
13. to an Aboriginal economy through trade within the Secwépemc and with other First Nations; and
14. to carry out a variety of cultural and spiritual customs, ceremonies, and traditions within SSN's territory, including spiritual ceremonies at or near the Highland Valley area.

These rights have been infringed by the existing HVC Mine, and would continue to be infringed upon by the proposed HVC MLE Project.

Additionally, cumulative effects have not been adequately addressed through the process undertaken by the EAO for the HVC MLE Project and exploratory work within SSN's territory. This area has already been heavily impacted by existing mining operations and other mines in the territory, as well as by forestry and other activities. These cumulative effects have not been addressed by the Province and are considered in our Recommendations Report at Chapter 14.

3.3 International Conventions

We also rely on the principles set out in *UNDRIP*. *UNDRIP* has been interpreted by William M. Laurin & Joann P. Jamieson in "Aligning Energy Development with the Interests of Aboriginal Peoples in Canada" as reflecting the "global community's expression of the nature and extent of human rights to be afforded [Aboriginal] peoples, including affected Aboriginal communities, in respect of energy developments on their traditional lands".

In November 2019, the Province passed the *Declaration on the Rights of Indigenous Peoples Act* into law. Section 3 of this act mandates the government to bring provincial laws into alignment with *UNDRIP*.

On June 21, 2021, the *United Nations Declaration on the Rights of Indigenous Peoples Act* received Royal Assent and immediately came into force. This federal legislation advances the implementation of *UNDRIP* as a key step in renewing the Government of Canada's relationship with Indigenous peoples. The purpose of this Act is to affirm *UNDRIP* as an international human rights instrument that can help interpret and apply Canadian law. It also provides a framework to advance the implementation of *UNDRIP* at the federal level.

In supporting *UNDRIP*, Canada has recognized that Indigenous peoples have the right to the lands and resources they have traditionally owned, occupied, or used, and that they have the right

to own, use, develop, and control the lands and resources which they possess through traditional ownership or use (Article 26). Similarly, pursuant to Article 32 of *UNDRIP*, the Province must obtain the free and informed consent of SSN prior to any approval of the HVC MLE Project.

Countless decisions have been made without first receiving SSN's prior consent, including the issuance of authorizations, mineral tenures, titles, and other instruments. SSN's Project Review Process has proceeded in light of these pre-existing approvals, which SSN will take into account in its assessment and decision.

Finally, Articles 18 and 20-1 of *UNDRIP* speak to the right of Indigenous peoples to maintain their traditional governance and decision-making processes. SSN asserts an existing Aboriginal right to self-govern and to continue to operate within our traditional governance model. While we have agreed to participate in the Provincial processes in the assessment of the HVC MLE Project, these processes do not represent traditional SSN decision making. SSN asserts our own traditional decision-making process through our independent Project Review Process, which includes a final decision by SSN's Joint Council as to whether to provide free, prior, and informed consent to the HVC MLE Project.

4. Secwépemc Governance

"It's also important to recognize that Canadian authorities are aware of the fact of the matter which is that Secwépemc [law] is part of Canadian law, and that's the case, but it's important to recognize that. The problem we face today is that Canadian authorities, while they know this in their minds, they know it's the case, they still act as if the Crown is the sole authority in these situations."

-Dr. Gordon Christie

Introduction

All Secwépemc members have access to the lands and resources across all of Secwépemcúlecw, and the responsibility to take care of an area is owed by all members of the Secwépemc Nation. As Dr. Marianne Ignace and T'kemlúps Knowledge Keeper Sisiasket Jules relayed to the Panel during the Panel Hearing, what is done in Secwépemcúlecw affects every individual member of the Secwépemc Nation and reflects the importance of preserving the collective knowledge of the Nation.

4.1 Secwépemc Governance Structures

Membership in the Secwépemc Nation, according to principles of traditional Secwépemc law, is based on birth or traditional (custom-based) adoption, descent from Secwépemc ancestors, or marriage with Secwépemc members providing customary access to land and resources in order to provide for the children and Secwépemc spouses. These membership and access laws are embedded within various tellings and oral histories. The following is a summary of Secwépemc governance described by the previous Panel in connection with the Indigenous-led Pípsell Panel hearing.

In Secwépemc culture, a *sexlitemc* (non-member/guest) is distinguished from all or any people who are Secwépemc *kw'séltkten* (relatives). *Sexlitemc* are strangers without resource rights who come into Secwépemcúlecw. They are at the mercy of their hosts to feed them and provide them with shelter. As Secwépemc Elder Nellie Taylor stated, guests, by having to rely on their hosts and thus being *yéwyut* ("a nuisance") rather than self-sufficient, are "*qwenqwént yiri7 re sexlitemc*," ("guests are pitiful"). The tacit law in Secwépemc Nation, however, is that in order to acknowledge the pity their hosts take on them, guests reciprocate the favours and help extended by their hosts.

The 1910 Memorial to Sir Wilfrid Laurier is a historic document that demonstrates SSN leaders' historical assertion of Aboriginal title, rights, and sovereignty in the early twentieth century. It reflects our continued and consistent traditional land ownership concepts as the hosts in Secwépemc lands, and the reciprocity that the host-guest relationship entails. It underscores the Aboriginal concepts of land ownership and tenure, Aboriginal political authority, and sovereign relations with the Crown and government.

The 1911 Memorial to Frank Oliver is a document that demonstrates the involvement of SSN leaders in describing the history of the relationship between the Chiefs of the Secwépemc (Shuswap) and Interior Tribes and the BC Government. The Memorial is written as a statement of facts to the Government of Canada's Minister of the Interior, Frank Oliver. The memorial summarizes how the BC government has laid claim to tribal territories and taken possession without treaty or payment:

The soreness in our hearts over this matter has been accumulating these many years, and will not die until either we are all dead, or we obtain what we consider a just settlement. If a person takes possession of something belonging to you, surely you know it, and he knows it, and land is a thing which cannot be taken away, and hidden. We see it constantly, and everything done with it must be more or less in view.

As the Secwépemc Chiefs expressed in the Memorial to Sir Wilfrid Laurier, “our land is the same as our life.” Reserve Commissioner Gilbert Malcolm Sproat came to the same conclusion, writing in a letter to the Superintendent of Indian Affairs in Ottawa, “I do not exaggerate in saying that some of these Indians die if they lose their land: they take it so much to heart” (Sproat to Superintendent of Indian Affairs, quoted in Fisher 1977:103).

Within the system of Secwépemc collective ownership and access to the lands and resources that comprise Secwépemcúlecw, there continues to exist the caretaker or stewardship role (*yecwmíñmen*) by local groups over certain areas within Secwépemcúlecw. Ethnographer James Teit listed and described seven named Secwépemc geopolitical units or “divisions” that existed during the earlier part of the nineteenth century and before, as follows:

- Stk’emlúpsemc – The people at and near the confluence of North and South Thompson Rivers, including the people of Tkemlúps and Skeetchestn;
- Sexqéltkemc – the Shuswap Lakes division;
- Sextsínemc – the people who live(d) on the lower Main Thompson, Bonaparte and Pavilion;
- Tqéqeltkemc – the Simpcwemc on the mid-North Thompson and those on the upper reaches by Tete Jaune Cache and to Jasper;
- Styétemc – the people of the Canim Lake to Lac La Hache area;
- Seíemc - the Canyon division who lived on the west side of the Fraser River near the mouth of the Chilcotin River canyon; and
- Stémcúlemcwemc – the Fraser River division in the area between High Bar and Soda Creek.

In the past two decades, we, the people of Tkemlúps and Skeetchestn, have “stood ourselves up” - *ts’elílcstem* as we call it - as our traditional geopolitical unit, the SSN, thus collectively going back to our traditional Indigenous governance model and ways of organizing politically.

In Secwépemc custom and Indigenous law, the concept of *yecwmíñmen* involves the caretakership and management (i.e., stewardship of lands and resources) by the division and local community (band/First Nation). Throughout Secwépemc history, and well into the mid-nineteenth century, as told in *stseptékwll* (ancient oral traditions and histories) and *lexéyem* narratives, such caretakership included the monitoring and protection of game, fish, plant, water, and mineral resources, including a variety of management regimes. It also included the protection of lands from invasion by outsiders, and at times the negotiation and implementation of treaties between nations as arranged by the chiefs of particular communities of respective Indigenous nations.

In Secwépemc society, decision-making over lands and resources occurred through the formal role of community chieftainship. In addition, there were - and continue to be among our communities - *yecwmíñmen* roles of resource caretakers and leaders (hunting chiefs, war chiefs, caretakers of plant and fish resources, and caretakers of trails and water resources). In addition, as our oral histories and traditions show, certain chiefs were on occasion appointed by their fellow chiefs as spokespeople for the nation, or even beyond the nation (e.g. Chief Sisyesqt from Skeetchestn and Chief Louis from Kamloops in the late 1800s and early 1900s).

Traditional chieftainship in Secwépemc society was sometimes passed down from father to son, but the overriding and important criterion for chieftainship was fitness for office. In addition to the community chief, each Secwépemc community had its *Tkwenemiple7* (councillors or advisors) which constituted themselves from the male adults and elders of each family grouping in the community, with their wives and mothers, in turn, being involved in decision making and giving advice and input. In this sense, family, kinship, and interrelationship played a fundamental role in the Secwépemc way of making decisions, and continues to play a fundamental role to this day in the fabric of our Indigenous political structure.

The SSN Project Review Process and the decision of SSN Joint Council are expressions of Secwépemc governance. Through this process we assert our right to determine how the lands and resources within a particular part of our territory shall be used both now and in the future. As part of our assessment of the HVC MLE Project, we have considered whether to provide our free, prior, and informed consent to the proposed project in consideration of the best use of Ctseltšalnéw's and the surrounding area, and sustainable land uses in this area. We have also considered what measures and conditions we would consider important should the Province unilaterally approve the HVC MLE Project without our consent.

4.2 Free, Prior, and Informed Consent and Land Use

The Secwépemc laws, customs, and traditions establish our obligation as Secwépemc people to care for and be responsible for the protection and management of lands within our Secwépemc Territory. Oral histories associated with Ctseltšalnéw's and the HVC MLE Project area, as well as the surrounding areas, are foundational for Secwépemc spirituality as a site where *tkwilc* met to heal themselves and others, as discussed in Chapter 2. The foundational histories and laws associated with Ctseltšalnéw's and the HVC Mine site are of significance to the whole of the Secwépemc Nation.

Our Secwépemc Nation exclusively occupied SSN territory before and at the time of the assertion of British sovereignty, and we continue to hold and assert Aboriginal title to SSN territory. We have used the area for hunting, fishing, harvesting, cultivating, gathering of plants and medicines for healing, for foods, and for cultural practices from time immemorial. Ctseltšalnéw's was once dominated by an extensive creek, lake, and wetland system where Secwépemc ancestors regularly harvested resources from the rolling grasslands, open forests, and lush riparian valley bottom. Since the construction of the HVC Mine in the 1960s, the original watercourses and landscapes have been dramatically altered, causing lakes to rescind, disrupting waterflow, and depleting aquifers. Pukaist Creek once outflowed to *Ctšalétkwe* and was connected to *Xyemémsell*— a lake which is now rescinded below waste deposits at the mine site. Witches Brook flowed east through *Ctkwilcmenten*, which has been drained and buried under HVC's Valley Pit, and south-east through Little Divide Lake which has also rescinded.

Conclusion

Mother Earth has already been scarred by the HVC Mine and the proposed HVC MLE Project would only add to the adverse cumulative effects of the mine on SSN's Aboriginal rights and title. The HVC MLE Project area is well within the established and protected territory of the Secwépemc Nation, and is an area we are responsible to protect, nurture, and maintain for future generations.

5. Water Beings and Water World

“And hunters -- this is what I was taught from the herd itself, that we're not allowed to shoot something that has -- is touching any water because it's the secret and sacred of life.

Without water we couldn't live. And that also applies for all our relatives around us. Every day every one of them needs water. They need clean, drinkable water. All our medicines need good water to grow properly.”

-Glen Deneault

Introduction

At the existing HVC Mine site, the Valley Pit presently intercepts water which would typically flow through to the Thompson River watershed. The Thompson River is the largest tributary to the Fraser River. As Teck digs this pit, water flows into it. Teck has a series of pumping wells around the perimeter of the pit that collect this water, which it then uses in the mill process, and processes into the TSF as excess water. The HVC MLE Project would increase the boundaries of the Valley Pit by approximately 772 hectares (“ha”), increasing the surface area of the pit from 557 to 1,329 ha wide, and deepening the pit bottom from 590 metres above sea level (what it is for the existing HVC Mine) to the lower elevation of 395 metres above sea level for the HVC MLE Project.

As a result, baseflows to both Witches Brook and Pukaist Creek, which continue to flow downstream of Valley Pit, would be expected to remain low during the active mining phase of the HVC MLE Project. When the mining stops, water would begin to naturally flow back into the Valley Pit. Once the water in the pit hits Teck's selected “target elevation” of 1,128 metres, Teck would begin pumping water out of the pit, treating it, and then discharging it to Witches Brook. Teck does not propose to begin operating a water treatment plant until this target elevation is reached, which it anticipates would occur in the year 2154.

5.1 A Water Treatment Facility is Required Before the Year 2154

During the Panel Hearing, Teck was questioned about why a water treatment facility could not be built before this target elevation would be reached in or around the year 2154. Teck's Senior Coordinator of Biodiversity and Reclamation and Closure, Ms. Kim Lyle, stated that the elevation of 1,128 metres helps with the overall water management of the site by creating a water groundwater sink which draws water into Valley Pit instead of it moving elsewhere. Ms. Lyle also commented that there were “logistics” associated with the size of the pit and trying to pump water out of it.

Teck's plan to construct a water treatment plant 120 years after the closure of the mine is not sustainable, is unprecedented internationally, and is contrary to acceptable mining practices. By allowing Teck to defer the cost of mining, the price of this environmental obligation is not built into the mine's inventory costs nor is it provided for in the reclamation bond, as discussed in Chapter 8 of this Recommendations Report.

Given that the reclamation bond does not cover the costs of constructing, operating, or maintaining the water treatment plant, SSN is concerned with how the EAO would enforce Teck's water treatment plant commitment in the distant future. A condition to approval that requires a commitment to act 130 years from now does not inspire confidence.

Requiring the construction of a water treatment facility at the outset is a prudent approach for the Province to take to balance the adverse impact on Indigenous rights to water and implements a precautionary approach to managing the water table in the Highland Valley for future generations.

There is also no information on how long the water treatment system would be required to operate. Given that the aquifer is already contaminated, and the L-L Dam is predicted to continue seeping, we believe the water treatment plant would be required indefinitely unless significant measures were taken. Constructing a water treatment plant now would mitigate against the magnitude of the ongoing contamination of the aquifer, allowing it to be replenished with fresh treated water which dilutes the contaminated water over time.

The Province should not accept Teck's proposal to defer the associated costs of mining and water treatment to a later date, and should instead require Teck to build a water treatment facility to purify recycled water to ensure that water can flow in fish bearing creeks and tributaries, such as Pukaist Creek and Witches Brook.

It is unacceptable to wait 130 years to build a water treatment plant and treat the water. There is no reasonable basis to defer the construction of a facility needed today, and as such, SSN will not accept any deferred approach. The current and predicted adverse impacts to water quality mitigate in favour of requiring Teck to construct a water treatment plant to manage waterflow as soon as possible, and certainly as a condition to any approval of the HVC MLE Project.

5.2 Importance of Watercourses and Secwépemc Obligations, Cultural Loss

Within SSN's traditional territory, SSN has the right to safe, clean, and reliable drinking water for its members, as well as the right to carry out our way of life, which relies in part on water resources and activities, and the right to sustain our culture and customs, including language, over the long-term. Water is used to cleanse or purify in ceremony and is used to prepare foods. SSN also has an Indigenous economic right to water due to the cultural significance of water to us.

The *stspetékwil* of the Trout Children and the Water People explain our relations with the Water World and *xqelmecwétkwe* (water people), the kinship relations among generations of humans, and the reciprocal accountability between humans and animals. The *stspetékwil* also demonstrates the human role in the water cycle and guardianship of the land. The water worlds and *xqelmecwétkwe* throughout Secwépemcúlecw are connected through aquifers. Multiple SSN Knowledge Keepers speak of the underwater system (i.e., aquifers) which connects the South Thompson, Adams Lake and Shuswap Lake with the North Thompson and Thompson Rivers.

SSN's right to safe, clean, and reliable drinking water was recognized by the federal government while establishing reserves in the late 1870s and early 1880s. While establishing Kamloops Indian Reserve No. 1, the Joint Reserve Commission stated that the "prior right of the Indians as the oldest owners and occupiers of the soil to all the water which they require or may require for irrigation and other purposes from St. Paul's Creek, and its sources, and northern tributaries, is so far as the Commissioners have authority in the matter, declared and confirmed to them." In the early 1900s, however, the Province began asserting authority over water rights – despite our ancestors' objections – and in 1921, the BC Court of Appeal dismissed the validity of the Commission's allocation of water rights. Since this time, we have continued to fight for our water rights and access to clean water.

The governments' continued authorization of projects, including the HVC MLE Project if approved, unreasonably interferes with SSN's Aboriginal rights and our ability to sustain our way of life for

future generations and to protect and preserve our Aboriginal title lands, which include the location of the existing HVC Mine and the proposed HVC MLE Project.

Articles 25 and 32 of *UNDRIP* recognize Indigenous peoples' right to determine and develop priorities for the development or use of their lands and recognize Indigenous peoples' right to maintain and strengthen their spiritual relationship with traditionally occupied lands and waters, and water resources, and to uphold their responsibilities for future generations. Both Canada and the Province of BC have endorsed *UNDRIP* through legislation.

The Province must, in implementing its *UNDRIP* legislation, recognize and engage with SSN about the cultural aspects of water and ensure there are acceptable and sustainable water resource practices, access to water resources, and practical solutions.

5.3 Adverse Impacts to Water Quantity

"HVC does realize that, you know, a lot of changes have occurred in the water. Water is in a more fragile state now than previously."

-Daniel Bewley, Hatfield Consultants (hired by Teck)

5.3.1 The Taking of Water and Reduced Flows

With the wider and deeper Valley Pit envisioned by the HVC MLE Project, Teck estimates that the extraction of water at this pit alone would increase from 18,000 m³ to 51,000 m³ per day. This increase in pumping would further reduce the baseflow to Witches Brook, which is a fish-bearing creek that already has dry parts of the stream at certain times of the year. The HVC MLE Project would also result in a significant increase in the annual average volume of water use, increasing by 38% from 77 to 113.5 million m³.

The Highland TSF is a mammoth structure: it is presently approximately 10 km long and 2 km wide. Approximately 150,000 tonnes of tailings are discharged into the Highland TSF every day. Teck estimates that the ore processing for the HVC MLE Project would generate an additional one billion tonnes of tailing solids to be deposited in the Highland TSF. To accommodate these additional tailings, Teck proposes to increase the height of the L-L and H-H Dams located at the top and bottom of the TSF, respectively, and increase the size of the Highland TSF pond, as discussed in Chapter 9. The tailings within the Highland TSF are currently around 100 metres above the natural bottom of the Highland Valley, and with the HVC MLE Project, the groundwater levels within the Highland TSF are expected to be another 10+ metres higher. The increase in tailings to the Highland TSF, coupled with the increased groundwater level, would also increase the seepage rate out of the L-L Dam into the Lower Sand and Gravel Aquifer beneath it and decrease the baseflow to Pukaist Creek.

In Lower Witches Brook, the base flow is predicted to be 23% lower with the HVC MLE Project. Any further reduction in the base flow is unacceptable to SSN. Indigenous groups have long suffered the extraction of large volumes of fresh water within their traditional territories without consent, as evidenced by the existing HVC Mine site which SSN did not consent to and the depletion of *Ctkwílcmnten*, *Xyemémsell*, Little Divide Lake, and *Ctśalétkwe* since the HVC Mine began operating. The volume of water required by Teck can be reduced through active and adequate water treatment. There is no principled basis for why Teck should not be required to build the appropriate inventory to support its mining operations.

Teck's failure to manage the waterflow to fish-bearing creeks from the mine site, such as Pukaist Creek and Witches Brook, is unacceptable. Many of the tributaries that would otherwise flow into Pukaist Creek and Witches Brook are intercepted by the Highland TSF and the Valley Pit dewatering while the mine is active. Teck proposes to use more water and create more tailings, all to be able to take more ore to sell - up to 210,000 tonnes per day. What is it giving back to the earth in return?

Teck is not living in *kecmetsút* (reciprocal relations). The Secwépemc concept of *x7ensq̓t* ("the sky and earth will turn on you") teaches us that the land will turn on those who harm it, and that guests who come into our land and irresponsibly harm the land violate their obligation to our land as guests. This possibility of harm places a responsibility on us to protect these places.

Without the HVC MLE Project, water flows are predicted to return to pre-mine levels in approximately 2073. With the HVC MLE Project, however, pre-mine flows would not be expected until 2154, more than 80 years later – as there would be additional years of mining as well as a much bigger and deeper Valley Pit to fill before Teck proposes to begin water treatment and discharging into Witches Brook. The Teck employees and consultants making these plans today, however, will not be around in 130 years to carry out these plans.

It is extremely difficult to assess this far into the future as to how and, at what rate, water would flow back into Witches Brook and what mitigation measures may be required - Teck itself acknowledges that modelling this far into the future can be highly uncertain. The climate crisis also makes it harder to predict the future. While climate modelling predicts a warmer and wetter climate overall, it also suggests that there may be decreased precipitation in summer, as already evidenced by the droughts of the last five summers. Seasonal variability, as well as uncertainty as to the future effects of climate change, may also affect surface water availability in Witches Brook. The modelling in the application package for the HVC MLE Project only goes up to the years 2017 and 2019. Given the extreme heat events that have occurred since 2019, more recent data on these events should be incorporated into the model to increase the accuracy of water quality predictions.

Given the recent droughts, it should also be made clear by way of approval conditions at what point in a drought scenario the EAO would contemplate issuing a temporary protection order and/or a critical environmental flow protection order which suspends Teck's water rights and requires Teck to cease taking fresh water for the term of the order. We recommend that Teck be required to annually evaluate and prepare a report assessing drought conditions and whether watercourses impacted by the HVC Mine's operations have fallen or are at risk of falling below their critical environmental flow thresholds. SSN also recommends that Teck be required to install additional monitoring stations and regularly check and report to SSN on the water levels of the affected watercourses.

5.3.2 Contamination to the Water

Numerous contaminants are migrating off of the mine site and into nearby watercourses. Sulphate is an indicator of seepage influence for groundwater leaving the mine site, and is thereby one of the main contaminants which Teck monitors on the HVC Mine site. Background sulphate concentrations are expected to be around 10 milligrams per litre ("**mg/L**") in the Lower Sand and Gravel Aquifer, and less than 50 mg/L in the underlying bedrock. Between 1977 and 2018, the sulphate concentrations at the Highland TSF pond (located at the top of the Highland TSF) ranged from 500 (in 1991) to 2,000 (in 2007) mg/L. At Pukaist Creek (at Weir), the sulphate concentrations were measured to be 650 mg/L in 2020, and 473 mg/L in 2021.

These concentrations are alarmingly elevated in comparison to the background concentrations. Elevated sulphate can cause mercury to methylate and become methylmercury, which is more toxic to aquatic environments as it becomes more readily available for uptake into plant and fish tissues and is then bioaccumulated and biomagnified in aquatic food chains. For further discussion about the dangers of consuming mercury in fish, see Chapter 6.

In 2019, Teck advanced a Sulphate Adaptive Management Plan (“**SAMP**”) to try and capture and recirculate groundwater from the aquifer back into the pond and reduce sulphate concentrations. The SAMP does not require Teck to sequester sulphate in any way. While sulphate is already an issue with the existing HVC Mine, the HVC MLE Project would exacerbate this issue by adding significantly more tailings which increase seepage of contact water out of the L-L Dam and Highland TSF - which is the primary contributor of sulphate in Pukaist Creek. We are concerned about ongoing seepage and believe that Teck should be required to track the seepage’s downstream impacts. This should include the development of a water monitoring program whose aim is to detect and monitor the flow of water away from the mine site, towards Ashcroft, Savona, Logan Lake and Kamloops, into the larger receiving environment.

SSN’s expert, Hanna Donaldson from EDI Dynamics, warns that modelled predictions to the year 2500 show elevated sulphate concentrations in Witches Brook which continuously exceeded BC’s water quality guidelines, while lower Pukaist Creek was consistently close to exceeding the guidelines. This is not the future we wish to leave our grandchildren and their grandchildren.

There are several other heavy metals, including molybdenum, lithium, strontium, manganese, and uranium, which exceeded groundwater standards at various locations throughout the existing HVC Mine site and are thought to be caused by mining operations. Within the mine site, Teck does not want to use the established provincial and federal guidelines which are used throughout BC but instead is creating its own site performance objectives which have less stringent targets in comparison. Teck’s self-created objectives should not be used beyond the HVC Mine site at any receiving environments, where the applicable standards in BC apply.

The Province risks exposing itself to liability if it fails to ensure that it enforces established provincial and federal guidelines and instead knowingly allows Teck to create and apply less stringent standards. In reviewing and considering whether to approve the HVC MLE Project, the EAO must act as a reasonably prudent and impartial regulator and ensure that all foreign investment in resource extraction in Canada meets both Provincial and federal government standards, but also Indigenous governments’ standards for acceptable water quality, which, at minimum, enforce BC’s Water Quality standards.

Teck’s water quality monitoring at the existing HVC Mine site under Permits M-11 and PE-376 illustrates water quality issues present with its existing operations as shown in the table below. Teck divides the HVC Mine into six areas for reporting purposes as follows: the Main Area Discharge, the Bethlehem Trojan Area Discharge, the Bethlehem Trojan Receiving Environment, the Highmont Area Discharge, the Highmont Area Receiving Environment, and the L-L Dam Seepage Discharge/Receiving Environment. In its sampling as reported in its 2023 Annual Water Quality Monitoring Report, Teck identified a parameter if a sample exceeded the Water Quality Guidelines, Site Performance Objectives, or approached 80% of either of them. Table 5a details the water quality parameters which are identified as exceeding water quality parameters and the location of these exceedances:

Table 5a: Location of Water Quality Parameters at the Existing Mine Site

| Element | Locations Identified as a Parameter <u>Greater</u> than Water Quality Criteria |
|--|--|
| 5-day Biochemical Oxygen Demand | Main area discharge |
| 5-day Carbonaceous biochemical oxygen demand | Main area discharge |
| Ammonia | Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |
| Conductivity | L-L Dam Seepage Discharge/Receiving Environment |
| Dissolved Copper | Bethlehem Trojan Discharge Area; Bethlehem Trojan Receiving Environment; Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |
| Dissolved Iron | Bethlehem Trojan Discharge Area; Bethlehem Trojan Receiving Environment; Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |
| Dissolved Mercury | Bethlehem Trojan Receiving Environment |
| Dissolved Nickel | Bethlehem Trojan Discharge Area |
| Dissolved Oxygen | Bethlehem Trojan Discharge Area; Bethlehem Trojan Receiving Environment; Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |
| Fluorine | L-L Dam Seepage Discharge/Receiving Environment |
| Nitrate | Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |
| Nitrite | Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |
| pH | Bethlehem Trojan Discharge Area; Bethlehem Trojan Receiving Environment; Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |
| Sulphate | Bethlehem Trojan Receiving Environment; Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |
| Total Aluminum | Bethlehem Trojan Receiving Environment; Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |

| | |
|------------------------|--|
| Total Arsenic | Highmont Area Discharge |
| Total Beryllium | L-L Dam Seepage Discharge/Receiving Environment |
| Total Chromium | Bethlehem Trojan Discharge Area; Bethlehem Trojan Receiving Environment; Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |
| Total Copper | Highmont Area Discharge |
| Total Dissolved Solids | L-L Dam Seepage Discharge/Receiving Environment |
| Total Iron | Bethlehem Trojan Discharge Area; Bethlehem Trojan Receiving Environment; Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |
| Total Manganese | Bethlehem Trojan Discharge Area; Bethlehem Trojan Receiving Environment; Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |
| Total Mercury | Bethlehem Trojan Receiving Environment; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |
| Total Molybdenum | Bethlehem Trojan Discharge Area; Bethlehem Trojan Receiving Environment; Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |
| Total Selenium | Bethlehem Trojan Receiving Environment; and Highmont Area Discharge |
| Total Silver | Highmont Area Receiving |
| Total Uranium | Bethlehem Trojan Receiving Environment; Highmont Area Discharge; Highmont Area Receiving; and L-L Dam Seepage Discharge/Receiving Environment |

For several of the environmental monitoring stations, Teck noted that there was no discharge observed in 2023 and so no samples were collected, or that no flows were observed during the March and/or August and/or October events. The monitoring of water quality is also completed under direction from Teck. To ensure that any conflicts of interest are removed, this program should be led by an independent expert.

As detailed in Chapter 6, there are also water quality exceedances at Highmont Creek which have directly impacted the rainbow trout which live there. We are concerned that Teck has not addressed the many existing water quality issues at the HVC Mine before proposing an expansion and extension of the mine. The HVC MLE Project's increased tailings would increase the seepage rate out of the L-L Dam and exacerbate these water quality concerns.

We have seen from Teck's operations at the Elk Valley coal mine in BC that the costs to clean up contaminated water can be much higher than estimated. A report completed by Burgess Environmental in 2024 (commissioned by the conservation organization Wildsight) estimated that it would cost \$6.4 billion just to remove the selenium from the water affected by the coal mines –

a number that is \$4.5 billion higher than the total reclamation security held by BC for Teck at that mine (\$1.91 billion). As of March 2024, Teck had spent more than \$1.4 billion to reduce water pollution related to the Elk Valley coal mine site.

We have also seen that Teck has had some difficulty complying with its permits. Since 2011, Teck and/or its subsidiaries have been fined more than \$93 million for water pollution-related charges, including a \$60 million fine for depositing deleterious substances into the Upper Fording River in relation to the Elk valley coal mine in BC. See Chapter 6 for more information on Teck's non-compliance at other mine sites based on available public records.

5.3.3 Impacts to Aquifers

The aquifers located within the HVC mine area are as follows:

- Basal Aquifer;
- Upper Sand and Gravel;
- Lower Sand and Gravel;
- Aquifer zones within the Kamloops Group;
- Shallow Sand and Gravel or Surficial Deposits;
- Main Aquifer/Alluvial Fans; and
- Terrestrial Clastic Deposits.

The Main Aquifer is located in the centre of the valley, while the Basal Aquifer is located in the southwestern portion of the mine area by Witches Brook and is separated from the Main Aquifer by glaciolacustrine deposits (materials that accumulate in lakes formed by glaciers).

The groundwater quality in the Main Aquifer is affected by seepage from the Highland TSF, inactive and reclaimed TSFs (Trojan, Bethlehem, and Highmont) and waste rock dumps that surround the open pits. The Lower Sand and Gravel Aquifer and the Basal Aquifer are influenced by seepage from the L-L Dam and the H-H Dam, respectively. The continued contamination and removal of water from these aquifers without adequate recharge can lead to lowered lake water levels, intermittent or totally dry perennial streams, a loss, sinkhole formation in areas of heavy withdrawal, and a reduction in water quality rendering the water unusable.

With the proposed HVC MLE Project, the Main and Basal Aquifers are not projected to recharge until 112 years after the closure of the mine.

5.3.4 Dust and Waste Rock

The deposition of dust in water courses must also be assessed. It is unclear whether Teck monitors the impacts of dustfall on aquatic habitat and how this sediment settles into watercourses. Presently, we lack information on where dust settles in watercourses and whether it impacts our fish and other aquatic relatives and their habitats. For further discussion on the mine-related dust impacts, see Chapters 7, 12 and 13.

With the expansion of the Valley Pit as well as the Highmont Pit, Teck estimates that approximately 1.4 billion tonnes of waste rock and waste overburden would be produced. This waste would be stored on extensions of the Valley North Dump, Highmont West Dump, and Valley South Dump. With more waste rock comes more leachate. Teck states that it would construct interception ditches around the perimeters of these dumps to manage surface run-off and seepage, and water collected in those ditches would be directed towards storage sumps or for

use in ore processing. We are not confident that Teck will prevent all of the leachate generated by these massive waste rock dumps.

The expanded Valley North Dump is also proposed directly on top of Winslow Creek, which has been captured to provide process water, as evidenced by a comparison of the two maps in Figures 5a and 5b shown below.

Figure 5a: Portion of HVC Mine Site Near Valley Pit Showing Winslow Creek

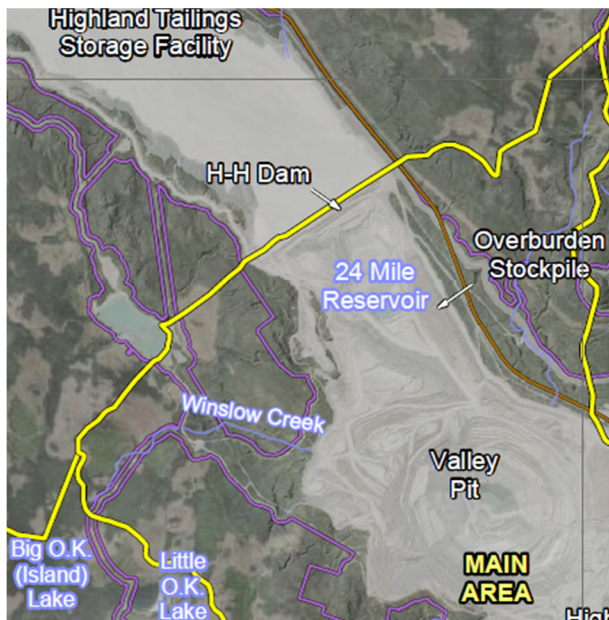
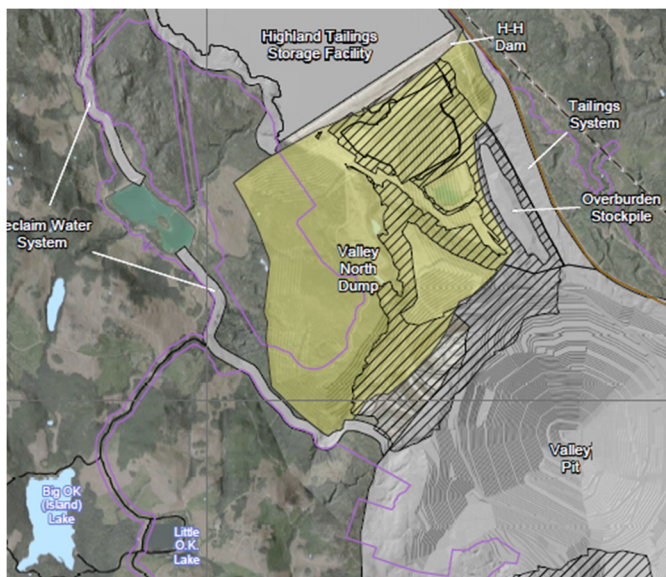


Figure 5b: Portion of HVC Mine Site Near Valley Pit Showing Valley North Dump



Teck's Surface Water Effects Assessment details that flows from Winslow Creek would be diverted to Valley Pit through the 24 Mile TSF during the post-closure phase.

The Panel recommends as a condition of any approval of the HVC MLE Project that surface, sediment, and groundwater monitoring stations be installed immediately adjacent to the Valley North Dump, Highmont West Dump, and Valley South Dump. These should be sampled by an independent party and reported to the regulator and a committee which includes SSN representatives.

5.3.5 Water Management Plan

Teck's Water Management Plan contains a section about the Trigger Action Response Plan ("TARP") which details tools to manage and respond to changes before a situation becomes problematic. While some aspects of the TARP are detailed, the section on water quality lacks defined timelines or threshold levels, which creates problems and uncertainties for implementation. More information should be provided on how Teck will respond if a threshold is met. Should the HVC MLE Project be approved, Teck should be required to report any exceedance of water quality standards to SSN as the Aboriginal right to preservation and protection of cultural rights requires that SSN be immediately provided with this information.

Conclusion

The Panel has repeatedly provided feedback that Teck has not implemented appropriate mitigation measures and sustainable practices in the proposed HVC MLE Project to protect the water table, and that the approach to construct a water treatment plant 120 years after the mine closes is not a sustainable strategy. A more sustainable practice would see Teck take a precautionary approach to conserve water usage and to responsibly manage water resources.

Teck has not demonstrated that it can comply with its permits or authorizations, and it has been unable to protect the surrounding watercourses from contamination where it operates. At the existing HVC Mine site, Teck has already exceeded water quality guidelines for sulphate, numerous other heavy metals, and other elements. The HVC MLE Project would exacerbate these conditions and cause further water quality exceedances. This contamination accumulates in fish and other aquatic organisms, impacts the wildlife which drink the water, and settles on and seeps into our traditional plants and medicines, all of which impedes our seasonal round.

Teck has also failed to adequately address relevant climatic circumstances, including the recent regional droughts and other present and projected effects of the climate crisis. Watercourses near the mine site, including Witches Brook, are already drier than they used to be and are unable to flow all year. The HVC MLE Project would divert more water to the mine site and further reduce watercourses' ability to flow and serve as an aquatic habitat. Flows would not be returned to a pre-mining state until 2154 (based on Teck's projections).

The uncertainty resulting from climate change is yet another reason why a water treatment plant should be built within ten years of any approval of the HVC MLE Project in order to balance the water table within Witches Brook and Pukaist Creek, and not in 2154 when Teck estimates that the Valley Pit would fill. We have a responsibility to act as stewards of our lands and resources for future generations. It is not fair for Teck to take all the benefit of the ore and generate billions of dollars in profits and leave the clean-up for future generations to handle. Allowing mining companies to defer the costs associated with mining while reaping all of the financial benefits of mining is not an appropriate approach to manage risk in the mining industry and ought not be accepted by the EAO.

The requirement to build a water treatment facility must be an obligation that arises from the acquiring and developing of mineral reserves and not in the future. As there is no performance guarantee or other mechanism that the Province can require to compel Teck to construct a water

treatment facility 130 years into the future, the reasonable approach is to require that the facility be designed and built as a condition of any life of mine extension.

When compared internationally, mining companies pay less in taxes and royalties in Canada than in other countries. Requiring a water treatment facility now serves to reduce the governments' long-term liability and puts the onus on Teck as a prudent mining operator to make infrastructure improvements as a condition to an extension of the life of the mine.

Managing the water table and maintaining a sustainable water flow into Pukaist Creek and Witches Brook is critical to ensuring a balance between Teck's desire to benefit economically from the mine (and the governments' benefits through taxes), and the rights of SSN members to the water and the protection and preservation of water resources for future generations of SSN members.

The HVC Mine's impact on the water table in the Highland Valley area is substantial: it disrupts the natural flow of water and depletes the groundwater resources. The review of the HVC MLE Project presents an opportunity to take a precautionary approach to sustainable mining development and water management. The water resources Teck proposes to continue using are the same watercourses we rely on for our way of life. SSN will continue to insist on measures to protect our water, air and land for the benefit of our communities and for Mother Earth, as it is our duty and responsibility to do so.

Conditions for Approval

- Require Teck to advance the design of the water treatment plant system from pre-conceptual to basic engineering prior to the approval of the HVC MLE Project, as detailed design is required for bonding purposes should the HVC MLE Project advance to permitting.
- Require Teck to submit plans for the design and build of a water treatment facility within two years of approval of the HVC MLE Project that ensures sustainable practices are employed to balance and protect the water table as the mine progresses.
- Require Teck to construct a water treatment facility within ten years of approval of the HVC MLE Project using advanced technology and best practices that implement a water treatment system that purifies the water used in the mining process before it is discharged back into the environment.
- Require the resumption of natural flows under an unpumped condition as a prerequisite to taking the water treatment plant offline.
- Require Teck to invest in and report on sustainable practices in mining, including:
 - technologies that require less water;
 - the amount of water at the HVC mine site that Teck is not able to recycle in the mining process; and
 - measures implemented to reduce the volume of water that is non-recyclable.
- Require Teck to meet the applicable standards set in the BC *Contaminated Sites Regulation* which are designed to protect the water table and address contamination.

- Require Teck to revise its SAMP to sequester sulphate out of the system as opposed to just recirculating water.
- Require Teck to include mercury on the list of parameters to be monitored in Teck's monitoring programs, both for surface water and sediment.
- Require Teck to assess and monitor the impacts of dustfall and associated increased sedimentation to surface water and aquatic habitat, and directly measure dustfall via sediment trap or snow sampling for input to waterbodies.
- Require Teck to modify the TARP in its Water Management Plan to ensure trigger levels have quantifiable increases and defined timelines that result in specific mitigations or operational responses.
- Require Teck to develop a plan to address and remedy the present water quality parameters and exceedances resulting from existing mine operations.
- Require Teck to install surface, sediment, and groundwater monitoring stations immediately adjacent to the Valley North Dump, Highmont West Dump, and Valley South Dump, and have the samples taken by an independent party and reported to the regulator and a committee which includes SSN representatives.
- Require Teck to immediately report any exceedance of water quality standards to SSN.
- Require Teck to annually evaluate and prepare a report assessing drought conditions and whether watercourses impacted by the mine's operations have fallen or are at risk of falling below their critical environmental flow thresholds.
- Require Teck to develop of a water monitoring program whose aim is to detect and monitor the flow of water away from the mine site, towards Ashcroft, Savona, Logan Lake and Kamloops, into the larger receiving environment.

6. All my Relations – Fish

“You go to a fishing hole, and there would be at least a thousand [chinook salmon] in there, in one little fishing hole. Now there’s none.

... The fall salmon that used to come up there...we call them *sxéyeqs* ... there used to be millions of them. ... Now there’s no more salmon, and all the creek is flooding and washing everything down.”

-Elder Randy McNab

Introduction

Our way of life included and continues to include a seasonal round of resource harvesting at various locations and altitudes throughout the year. Fish are an important component of each season, as detailed in Table 6a.

Table 6a: Fish-Related Subsistence in the Secwépemc Seasonal Round

| Month | Name | Fish-Related Subsistence |
|--|--|---|
| <i>November-March: Underground Pithouses</i> | | |
| October/November | <i>Pellc7ellcw7úllcwten</i> ("Entering month") | Coho salmon run |
| December/early January | <i>Pelltetéqem</i> ("Cross-over month") | Reliance on stored provisions, including dried salmon |
| January | <i>Pell7emtmíñ</i> or <i>Pellkwell7emtmíñ</i> ("Stay at home month" or "Stay underneath month") | Reliance on stored provisions, including dried salmon; ice fishing |
| February | <i>Pelltsípwenten</i> ("Cache pit month") | Reliance on stored provisions, including dried salmon; ice fishing; fishing for steelhead with torch lights |
| March | <i>Pellsqépts/Pesqépts</i> ("Chinook wind month") | Fishing at lower elevation lakes, including Loon Lake for cutthroat trout |
| <i>April-October: Food Gathering Season</i> | | |
| April | <i>Pesll7éwten</i> ("Melting month") | Lake fishing for trout at mid-elevation levels, including Tunkwa Lake |
| May/Early June | <i>Pell7é7llqten</i> or <i>Pell7ell7é7llqten</i> ("Root-digging month") | Lake fishing in high-elevation levels, including HiHium Lake; spearing spring/Chinook salmon in the river; catching fish with fish traps in creeks using <i>ups</i> |

| | | |
|-------------------------|---|--|
| | | (hooks), <i>cllegwmemin</i> (harpoons), and <i>wewtsks</i> (3-pronged spears) |
| June | <i>Pelltspéntsk</i> ("Mid-summer month") | Spearing spring/Chinook salmon in the river; catching fish with fish traps in creeks |
| July/Early August | <i>Pelltqwelq'wéltemc</i> ("Getting ripe month") | Sockeye salmon fishing in river; drying and salting of fish |
| August/Early September | <i>Pesqelqlélten</i> ("Many salmon month") | Sockeye salmon fishing in river; drying and salting of fish |
| September/Early October | <i>Pelltemlíkt</i> ("Spawned-out month") | Spearing coho salmon in creeks; catching trout by hand; drying and salting of fish |
| October/November | <i>Pesllwélsten</i> ("Abandoning month") | Catching coho salmon in creeks |

SSN members have historically relied on an abundance and diversity of salmon and trout to sustain ourselves. Our ancestors developed methods of drying, preserving, and storing salmon to feed through the winter months. Many of our families camped at lakes where the trout began running as soon as the ice broke up in spring. Some of these lakes are located near the mine site, including *Skw'úse7* (Lac Le Jeune), *Tsensúnk'wem*, Stump Lake, Trapp Lake, and numerous others.

Teck ignores much of this seasonal round, limiting its concerns to the potential effects of the HVC MLE Project on rainbow trout in Pukaist Creek, Witches Brook, and Highmont Creek. After the proposed mitigation measures, Teck indicates that the remaining impacts to fish and aquatic habitat from the HVC MLE Project would include:

- Changes in the amount of surface water would change the suitability for habitat for fish at various life stages;
- Changes in surface water quality could represent a low risk to fish health;
- There would be a predicted loss of non-fish bearing habitat due to the expansion of the Highland TSF; and
- There would be a predicted loss of 3,200 m² of fish-bearing habitat in Woods Creek, Burr Creek, and two unnamed streams.

While concerned with the impacts to rainbow trout and the impacts to these watercourses, SSN's concerns extend far beyond this.

6.1 Failure to Consider Cumulative Effects

Similar to its other assessments, Teck considered effects in a silo and failed to adequately consider how fish, fish habitat, and aquatic ecosystems may be impacted by cumulative effects. Its assessment is based on the Fish and Aquatic Resources Local Study Area ("**LSA**"), which is the area within which Teck expects the HVC MLE Project to potentially have direct effects, and a Fish and Aquatic Resources Regional Study Area ("**RSA**") which it describes as the "maximum spatial extent over which potential effects (direct, indirect, or cumulative)" of the HVC MLE Project are expected to occur.

The Fish and Aquatic Resources LSA is 54,688 hectares, and its boundaries include catchment areas that drain directly towards both the existing mine infrastructure as well as the future infrastructure for the HVC MLE Project, and the catchment areas of Pukaist Creek, Axe Creek, and Witches Brook. The Fish and Aquatic Resources RSA is 155,252 hectares, includes the Fish and Aquatic Resources LSA, and extends to the Thompson River on the west, the topographic divide between the Highland Valley and the Thompson River on the north, Guichon Creek on the east, and the Nicola River on the south. The Fish and Aquatic Resources LSA and RSA are different than the LSA and RSA for wildlife and vegetation.

In its assessment, Teck mistakenly concluded that there were no future projects or activities within the Fish and Aquatic Resources LSA or RSA “that could influence changes in flow, changes in water quality and direct impact to fish and fish habitat” and therefore a cumulative effects assessment was not required. This perspective ignores impacts which transcend study areas, such as droughts, wildfires, and heat domes – all of which could greatly influence habitat by altering water quality, flow, and sedimentation, as discussed in Chapter 14 of this report. It also ignores the cumulative impacts of reasonably foreseeable projects, including solar projects and a transmission line corridor upgrade project.

The future focus of this perspective also ignores pre-mining and historical conditions, as well as the effects of the HVC Mine’s operations to date. In doing so, Teck erases the impacts of the existing mine over the last seven decades and awards itself a clean slate in which only the impacts from the start of the HVC MLE Project onward are assessed.

This is unacceptable. The baseline from which to consider cumulative effects must extend back at least to the start of the HVC Mine’s operations in the 1960s, or preferably to pre-settler conditions.

6.2 Exclusion of Impacts to Other Species

Teck focused its assessment on the impacts to rainbow trout, ignoring the impacts to other fish species including *ckmúlecw* (burbot), northern pikeminnow, and sucker species. The Secwépemc fished and continue to fish many species of lake and river fish, including rainbow trout, Kokanee, Dolly Varden, and other lake and river resident trout species, as well as whitefish, northern pikeminnow, *ckmúlecw*, and *tseqwmús* (sucker fish) species. For instance, Skeetchestn member Darrell Peters recalls catching trout, *ckmúlecw*, and suckers at Mamit Lake. Tkemlúps member Ed Jensen spent a lot of time every winter fishing *ckmúlecw* at Mamit Lake, but states that he has not fished there in a number of years because it is difficult to catch fish there now. Skeetchestn *Tkwenemiple* Marshall Gonzales has been going fishing at HiHium Lake since he was three months old. During the Panel Hearing, *Tkwenemiple* Gonzales shared how his family would go to HiHium Lake at nighttime and use dip nets as well as bridges and blinds built on the creek to fish.

For other species of interest, including the steelhead trout and Pacific salmon, Teck concluded that they were located more than 8 km downstream of the HVC Mine site and therefore there was a “negligible risk for changes in fish community or distribution” due to the mine’s activities.

During the hearing, *Tkwenemiple* Gonzales shared how there used to be 34 salmon runs in the Thompson River, including chinook, coho, sockeye, and pinks, and that some of the streams they relied on contained two or three different species of salmon alone. This is no longer the case. Fisheries have been shut down in Secwépemcúlecw, and at times, SSN members have to rely on fish from other territories. The reduction in access to healthy salmon stocks increases SSN’s reliance on store-bought foods, and as healthy foods cost more than processed foods, the lack of access to healthy country foods increases the risk for diet-related issues.

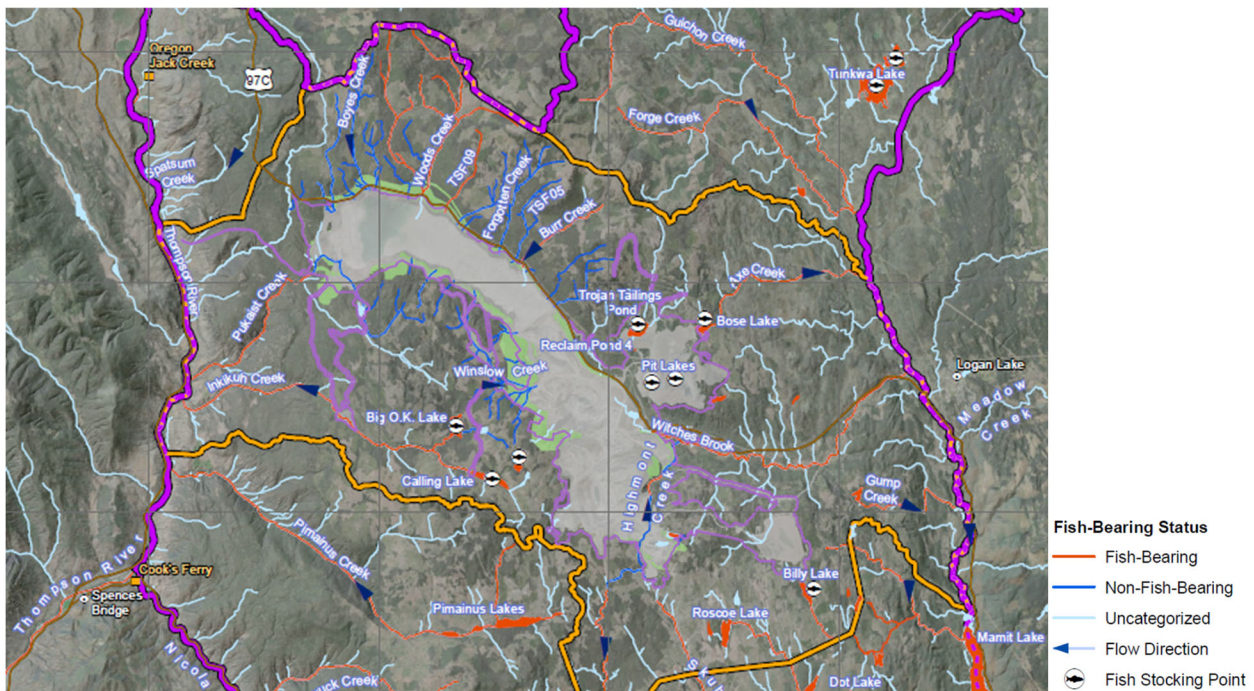
Teck needs to consider potential impacts of the HVC MLE Project on all our fish relations and not simply on rainbow trout. Further, the quality of water is intimately connected to the health of our fish. See Chapter 5 for a discussion on the mine’s water-related impacts.

6.3 Habitat Fragmentation

Teck inaccurately states in its assessment that habitat is not expected to become further fragmented, yet it acknowledges that the HVC MLE Project could impact surface water and groundwater, which can affect fish passage and create a risk of habitat fragmentation. For instance, altered or reduced flow may render a habitat inaccessible to fish. Teck estimates that up to 1,136 m³ of fish habitat may be lost due to flow changes in Highmont Creek, Pukaist Creek, and the two lower reaches of Witches Brook, and that 21 km of non-fish-bearing and uncategorized stream segments would be lost due to the mine’s expansion. These estimates also fail to account for the historical loss of fish habitat over the life of the mine. Teck proposes to develop and implement a fish habitat offsetting or compensation plan to counteract the alteration and loss of fish-bearing habitat resulting from the HVC MLE Project. Simply taking away habitat in one area and replacing it with habitat in another area, however, vastly oversimplifies the complexity of ecosystem networks.

Teck’s fish habitat offsetting plan does not account for the loss of non-fish-bearing streams and segments on the basis that such loss is unlikely to lead to a loss of “unique” or “critical” habitat (terms which are undefined) and thereby do not require mitigation. This ignores the fact that many of these streams which are presently non-fish-bearing used to bear fish. During the hearing, *Tkwenemiple* Gonzales stated that while a map today may show some streams which are fish bearing and other streams which do not presently have fish in them (Figure 6a), at one time a majority of these streams were fish bearing, as they were all connected and came together.

Figure 6a: Map Detailing Fish-Bearing Status of Watercourses Located Near the Mine Site



Further, Teck's discussion of the fish habitat offsetting plan ignores the fact that habitat at and around the HVC Mine site has already been fragmented. Over 18 km of headwater streams flow directly into the Highland TSF and 2.7 km of headwater streams flow into fish-bearing streams.

Teck does not propose any new mitigation measures to protect aquatic organisms and areas where habitat loss is expected, nor does the assessment discuss reclamation efforts and plans.

6.3.1 Potential Relocation of Rainbow Trout at Highmont Creek

Teck has indicated it may collect and remove fish from Highmont Creek for relocation as water quality conditions are not being met there. Highmont Creek has an isolated population of wild rainbow trout that were separated from Witches Brook during mine construction, and are now self-sustaining. As Highmont Creek currently receives mine contact water from numerous sources, these fish are already subjected to water quality exceedances which they cannot escape from and are at risk of being swept into the Highmont diversion, especially during freshet and other high-water events, as there is no longer a fish screen on Highmont Creek.

In 2023, SSN submitted an Access to Information request to DFO to learn more about Teck's reporting under the *Fisheries Act* in relation to the existing mine as well as DFO's response to Teck on addressing any reporting and/or non-compliance in relation to the HVC Mine.

The Information Package released to SSN in June of 2024 (the "**Access to Information Package**") indicated that Teck began inquiring about permanently removing the fish population from Highmont Creek beginning in April of 2023. At this time, a DFO representative advised Teck "that removing fish from a creek in this manner would require a *Fisheries Act* authorization and [that] this was not a reasonable solution to the problem." Despite this advice, a Teck consultant began preparing an application for a *Fisheries Act* authorization ("**FAA**") for removing the isolated rainbow trout population at Highmont Creek in September of 2023. On October 19, 2023, DFO advised Teck to wait at least one year to monitor results on Highmont Creek before considering a FAA, and that DFO's mitigation hierarchy (avoid, mitigate, offset) may mean that a FAA does not make sense if Teck can avoid impacting fish and fish habitat in Highmont Creek.

During the Panel Hearing, Teck indicated that it is presently looking at mitigation and offsetting measures for Highmont Creek, with a draft report expected at the end of October 2024. Teck representative Dale Robertson indicated that relocating the fish was an option, but not the only option, and committed Teck to consult with SSN if they plan to remove and relocate the fish from Highmont Creek. SSN is not aware of whether Teck will take steps to ensure that any fish removed from Highmont Creek and relocated in another fish-bearing stream do not pass on contaminants to healthy fish, or what other mitigation measures or alternatives Teck is considering. Presently, Teck does not propose any new mitigation measures to prevent mortality of fish during project site isolation activities.

Under the *Fisheries Act*, the federal government has jurisdiction over fish and fish habitat, and DFO and Environment and Climate Change Canada ("**ECCC**") are jointly responsible for administering the provisions of the *Fisheries Act*. For example, DFO is responsible for enforcing section 34.4(1) which outlaws activities, other than fishing, that kill fish, and section 35(1) which prohibits the unauthorized harmful alteration, disruption or destruction of fish habitat. Meanwhile, ECCC is responsible for enforcing section 36(3) which restricts the deposit of any deleterious substance in water frequented by fish.

Though the federal government maintains exclusive jurisdiction over fish and fish habitat, the provincial government has jurisdiction over water management under the *Water Sustainability Act*. As a result of this legislative overlap, both levels of government share responsibility for and

contribute to the protection of aquatic ecosystems, including fish. A policy statement released by DFO in 2019 characterized the protection of fish and fish habitat as a “shared responsibility” between the federal government, provincial governments, Indigenous peoples, and other stakeholders.

While both the provincial and federal governments are empowered to impose conditions which reduce risks to fish habitats, in the case of the existing HVC Mine site we have historically seen a delay by both levels of government to hold Teck accountable as discussed below. The governments have a responsibility to ensure that they are not solely relying on Teck to voluntarily disclose its non-compliance with applicable laws and regulations, and a duty to actively inspect projects and facilities and enforce the laws intended to protect the environment.

6.4 Food Security

The M-11 permit for the existing HVC Mine prevents SSN from being able to utilize its historic and traditional Highmont Creek fishery, as the permit restricts access to the area in accordance with the Health, Safety and Reclamation Code for Mines in BC. The extension of the mine for an additional 18 years would further impede SSN’s access to this site.

The loss of fish-bearing streams due, in part, to the existing mine’s water use, as well as the closure of fisheries and the contamination of fish, makes our members have to travel further for healthy fish and rely more on fish from other Indigenous Nations.

SSN is also concerned about the HVC Mine’s downstream impacts to Mamit Lake, Guichon Creek, and the Lac Le Jeune fishery, all of which were/are trout harvesting areas used by our members. Teck warns that Mamit Lake may face possible influence from the Highmont Tailings seepage ponds as well as seepages from the Trojan Tailings Pond by way of Witches Brook. The Guichon Creek watershed upstream of Mamit Lake was also severely impacted by the 2021 Tremont Creek wildfire, which could lead to increased nutrient loading and increased sedimentation in Mamit Lake.

With the mine expansion, our aquifers would also be increasingly depleted: Teck plans to increase the extraction of water at the Valley Pit from 18,000 m³ to 51,000 m³ per day. The taking of water from our aquifers impacts the streams which the aquifer supports. During the Panel Hearing, DFO’s Richard McCleary stated that the only effective mitigation measure for water diversion in the desert is storage reservoirs which store away water during the wetter months and release the water during the drier months. Mr. McCleary stated that storage reservoirs of clean water were “the only solution” and that they determine the resiliency of a water use plan during a drought. Teck should be required to create storage reservoirs of clean water for Witches Brook, Pukaist Creek, Highmont Creek and other nearby flow-sensitive watercourses to ensure these watercourses can flow all year.

In advance of the Panel Hearing, DFO was provided the opportunity to pose questions to Teck to address at the hearing. Mr. McCleary noted that the DFO would like to gain an understanding of the changes in stream flow in Witches Brook from the existing and proposed mining activities, and requested that Teck provide a mine scale water balance that includes change in flow in Witches Brook and its tributaries and describe its “plans to address or manage cumulative effects on fish and fish habitat through anticipated changes in stream flow, water temperature, water quality, rates of flow change, fish passage and habitat quality and availability.” Teck declined to answer the questions in writing or at the Panel Hearing.

6.4.1 Human Consumption of Fish

Our members face potential health impacts due to exposure of heavy metals which bioaccumulate in fish. Fish can be directly exposed to contaminants through contact with its gills or skins, or indirectly from water, sediments, or through ingestion of prey. While the amount of bioaccumulation varies in different organs, typically muscles have a lower concentration of metals and the liver and kidney will have a higher concentration of metals.

While guidelines and testing focus on muscle tissue, our members use many other parts of the fish which may have higher concentrations of metals, including as follows:

- Some of our Elders like to boil the meat found in the cheek of the fish;
- Fish head is boiled to make fish head stew;
- Candy is made from fish skin and scales;
- Fish oil is used for healing, particularly to treat poison from a plant;
- A delicacy is made by boiling fish roe/eggs in the skin and then topping them with Miracle Whip once they are nice and pink;
- A treat for our Elders is a mix of fish roe, *spitem* (bitter root) and saskatoon; and
- A traditional barbecue or smokehouse is used to barbecue fish heads or a whole fish.

Our members also use fish skin to make waterproof pouches and the spinal bones of fish to make jewelry. Without testing on the whole of the fish, our members are left without information as to the level of contamination, preventing them from making informed decisions to safeguard their health.

Teck collected fish tissue samples from several sample sites, including Billy Lake, Bose Lake, Gnawed Reservoir, Trojan Tailings Pond, Calling Lake, Upper Pukaist Creek, Lower Pukaist Creek, Witches Brook, Woods Creek, and Skuhun Creek. The samples were pooled to create a single data set. In this data set, Teck detected 0.2 parts per million (“ppm”) of mercury in fish muscle tissue. SSN’s expert, Miranda Brooke, detailed that, pursuant to the US Environmental Protection Agency, for people who consume unrestricted fish meals (>16 meals per month), as is typical of many Indigenous communities including SSN, fish tissue concentrations of mercury should be less than 0.029 ppm to safeguard for non-cancer health endpoints. 0.2 is a seven-fold increase from 0.029 ppm, and means that our members cannot safely consume unrestricted fish meals: on this basis, our members can only safely consume fish three or four times per month.

Teck is also measuring levels as high as 30 ppm of selenium in fish liver in this data set. The US Environmental Protection Agency warns that fish tissue concentrations of selenium should be less than 1.5 ppm to safeguard for non-cancer health endpoints. At the current level of 30 ppm, our members can only safely consume fish liver meals once per month. Teck is familiar with selenium contamination – in 2021, its subsidiary Teck Coal Limited (which has since been purchased by Glencore plc) was fined \$60 million for depositing selenium and calcite into the Upper Fording River in relation to the Elk Valley Coal Mine.

Teck’s 2022 Annual Aquatic Biological Monitoring Report also details the results of sampling it undertook from Billy Lake, Bose Lake, Gnawed Reservoir, Trojan Tailings Pond, Lower Trojan Pond, Witches Brook, and Pukaist Creek, as well as Calling Lake and Chataway Creek as reference sites. Given the downhill flow of water, Teck should also be required to conduct sampling further downstream.

The underlined numbers in Table 6b below detail where concentrations were found to be greater than at the reference site, indicating the waterbody has been affected.

Table 6b: Comparative Assessment of Metals Concentrations in Rainbow Trout Muscle from Waterbody Sites

| Analyte | Unit | Guideline | Reference | Exposure | | | |
|-----------------|-------|----------------------|--------------|-------------------|----------------------|------------------|---------------|
| | | | Calling Lake | Lower Trojan Pond | Trojan Tailings Pond | Gnawed Reservoir | Billy Lake |
| Arsenic (As) | mg/kg | - | 0.0112 | 0.0085 | 0.0053 | 0.0163 | 0.0113 |
| Copper (Cu) | mg/kg | - | 0.26 | <u>0.574</u> | <u>0.315</u> | <u>0.327</u> | <u>0.345</u> |
| Lead (Pb) | mg/kg | 0.8 | <0.0040* | <0.0040* | <0.0040* | <0.0040* | <0.0040* |
| Manganese (Mn) | mg/kg | - | 0.102 | <u>0.534</u> | <u>0.127</u> | 0.081 | <u>0.115</u> |
| Mercury (Hg) | mg/kg | 0.066, 0.2, 0.5 | 0.0249 | 0.0106 | <u>0.0421</u> | <u>0.115</u> | <u>0.0483</u> |
| Molybdenum (Mo) | mg/kg | - | <0.0040* | <u>0.02</u> | <0.0040* | <u>0.0215</u> | <u>0.01</u> |
| Selenium (Se) | mg/kg | 0.89, 1.8, 3.6, 18.7 | 0.055 | <u>0.271</u> | <u>0.156</u> | <u>0.773</u> | <u>0.109</u> |
| Zinc (Zn) | mg/kg | - | 4.09 | <u>5.3</u> | 3.48 | 3.64 | <u>4.71</u> |

Bold = Concentrations greater than one or more tissue residue guideline

Underline represents concentrations greater than Calling Lake.

* Below detection limit

Additionally, Teck found that the mercury concentrations in fish muscle from Pukaist Creek were above the guideline protective of wildlife consumers of fish. It is not clear to us whether Teck has considered the long-term effects of these mercury concentrations – as lifecycles keep progressing, will mercury and other contaminants continue to bioaccumulate?

These are the levels of contamination in fish that are already present due to the existing HVC Mine site (and potentially other cumulative effects). Teck should be required to deal with this existing contamination before proposing an expansion and extension of the HVC Mine. This contamination, as well as the additional contamination anticipated from the HVC MLE Project, warrant the imminent creation of a water treatment plant so that Teck can begin to treat the water and work to restore the landscape, as outlined in the conditions and discussed in Chapters 5 and 8.

Our members have not been adequately communicated with about the level of contaminants in fish, and the limitations suggested above based on the present levels of contamination do not align with our seasonal round and way of being. As detailed above, we rely on fish for sustenance at all times of the year.

In addition to the direct risks of eating potentially contaminated fish, there are also indirect effects associated with the perception of this risk. During the Panel Hearing, Tkwenemiple7 Gonzales shared how our members historically did a lot of spear fishing for salmon in several creeks and small rivers, and that these waterbodies provided training grounds for our youth to learn and practice their techniques before going out into the Thompson River where the water is deeper, faster, and more dangerous.

The loss of these creeks and training grounds leads to a loss of history, traditions, and an intergenerational loss of knowledge transferred to the next generation, which in turn leads to a loss of culture and our land-based language.

“When SSN members spend less time fishing due to fear of contaminants, the connection to being on the land is impacted. When the time spent engaged with their place of home alongside other community members immersed in culturally important activities and knowledge sharing

through verbal exchange of stories while being on the land is jeopardized, so is their health and well-being.”

-Miranda Brooke, Bailey Environmental Consulting Ltd.

6.5 Teck’s Non-Compliance in Canada and Beyond

6.5.1 Non-Compliance at the Existing Mine Site

Between October 12, 2017 and June 25, 2024, ECCC undertook seven inspections of the existing HVC Mine site, five of which resulted in non-compliance.

In August of 2019, an inspection occurred at the Basal Aquifer Dewatering Project which revealed that Teck had been non-compliant with a condition of its EA certificate, both by continuing the project since 2009 and by not discharging extracted water to Witches Brook. In other words, Teck continued to operate the Basal Aquifer Dewatering Project without a valid permit for a decade – with no governmental oversight or enforcement. The EAO initially issued a warning to Teck as well as an order that Teck develop, submit, and implement a Witches Brook-Basal Aquifer Flow Release Plan to establish, maintain, and adaptively manage discharge of water to Witches Brook, however in January of 2023 the EAO rescinded its own order and informed Teck that it had completed a reanalysis of the conditions and determined that the project was not out of compliance.

The Access to Information Package detailed that in September of 2020, Teck self-reported its non-compliance with sections 35(1), 36(4), 38(4.1), and 38(5) of the *Fisheries Act* to DFO. Teck reported that nine incidences occurred at the following locations: 24 Mile Lake; Billy Lake; Bose Lake; Highmont Creek Diversion; Little Divide Lake; Pukaist Creek; Quiltanton Lake/Big Divide; Witches Brook; and Woods Creek. Of these incidences, five were water quality issues in waterbodies which are affected by the existing mine, and four were historical mine infrastructure or activities.

The Access to Information Package we received appears to show that DFO did not investigate the water quality issues on the basis that this was the Province’s responsibility and that ECCC was responsible for deleterious substances, and that DFO decided not to investigate the historical mine infrastructure as it was permitted under a variety of provincial processes decades ago and under a previous *Fisheries Act* regulatory regime.

SSN has advised Teck that they are not in compliance with federal, provincial, and Secwépemc laws and have been seeking to have these non-compliances resolved.

[Redacted for confidentiality]

In May of 2022, Teck provided an update to its 2020 non-compliance report, detailing new permit amendments and additional monitoring plans to potentially inform future mitigation measures.

In November of 2022, 12 deceased rainbow trout were found while a mine-related pipeline was being cleaned, and the file was referred to the BC Conservation Officer Service.

During the hearing, we heard from DFO representative Rich McCleary for the first time that ECCC was looking into Teck’s operations at the existing mine site. Had Mr. McCleary not testified at the Panel Hearing (which he did upon our request), SSN and the Panel may not have been made aware of this investigation.

On June 5, 2024, ECCC issued Teck a written warning for contravening the *Fisheries Act* as well as two provisions of the *Metal and Diamond Mining Effluent Regulations*. We were informed by Mr. McCleary that the following week, ECCC did an inspection of the HVC Mine site, where they found that some mitigation measures were not in place, and thereafter issued a direction to Teck on June 20, 2024 ordering them to take certain measures, locate a pollution source, and present a plan to fix it by September 30, 2024. A letter from Teck to DFO dated September 6, 2024 revealed that existing erosion in the Lornex East Dump became larger and resulted in waste rock being deposited into the creek between the second and third quarter of 2023.

The above examples demonstrate Teck’s ongoing efforts to handle contamination and achieve compliance with the applicable legislation at the existing mine site.

6.5.2 Other Non-Compliance

Teck is a global company with active operations in Canada, the USA, Chile, Peru, and active exploration in over a dozen countries worldwide. Our experts presented evidence based on publicly available information of more than \$93,000,000 in charges laid against Teck or its subsidiaries between 2011 and 2023 (which we have not independently verified), almost all of which related to its unauthorized water pollution, as detailed in Table 6c.

Table 6c: Instances of Teck’s Non-Compliance at its Operations

| Year | Amount Fined | Action | Location |
|-------------|--------------------------------------|--|-----------------|
| 2011 | \$325,000 | Leaching mercury into Stoney Creek | BC |
| 2013 | \$210,000 | Discharging sodium hydroxide into the Columbia River | BC |
| 2014 | \$1.425 M | Releasing toxic amounts of nitrate and hydrogen sulfite into the Elk River | BC |
| 2016 | \$8.2 M USD | Polluting the Columbia River since 1896 which flows down into Lake Roosevelt | USA |
| 2016 | \$3.4 M | Discharges into the Columbia River | BC |
| 2019 | \$1.2 M USD | Violating terms of Environmental Permits | Chile |
| 2021 | \$60 M | Depositing deleterious substances into the Upper Fording River | BC |
| 2023 | \$15.4 M; \$864,000; \$216,000 | Exceeding pollution thresholds and failing to build a water treatment facility at Fording River operations | BC |
| 2023 | \$2.2 M | Acid spill into Columbia River | BC |

It appears to the Panel that Teck has not been a good guest on the lands in which it operates, both in BC and beyond. On the existing HVC Mine site, there are long unaddressed legacy impacts which date back to the start of the mine's operations in the 1960s.

As DFO's Mr. McCleary stated during the Panel Hearing with respect to Teck's existing mine site, "[t]rust grows as slow as a coconut tree but it falls as quickly as a coconut" and that "where we're at right now a couple [of] coconuts have fallen off the tree."

Why should we believe Teck when they say they are now going to follow a certain plan or mitigation measure, or that impacts to a certain stream or species will be minimal? And how do we know that they will have sufficient funds to remediate the site? For further discussion on reclamation security concerns, see Chapter 8 of this report. It is our responsibility to look after our *kw'séltkten*, as it is not only us Secwépemc people who rely on the fish for sustenance.

"Bears or raptors... they're not saying, oh, there's a mine; we shouldn't eat there. ... They're hunting and fishing. They go to these fish-bearing streams... they have no indicators saying that we shouldn't eat this."

-Skeetchestn Tkwenemiple7 Marshall Gonzales

Conclusion

This summer, DFO stated that there was no allowable harvest of Fraser River sockeye salmon in commercial, recreational, or First Nation food, social, and ceremonial fisheries due to the historically low abundance. We should be taking all efforts to ensure that salmon remain unharmed.

Ongoing droughts over the last five summers (2020 to 2024) have already led to reduced summer environmental flows. We are concerned about what actions will be taken by Teck, the Province, and the federal government when conditions worsen. Will there be enough water for the fish? This is of particular concern given that Teck plans to increase the extraction of water at the Valley Pit from 18,000 m³ to 51,000 m³ per day.

Fish and the other aquatic organisms which reside in these downstream waterways are not simply resources, but are beings of equal rights which are entitled to mutual respect, and it is our job to protect them for future generations. We must take seriously the issue of downstream impacts and protecting our fish.

Our *tseqwmús* story details how the *tseqwmús* was not doing so well when he jumped down from the sky world into the lake, so all of the different animals gave a part of themselves to put the fish back together, including an eagle feather, goose, bison, and a moose's head. This story illustrates the importance of looking after one another and helping each other out.

Conditions for Approval

- Require Teck to treat the water at Highmont Creek to mitigate water quality exceedances, and re-establish the lower Highmont Creek channel to allow the isolated rainbow trout population, if this is safe for other fish, to be reconnected with Witches Brook.

- Require Teck to further develop mitigation measures to protect aquatic organisms and areas where habitat loss is expected.
- Require Teck to review and integrate guidance documents for wetland protection, including Chapter 6 of the March 2009 Interim Guidelines for Wetland Protection and Conservation in British Columbia.
- Require Teck to seek cohesion with SSN through the development of a fish habitat offsetting or compensation plan, and require Teck to include in this plan:
 - adequate compensation for SSN for the spiritual and cultural loss resulting from the loss of fish and fish habitat; and
 - a comprehensive monitoring plan to ensure the habitat is functioning and meeting and/or exceeding goals and expectations.
- Require Teck to engage in additional consultation with SSN to determine additional recommendations to mitigate the loss of access to hunting and fishing areas.
- Require Teck to update its Annual Aquatics Biological Monitoring Program to develop and implement a plan to reduce the concentrations of mercury, selenium, and other contaminants in fish tissue within the project area to levels determined jointly with SSN which are deemed safe for our members to once again enjoy unrestricted fish meals.
- As salmonid fry are known to rear in non-natal streams, require Teck to treat all watercourses as having the potential to support juvenile fry as rearing habitat.
- Require Teck to implement the mitigation and protection strategies it has implemented on known salmon-bearing watercourses on non-salmon bearing streams as well to ensure all fish species can access habitat features within the Project area.
- Replace all round culverts within the M-11 Permitted Area with bottomless arches or free-span bridges, and replace all small culverts with large flood gates to permit salmon and nutrients to flow freely.
- Recommend that Teck's revegetation and protection activities focus on prioritizing the building and/or maintaining of riparian corridors instead of buffers.
- Require Teck to create reservoir storage for clean water to serve Witches Brook, Pukaist Creek, Highmont Creek and other nearby flow-sensitive watercourses which may be impacted by water diversion to increase drought resilience.
- Require Teck to provide a copy of its Water Stewardship Strategy, including the Witches Brook Ecological Stewardship Strategy, to SSN for review and input.

7. All My Relations – Flora

“So that area of the mine where it’s at, we cannot take any more encroachment into our territory. What are we going to leave behind? What are we going to say to the generation coming up behind me? Already your land is gone. It’s burnt out.”

-Elder Terry Deneault

Introduction

While the existing HVC Mine is already permitted to disturb 8,025 ha, the HVC MLE Project would disturb an additional 1,120 ha of vegetation and ecosystems within our territory. This is a significant increase. Skeetchestn Natural Resources Corporation’s (“**SNRC**”) cultural heritage team documented 149 plant and tree species which our members use for medicinal, ceremonial, edible, technological, and other specific uses and which are found within 25 km of the existing mine site.¹ Some of the species collected within this radius which SSN members rely on are as follows:

Table 7a: Some Plant and Tree Species that SSN Members Harvest within a 25 km Radius of the Existing HVC Mine Site

| Secwépmc Name | Common Name | Traditional Use |
|-----------------------|--------------------|---|
| <i>Herbs</i> | | |
| <i>Qwlewe</i> | Nodding Onion | Medicinal, Food, Technological |
| <i>Secwmemllp</i> | Stinging Nettle | Medicinal, Food |
| <i>Plox</i> | White Bog-Orchid | Technological |
| <i>Cwecw7u7cw</i> | Mint | Medicinal |
| <i>Shrubs</i> | | |
| <i>Sxusem</i> | Soapberry | Food |
| <i>Wenax</i> | Huckleberry | Food |
| <i>Speqpeq7uwi</i> | Saskatoon | Food, Medicinal, Spiritual, Technological |
| <i>Cpeqpeqeqenkcn</i> | Red-osier Dogwood | Medicinal, Food, Technological, Structural, Spiritual |

¹ This is not an exhaustive number. SNRC’s documentation is based on their 545 survey areas within the 25 km radius and their list of approximately 263 plants, which is always growing.

| | | |
|----------------|-----------------------|---|
| Secwsqeqxe7ten | Trappers/Labrador Tea | Medicinal for insomnia, Food, Technological |
| Stsols | Dull Oregon-grape | Medicinal, Food, Technological: Roots used for yellow dye |
| Trees | | |
| Qweqwil7t | Lodgepole Pine | Medicinal, Food, Structural |
| Tsqellp | Douglas-fir | Medicinal, Food, Ceremonial, Structural, Technological |
| Melénllp | Subalpine Fir | Medicinal: used for fighting colds, Food, Structural |

7.1 Mine-Related Dust Impacts on Traditional Plants and Trees in or Near Ctselstálnéws

There are many significant harvest areas on or near the existing HVC Mine site, including Cinder Hill and Woods Creek, which are Forest Service Roads that lie north of the existing mine site. These and other harvesting areas have already been impacted by ongoing activities at the existing mine site, which produce significant amounts of dust.

“This part of our territory is also, you know, traditionally used a lot for berry picking...And I think I subconsciously move – have moved my footprints away from the mine because of my experience going into that mine as a younger man and seeing what’s there and having this feeling about our land dying there. Just the dead trees and the dust-covered ground and that whole kind of moonscape feel I got from the area makes me want to stay away from it. I just feel that there can’t be anything good there for us as far as harvesting and seeing tinaya drinking out of bubbling waters. It’s – those things scare me too because that’s what I eat. That’s all I eat.”

-Ed Jensen

For instance, many of the saskatoon shrubs have been impacted by dust, making it more difficult for SSN members to harvest. During the hearing, Teck’s consultant, Justin Straker, noted that close to the HVC Mine there are higher copper concentrations measured in soapberry berries and leaves, but that the copper concentrations decrease by approximately 20% if the berries are washed. Washing the plant, however, does not address the contaminants that have seeped into the plant. For other plants, such as the heart-leaved arnica, the petals of a flower are harvested and are too delicate to wash to try and remove the dust. Mr. Straker also stated that if you were to make juice from the soapberries, you would have to drink two litres of soapberry juice a day to approach the health guidelines.

Already, the dust prevents some SSN members from harvesting any plant which grows within a four km radius of the mine site – although the impacts of the dust extend far beyond this. A large tea bed of Trappers Tea is located a 15-minute drive from the mine site (just beyond four km) presently, but may be encompassed within a four km radius of the expanded mine site. If the HVC

Mine grows, so too will the radius within which dust impacts traditional plants, further displacing SSN members from harvesting traditional plants and trees within Secwépemcúlecw which our ancestors have relied on for thousands of years.

“People should have a right to know that not only they can access these places safely but also that what they are harvesting is also safe, that there is nothing harmful about the plants that are being harvested.”

-Isabelle Maurice-Hammond, SSN Cultural Heritage Report Author

For further discussion of the dust impacts of the HVC MLE Project, see Chapters 12 and 13.

7.2 Teck’s Assessment of the HVC MLE Project on Flora

7.2.1 Inadequate Ecosystem Labelling in the Terrestrial Ecosystem Mapping

The Province’s EA process requires Teck to develop an Existing Conditions report which details the state of vegetation and ecosystems which is used to inform an effects assessment detailing how the HVC MLE Project may impact vegetation and ecosystems. Teck’s Existing Conditions Report was published in August of 2021 and is based on sampling and mapping that occurred within the Vegetation and Ecosystems LSA and RSA. Teck used Provincial guidelines to complete Terrestrial Ecosystem Mapping (“**TEM**”) to describe the current state of ecosystems within the Vegetation and Ecosystems LSA and RSA and used historical imagery from the early 1950s to develop pre-mine TEM. Teck used the historical TEM to set reclamation targets for their Returning Land Use Plan where they aim to re-establish a variety of ecosystems. The TEM was also used to support other valued components including wildlife where the TEM was used for habitat suitability modelling.

The existing conditions TEM contains 29,033 unique polygons, with the dominant mapped ecosystems being mesic forests (those with a moderate amount of moisture), followed by dry forests. Grasslands cover less than 1% and 6% of the Vegetation and Ecosystems LSA and RSA, respectively. While wetlands are widely distributed throughout the Vegetation and Ecosystems LSA and RSA, they are typically small, and as such, comprise less than 3% of the Vegetation and Ecosystems LSA and less than 2% of the RSA.

During our experts’ review of the Existing Conditions report, they noted that 82% of the TEM ecosystem polygons in the Vegetation and Ecosystems LSA contained a single ecosystem label, which could lead to under-representing of the ecological variability across the landscape. In their experience, most ecosystem mapping projects with similar average polygon sizes have many polygons which are comprised of two or three distinct ecosystems to capture landscape variability.

If the mapping only describes the dominant ecosystem in a polygon, small but important vegetation communities, such as those supporting a watercourse or unique ecosystem types, may be overlooked. This diminishes the accuracy of Teck’s Existing Conditions report as impacts to these overlooked ecosystems would not be included in their assessment of the HVC MLE Project’s potential effects on Vegetation and Ecosystems.

This could have devastating impacts on access to sensitive areas that may support discrete patches for traditional plant harvesting areas. For instance, SNRC’s cultural heritage team documented several species, including Spring Beauty, in which there were only one or two known occurrences within 25 km of the existing HVC Mine site. Spring Beauty grows in moist meadows, shrublands, and grasslands. In this example, if the discrete habitats that support Spring Beauty

are not identified in the TEM dataset, owing to the blending of polygons, it is possible that these habitats will be overlooked in Teck's mapping. As such, Teck's assessment of the HVC MLE Project's effects would fail to consider impacts to this species as well as ecosystems, harvesting sites, and other Traditional Use plants.

As this mapping is also used for the wildlife and wildlife habitat effects assessments and related management plans, the concerns discussed above must also be considered in assessing those documents and plans.

7.2.2 Effects Assessment and Characterization Weakened by Inadequacies and Exclusions

7.2.2.1 Inappropriate Spatial Scale of Assessment

In its Vegetation and Ecosystems Effects Assessment, Teck characterizes predicted residual effects to Terrestrial Ecosystems, Site Productivity, Wetlands, Riparian Ecosystems, Old Growth Forests, and Grasslands.

Teck summarizes the HVC MLE Project's effects in terms of both area and percentage lost relative to the Vegetation and Ecosystems RSA, which is 146,223 hectares. For comparison, the Vegetation and Ecosystems LSA is 26,541 hectares. Comparing effects against a very large regional boundary, however, makes it difficult to understand existing and cumulative effects at local watershed levels. A smaller Vegetation and Ecosystems RSA would make it easier to determine where effects are more pronounced.

For instance, Teck estimates that 925.6 ha of terrestrial ecosystems would be lost as a result of the HVC MLE Project, yet this significant amount only represents 0.83% of the Vegetation and Ecosystems RSA. The large Vegetation and Ecosystems RSA also diminishes estimates regarding the magnitude of the HVC MLE Project's effects. Teck describes nearly all of the residual effects as enduring into the "far future" and being irreversible, highly likely, and of high importance – yet the magnitude of all these residual effects are described as "low". This is inappropriate and inaccurate.

For many species, small local changes in terrestrial, wetland, and sensitive ecosystems may have higher magnitude effects. For instance, the *smi7níp* (western toad), which is a species of Special Concern in BC, shows high site fidelity to breeding ponds, returning to the same breeding spots year after year. The loss of any of its breeding habitats could have large impacts to local populations, including extirpation (the termination of a species in a certain geographical area). *Smi7níp* and *sleq̄wqín* (tree frog) are important to the health of aquatic ecosystems. The song of the tree frog in early spring provides an early notification of the start of the spring fishery to SSN members at HiHium Lake and Loon Lake as well as at other upper lake areas.

Understanding the HVC MLE Project's predicted residual effects at a local watershed scale would enable SSN to better understand which areas would be more affected by the project, and would better inform conservation, management, and restoration priorities.

7.2.2.2 Inadequate Recognition of Current State of Fire-Affected Ecosystems

In June of 2021, an extreme heatwave occurred in BC which over the next several months led to more than 1,500 wildfires across the Province. The Tremont Creek wildfire burned approximately 63,548 ha primarily within SSN's traditional territory. The Sparks Lake wildfire burned through much of Secwépemcúlecw right up to the boundary of Skeetchestn's reserve, leading to a five-week evacuation, although several Skeetchestn members - including Darrell Peters and other

members of the Skeetchestn Territorial Patrol - stayed behind to hold back the flames. This wildfire burned approximately 89,500 ha.

Teck acknowledges that the Tremont Creek wildfire “affected” (i.e., burned) 35,000 ha in the northern extent of the Vegetation and Ecosystems RSA, which is approximately 24% of the total size of the Vegetation and Ecosystems RSA, and 140 ha in the Vegetation and Ecosystems LSA. Despite this, as these wildfires happened after Teck’s TEM and reporting were completed, its Vegetation and Ecosystems Effects Assessment provides only a basic summary of the fire’s impact on the forests in the Vegetation and Ecosystems RSA as follows:

- 76% of the mapped young forest in the Vegetation and Ecosystems RSA was affected by the fire;
- 41% of the mapped mature forest in the Vegetation and Ecosystems RSA was affected by the fire; and
- 46% of the mapped old forest in the Vegetation and Ecosystems RSA was affected by the fire.

It is important that these impacts to the Vegetation and Ecosystems RSA are assessed in further detail as part of the Province’s EA process due to the significant landscape alteration caused by the wildfires. During the hearing, SSN members shared how these fires greatly impacted the harvesting of plants and medicines. The assessment of the HVC MLE Project’s potential effects on vegetation and ecosystems contained in the Application Package is based on comparable ecosystems within the Vegetation and Ecosystems RSA, however, whether those ecosystems were affected by the wildfire or remain structurally intact and functional is unknown and not considered in Teck’s application.

7.2.2.3 Mature Forest Not Assessed as a Valued Component

Forests typically have a natural succession process in which tree species progress from a young growth forest to a mature forest (> 80 years), and finally, to old growth forest (> 140 years for dry interior forests, > 250 years for interior wet belt). Teck assessed there to be 11.9 ha of Old Growth forest in the Vegetation and Ecosystems LSA and 554.5 ha in the Vegetation and Ecosystems RSA, none of which it anticipated would be altered or lost due to the HVC MLE Project. An assessment of the Occupant Licence to Cut for the Project Area by SSN indicated, however, that 38.4 ha of old growth deferral areas (“**OGDA**”) are proposed to be removed as part of the HVC MLE Project.

The proposed removal of any OGDAs needs to include a proposal for replacement areas. These areas are supposed to be of equal or greater size and of similar ecological condition as those proposed to be removed. Owing to a very disturbed landscape within the area surrounding the HVC Mine site, however, there is a lack of old growth forests. As such, Teck was unable to identify similar replacement polygons with similar ecological conditions. Instead, Teck identified replacement stands that are primarily younger age classes and dominated by alternate tree species including lodgepole pine. The OGDA polygons within the HVC MLE Project’s footprint are thus proposed for removal with replacement stands that are younger and support different ecological conditions.

Additionally, nearly half of the old growth forest in the Vegetation and Ecosystems RSA (257 ha) was affected by the Tremont Creek Wildfire. Given the lack of old growth forest in the Vegetation and Ecosystems RSA, coupled with the effects of the Tremont Creek wildfire on the existing old growth forest, Teck should have assessed how the HVC MLE Project would affect mature forests which will serve as recruitment for future old growth forests. Mature forests ought to have been assessed particularly in the context of ongoing harvesting, other developments and disturbances,

and the wildfires and other climate and drought-related effects, all of which affect the quantity and quality of forested areas within the Vegetation and Ecosystems RSA.

Old growth forests play an important medicinal role in family planning. Secwépemc midwives have intergenerational knowledge about the use of these forests, including teas which are produced from these trees and are used as a means to plan births and maintain optimal physical health of women. During the hearing, we heard evidence from SSN elders about their relatives using this medicine to space births two years apart to allow mothers' bodies time to recover between births and to keep families to a manageable size. These forests also contain integral medicines for menstruation and post-partum.

Teck's failure to assess intact mature forest ecosystems in the Vegetation and Ecosystems Effects Assessment is a notable gap in the environmental assessment.

7.2.2.4 Cumulative Effects Assessment Excludes Important Activities and Ignores Past Actions

Teck's Vegetation and Ecosystems Effects Assessment addresses cumulative effects but fails to include several large-scale activities which affect ecosystems and contribute to cumulative effects, including agriculture, mineral exploration and tenures, transportation, utilities, and municipalities, on the basis that these activities will either remain the same or decrease from present levels. This rationale ignores all of the harm these activities have done to date.

"I really want to focus on the subalpine-fir, and with warming trends that tree is becoming extinct, and that is a hugely medicinal tree for our community. When COVID started, our team went out and we harvested this because it's used for fighting colds and sickness in the lungs...It's hard to find. It's higher elevation. You have a short window to harvest the bark... in the spring when the blisters are swollen. But I do target Woods Creek, Cinder Hill area for harvesting, and that's becoming harder with encroachment of development, wildfire, and it doesn't come back fast. And I'm really scared to lose that in our territory when that happens".

-Samantha Draney

In considering cumulative effects, the only activity which Teck considers may interact with a Valued Component is forestry. Forestry is the main industrial activity in the Vegetation and Ecosystems RSA, which overlaps with both the Merritt and Kamloops Timber Supply Areas ("TSA"). The Annual Allowable Cuts ("AAC") in the Merritt and Kamloops TSAs are 1.2 million m³ and 2.3 million m³, respectively. Teck foresees that these AACs are unlikely to increase in the foreseeable future, and as such, concludes that there are no predicted cumulative effects to vegetation and ecosystems, from forestry or otherwise. The millions of cubic metres of forests to be cut each year are simply ignored.

7.2.3 Failure to Consider Traditional Use Plants in Plans and Mitigation Measures

Teck's Existing Conditions report and the Effects Assessment, both of which we have addressed above, mapped Traditional Use plants as a Valued Component based on vegetation species lists Teck received from other Indigenous Groups and studies. SSN's Indigenous Knowledge was not used or interpreted by HVC on the basis that our Project Review Process would provide such an assessment. The species included in Table 7a provide a snapshot of some of the Traditional Use plants which should be considered and assessed as part of the Traditional Use plants Valued Component, and we have included a more fulsome list as an appendix at the end of this chapter.

In its assessment, Teck only summarized mapped ecosystems which supported a minimum of five species of Traditional Use plants, which could lead to a significant underestimation of the total land base which supports plants of traditional importance. This ignores sensitive plant species, such as Lady's Slippers and Columbine species, which are incompatible with a number of other species, and limits the effectiveness of mitigating effects of the HVC MLE Project if those ecosystems which support one to four species of Traditional Use Plants are scoped out of the assessment.

Despite considering Traditional Use plants to be a Valued Component, the Vegetation Management Plan does not address Traditional Use plants. Additionally, Teck's mitigation measures for herbicide use, which discuss avoiding areas that are adjacent to some listed plant species and areas, fail to reference areas with Traditional Use plants. These glaring omissions suggest that the protection of Traditional Use plants is not a management objective or priority for Teck.

Conclusion

Teck's assessment of the HVC MLE Project with respect to flora does not align with SSN's knowledge and valuation of plant and tree species. Operations at the existing HVC Mine site already produce significant amounts of dust, and the HVC MLE Project would lead to the generation of additional dust as well as extend the time period in which this dust would be produced. Both the real and perceived risks of contamination threaten our members' ability to harvest traditional plants and medicines and impede on SSN's food sovereignty.

Article 24(1) of *UNDRIP* states as follows:

Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals. Indigenous individuals also have the right to access, without any discrimination, to all social and health services.

For our traditional plants and medicines to be effective, they must be free of contaminants. Instead of helping preserve, conserve, and revitalize the traditional plants which have been affected by the existing HVC Mine's operations over the last seven decades, Teck proposes to expand and continue operating the mine as detailed in the application for the HVC MLE Project.

Conditions for Approval

- Require Teck to develop a Cumulative Effects Management plan, in partnership with forestry companies, industry, municipalities and First Nations, to address the ongoing cumulative impacts within the Vegetation and Ecosystems RSA.
- Require Teck to develop a Traditional Plants Identification and Management Plan including summarized maps of ecosystems which support any of the traditional plants listed in the Appendix to this Chapter.
- Require Teck to eliminate the use of herbicides and develop a holistic vegetation management plan.
- Require Teck to provide additional detail on how predicted hydrology changes associated with Pukaist Creek and Witches Brook would affect vegetation and ecosystems and how such effects would be mitigated by, for example, the use of seed collection, greenhouses, and re-seeding soil piles.

- Require Teck to fulfill its commitment to complete a community-led follow up Dust and Traditional Plant Study, with involvement from SSN and which assesses the Traditional Plants listed in the Appendix to this Chapter. This study should be completed and provided to SSN and the EAO within one year of approval of the HVC MLE Project.
- Require Teck to complete a Traditional Foods study which assesses traditional plants, small and large game and fish that are relied on by SSN, as determined in conjunction with SSN. This study should be completed and provided to SSN and the EAO within one year of approval of the HVC MLE Project.
- Require Teck to jointly develop with SSN an Access Management Plan for the Construction, Operations, Closure and Post-Closure phases of the HVC MLE Project that provides safe access to the Project Area for the exercise of traditional harvesting practices and ceremonial practices.
- Require Teck to study the cumulative impact of fugitive dust containing potentially toxic minerals (in particular copper, but including more than 10 known minerals) on the harvesting of soopolallie berries (and other fruits and roots).

Appendix: Plants to Be Considered and Assessed as part of the Traditional Use Plants Valued Component

| HERBS | | | | | |
|--------------------|--------------------------------|-----------------------|---------------------------------|-----------------------------|-------------------------------|
| Common Name | Latin Name | Secwépemc Name | Abundance (545 Surveyed) | Traditional Use | Community Significance |
| Wild Strawberry | <i>Fragaria vesca</i> | <i>Tqitqe</i> | 392 | food, medicinal | High |
| Showy Aster | <i>Eurybia spectabilis</i> | <i>Stqwiqwicen</i> | 232 | medicinal | High |
| Kinnikinnick | <i>Arctostaphylos uva-ursi</i> | <i>Elk</i> | 200 | food, medicinal, ceremonial | High |
| Tiger Lily | <i>Lilium lancifolium</i> | | 117 | food | High |
| Cows-Parsni | <i>Heracleum maximum</i> | <i>Xwtellp</i> | 115 | food, technological | High |
| Edible Horsehair | <i>Bryoria fremontii</i> | <i>Wile</i> | 113 | food | High |
| Baneberry | <i>Actaea rubra</i> | | 108 | medicinal | High |

| | | | | | |
|------------------------------|-------------------------------|-------------|----|--------------------------------|------|
| Nodding Onion | <i>Allium cernuum</i> | Qwlewe | 99 | food, medicinal, technological | High |
| Trailing raspberry | <i>Rubus parvifolius</i> | | 86 | food | High |
| Stinging Nettle | <i>Urtica dioica</i> | Secwmemllp | 36 | food, medicinal | High |
| White Bog-Orchid | <i>Plantanthera dilatata</i> | Plox | 25 | technological | High |
| Arrowleaf Balsamroot | <i>Balsamorhiza sagittata</i> | Tsetselq | 13 | food, ceremonial | High |
| Blue Clematis | <i>Clematis occidentalis</i> | Steptupelqw | 13 | medicinal | High |
| Mint | <i>Mentha arvensis</i> | Cwecw7u7cw | 13 | medicinal | High |
| Water Parsnip | <i>Sium suave</i> | Etsmets | 6 | food | High |
| Large fruited Desert Parsley | <i>Lomatium macrocarpum</i> | Qweqwile | 4 | food, medicinal | High |
| Prickle Pear Cactus | <i>Opuntia fragilis</i> | Seki7 | 2 | food, medicinal | High |
| Spring Beauty | <i>Claytonia lanceolata</i> | | 1 | food | High |

SHRUBS

| Common Name | Latin Name | Secwépemc Name | Abundance (545 Surveyed) | Traditional Use | Community Significance |
|-------------|------------------------------|----------------|--------------------------|---|------------------------|
| Rosebush | <i>Rosa acicularis</i> | Sekwew | 432 | food, medicinal, ceremonial | High |
| Soapberry | <i>Shepherdia canadensis</i> | Sxusem | 420 | food, medicinal, spiritual, technological | High |

| | | | | | |
|---------------------|------------------------------|-------------------------|-----|--|------|
| Black Gooseberry | <i>Ribes lacustre</i> | <i>Stcwelcucwel</i> | 272 | food, medicinal | High |
| Willows Spp. | <i>Salix spp</i> | <i>Qwellsellp</i> | 248 | medicinal, technological | High |
| Twinberry | <i>Lonicera involucrata</i> | <i>Kenkekem</i> | 169 | medicinal | High |
| Huckleberry | <i>Gaylussacia baccata</i> | <i>Wenax</i> | 88 | food, technological | High |
| Sitka Alder | <i>Alnus crispa</i> | <i>Kwle7ellp</i> | 84 | technological | High |
| Saskatoon | <i>Amelanchier alnifolia</i> | <i>Speqpeq7uwi</i> | 74 | food, medicinal, spiritual, technological | High |
| Red Raspberry | <i>Rubus pubescens</i> | <i>S7eytsqwem</i> | 69 | food, medicinal | High |
| Trappers Tea | <i>Ledum glandulosum</i> | <i>Secwsqeqxe7ten</i> | 41 | food, medicinal, technological | High |
| Black Current | <i>Ribes hudsonianum</i> | <i>Twupupupse7</i> | 40 | food, medicinal | High |
| Thimbleberry | <i>Rubus parviflorus</i> | <i>Stiqwem</i> | 32 | food, technological | High |
| Red Osier Dogwood | <i>Cornus sericea</i> | <i>Cpeqpeqeqenkce n</i> | 27 | food, medicinal, technological, structural, spritual | High |
| Oregon Grape | <i>Mahonia aquifolium</i> | <i>Stsols</i> | 22 | food, medicinal, technological | High |
| High Bush Cranberry | <i>Viburnum trilobum</i> | <i>Tnis</i> | 20 | food, medicinal, cerimonial, | High |

| | | | | technological | |
|-----------------------------|--------------------------------|-----------------------|---------------------------------|--|-------------------------------|
| White Flowered Rhododendron | <i>Rhododendron albiflorum</i> | <i>Secwsqeqxe7ten</i> | 12 | spiritual, ceremonial | High |
| Labrador Tea | <i>Ledum groenlandicum</i> | <i>Secwsqeqxe7ten</i> | 10 | food, medicinal, technological | High |
| Choke Cherry | <i>Prunus virginiana</i> | <i>Tkwlose7</i> | 2 | food, medicinal, technological | High |
| Big Brush Sage | <i>Artemesia tridentata</i> | <i>Kewku</i> | 1 | spiritual, ceremonial | High |
| TREES | | | | | |
| Common Name | Latin Name | Secwépemc Name | Abundance (545 Surveyed) | Traditional Use | Community Significance |
| Lodgepole Pine | <i>Pinus contorta</i> | | 348 | food, medicinal, structural | High |
| Douglas-fir | <i>Pseudotsuga menziesii</i> | | 334 | food, medicinal, ceremonial, structural, technological | High |
| Subalpine Fir | <i>Abies lasiocarpa</i> | | 87 | food, medicinal, structural | High |
| Ponderosa Pine | <i>Pinus ponderosa</i> | | 17 | food, medicinal, structural | High |
| Douglas Maple | <i>Acer glabrum</i> | <i>Ts`wellten</i> | 15 | technological | High |
| Paper Birch | <i>Betula papyrifera</i> | | 14 | technological | High |

| | | | | | |
|----------------|----------------------------|---------------|---|--------------------------|------|
| Black Hawthorn | <i>Crataegus douglasii</i> | <i>Stmuqw</i> | 3 | medicinal, technological | High |
|----------------|----------------------------|---------------|---|--------------------------|------|

8. Mining Waste Water

“[W]hat I've been taught is that the water we have here today is the same water that was here from the very beginning. It's gone through many different changes, but it's the same water. So in that water is the memory of our people, and the ceremonies and things that we do, we're taught that the single drop of rain at the top of the mountain when it starts coming down, it feeds everything. It gives everything life and goes back to the rivers, back to the ocean and comes back again. It's been doing this from the beginning of time...”

-Kukpi7 Wayne Christian, Panel Chair

Introduction

With the approval of the HVC MLE Project, the HVC mine site is projected to enter into the closure phase around 2044. When the mine closes, Teck is proposing that all mine contact water and runoff from the mine footprint would be directed into the Valley Pit creating the Valley Pit Lake. The Valley Pit would be filled until it reaches a “target elevation” of approximately 1,128 metres above sea level. When questioned during the Panel Hearing about why this target elevation was selected, Teck representatives explained that this target elevation created a groundwater sink that allowed for water that goes through the waste rock stockpiles by Valley Pit to be drawn into Valley Pit instead of traveling elsewhere.

Teck projects that the Valley Pit Lake would reach this target elevation in the year 2154, at which point the HVC Mine site would enter the post-closure phase. Only at this time would Teck construct a water treatment plant, and the water from the Valley Pit Lake would be sent to the water treatment plant and treated before being discharged to Witches Brook.

While Teck indicates that the water treatment plant would operate indefinitely, it fails to detail how it will fund this indefinite operation, and has not provided any information on the estimated costs of running the water treatment plant.

An alternative to Teck’s proposed treatment plan would be to apply in-pit treatment to the Valley Pit Lake, however, Teck did not assess the costs of or consider this option in its application package.

While this chapter focuses on mining waste water, see Chapter 5 for consideration of the effects of the HVC MLE Project on water more generally.

8.1 Reclamation Security

Every year, BC’s Chief Inspector of Mines (appointed by EMLI) issues an annual report which includes, amongst other things, an appendix detailing the reclamation liabilities at the mines throughout BC. As detailed in Table 8a below, according to the 2021/2022 Chief Inspector of Mines Annual Report, Teck’s estimated liability for the HVC Mine exceeded its total bond amount by more than \$212 million. In the following year’s report, however, Teck’s estimated liability was decreased by the differential amount to match the total bond amount.

Table 8a: Teck’s Total Bond Amount and Estimated Liability for the Highland Valley Copper Mine as Reported in the Chief Inspector of Mines Annual Reports

| | | Total Bond Amount | Estimated Liability | Difference |
|---------------------|--------|--------------------------|----------------------------|-------------------|
| 2021-2022 Report | Annual | \$350,862,500 | \$563,438,000 | \$212,575,500 |
| 2022-2023 Report | Annual | \$350,862,500 | \$350,862,500 | \$0 |

To SSN’s knowledge, there was no significant change to the HVC Mine’s operations to warrant this significant decrease in the estimated liability, and no explanation has been provided by EMLI as to why this decrease occurred. Other jurisdictions, such as Nevada and Alaska, disclose their reclamation calculations and have a public comment period before reclamation estimates are finalized. SSN is very troubled by the lack of transparency from the Province on the recent change to the reclamation estimate for the existing HVC Mine site.

With the HVC MLE Project, Teck’s estimated liability would increase by an amount to be determined by EMLI, an estimate of which Teck confidentially shared with the Panel. Teck should be required to provide a total bond amount which is equal to the full estimated liability of the expanded mine within two years of the approval of the closure plan for the HVC Mine.

In a meeting with the Province, EMLI communicated to SSN that the HVC Mine was classified as “low risk” and as such, was not examined as diligently as a higher-risk site. The Annual Reports do not contain a scheme for assessing and assigning risk to mining projects, and SSN is unaware of the basis on which the existing HVC Mine was considered low risk and whether this classification is only during the mine’s operations or also for the closure and/or post closure phases.

SSN disagrees with the classification of the existing HVC Mine site as “low risk”, particularly as the existing mine is already the largest open-pit copper mine in Canada and, with the HVC MLE Project, mine contact water would not be treated until approximately 2154. We have also seen non-compliance by Teck regarding its permits, both at the existing mine site and its other operations. See Chapter 6 for more information on Teck’s non-compliance at the HVC Mine and other mine sites.

SSN’s expert, Dr. Patrick Littlejohn, estimated that the water treatment plant proposed by Teck could cost approximately \$50 million in today’s dollars – which, after accounting for inflation, could be approximately \$3.6 billion by the year 2160. EMLI’s policy for estimating the required reclamation security includes a review of the mine closure planning and cost estimates every five years with additional security dollars being posted by the company as required.

Deferring the construction of this plant for more than a century after the mine stops generating revenue is a significant regulatory and financial risk. During the Panel Hearing, the Panel heard from Dr. Littlejohn that he was unaware of any precedent in BC for managing a liability for more than 100 years after a project has stopped generating revenue.

To date, Teck has not explained how they would post additional security dollars every five years for more than a century after the mine stops earning revenue.

8.2 Care and Maintenance

Mines regularly enter into periods of temporary closure or care and maintenance, often in response to economic conditions such as a decrease in commodity prices. Many mines in BC have entered into care and maintenance for up to 20 years.

If the HVC mine site temporarily stops operating, there will be excess water at the site as no water use nor discharge will occur. Without a treatment method, Teck will be required to store this contact water on site.

Storing extra water in the Highland TSF adds to the risk of a tailings dam failure, which is further discussed in Chapter 9. While an alternative storage location is the Valley Pit (as considered in Teck's proposed closure plan), Teck may be hesitant to store water in this pit, given that they would have to treat and empty this pit of water in order to restart the mine's operations.

Given that shifts in economic conditions cannot be readily foreseen and often occur relatively quickly, it is critical that Teck proactively develop and implement plans for how it would manage excess mine water in a period of temporary closure or care and maintenance. The condition in the M-11 permit regarding care and maintenance should be strengthened to require Teck to more thoroughly assess how to manage water on site during a period of temporary closure.

"...[Y]ou want to have an understanding of what you're going to do with water when there's a major change in water management... I liken it [to] putting on a helmet. You know, I put on the helmet at the start of my ride. I don't wait until I get in an accident and then try to put it on when I'm in mid-air."

-Dr. Patrick Littlejohn, Littlejohn Environmental Consulting

8.3 Mine Contact Water Quality

During the closure and post closure phases, Teck predicts that the water in the Valley Pit Lake would contain the following contaminants of concern: cadmium, molybdenum, and selenium.

Teck predicts that levels of arsenic, copper, and nitrate would also be elevated above BC's Water Quality Guidelines, however, Teck does not believe that treatment is warranted for these contaminants. Teck is developing HVC-specific site performance objectives or discharge limits for the water bodies which will receive water from the HVC Mine site. These criteria are inferior to science-based environmental benchmarks such as BC's Water Quality Guidelines, which would ensure the water and aquatic ecosystems are protected. The Province states that the Water Quality Guidelines "represent safe levels of substances", and exceeding a guideline indicates "that the potential for adverse effects may be increased".

Allowing the receiving water to remain elevated above BC Water Quality Guidelines for several contaminants does not align with the Secwépemc law of *yúcwmentswécw* - to take care and look out for one another. We are responsible for protecting the lands and waters, and ensuring that animals and other resources can sustain themselves. This is both a proactive and precautionary responsibility.

SSN requires Teck to build a water treatment plant within ten years of any approval of the HVC MLE Project, as discussed in Chapter 5 of this report. During Teck's pre-conceptual water treatment evaluation, it considered the option of in-pit treatment. Its consultants, WSP, concluded that in-pit treatment of the Valley Pit was "feasible but additional studies would be required to better understand the treatment process costs and dosing requirements." Instead of proceeding

with those studies, Teck decided to forego that option and propose the approach discussed above.

It is unacceptable to let this contaminated water sit and accumulate in the Valley Pit Lake for more than a century. This would pose unacceptable risks to wildlife, groundwater and surface water contamination, and downstream risks of discharge from seepage, leachate, or flooding.

8.4 Witches Brook

Witches Brook is a small stream located east of the HVC Mine, and is a tributary of Guichon Creek which flows into the Nicola River 10 km downstream of Merritt and ultimately into the Thompson and Fraser River systems. (See Chapter 5 for further discussion on Witches Brook.)

Witches Brook's flow varies throughout the year, with more flow occurring during freshet and less flow occurring during the dry summer months. The planned discharge of the treated mine contact water post-closure into Witches Brook could substantially change both the quality and flow of this watercourse. During the dry months, Witches Brook could be almost fully comprised of treated mine contact water. As there would be limited dilution of the treated mine contact water with water in the stream, the water would need to meet any applicable guidelines or site performance objectives at the point of discharge. Failure to do so could impact our fish and aquatic relations who reside in the Witches Brook watershed, including rainbow trout. For further discussion, see Chapters 5 and 6 of this report.

Conclusion

It is unacceptable for Teck to defer the construction of a water treatment plant for more than a century after the mine stops operating and generating revenue. Teck must take responsibility for its mining operations and begin treating the water now and work to restore the landscape as soon as possible, not after the mine closes. Letting the water sit and accumulate in the Valley Pit Lake for more than 100 years poses too many risks and renders the HVC Mine unstable.

None of us will be here in 2154 (or thereafter whenever the Valley Pit Lake would reach its target elevation). We are concerned that Teck may not be financially stable and willing to fulfill their commitment to build a water treatment plant at this time. We have a responsibility to protect our lands and act as stewards of our lands and resources for the future generations to come.

Conditions for Approval

- As detailed in Chapter 5 regarding a water treatment plant:
 - Require Teck to advance the design of the water treatment plant system from pre-conceptual to basic engineering prior to the approval of the HVC MLE Project, as detailed design is required for bonding purposes should the HVC MLE Project advance to permitting.
 - Require Teck to submit plans for the design and build of a water treatment facility within two years of approval of the HVC MLE Project that ensures sustainable practices are employed to balance and protect the water table as the mine progresses.
 - Require Teck to construct a water treatment facility within ten years of approval of the HVC MLE Project using advanced technology and best practices that implement

a water treatment system that purifies the water used in the mining process before it is discharged back into the environment.

- In its pre-conceptual design of the water treatment plant, require Teck to:
 - incorporate sulphide addition;
 - incorporate methods of mitigating the formation of reduced selenium species in water treatment plant effluent (for e.g., use advanced oxidation processes as at the selenium treatment systems in the Elk Valley); and
 - consider and mitigate the potential for algae in water treatment plant influent with appropriate design measures, such as the use of multimedia filtration or other source control measures.
- Require Teck to provide the estimated annual costs of operating the water treatment plant and detail how it would fund the indefinite operation of the treatment plant.
- Require Teck to provide a total bond amount which is equal to the full estimated liability of the expanded mine within two years of the approval of the closure plan for the mine. The calculations used to define the bond amount should be made available to SSN for comment, review and potential adjustments. The Province should require a bond amount from Teck which is equivalent to the full estimated liability of the expanded mine.
- Strengthen the existing care and maintenance condition in the M-11 permit to explicitly require numeric water balance modelling to evaluate a 20-year period of care and maintenance followed by a return to operations. If the modelling shows that water cannot be stored safely without using open pits, then require Teck to incorporate implementation of a water treatment system – to be qualified during the advanced design stage detailed above.
- Require Teck to conduct continued research and development on the inactive pit lakes at HVC, with the objective of developing, implementing and demonstrating a comprehensive, integrated pit lake treatment approach on one or more of the inactive pit lakes. Objectives of the treatment should include the following:
 - Demonstrate consistent removal of contaminants to below water quality objectives in the pit lake, including management of contaminant loading from future mine contact water influx;
 - Evaluate metal sequestration through pit lake treatment;
 - Detail comparison of the lake geometry (e.g. bathymetry, surface area/volume) and dynamics of the inactive pit lakes to that expected of the future Valley Pit Lake, so that any pit lake treatment approach developed for the three smaller inactive pit lakes can be appropriately scaled up and applied to the Valley Pit Lake; and
 - Develop a long-term (potentially perpetual) care plan for the resultant pit lake that details the frequency and nature of any future pit lake treatment prescriptions in sufficient detail to allow such plan to be incorporated into reclamation and security bonding.
- Require Teck to ensure that the liners or other methods it uses to keep water from escaping waterways accommodates summer temperatures and ensures the water is kept within a safe temperature range, including by considering the use of lighter-

coloured liners, using vegetation for shading, and other natural alternatives. Ensure that all lined ponds or waterways have mechanisms for animals to escape should they fall in (i.e., ladders).

9. Tailings – Reclamation and Accidents

“And the other part of that journey, that road trip, we went to Logan Lake, we got there, then we travelled this road there to go to Ashcroft. So we left Logan Lake, we travelled there and crossed over this little hill, I guess. We were driving on the highway there... she stopped the car and we all stopped and looked over to the left. There was... a creek running through there it was at that time, and I didn't know it at the time, there was -- we just called it a lot of mud was flowing down the river there.

There was a real nice buck. It was a 4-point buck at that time, and it was stuck in that mud. But now I know that it's the tailings from the mine. That's where the deer was stuck, and it was trying to get out, trying to get out. You could see it trying to jump up, but it couldn't jump because the mud was up to its chest there. It was just -- it couldn't move anymore. There was nothing we could do. ... So what we did was put a little tobacco down there and say a prayer for it.”

-Elder Hank Gott

Introduction

Upon digging ore out of the Valley Pit, Teck sends this ore to the mill, breaks it down into smaller-sized materials, and mixes it around with processing water to extract the copper and other precious metals. Once the copper and other precious metals are separated, the remaining slurry, or tailings, are moved from the mill via a pipeline to the Highland TSF. The Highland TSF is located across a valley and is approximately nine km long, roughly half the size of Kamloops Lake.

The Highland TSF impoundment (the area which holds the tailings) primarily contains the following:

- Tailings;
- Run-off from northern catchments (including Woods Creek, Boyes Creek, Forgotten Creek, and Burr Creeks);
- Direct precipitation;
- Water collected by the ponds downstream of the L-L Dam and the SAMP wellfield that is reclaimed back into the impoundment; and
- Pit dewatering and depressurization wells.

This wet tailings impoundment is the same type of facility which was used at the Mount Polley mine. In 2014, the Mount Polley Mine tailings pond dam collapsed, spilling 25 million litres of toxic waste into Polley Lake, Hazeltine Creek, and Quesnel Lake. Local spawning grounds for sockeye salmon were severely impacted and drinking water reserves were contaminated by the breach. The BC government appointed an independent panel of expert engineers to investigate the Mount Polley accident, who recommended that BC eliminate the use of wet tailings impoundments and require dry disposal of mine waste. Despite this recommendation, Teck proposes to continue using the Highland TSF as the largest storage of water during the HVC MLE Project.

The Highland TSF impoundment is retained by the 3.0 km long L-L Dam at its northwest end and the 1.8 km long H-H Dam at its southeast end. The existing crest of the two Highland TSF dams, as well as the anticipated crest under the HVC MLE Project are as detailed in Table 9a:

Table 9a: Existing and Projected Crest Elevation for the H-H and L-L Dams

| Dam | Existing Permitted Crest Elevation (m) | HVC MLE Project – Projected Crest Elevation (m) |
|------------|---|--|
| H-H | 1,293 | 1,320 |
| L-L | 1,279 | 1,310 |

The proposed increases to the crest elevation of the L-L and H-H Dams are to accommodate more than one billion tonnes of tailings, which would be produced by the current life of mine (370 million tonnes), the Bethlehem Expansion (122 million tonnes), and the HVC MLE Project (886 million tonnes).

With more than one billion pounds of tailings to be stored in the Highland TSF, the risks of a tailings dam failure are incredibly high.

9.1 Teck Denied SSN Access to Critical Information

SSN engaged an expert on tailings, Mr. Wouter Hartman (Cartledge Mining and Geotechnics), to review relevant portions of the HVC MLE Project application. To facilitate Mr. Hartman’s review, SSN requested (at Mr. Hartman’s request) several additional documents from Teck. Six of the eight documents requested have not been provided by Teck to date. The documents which were requested and not provided included as follows:

- AMEC Environmental & Infrastructure 2014, *Highland Valley Copper H-H Dam Break and Tailings Runout Study*;
- KCB 2014, *L-L Dam Consequence Classification Assessment Based on the 2014 Dam Breach and Inundation Study*;
- 2015, *Consequence Category review by the Engineer of Record*;
- KCB 2020, *Highland Tailings Storage Facility 2019 Design Update: L-L Dam and H-H Dam*; and
- Mr Rick Friedel P. Eng, 2022, *Consequence Category review by the Engineer of Record*

(Collectively, the “**Documents Denied Access To**”).

The Documents Denied Access To all pertain to the L-L and H-H Dams, which would continue to be key pieces of infrastructure during the operation of the HVC MLE Project, and contain crucial information on the risks of the dams at their existing size. The HVC MLE Project would see an expansion of these dams, as well as an extension of the time in which they would operate, and presumably an increase in risk would accompany this growth.

Teck’s failure to provide the requested Documents Denied Access To, which would allow Mr. Hartman and SSN to better understand the risks of the existing dams, is unreasonable. SSN’s inability to review the Documents Denied Access To has impeded our ability to assess this component of the HVC MLE Project. Teck should be required to provide us with the Documents Denied Access To as well as provide SSN with access to the HVC mine site so that we can have an independent engineer assess the infrastructure.

9.2 Lack of Details Regarding the Extreme & Very High Consequences of Dam Failures

BC’s *Dam Safety Regulation* requires owners of dams to determine the classification of a dam in accordance with the Consequences Classification Table included at Schedule 1 of the Regulation and based on an evaluation of the potential downstream consequences of failure regarding loss of life, environment and cultural values, and infrastructure and economics.

The consequence classification for the approved Life of Mine (“**LoM**”) design and for the proposed detailed design are classified as “Extreme” for the L-L Dam and “Very High” for the H-H Dam overall. These are the two most severe classifications.

9.2.1 L-L Dam

For the L-L Dam, the consequence classification for the approved LoM design of “Extreme” was based on the rationale noted in Table 9b, as detailed in an attachment to Appendix 9-4 of the application package.

Table 9b: Review of Consequences for a Failure of the Already-Approved L-L Dam

| Consequence Category | Rationale | Consequence Rating |
|--|---|---------------------------|
| <i>Population at Risk</i> | 320 permanent offsite people | Extreme |
| <i>Potential for Loss of Life</i> | With an assumed fatality rate of 25 to 50%, the potential for loss of life at the Spence Bridge area is between 55 and 110. | Very High |
| <i>Environmental and Cultural Values</i> | Thompson River and Fraser Rivers are of national importance for fishery. They are sources of First Nations food and recreational fishing. Wildlife habitat in the inundation zone could also be affected. | Extreme |
| <i>Infrastructure and Economics</i> | Extreme economic impact due to the loss of fish habitat and salmon runs. Impact on major transportation corridors and agricultural lands. | Extreme |

These estimates are only for the L-L Dam at its existing height and not the height proposed by the HVC MLE Project. This information raises many questions, the answers of which are likely contained in the 2014 Dam Breach and Inundation Study SSN was denied access to (one of the Documents Denied Access To). SSN has not been provided information as to the area of the dam breach inundation zone, how the Thompson and Fraser Rivers would be impacted, the extent of wildlife and fish habitat which could be affected, and how the salmon runs could be affected. SSN deserves to know the risks of this dam to its traditional territory and surrounding area.

SSN was able to locate Teck's Highland TSF Operation, Maintenance and Surveillance Manual (the "OMS Manual") from November 2014 which provides excerpts from the 2014 study describing the dam break scenarios for the L-L Dam. The study considered both sunny-day and rainy-day failures, which are defined as follows:

- Sunny-day failure: A sudden dam failure that occurs during normal operations (for e.g., caused by internal erosion); and
- Rainy-day failure: A dam failure resulting from a natural flood that is larger than the dam can safely hold.

A portion of the 2014 as excerpted in the OMS Manual states as follows:

The results of the dam breach and inundation analyses for the L-L Dam indicate that the flood wave for both rainy-day and sunny-day scenarios will move quickly along the flood route downstream of the dam. The flood arrival times depend on the dam breach scenario being analysed, the distance from the dam, and the input parameters such as ambient flow conditions in the rivers, the breach formation time and the river channel roughness. ... The ranges of flood arrival times for Spences Bridge, Lytton and Hope are summarized in the following table. ... Depending on the dam breach scenario, the ambient flow conditions in the river and the location along the flood route, it would take approximately 1 hour to 11.5 hours for the flood to arrive. Given the relatively short flood arrival times, the opportunity to issue flood warnings in a timely manner after the breach is initiated would be limited, particularly for areas close to the dam such as Spences Bridge.

Flood Arrival Times

| Location | Sunny-day Scenario (hours) | Rainy-Day Scenario (hours) |
|-----------------------|-----------------------------------|-----------------------------------|
| <i>Spences Bridge</i> | <i>1.3 to 1.9</i> | <i>1.0 to 1.9</i> |
| <i>Lytton</i> | <i>2.5 to 4.0</i> | <i>1.5 to 2.5</i> |
| <i>Hope</i> | <i>6.9 to 11.5</i> | <i>3.4 to 4.5</i> |

This excerpt also indicates that a cultural and environmental effects assessment was conducted under a separate study. SSN has not been provided a copy of this study.

This past summer, a landslide occurred which dammed the Chilcotin River in BC. A lake was formed behind the landslide deposit for several days before it overwhelmed the deposit and began to flow through, carrying woody debris downstream. The water surge rapidly gained speed and peaked at 3,640 m³ per second. This and other recent disasters demonstrate how little time there can be to respond to an emergency and evacuate if necessary. The potential speed of a debris flow would be especially pronounced at the HVC Mine site, given that the TSF is located at an elevation of 1,310 metres while the valley bottom near the Thompson River is at an elevation of 265 metres. A potential debris flow would be enhanced by an average 8% slope.

A key component of Teck's closure plan for the HVC MLE Project involves the construction of a spillway during the closure phase with a plug which could be removed during the post-closure phase to discharge excess water from the then-decommissioned TSF pond into Pukaist Creek. While the spillway would only be used as an emergency water outlet for a Probable Maximum Flood (which Teck defines as 50 million m³), this spillway poses an extreme risk to the stability of

the L-L Dam and the downstream community. More information is required on this proposed spillway and the risks it presents.

Of additional concern is the degree of uncertainty in the geological model for the L-L Dam's foundation – which could be a significant risk to the assumed stability of this dam.

Teck based the consequence classification for the expanded L-L Dam under the HVC MLE Project on “an incremental consequence assessment of the 2014 Dam Breach and Inundation study”. An updated study has not been completed at this time, despite the fact that the HVC MLE Project proposes increasing the crest height of the dam by 31 metres, which would increase the maximum crest height by 18% from the LoM design.

This elevated crest height would lead to a much larger dam breach inundation zone than considered in the 2014 study, and accordingly have a larger population at risk and we believe a higher potential for loss of life, impact to environmental and cultural values, and infrastructure and economics. It is irresponsible of Teck to fail to detail the risks that would accompany the expansion of the L-L Dam, and reckless to fail to develop plans to mitigate such risks.

HVC's failure to complete a new dam breach assessment does not conform to the conditions and requirements set out by the 2024 Guidance Note 10.5.5: Failure and Breach or Runout Assessment under the *Health, Safety and Reclamation Code*.

In an email to SSN, Teck stated that the 2014 study would be updated prior to the existing dams being raised beyond the approved LoM design. We require that the 2014 study be updated and a copy be provided to SSN for review and comment prior to the approval of any increases to the existing dams beyond the approved LoM design.

Given the potential risks of a dam failure to our traditional territory, Teck's failure to provide us with the 2014 study or complete an updated study demonstrates a lack of transparency.

9.2.2 H-H Dam

For the H-H Dam, the consequence classification of “Very High” selected in 2014 was based on a scenario where a slope failure displaced water and tailings from the 24 Mile Emergency TSF into the Valley Pit approximately 1.6 km south, with no release off of the HVC Mine site. The consequence classification for the approved LoM design was based on the rationale noted in Table 9c.

Table 9c: Review of Consequences for a Failure of the Already-Approved H-H Dam

| Consequence Category | Rationale | Consequence Rating |
|--|--|---------------------------|
| <i>Population at Risk</i> | Workers in the Valley Open Pit | High and Above |
| <i>Potential for Loss of Life</i> | The displaced water from the 24 Mile Lake may cause rapid water level rise in the Valley Open Pit. It will also cut off the escape route by the workers. Potential for loss of life of 100 or fewer. | Very High |
| <i>Environmental and Cultural Values</i> | The 24 Mile Lake has no environmental and culture values | Low |

| | | |
|-------------------------------------|---|-----------|
| <i>Infrastructure and Economics</i> | Major economic impacts to the region in terms of employment, spin-off and associated businesses, etc. | Very High |
|-------------------------------------|---|-----------|

Since 2014, the majority of the 24 Mile Emergency TSF has been covered by waste rock and additional buttressing has been placed downstream of the H-H Dam. During the HVC MLE Project, Teck projects that the H-H Dam would become encapsulated by the North Dump (which is immediately south of the H-H Dam) along the length of the crest which would prevent a downstream release of tailings. Once this occurs (the timing is unknown), Teck’s consultants state that the concept of a consequence classification would no longer be applicable to the H-H Dam.

If and until this occurs, there remains possible scenarios in which the H-H Dam could fail and cause significant harm, and as such, Teck must update the dam breach and inundation study before seeking approval to raise the H-H Dam beyond the approved LoM design.

9.3 Assessment Ignores Closure and Post-Closure Conditions

There are several ways in which a dam can fail. Categories of potential dam failures include the following:

- *Overtopping*: water flows over the crest of the dam leading to a scour of the crest and downstream slope, resulting in a downstream breach;
- *Structural Collapse*: internal resistance to the applied forces is inadequate, leading to failure; and
- *Internal Erosion*: washing of fine particles through the dam or foundation leads to the formation of a preferential flow path resulting in an uncontrolled loss of containment.

For each of these dam failure modes, Teck only assessed the L-L and H-H Dams based on operating conditions and failed to consider the closure and post-closure conditions in which the dams would still operate. This is particularly troublesome for the L-L Dam, which Teck acknowledges in its Reclamation and Closure Plan is an area of “moderate and higher erosion risk”. There is inadequate documentation as to how the dams would operate in the closure and post-closure phases which are drastically different from the operating conditions, and no breach or runoff analysis has been completed for these phases, which is an important tool for emergency planning.

The dewatering and drainage decommissioning requirements for the L-L Dam and the H-H Dam are not detailed at this time – Teck states that these requirements would be determined as part of the closure designs.

9.4 Protection of Wildlife from Valley Pit

Teck has proposed inadequate safety features to prevent animals from falling into and birds from landing on the Valley Pit and interacting with the mine contact water in the closure and post-closure phases.

During the hearing, Teck representative Ms. Kim Lyle stated that the focus would be on access and exit allowances, such as maintaining a ramp out of the pit so that wildlife can exit the pit if they enter it, and that monitoring would continue and if there was a reason to fully exclude access they would consider it at that time. Ms. Lyle indicated that fencing could result in more harm to wildlife as they can get stuck in fences. SSN disagrees and requires Teck to place a well-designed exclusion fence around the Valley Pit to ensure that no wildlife enter the pit. SSN also requires

that Teck monitor the surface water quality within the Valley Pit to ensure that no adverse impacts to waterfowl are expected to occur should they land within the Valley Pit.

SSN has not received any information on how Teck would prevent species from interacting with or consuming the mine contact water.

Conclusion

The 2014 Mount Polley Mine disaster severely impacted local spawning grounds for sockeye salmon and contaminated drinking water reserves. Despite extensive cleanup efforts and ongoing monitoring in the years following the disaster, a 2022 study found that copper still accumulates in mayfly larvae and freshwater scuds, both main food sources for fish in the west region of Quesnel Lake. Authors of the study warned that copper, one of the minerals spilled into the lakes, is extremely toxic to aquatic organisms. Almost a decade after the disaster, residents continue to express concerns about the safety and quality of the lakes' drinking water.

A breach of the Highland TSF dams would have catastrophic downstream effects. SSN's expert on tailings, Mr. Hartman, warns as follows:

It is in [the] reviewer's opinion that the... project will pose a significant risk to the downstream community and it would be in all the stakeholders interest that the Closure and Post Closure Plan be reconsidered and thoroughly presented as a future business case as it is almost inconceivable to imagine that there won't be any requirement for ongoing surveillance, maintenance and management of the L-L Dam to prevent a catastrophic outcome.

Presently, the HVC Mine is permitted to operate until 2028. If Teck wishes to extend the life of the mine as envisioned in the HVC MLE Project, it should be required to make alterations to the mine infrastructure to lessen its environmental impacts, including the elimination of wet tailings impoundments and a transition to the dry disposal of mine waste.

Teck has not provided SSN with the documents necessary to assess the risks of the L-L and H-H Dams, both at their approved LoM design and the proposed expansions as anticipated in the HVC MLE Project. As the failure of these dams present threats of serious and irreversible damage, a precautionary approach dictates that a lack of full scientific certainty not be used to postpone measures to prevent environmental degradation.

Teck must be required to take additional measures to study the risks of expanding the dams as proposed in the HVC MLE Project and provide both the Province and SSN with the findings of these studies prior to any approval of the Project. The immense risks of the dams must be taken seriously by the Province and taken into its consideration as to whether to approve the HVC MLE Project and, if so, whether additional conditions are required to lessen the risks and severity of impacts of a dam failure.

Conditions for Approval

- Require Teck to eliminate the use of a wet tailings impoundment and invoke dry disposal of mine waste within one year of approval of the HVC MLE Project.
- Require Teck to provide SSN with a copy of the following documents:
 - AMEC Environmental & Infrastructure 2014, *Highland Valley Copper H-H Dam Break and Tailings Runout Study*;

- KCB 2014, *L-L Dam Consequence Classification Assessment Based on the 2014 Dam Breach and Inundation Study*;
 - 2015, *Consequence Category review by the Engineer of Record*;
 - KCB 2020, *Highland Tailings Storage Facility 2019 Design Update: L-L Dam and H-H Dam*; and
 - Mr Rick Friedel P. Eng, 2022, *Consequence Category review by the Engineer of Record*.
-
- Require Teck to provide SSN with access to the mine site so that we can have an independent engineer assess the infrastructure.
 - Require Teck to complete a new dam breach and inundation study and provide a copy to SSN for review and comment prior to the approval of any increases to the existing L-L and H-H dams beyond the approved LoM designs.
 - Require Teck to provide SSN with a copy of the study containing the cultural and environmental effects assessment in relation to the Highland TSF.
 - Require Teck to provide more information on the proposed spillway to Pukaist Creek which would be constructed during the closure phase, including proposed downstream impacts of the spillway.
 - Require Teck to assess the L-L and H-H Dams based on closure and post-closure conditions.
 - Require Teck to complete a dam breach analysis for the closure and post-closure phases to inform emergency planning.
 - Should a breach of the L-L or H-H Dam occur, require Teck to immediately, and permanently, close the HVC Mine site.
 - Require Teck to commence interim tailings reclamation activities by 2028 to maximize, within operational constraints, or as a minimum, the newly disturbed land base area at the maximum pace achievable for effective reclamation.
 - Require Teck to engage SSN and other impacted Indigenous rights holders in the planning and execution of reclamation activities.
 - Require Teck to contract SSN-affiliated businesses to perform reclamation activities and for native plant supply and planting.
 - Require Teck to provide funding for native plant seed collection and growth within greenhouses with SSN lands funded by Teck and operated by SSN.
 - Require Teck to provide an irrevocable letter of credit or similar security to fund end of life mine reclamation and remediation activities.
 - Require Teck to develop a supplemental Wildlife Management Plan to address the potential impacts of the Valley Pit on wildlife. This plan should include mitigation

measures to limit the impacts of the Valley Pit and the contaminated water held within it on wildlife populations, including:

- Placing a well-designed exclusion fence around the Valley Pit to ensure that no wildlife enter the pit; and
- Monitoring the surface water quality within the Valley Pit to ensure that no adverse impacts to waterfowl are expected to occur should they land within the Valley Pit.

10. All My Relations - Land

“As a young Shuswap girl, the land holds a special place in my heart. It is more than just a place to live. It is a part of my identity. The land teaches us about our culture, our history and our way of life.”

--SSN youth representative Littlefawn Mackenzie-Deneault

Introduction

While the existing HVC Mine is permitted to disturb approximately 8,025 ha, the HVC MLE Project would result in the additional disturbance of an estimated 1,500 ha largely surrounding the border of the existing Project footprint. Teck details that the new disturbances would come from the following three primary sources:

- Raising the Highland Tailings Storage Facility;
- Expanding the Valley Pit (and a small increase of the Highmont Pit); and
- Depositions of mine rock resulting from the mining process.

These new disturbances must be assessed within the context of the state of Secwépemcúlecw today. 40% of our traditional territory has already been clearcut by logging companies, and another 30% has been subject to wildfires and burned down. Mining, urban sprawl, and other industrial activities have also impacted these lands. There is limited land left where we can partake in spiritual and cultural practices, or go hunt or harvest traditional plants and medicines.

10.1 Loss of Culture

Our spirit is tied to the land. Whenever we harvest a plant or a four-legged creature, we offer tobacco and say a prayer for what we are harvesting. To harvest a medicinal plant, an individual may sit with the plant for several days and wait for the spirit of the plant to tell them how it is to be used.

It is difficult to look at the altered landscape of Ctselt̓saltnéw̓s and remember all the cultural features which existed and/or continue to exist there. This area contains hundreds of archaeological sites, including culturally modified trees, pictographs, and lithic scatters, however, many of these sites are now buried under tailings and other mine infrastructure.

Unfortunately, a lot of archaeology information from prior to 1972 has been lost as the Province did not establish the Office of the Provincial Archaeologist until this time. There is also a lack of pre-mine data in the HVC MLE Project application prior to the year 1951. Teck's terrestrial ecosystem mapping uses aerial photos from 1951 to establish pre-mine conditions, but this creates a skewed baseline in which the impacts of colonization – including the removal of our people and the altering of our way of life – from the time of contact until 1951 are rolled into this starting point without acknowledgment or consideration of pre-colonial conditions.

The underlying geology of these lands also impact the quality of traditional plants harvested and used by our members. For further discussion on the mine's impacts on traditional plants, see Chapter 7.

“We know that this is a really important area for gathering foods, plant foods, medicinal foods, berries, hunting. It's a travel route. It's a spiritual training location, and we know that these profound relationships between this landscape haven't been extinguished with the building of a mine site, so they continue to this day and the SSN remain stewards of these territories and the landscape. So these relationships predate the mine, and they will continue to exist long after this mine closes and is reclaimed.”

-Isabelle Maurice-Hammond, SSN Cultural Heritage Report Author

10.2 Decrease in Floristic Diversity at Bose Lake and Witches Brook

SSN engaged Mr. Marlow Pellatt to take sediment samples at Bose Lake and Witches Brook outside of the HVC Mine site and reconstruct the vegetation at these two sites over the last century to assess whether the traditionally used plants were identifiable in the pollen record and had changed in abundance and to consider whether the levels of metalloids in the sediment had changed over time.

At Bose Lake, Mr. Pellatt found that there has been a significant increase in sediment elements over time which corresponds with increased mining activity at the Bethlehem and subsequent HVC Mines. Mr. Pellatt found that there have been concerning levels of copper and arsenic since the 1960s, and manganese since the 1980s, which today all exceed the Canadian Council of Ministers of the Environment Interim Sediment Quality Guidelines throughout the sediment core. The pollen analysis revealed that the floristic diversity at Bose Lake was at its highest between 1916 to 1942, and that overall diversity decreased between 1942 to 1991, likely due to industrial landscape use, which includes clearing for the HVC Mine, logging in the area, and broad-scale fires. An examination of traditional plants at the site showed that 11 were identified prior to 1942, seven were identified between 1942 and 1991, and only five were identified between 1991 and the present.

With respect to Witches Brook, Mr. Pellatt found that copper, nickel, chromium, arsenic, and manganese levels had increased throughout the time of the mining activity, with arsenic exceeding recommended levels between 1985 to 2010 and nickel and chromium exceeding recommended levels since 2010. The pollen analysis was similar to Bose Lake, revealing a decrease in floristic diversity over time, however, with only slightly less traditional plants identified over time.

In summary, Mr. Pellatt's study demonstrated that there have been significant changes to the landscape in the Bose Lake and Witches Brook watersheds, both vegetatively and with metalloids, and that these changes are especially notable since the 1980s.

10.3 A Guest on our Lands

The Secwépemc Nation has exercised authority within Secwépemcúlecw as entrusted to us by the Creator since time immemorial, and as told through the story, “Coyote Sitting on a Rock.” This story was recorded by the ethnographer James Teit from elders around the year 1900. These elders mentioned that at some point in the past, people from the coast came into the interior and were trespassing on the land that Coyote and the people he lived amongst were guarding and living in. These people tried to transform Coyote into rock, but he was so powerful and strong that they could not do that. Coyote's footprints were instead burned into a stone, and his footprints can be seen on the stone to the present day. Coyote said to these people: You're trying to make the world a better place to live in through your deeds and actions, and so am I, and you do not

interfere with my work and I will not interfere with your work, and I'll allow you to pass through, but you need to go on because this is our land, our territory.

An example of SSN exercising this authority is the Fish Lake Accord, which is a peace treaty that was negotiated by Kúkpi7 Kwolila (*Kwelle*) of Tkemlúps and his half-brother Pelkamu'lox (*Pelkmúlecw*) III of the Douglas Lake Okanagan in the 1700s to end the warfare between SSN and the Okanagan. Under the treaty, the Chiefs agreed to establish an area of mutual and overlapping boundaries and land use. They lived side by side during the summer season, which allowed them to implement the shared boundaries, monitor each other's access to resources, and maintain peaceful relations in the spirit of kinship. In exchange for giving up part of the land, Kwolila asked Pelkamu'lox to surrender his daughter to him to be adopted and raised by him, who was raised amongst the Tkemlúps Secwépemc and married into the Secwépemc Nation. A lot of our members' families are connected to the Pelkamu'lox lineage.

In 1910, our ancestors created the 1910 Memorial to Sir Wilfrid Laurier which shows our historical assertion of Aboriginal rights, title, and sovereignty. In this document, our ancestors provided direction on how to measure the characteristics of a good guest on the lands, and detailed that the "First Whites" were treated as guests and received hospitably because they:

- Did not interfere with nor attempt to break up our tribal organizations, laws, customs;
- Did not try to force their conceptions of things on us to our harm;
- Did not stop us from catching fish, hunting, etc.;
- Never tried to steal or appropriate our country, nor take our food and life from us; and
- Acknowledged our ownership of the country, and treated our chiefs as men.

The *stspetékwll* of Coyote Sitting on a Rock shows that we may welcome guests to our territory who do not interfere with us and our way of being. Unfortunately, Teck has interfered with our laws and way of life and is not a welcome guest: it has not proven itself to be worthy as a guest on our territory.

Ctseltsálnéws is unceded land which SSN exercises Aboriginal rights on and asserts Aboriginal title over. Lands within this area form part of the lands which are the subject of an ongoing title claim SSN has filed in the BC courts. As detailed in *Tsilhqot'in Nation v British Columbia*, 2014 SCC 44, Aboriginal title confers on the group that holds it the exclusive right to decide how the land is used and the right to benefit from those uses – so long as those uses are consistent with the group nature of the interest and the enjoyment of the land by future generations. The benefits of Aboriginal title are consistent with Article 32 of *UNDRIP*, which states that "Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources."

The HVC MLE Project's additional disturbance of approximately 1,500 ha of land would be a further alienation of our title lands, and is not a land use that SSN accepts as it prohibits us from using the land to continue our way of life and preserving the land for our future generations. Even if, upon closure of the mine, Teck reclaims the land in accordance with its returning land use objective, the legacy impacts of the mine will prohibit us from fully exercising our rights and title.

Canada's colonial laws, including the presumed Crown sovereignty which requires us to expend significant time and resources to bring a court claim to establish Aboriginal title, are an invocation of the doctrine of discovery which was based on the presumed racial superiority of Europeans and was used to justify dispossessing us of our lands. Despite being repudiated in the provincial and federal legislation endorsing *UNDRIP*, the doctrine lives on in our laws and systems today and flagrantly disregards our supreme authority as the original peoples of this land.

This is demonstrated by the Province's strength of claim for SSN in the Highland Valley area, where it has wrongfully assessed SSN's rights and title as being "weak" and "weak-to-moderate", respectively. SSN disagrees with and disputes these findings, and puts Teck and the Province on notice that we will hold them responsible and seek damages for any infringement of our Aboriginal title to these lands resulting from the cumulative effects of mining authorizations and approvals at the HVC mine site.

Conclusion

SSN and its ancestors have lived on this land since time immemorial and have gained detailed practice knowledge of the diverse environments within Secwépemcúlecw, including at Ctseltsálnéws. As *yecwmíhmen*, SSN was and continues to be responsible for ensuring the careful and respectful management of the lands and resources within our territorial area of Secwépemcúlecw. We will be here long after the mine closes, however, it is not clear what condition our land will be in then.

Our laws teach us that every aspect of this land is sacred, and that the humans, animals, plants, water, mountains and all other living and non-living things within Secwépemcúlecw are bound together as *kw'séltkten* through cultural traditions and reciprocal relationships. The kinship ties between humans, plants, animal species, and the land itself are reflected in the Secwépemc saying, "*Re sqélten ri7 re xetéqs re stsmémelt*" ("The salmon are our first children").

In this way, we acknowledge that nature is full of relatives who sustain our way of life. We must respect these sacred relationships, which provide the foundation for Secwépemc ways of knowing. Our relationships with all living and non-living things orient our legal obligations to explicitly consider the future consequences of present decisions to ensure continuity of our way of life. There are consequences for reckless behavior which violate the principle of reciprocal accountability. The Secwépemc concept of *x7ensqít* tells us that if we do not behave responsibly on the land and with the land, then the sky and the land will turn on us.

Since the HVC Mine began operating in the early 1960s, it has polluted our waterways, contaminated our plants and animals, and disrupted habitats and migration routes, impeding our ability to continue our way of life and exercise our authority on our traditional territory. The operation of the mine has led to much irresponsible behaviour occurring on these lands which is not in harmony with our laws, and the impacts of the proposed HVC MLE Project would result in further reckless behaviour that we do not condone.

Conditions for Approval

- Require Teck to develop and submit to SSN a Stewards of the Land Management Plan which details how they will work towards becoming a good guest within Secwépemcúlecw.

11. All My Relations – Wildlife

“The land that we’re talking about, believe it or not, I grew up there. The reason I say that, when I was just a little lad, my dad and my uncles worked up in Bethlehem sawmills just outside of that for four years. ... Them days that mine was just starting. It wasn’t much up there. That was our background. The whole area, we used that area. Wéwlem píxem picking berries. All the natural things that fed us, it was plentiful up there in them days. We never were hungry. With the old folks that were there, there’s plenty of teníye, plenty of xwlécken. We’d have fresh meat every night. As the mine grew... the mine was taking over, so we left.

What a change it is from today to what I witnessed as a little boy up around the mines and being in Bethlehem for those years.”

-Elder Terry Deneault

Introduction

The HVC MLE Project would result in the loss or alteration of approximately 1,500 ha of habitat, half of which is located in the existing Permitted Mine Area. Teck states that there would be “minimal changes to habitat for most species”, and “[n]o noticeable effects on wildlife movement, mortality risk, or health for any representative species.”

These conclusions, however, are based on Teck’s baseline data which informs its Wildlife and Wildlife Habitat Effects Assessment, both of which SSN takes issue with.

11.1 Loss of Wildlife and Wildlife Habitat

To characterize the wildlife community as it may be influenced by the expansion of the HVC Mine and detail the suitable habitat for wildlife, Teck collected baseline data. This data represents current and projected conditions, but does not account for pre-mining conditions or the existing loss and cumulative effects of the existing HVC Mine and other industrial activities to date. The current disturbance area of the existing mine, which has been operating since the 1960s, is more than 8,000 ha.

Allowing the further destruction of 1,500 ha of habitat in Ctselt’saltnéws, and a corresponding loss of wildlife, goes against our beliefs in properly managing and caring for wildlife and its habitat to show respect and ensure sustainability in wildlife populations for future generations.

This area was once filled with wildlife and plants to sustain us. Our ancestors had knowledge about this area which has been passed down from generation to generation. Despite this expertise, Teck failed to consider our traditional and local knowledge in its baseline data collection, and did not acknowledge that local knowledge may be more accurate than generalized literature for the habitat selection of some species. In its effects assessment, Teck only worked with some Indigenous nations to select the valued components and key species, missing another opportunity to incorporate Indigenous knowledge.

“[A] long time ago Secwepemc people looked after the land and all the animals and plants, everything in it. That’s why they always have plenty to fish, they had deer to hunt and plants to gather for food and medicine, but they had to practice for it and learn about everything on the

land first for a long time. Then they knew how to look after it. It was also important for the elders to share each other's knowledge. That was how they learned and built up their understanding."

-Marianne Ignace, recalling as told to her by the late Elder Nelly Taylor from Skeetchestn

In its baseline data, Teck failed to directly inventory several important species, including bobcat, cougar, and mule deer. Without an understanding of the current population status of these species, Teck is unable to detect population changes nor evaluate the influence of the mine site on these species. These species are also mostly excluded from Teck's Wildlife Management Plan.

There are also shortfalls in Teck's habitat modelling of several individual species. For instance, with respect to moose, Teck failed to adequately consider forage or the fact that moose thrive at low temperatures and seek thermal cover associated with treed cover in winter. For the western rattlesnake, Teck failed to adequately consider wetlands, irrigated fields and other areas where the snakes forage for prey.

Teck's habitat modelling does not account for the impacts of the Tremont Creek Wildfire, which greatly altered the vegetation and impacted habitat suitability and availability for many key species. SNRC's Shaun Freeman, who was an expert for SSN at the Panel Hearing, compared Teck's habitat modelling for mule deer against the habitat modelling which SNRC has done for mule deer. SNRC's modelling, which used local knowledge on deer habitat use and was based on more recent data which accounts for the effects of the 2021 Tremont Creek wildfire, showed a substantial decline in the area of mule deer winter range available in comparison to Teck's model. Teck needs to update its habitat models to reflect these changes in habitat and update its effects assessment accordingly.

Teck also failed to field evaluate several species models, which upon closer review, has shown to be problematic and render the modelling ineffective. For instance, the snowshoe hare and Canadian lynx habitat models did not complement each other as they should, given their predator/prey dynamic. Additionally, the ruffed grouse was one of the most identified species caught on the wildlife cameras available in the Terrestrial LSA, yet Teck rated 99% of the LSA (as well as the RSA) as "nil habitat" for them and do not identify that ruffed grouse occur widely across the RSA. Grouse have been and still are a culturally significant bird to us. They are a readily available food and protein source, and are used for training our youth how to hunt.

These and other shortcomings lead us to question the accuracy of Teck's habitat effects assessment, which is based on this baseline data. If Teck's conclusions about the potential impacts to wildlife and habitat are based on inaccurate information, then their conclusions cannot be trusted.

We also take issue with the scope of the Wildlife and Wildlife Habitat RSA in which Teck collected this data. The Wildlife and Wildlife Habitat RSA excluded key low-elevation habitat, including habitat for mule deer, moose, and black bear. Mule deer, in particular, migrate to high elevation areas by the HVC Mine site and then move down and north closer to where SSN members would typically harvest them near the Thompson River. We have included as a condition of any approval of the HVC MLE Project that Teck be required to expand the Wildlife and Wildlife Habitat RSA to include the area to the Thompson River in the north for habitat modelling. Understanding how these species, and particularly the moose, move up and down an elevational gradient and use the low elevation habitats is particularly important for assessing cumulative effects.

Teck's effects assessment uses magnitude thresholds to define the potential impact of a project on wildlife, with a threshold of 20% of habitat loss in the Wildlife and Wildlife Habitat LSA (or 10%

for at-risk species) being considered a high magnitude effect. These thresholds help Teck focus its mitigation measures to reduce magnitudes. The HVC MLE Project is predicted to result in the removal of 500 ha of flammulated owl breeding habitat, for which Teck predicts a high magnitude effect for this species. To reduce this magnitude, Teck proposed erecting nest boxes in suitable habitat adjacent to the HVC Mine footprint, however, it did not provide any details on how many nest boxes they would install, where they would be installed, or how they would monitor the boxes. Even though Teck defines the loss of this breeding habitat as high magnitude, they fail to provide adequate mitigation measures to effectively limit these impacts.

A second issue with Teck's magnitude thresholds is that they fail to account for localized issues, including the population status or sensitivity of a particular species.

With respect to moose, Teck predicts that there would be a loss of moose winter forage of approximately 232.6 ha, yet characterizes this as a low magnitude impact. This ignores the population crash in which the population of moose has decreased from 143 in 1995 to 14 in 2019. There have been no indications of an increase in populations as no inventory data has been made available since 2019. Given this precipitous decline, the loss of any habitat for moose should be considered a high magnitude effect. During the hearing, Teck was asked about mitigation measures for the remaining moose. Teck's consultant Dan Routhier (a senior wildlife biologist with ERM) answered that Teck has committed to undertaking some additional surveys to understand where some of the important moose habitats are near the HVC Mine site, but that the reclamation and closure plan was the key document for guiding how habitat would be returned for moose and other species. This is too far into the future and presumes that there will be moose left to return the habitat to. Immediate mitigation measures are required to reduce habitat loss and to try and halt and reverse the population decline. See Chapter 14 for further discussion on moose.

For many species, small local changes in terrestrial, wetland, and sensitive ecosystems may have higher magnitude effects. For instance, the *smi7níp*, which is a species of Special Concern in BC, shows high site fidelity to breeding ponds returning to the same breeding spots year after year as discussed in Chapter 7 of this report. The loss of any of its breeding habitats could have large impacts to local populations, including extirpation.

A significant factor behind the decline of local wildlife populations in the area is road mortality, yet Teck did not collect baseline data on road mortality or identify areas where the mortality is the greatest. Highway 97C, which traces the eastern side of the existing HVC Mine site, only exists because of the mine site and the municipality of Logan Lake, which was created to house mine workers who worked at Highland Valley Copper (then called Lornex Mine). Teck should be required to collect this baseline data, monitor and determine the areas of greatest impact, and then advance mitigations to reduce these impacts. This is particularly important as the HVC MLE Project would include modifications to the highway and mitigations could be incorporated into the modification plan.

We know that animals in Secwépemcúlecw and the Ctseltšaltnéws area are diseased, yet Teck collected very little baseline data on wildlife health and disease. Family Panel Member Russell Casimir stated that the last time he went hunting in this area, he brought home two deer to butcher and found worms in them. Our members have seen also deer near the mine site with coats which are much darker than they should be. The HVC MLE Project could further influence wildlife health and stress and introduce diseases to wildlife, and Teck should be monitoring wildlife with a focus on the health and presence of diseases.

11.2 Wildlife Management Plan

Teck's Wildlife Management Plan ("WMP") is meant to guide wildlife management and conservation in relation to the activities of the HVC Mine. Unfortunately, this document significantly lacks detail to the extent that it impacts the document's effectiveness, and focuses predominantly on wildlife encounters as opposed to wildlife management, conservation, or recovery. Given that the existing HVC Mine has been operating since the 1960s, we are disappointed that Teck did not use and incorporate their knowledge and experience, building on their past successes and lessons to develop a more robust WMP.

The WMP fails to address SSN's concerns regarding the following:

- Status of wildlife populations or habitat;
- Trajectory to meet objectives;
- Quantifiable triggers to initiate mitigation; and
- Precise mitigation actions that could be used to remediate issues as they arise.

SSN lacks confidence that the WMP contains appropriate mitigation measures to remediate impacts to resources from the HVC Mine's operations. We recommend that the WMP be revised, with our input, to identify and mitigate the loss of SSN environment and social values from the existing HVC Mine to date, its cumulative effects, and the additional impact associated with the proposed HVC MLE Project.

Further, the WMP fails to include key monitoring opportunities. Some specific monitoring opportunities which the WMP should be revised to include are as follows:

- Estimating populations and composition of moose and mule deer with sufficient statistical confidence to allow changes to be identified;
- Monitoring of the grassland and forest bird community to determine species richness, distribution, abundance, and the introduction of invasive species; and
- Monitoring habitat health (e.g., forage values) for declines in nutrient content, changes in metals and contaminants, and changes in digestibility or other parameters.

11.3 Adverse Impacts to Seasonal Round and Cultural Loss

SSN maintains the Aboriginal right to hunt in Ctselt'saltnéws, which includes the responsibility to manage and ensure good stewardship of our animal relations and the right to continue the transmission of knowledge and connection to these areas to ensure continuity of our cultural identity and ways of being.

Prior to the development of the existing HVC Mine, our members and our ancestors used locally and seasonally available resources in the Highland Valley as part of a strategically organized annual seasonal round that relied on extensive knowledge passed down from generation to generation.

Every animal was used for many purposes, including food, clothing, cultural practices, and ceremony. A deer's coat was used to make vests, coats, gloves, and moccasins, while a porcupine's quills were used for regalia and bear grease was used as fuel for lights, hair grease, and as an ointment and salve. Some of our ancestors, including Skeetchestn member Raymond Peters, used to use moose to pull winter sleighs through the mountains. For further discussion on SSN's seasonal round, see Chapters 6 and 15.

"I hunt this [Highland] valley with my brother, not often because we don't want to eat what's found there. We don't go to collect medicine there. It's covered in toxic dust. You know, we're not blind to the fact of the sickness of the land from the cumulative effects that take place."

-Travis Marr, SSN Environmental Protection Manager

Conclusion

The operation of the HVC Mine over the last seven decades has impeded our ability to access the lands in the way we used to. There are so few moose left, and traditional plants are covered in dust. It is no longer a hospitable environment for our non-human relations.

With less hunting in the region comes a loss of our knowledge, our traditions, our culture, our language, and our laws. They are all interconnected. The HVC MLE Project would further impede our ability to carry out our seasonal round and rely on this land as our ancestors used to.

Conditions for Approval

- Require Teck to collect baseline data on species which it failed to adequately inventory, including bobcat, cougar, and mule deer. Teck should also be required to use this data to update its WMP with effective mitigation measures to limit the impacts to these species.
- Require Teck to update its habitat modelling with more recent data which accounts for the impacts of the Tremont Creek and other recent wildfires and update its WMP to reflect that change in habitat accordingly.
- Require Teck to revise and update the WMP, with SSN engagement, to:
 - Identify and mitigate the loss of SSN environment and social values from the existing mine to date, its cumulative effects, and the additional impact associated with the proposed HVC MLE Project;
 - Provide a means for monitoring and addressing the future impacts to wildlife resources, and to mitigate for past effects on the wildlife resources, to promote conservation and recovery;
 - Include very clear monitoring protocols and population thresholds, as well as management actions to be taken if the thresholds are approached; and
 - Incorporate the following monitoring opportunities into the WMP:
 - Estimating populations and composition of moose and mule deer with sufficient statistical confidence to allow changes to be identified;
 - Monitoring of the grassland and forest bird community to determine species richness, distribution, abundance, and the introduction of invasive species; and
 - Monitoring habitat health (e.g., forage values) for declines in nutrient content, changes in metals and contaminants, and changes in digestibility or other parameters.

- Require Teck to work with SSN to co-develop stand-alone management plans for key species, including moose, mule deer, American black bear, and elk.
- Require Teck to collect baseline data on road mortality, monitor and determine the areas of greatest impact, and advance mitigations to reduce these impacts.
- Require Teck to install additional wildlife cameras at key watercourses within the M11 Permitted Area to detect water consumption by wildlife and pair these detections with a water quality sampling program to assess the quality of water being consumed at these locations.
 - Require Teck to provide an annual report on the wildlife detections, including detection trends by species, gained through the wildlife cameras which are deployed across the M-11 Permitted Area, and the accompanying water quality program.

12. Sky World and Grandfather Sky

"We've always gone by the four elements of the world [land, water, air, and fire]. Everybody knows that. If we didn't live by the four elements, we wouldn't be here."

-Elder Garlene Dodson

Introduction

The existing HVC Mine produces significant emissions and dust, impacting the air quality throughout Ctselt'saltnéws and Secwépemcúlecw. Teck predicts that the HVC MLE Project and the resulting increase in mine production levels would cause an increase in dust and other air contaminants mostly in the area east of the operating mine site, as well as an increase in annual greenhouse gas ("GHG") emissions. Despite these predicted increases, however, Teck concludes that there are "no expected effects on the health of residents or traditional land users in the Highland Valley". SSN disagrees with this finding.

12.1 Inadequate Air Quality Monitoring

SSN has concerns about the Air Quality Modelling Study prepared by Teck, which was not comprehensive and did not adequately cover the full area of land which is likely to be affected by the HVC MLE Project. The few stations that were used to evaluate the model were previously established stations created for some other purpose and were used out of convenience rather than being an optimal monitoring location - none were placed to support modelling for the health effects of SSN's communities.

In its HVC MLE Project Application Package, Teck indicated that there were low levels of data completeness, which made useful comparisons impossible, and that the monitoring stations near the L-L Dam were located close to roads, which led to "poor correlations between measured and modelled concentrations". Further, the uncertainty in the modelling was not quantified and there is insufficient data to understand the reliability of the model. The model was also inadequately assessed against observed data to evaluate the performance of the modelling.

Teck's air quality model also uses a background air quality value that is too high, which will lead to underestimating the effect of dust emissions from the HVC Mine. We see the dust on plants when we go harvesting and know the effects can be substantial. Teck fails to consider how our cultural values will be negatively affected by dust deposits on the vegetation surrounding the mine site, as detailed in Chapter 7.

As a result, the modelling creates an unacceptable level of uncertainty. The results of this modelling were used in other studies on human health, wildlife health, water quality, soils, and vegetation, all of which are compromised by the modelling's uncertainty and potential unreliability.

12.2 Insufficient Air Quality Data and Standards

We are concerned that Teck may have underestimated the impacts of dust that would result from the HVC MLE Project. Dust generated from the mine can include total suspended particulate ("TSP"), PM₁₀ (particulate matter with a diameter of \leq 10 microns) and PM_{2.5} (particulate matter with a diameter of \leq 2.5 microns).

PM_{2.5} are very small particles that can be inhaled deep into a human’s lungs and are the most relevant to assess health effects. The HVC Mine’s largest contributors to PM_{2.5} levels are emissions from roads, crushing, and dumps.

Teck only proposes to operate four existing particulate monitoring stations, two onsite at the L-L Dam and Shula Flats, and two offsite at the Rey Creek Ranch and Logan Lake, with only the offsite stations measuring levels of PM_{2.5} and PM₁₀. Teck proposes to visit each station monthly to download the saved data and perform maintenance and repairs as needed.

Table 12a: The HVC Particulate Monitoring Stations and Proximity to SSN Communities

| Monitoring Station | Parameters Measured | Latitude (N) | Longitude (W) | Distance from Tkemlúps te Secwépemc ² | Distance from Skeetchestn Indian Band ³ |
|--------------------|---|--------------|---------------|--|--|
| <i>Onsite</i> | | | | | |
| L-L Dam | TSP | 50° 34" 13' | 121° 10" 4' | 34 km | 34 km |
| Shula Flats | TSP | 50° 28" 57' | 120° 59" 51' | 29 km | 40 km |
| <i>Offsite</i> | | | | | |
| Rey Creek Ranch | TSP, PM ₁₀ , PM _{2.5} | 50° 21" 44' | 120° 48" 17' | 27 km | 55 km |
| Logan Lake | TSP, PM ₁₀ , PM _{2.5} | 50° 29" 27' | 120° 49" 48' | 23 km | 40 km |

These monitoring stations do not extend far enough from the HVC Mine site, leaving SSN without information on the mine’s dust impacts on much of Secwépemcúlecw – including the communities where many of our members live, particularly as the closest monitoring station to Skeetchestn (which is still 34 km away from the community) does not measure levels of PM_{2.5} and PM₁₀.

Teck’s ongoing monitoring of existing dustfall and particulate matter also raises some concerns. Teck’s 2021 Air Assessment Report, dated March 29, 2022 (the most recent air assessment report uploaded to the BC Mine Information webpage), details that Teck had staff turnover in 2021 “which led to some irregular sampling dates and periods of varying duration between stations.”

Teck did not capture any data at the L-L Dam onsite station in 2021 as its monitors were being overhauled, and did not meet the minimum threshold for annual data capture rates to calculate averages at both of its offsite locations. Teck states that the reduced data capture rates were the result of several factors, including that it failed to give the particulate samplers the recommended factory maintenance and calibration, delays in receiving the shipment of repaired samplers due

² Measured from the Band office at 330 Chief Alex Thomas Way #200, Kamloops, BC V2H 1H1, Latitude (50.678630) and Longitude (120.294220). Distance calculated using this webpage: <https://www.nhc.noaa.gov/gccalc.shtml>

³ Measured from the Band office at 330 Main Drive, Savona, BC V0K 2JO, Latitude (50.839660) and Longitude (120.954200). Distance calculated using this webpage: <https://www.nhc.noaa.gov/gccalc.shtml>

to supply chain issues and difficulties with cross-border shipping of equipment, the 2021 regional wildfires, flooding, and the COVID-19 global pandemic. Whatever the reason(s), we are left with an absence of data to properly assess the HVC Mine's impacts.

Since Teck published the 2021 Air Assessment Report, there have been numerous wildfires in the area which decimated large swathes of forest. Without these trees, dust particles can disperse further than before. Industrial development as well as fires, droughts, and other impacts of climate change are constantly altering the landscape. As such, Teck should be required to complete and submit an annual Air Assessment Report.

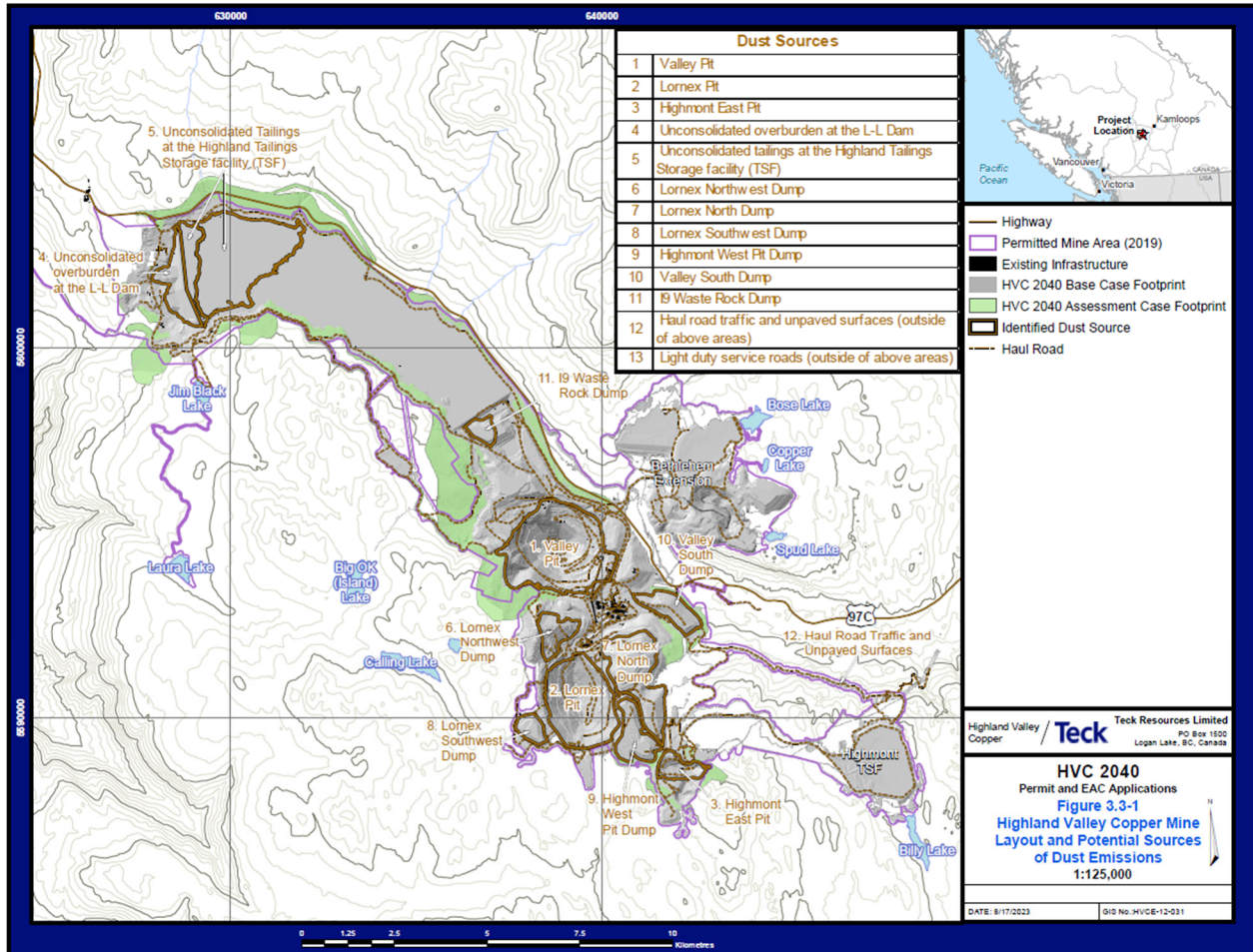
Teck also collects its own samples from the monitoring stations every 30 days. We believe an independent technician should collect and verify these samples. SSN also has concerns about the technology used at the monitoring stations. In its 2021 Air Assessment Report, Teck describes the sampling for dustfall as follows: "Dustfall is sampled using open containers partially filled with deionized water to prevent any dust from being blown back out." There are many limitations with this sampling method. For instance, if it rains, these open containers will be filled with rainwater and can overflow, spilling away contaminants. We recommend that Teck be required to use the best available technology to measure fugitive dust and particulate matter.

12.2.1 Fugitive Dust Management Plan

The Province defines fugitive dust as "uncontrolled particulate emissions of various size fractions that are suspended in the air from all non-point source discharges". Fugitive dust can transport other contaminants such as metals, which can impact both ecological receptors (habitats which are sensitive to dust effects) and human receptors (locations where people spend time).

In 2011, Teck completed the construction of three domes to cover the crushed ore stockpiles at the existing HVC Mine site. Each dome is 100 metres in diameter and 31 metres tall. These domes are meant to reduce the amount of dust emissions. It is unclear to us whether these domes use bio-filters or other technology to help reduce dust emissions. While the domes may have had a positive impact on reducing those specific sources of dust, the existing HVC Mine site continues to generate significant amounts of dust from, amongst other things, the usage and maintenance of dirt or gravel roads, and exposed or uncovered piles of sediment, ore, and tailings from the mine. Figure 12a details the sources of dust anticipated from the HVC MLE Project:

Figure 12a: HVC MLE Project: Potential Sources of Dust Emissions



While Teck has created a Fugitive Dust Management Plan (“**FDMP**”), many of the trigger action values contain arbitrary trigger tests built on seemingly random levels of appearance or exceedance of measured dust levels. Further, the FDMP largely focuses on on-site dust as opposed to off-site dust with only two off-site locations under consideration (see numbers 12 and 13 on the map above).

Teck’s failure to measure, assess, and manage off-site dust prevents SSN and other impacted populations from understanding the true potential human health and environmental risks of the fugitive dust on potential receptors, including SSN’s communities, and how Teck’s FDMP would address these potential risks.

Teck’s failure to address these risks in the absence of sufficient data contravenes the precautionary principle, which states that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." The precautionary principle aligns with our obligations under Secwépemc laws to act as stewards of our lands and resources for future generations.

We recommend that Teck increase its monitoring of the off-site impacts of dust, however, Teck’s failure to do so and the resulting absence of such data should not preclude the EAO from requiring

Teck to implement additional mitigation measures to address off-site dust impacts to human and ecological receptors.

Additionally, the FDMP does not address occupational health and safety requirements pertaining to workplace exposure to dust, and Teck's Health and Safety Plan simply states that dust exposures are classified for particular mine site facilities, and that Teck has a Respiratory Protection Program, a High Potential Risk Requirements for Confined Space, and an Asbestos Handling Policy. We are concerned about the safety of our community members who work at the mine site. Teck should be required to conduct additional studies about the on-site dust impacts, including to its employees and contractors, and implement additional mitigation measures as needed based on its findings.

12.3 GHG Emissions

During the Panel Hearing, Teck informed the Panel that over the last five years, Teck's scope one GHG emissions (those emissions caused directly by Teck's operations at the existing HVC Mine site) and scope two emissions (those emissions caused indirectly by the HVC Mine's existing operations) jointly totalled an average of 190,000 tonnes/year. Upon expansion of the mine, the mine's total scope one and two emissions are projected to total approximately 300,000 tonnes/year (a 58% increase from the existing emissions). Teck has set a target to achieve net-zero GHG scope one and two emissions by the year 2050, and has set out corresponding goals for 2025 and 2030 to progress towards its target.

Teck failed to disclose its scope three emissions (those emissions produced upstream and downstream of the mine's operations) in its application package. These emissions include the GHGs produced by transporting the copper off-site and shipping the copper overseas to smelters to be further processed and sold.

When questioned about this during the Panel Hearing, it was revealed that Teck had measured its scope three emissions at the mine site for its 2022 Emissions Calculation Methodology Report, but failed to include this information in the HVC MLE Project Application Package. Teck indicated that it was not required to include this information, that this information may not have been available at the time the pertinent chapter of the application was drafted, and that information about their scope three emissions deals with their supply chain partners, and as such, they have different reliability of those numbers. Teck states it has "[a]mbition to achieve net-zero scope 3 emissions by 2050".

SSN is not aware of any site-specific plans for Teck to reduce its emissions at the HVC Mine site. Should Teck consider the use of offsets to reduce its emissions at the mine site, we request that Teck be required to only use offsets which are additional and third-party verified, and to prioritize offsets which support SSN or other impacted Indigenous communities and Nations in BC.

12.4 Effects Assessment

12.4.1 Light Pollution

As part of its air quality effects assessment, Teck failed to consider the impacts of light pollution from the HVC MLE Project. Presently to the best of our knowledge, lights are always on at the HVC Mine site: 24 hours a day, 7 days a week.

Light pollution can disrupt the natural patterns of our non-human relations, particularly for bird and bat species, and can negatively affect their reproduction, feeding habits, nesting, and migration. Light pollution also makes it more difficult to see stars and can affect night-sky viewing of

constellations. Increasing resource development and the resulting light pollution also impede the *étsxems* (spirit guardian questing and training) our young people go on in which they journey into nature and live in solitude for a period of time to find their personal *seméc* (spirit guardian power acquired during *étsxem*). This is a critical spiritual practice practiced by our ancestors which, due to industrial development throughout Secwépemcúlecw, has become increasingly difficult to maintain.

12.4.2 Community-Based Indicators

Teck's consideration of effects in its effects assessment was solely based on Western science using air quality standards, objectives, and guidelines which consider the impacts of degraded air quality on human health, plant health, and ecosystem effects. While this is important information, the negative effects of degraded air quality on SSN's cultural traditions ought to have also been considered, including the harvesting of country foods and traditional plants, as well as the negative perceptions of dust effects on the enjoyment and use of the land.

Based on the evidence provided at the Panel Hearing and in this report, Teck should be required to conduct a further effects assessment which is based on Community Based Indicators that are developed jointly with SSN.

Conclusion

We strongly oppose Teck's conclusion that the HVC Mine's predicted increase in dust and other gaseous emissions would not impact SSN's health. The GHG emissions from the HVC Mine contribute to the warming of our atmosphere which has resulted in the ongoing climate crisis. We feel and are already suffering from the widespread impacts of climate change: our summers are getting hotter and dryer, our territory is being devastated by wildfires, our animals are dying, and our streams are drying up. All of this impedes our way of life and impacts our health.

The dust caused by the existing HVC Mine has already impacted air quality in the area, and the anticipated increase in dust would exacerbate these impacts. We are particularly concerned with how young children and other sensitive or vulnerable populations, both within and beyond our communities, may be adversely affected by poor air quality. Our children and grandchildren will have to live with the effects of the HVC Mine.

The shortfalls in both Teck's existing dustfall and particulate sampling and monitoring and its Air Quality Modelling Study are concerning. Without regularly-drawn samples and sufficiently-detailed data about the air quality impacts of the mine, SSN and other concerned communities will be unable to assess these impacts and respond accordingly.

"There are effects beyond human health of this mine, and those effects are dust that is dispersed into the environment, dust which is spread over the land, which is spread onto the vegetation, dust which carries heavy metals onto the vegetation and therefore into country foods, but also dust which covers the vegetation, covers the colour of the leaves, covers the beauty of the vegetation, and that soiling, as it's called in the air pollution field, by dust has long and traditionally been a basis for air quality standards. That soiling was not used as a standard in this study. The effects of the soiling are... a diminishing effect on cultural traditions such as the harvesting of country food. The dust will cause negative perceptions... on human health, and negative perceptions on the enjoyment and protection of the land."

-Dr. Douw Steyn

Conditions for Approval

- Require Teck to draft and submit for approval a comprehensive Air Quality Management Plan within 6 months of approval of the HVC MLE Project. The Air Quality Management Plan should include additional mitigation measures to address off-site dust impacts to human and ecological receptors.
 - Require Teck to consider the effects of degraded air quality on community-based indicators developed jointly with SSN (for e.g., including the effects on cultural traditions such as the harvesting of traditional plants) and develop appropriate mitigation and/or accommodation measures. This information should be included in the Air Quality Management Plan.
- Require Teck to complete and submit to the EAO and SSN an Air Assessment Report on an annual basis.
- Require Teck to develop a Light Management Plan to minimize lighting during nighttime hours unless required for active work.
- Require Teck to measure and publicly disclose its scope three emissions at the mine site on an annual basis.
- Require Teck to create a site-specific plan to reduce its GHG emissions at the mine site that aligns with its company-wide target of achieving net-zero scope one and two emissions by 2050 and its ambition of achieving net-zero scope three emissions by 2050.
- Should Teck consider the use of offsets to reduce its emissions at the mine site, require Teck to only use offsets which are additional and third-party verified, and to prioritize offsets which support SSN or other Indigenous communities and Nations in BC.
- Require Teck to increase its monitoring of the off-site impacts of dust, including having monitoring stations which measure TSP, PM₁₀, and PM_{2.5} levels at Ashcroft and Savona and other locations where there is known increased dust pollution compared to background areas.
- Require Teck to conduct additional studies about the on-site dust impacts, including to its employees and contractors, and implement additional mitigation measures as needed based on its findings.
- Require Teck to implement additional mitigation measures to address off-site dust impacts to human and ecological receptors, including by exploring the use of natural barriers such as walls of trees, shrubs, and plants to reduce dust.
- Require Teck to support an independent air quality monitoring program to verify its dustfall and particulate matter samples.
- Require Teck to use the best available technology to measure fugitive dust and particulate matter.
- Require Teck to measure and report on PM_{2.5} and PM₁₀ levels at its onsite particulate monitoring stations located at L-L Dam and Shula Flats.

13. Holistic Health

"I've gone up there a few times. Oh, my god, it just breaks my heart just to see all the bare mountains and the road. It's just so sad. It's not our way. We like to go up in the mountains and see the trees and the medicines and the berries. A lot of us still rely on that, so please have respect for Mother Earth. Respect for Mother Earth and Mother Earth will have respect for you."

-Elder Evelyn Camille

Introduction

As part of its application, Teck conducted an Ecological Risk Assessment ("ERA") to determine whether contaminant releases from the HVC MLE Project could harm plants and animals within the ERA LSA, and concluded that the potential for harm to plants and animals within the ERA LSA was low, other than the following exceptions:

- Potential for harm to aquatic plants, invertebrates, fish, and amphibians due to the concentration of several metals and nutrients in the surface water at Highmont Creek (for e.g., selenium and sulphate);
- Potential for harm to ruminant mammals (including moose, mule deer, and bighorn sheep) due to predicted elevated concentrations of molybdenum in their dietary components; and
- Potential for harm to small mammals that consume insects and invertebrates that live in the soil (including shrews) due to elevated concentrations of various metals in the soil (for e.g., copper).

Teck also conducted a Human Health Risk Assessment ("HHRA") to understand potential health effects. In its presentation to the Panel, Teck concluded that "[w]ith the existing and proposed mitigation and monitoring that focuses on these determinants, HVC MLE is not expected to have an adverse effect on human health."

SSN strongly disagrees with these limited findings, which were not conducted from a holistic health perspective. We believe in using a holistic approach that looks at the physical, emotional, social, and spiritual aspects of a person. *Kw'séltkten* is the total interconnectedness and integration of all life in Secwépemcúlecw, in both the physical and spiritual realms. The concept of *Kw'séltkten* applies to all living and non-living things, and establishes the Secwépemc peoples' obligation to care for and protect spiritual areas and practices and to manage the *tmicw*, water, fire, sky, and air worlds within Secwépemcúlecw. We cannot be connected to the natural world if we do not maintain physical, social, spiritual, and mental health.

Due to Teck's limited and inaccurate assessment, there are significant gaps in the assessment of the HVC MLE Project.

13.1 Inadequate Assessment of Indigenous Determinants of Health

Teck fails to adequately assess the health risks and social impacts to SSN which would result from the HVC MLE Project.

In detailing the base case in its effects assessment, Teck provided substantial context on Indigenous determinants of health and wellbeing, including (but not limited to) colonization, the

expression of self-determination, the cultural and spiritual significance of sites in the Highland Valley area, *tmicw*, governance, teachings, balance, wildlife, medicinal plants and herbs, the seasonal round, land stewardship, traditional foods and practices, and language.

This perspective is ignored in Teck's characterization and assessment of impacts, however, which only considers impacts to Western determinants of health, such as public safety, affordable housing, employment, and food security. Such a limited assessment defeats the purpose of examining the health inequities in the Base Case: so that particular attention may be paid in the assessment to any population groups, such as Indigenous Nations, which have health inequities that might be impacted by the HVC MLE Project. The assessment also had very limited consideration of Indigenous perspectives and minimal incorporation of Indigenous cultural perspectives and knowledge.

The impacts of the HVC MLE Project on Indigenous health ought to be characterized in a similar fashion to other population groups, such as non-Indigenous populations, and should detail the magnitude, duration, geographic extent, frequency etc. of impacts. Without this characterization of impacts, SSN is left without a clear understanding of how the unique impacts to us would be addressed and mitigated.

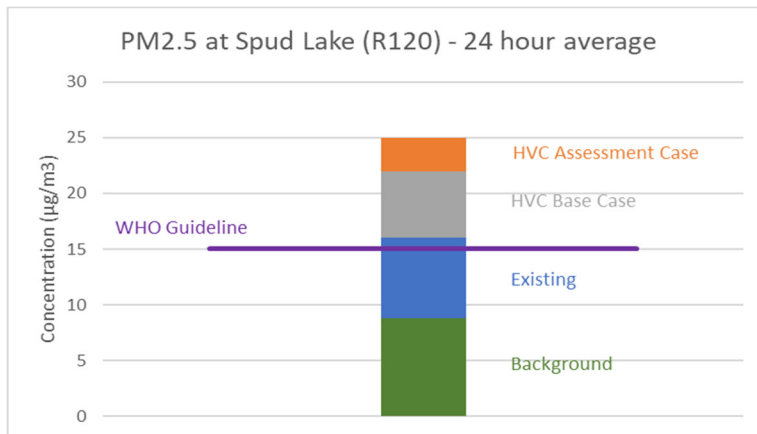
Additionally, the assessments relied on data which was often outdated or taken from too few samples, creating further uncertainty as to the methodology used in these assessments and casting doubt on the assessment's conclusions.

Finally, as we note in other chapters of this Recommendations Report, the Base Case that Teck created to compare the impacts of the HVC MLE Project to was developed based on the current state of mining limited to already-approved permits and authorizations which have not yet occurred, such as the Bethlehem Extension Project. Rolling the existing conditions of the altered landscape into the Base Case accepts and ignores the impacts of the HVC Mine over the last seven decades and implies that the HVC MLE Project is independent of the current environmental impacts caused by the mine's operation to date. It is a flawed approach to try and separate the incremental changes which would result from the HVC MLE Project from the impacts of the mine since it began operating in the early 1960s.

13.2 The Health Impacts of Dust

At Spud Lake, the PM_{2.5} levels based on Teck's current operations (the "Existing" value in the chart below) already exceed the World Health Organization ("WHO") guideline for 24-hour concentration levels, and the PM_{2.5} levels are expected to increase for both the Base Case and the Assessment Case as detailed in Figure 13a.

Figure 13a: PM_{2.5} levels at Spud Lake over a 24-hour Average



Teck fails to address how this risk is acceptable. Teck’s consultant, Mr. Bart Koppe, stated during the Panel Hearing that the WHO Guideline was a “very, very stringent guideline” and that Teck intended to lower PM_{2.5} levels as much as possible. Spud Lake is slightly north of Witches Brook by Bose Lake. Our members used to spend time at Bose Lake for spring fishing as part of the seasonal round, but the habitat has been destroyed since the HVC Mine began operating in the area.

Additionally, Teck did not assess the inhalation of metals associated with dust. The long-term inhalation of metals can have significant health impacts, including impairment of pulmonary surfactant and lung function, chronic respiratory diseases, and cancer of the lungs, larynx, and urinary tract.

In addition to being breathed in, dust from the HVC Mine deposits on the surrounding lands and waters, contaminating many traditional plants and medicines which our community members have relied on for medicinal, ceremonial, edible, technological, and other specific uses. Wildlife also consume the plants and water which have been coated with dust, which raises concerns about the health of our non-human relatives and the health of those who hunt and consume these species. Specific animals are not tagged and tracked, so we do not know which creatures are consuming these plants, as they may subsequently leave the area, raising health risks for our members who hunt and trap.

For more information on the dust impacts on traditional plants and trees, see Chapter 7 of this report. For further discussion of the dust impacts of the HVC MLE Project, see Chapter 12.

13.3 Mental Health Impacts Not Assessed

In Teck’s discussion of the Base Case conditions, it acknowledged the impacts of environmental changes on the mental health of Indigenous peoples, and addressed broader concepts of ecological grief or “solastalgia”, which is a form of distress caused by the lived experience of the unwanted degradation of one’s home environment. Again, however, during the assessment of the HVC MLE Project, Teck failed to consider how the project would impact mental health. This is a key impact which was not considered in the assessment of the HVC MLE Project’s potential effects.

Since settlers began bringing cattle into our traditional territory coinciding with the Cariboo Gold Rush in the late 1850s, we have experienced a loss of land and a loss of agency and control over our traditional territory. In the first decades of the twentieth century, “No trespassing” signs

went up and impeded Secwépemc people's travelling, plant harvesting, and hunting and fishing activities, fencing us out from resource harvesting in many parts of our territory. There are certain areas where we were no longer allowed to hunt, trap, gather our plants and medicines, or practice our cultural and spiritual practices, and areas where these resources have since disappeared.

When the existing HVC Mine began operating in Ctselt̓saltnéws in the early 1960s without our consent, this furthered our loss of control. Copper from the mine deposits on surrounding plants and medicines and enters into the soil where it is also absorbed by plants. We harvest these plants, as well as animals which consume the plants, and the copper enters into our system. We are not told how much copper (and other contaminants) we are consuming or whether it is safe. This detrimentally impacts our mental health. The continued operation of the HVC Mine and the cumulative effects of forestry and other industrial development all takes its toll on us.

As detailed throughout this report, there are significant risks affiliated with the HVC MLE Project. Chapter 9 for instance, details the terrifying risks associated with a failure of the L-L Dam, while Chapter 8 discusses the risks of not requiring mining waste water to be treated until more than a century after the mine stops generating revenue. In addition to these significant risks are both the real and perceived risks of contamination of water and plants, as discussed in Chapters 5 and 7. Teck fails to consider and assess how the impacts and risks of the HVC MLE Project may impact the mental health of our community members.

"When you lose something like a forest as an example, and the intrinsic connection we have to the forest, the water, the spiritual connection, it has a real devastating impact on us. We feel it, you know. We literally feel it in our bodies. And you need to understand that when damage is done to the land, our people feel that. When the animals are hurting, we feel that because we're connected in that way. ... it's more than just the physical aspect. It's the mental, emotional and spiritual aspect."

-Kukpi7 Wayne Christian, Panel Chair

13.4 Lack of Consideration of Project-Related Gender-Based Violence

Teck's lack of consideration of gender-based violence in its application is immensely troubling. In *Reclaiming Power and Place: The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls*, the National Inquiry put forward Calls for Justice as action items to help end and redress the historic and ongoing genocide against Indigenous women, girls, and 2SLGBTQQIA (two-spirit, lesbian, gay, bisexual, transgender, queer, questioning, intersex, and asexual) people.

As the culture associated with industrial camps can make Indigenous women, girls and 2SLGBTQQIA people more vulnerable to violence, several of the Calls for Justice pertain to Extractive and Development Industries, and are summarized as follows:

- 13.1: We call upon all resource-extraction and development industries to consider the safety, security, and equitable benefit of Indigenous women, girls, and 2SLGBTQQIA people at all stages of project planning, assessment, implementation, management, and monitoring.
- 13.2: We call upon all governments and bodies that evaluate, approve, and/or monitor development projects to complete gender-based socio-economic impact assessments on all proposed projects as part of their decision making and ongoing monitoring of

projects. Project proposals must include provisions and plans to mitigate risks and impacts identified in the impact assessments prior to being approved.

- 13.3: We call upon all parties involved in the negotiations of impact-benefit agreements related to resource-extraction and development projects to include provisions that address the impacts of projects on the safety, security, and equitable benefit of Indigenous women, girls, and 2SLGBTQQIA people.
- 13.4 We call upon the governments to fund further inquiries and studies to better understand the relationship between resource extraction and other development projects and violence against Indigenous women, girls, and 2SLGBTQQIA people.
- 13.5 We call upon resource-extraction and development industries and all governments and service providers to anticipate and recognize increased demand on social infrastructure due to development projects and resource extraction (including adequate staffing and resourcing of policing and health and social services), and to identify mitigation measures as part of the planning and approval process.

We are surprised and disappointed that Teck does not reference or adopt these Calls for Justice in its HVC MLE Project Application Package, particularly as the report's publication in 2019 preceded Teck's application. Indigenous women, girls, and 2SLGBTQQIA people continue to disappear, experience harassment and violence, and be murdered across Canada, and there is a proven connection between these crimes and extractive industries. As there have been studies regarding "man camps" and extraction workers and increased violence towards Indigenous women and girls, Teck needs to consider how it would ensure that the HVC MLE Project and its influx of workers in the Project area (some of whom may have a differing view on appropriate treatment of women) do not jeopardize the safety of our women, girls, and 2SLGBTQQIA people. It is critical that Teck be required to review and adopt these Calls for Justice, as reflected in the Conditions set out below, and in regulating and assessing the HVC MLE Project, the Province also has a critical role to play in ensuring that Teck meaningfully implements the Calls for Justice.

Conclusion

Teck's conclusion that the HVC MLE Project is not expected to adversely affect human health is inconsistent with SSN's concerns and a holistic assessment of the project. There are already existing and ongoing environmental concerns resulting from Teck's operations of the existing HVC Mine to date that contradict this conclusion, including (but not limited to) impacts on air and water quality, wildlife and their habitats, forestry, and traditional plants. Many of these impacts are projected to increase with the expansion of the mine as anticipated in the HVC MLE Project.

The stated belief that the health of our community members would not be adversely affected by the HVC MLE Project illustrates just how limited Teck's assessment was. Simply the fact that the HVC MLE Project would extend the period of time in which this land is used for industrial activities, restricting our land stewardship and the expression of self-determination within our traditional territory, is an impediment to our health. Our health requires a balance of physical, emotional, mental, and spiritual health which is directly connected to our inherent connection to the land.

There are many environmental factors that relate to social and cultural determinants which cannot be adequately evaluated through a HHRA and an ERA and require a holistic evaluation. Exposure to contaminants and dust as well as impediments to our sense of place and how we feel on the land are both valid criteria to measure and assess our health. In the ERA and HHRA, Teck fails to evaluate the complex interactions between social and cultural factors and environmental factors that impact health determinants. As a result, we are left without answers as to how Teck would address and mitigate the unique impacts of the mine to SSN.

Conditions for Approval

- Require Teck to develop in collaboration with Indigenous groups an Indigenous Mental Health Understanding and Support Plan to address the impacts of the mine on our ability to balance physical, emotional, mental, and spiritual health.
- Require Teck to allocate dedicated lands for SSN members and cover the costs to construct a camp facility on these lands where our members can go at any time to encourage and promote land-based activities and SSN's connection to Ctsełtsálnéws.
- Require Teck to conduct a study on the impacts to our members' health of consuming contaminants deposited or absorbed by traditional plants and in the digestive systems of wildlife.
- Require Teck to consider the safety, security, and equitable benefit of Indigenous women, girls, and 2SLGBTQQIA people at all stages of project planning, assessment, implementation, management, and monitoring in accordance with Calls for Justice 13.1, including by:
 - Developing in consultation with SSN (and other Indigenous governments and organizations) a Construction Workforce Management Plan to monitor and mitigate the socioeconomic and health effects of the HVC MLE Project's Construction that includes an Employee Accommodation Strategy and an Off-Site Traffic Management Plan. This plan should be submitted to the EAO for review and approval no later than 60 days before the planned start of construction on the HVC MLE Project.
 - Developing in consultation with SSN (and other Indigenous governments and organizations) a Gender-based Analysis Plus Management Plan to monitor and mitigate any adverse effects of the Project on diverse subgroups. This plan should be submitted to the EAO for review and approval no later than 60 days before the planned start of construction on the HVC MLE Project.
 - Creating or expanding a drive home program and providing funding for additional support.
- If the EAO/EMLI has not yet completed a gender-based socio-economic impact assessments on the HVC MLE Project, this must be done as part of their decision-making in accordance with Call for Justice 13.2. Upon completion of this impact assessment, require Teck to add provisions and plans to mitigate risks and impacts identified in the impact assessments in its application prior to it being approved.
- Require Teck to identify and adopt mitigation measures in its application to address the increased demand on social infrastructure due to the HVC MLE Project in accordance with Calls for Justice 13.5.

14. Cumulative Effects and Impacts

"[T]here's this scary vision I have of this whole area being a moonscape one day. I just -- I just hope that doesn't happen, and I hope our great-great grandchildren don't have to witness this.

I'd rather see them going into this part of our territory and having the same experiences as myself... growing up and learning our ways and learning our culture and enjoying a good diet, you know, a healthy diet that won't kill us."

-Ed Jensen

Introduction

With the HVC MLE Project, Teck is proposing to extend the existing pit infrastructure and operate the mine until at least 2043, which would yield approximately 4.3 billion pounds of copper (1.95 million tonnes) by mining approximately 900 million tonnes of additional ore and generating more than one billion tonnes of tailings (when including the Bethlehem Extension Project).

Teck recognizes that Indigenous peoples have a long history in the Highland Valley and that mining and other activities continue to impact lands and culture. With respect to cumulative effects, Teck relies on the EAO's Effects Assessment Policy which defines cumulative effects as changes to environmental, economic, social, cultural, and health values caused by the combined effect of past, present, and potential future human activities and natural processes.

To understand pre-mining conditions, which Teck only used for context in the effects assessment and in setting reclamation targets for the Returning Land Use Plan, Teck completed work to understand pre-mining ecosystem mapping and conducted a Historical Water Conditions Study. Teck also drew on historical imagery from 1951, which showed the presence of the following lakes: *Ctsálétkwe*, *Xyemémsell*, Jim Black Lake, *Ctkwílcmenten*, Little Divide Lake, Big O.K. Lake, Little O.K. Lake, and Calling Lake.

Teck concluded that as the HVC MLE Project is an extension to the existing HVC mine site, the cumulative effects of the HVC MLE Project would be limited. SSN knows, however, that the cumulative impacts on our Indigenous rights and title include various kinds of activities authorized by the Province, including mining, forestry, hydroelectric infrastructure, roads, and agricultural land clearing. Agricultural land clearing in the Highland Valley area has resulted in significant adverse impacts to land, water, wildlife (particularly moose and bear), and fish (trout and salmon), and has impeded SSN's ability to exercise our Indigenous rights.

In reviewing the HVC MLE Project, the Province must consider whether it can continue to justify the incremental cumulative impacts which would be caused by the HVC MLE Project on the exercise of SSN's Indigenous rights.

14.1 Teck's Fragmented and Piecemeal Approach to Cumulative Effects

In its application for the HVC MLE Project, Teck created a Base Case to compare the cumulative effects of the HVC MLE Project (what it calls the "Assessment Case") against, however, the effects of the past and present projects were included in the Base Case and Teck was only required to consider the incremental disturbance from the HVC MLE Project. The Base Case also includes the Bethlehem Extension Project on the basis that, although that project has not started, permits have already been awarded for it. SSN asserts that this compartmentalization of different aspects of the mining project amounts to project splitting and shields Teck from having to disclose

(and the Province from having to consider) the full scope of potential impacts from the continued operation of the HVC Mine as anticipated through the HVC MLE Project.

This assessment of incremental effects is an ineffective tool to measure cumulative effects. SSN does not tolerate this creeping baseline in which the HVC MLE Project is awarded a clean slate, as if all of the previous impacts of the HVC Mine's operations over the last seven decades do not matter.

Further, Teck limited its consideration of cumulative effects to the boundaries of the RSA, and in doing so, failed to consider broader developments and events which impact SSN and contribute to cumulative effects, such as droughts and wildfires. Cumulative effects must be assessed to see if they impact a Valued Component, even if the project or activity is located outside the boundaries of the assessment. Teck did not provide any analysis or consideration as to what SSN or other Indigenous nations thought the temporal and special boundaries should be when considering cumulative effects.

“SSN has adopted watersheds to be the upstream of watersheds and the downstream of watershed, the bloodline of our tmicw, our mothers of the watersheds in between, the sub watersheds that go into the Thompson and the Shuswap, and the sources of that being certain percentages of glacial and the melt that goes on. So we have to look at things in that larger picture, not the piecemeal project by project...”

-Travis Marr, SSN Environmental Protection Manager

14.2 Case Study: Impacts to Moose and Mule Deer

SSN retained Dr. Klinkenberg, Professor Emeritus, Department of Geography, University of British Columbia to complete a cumulative effects assessment of the potential impacts of the HVC MLE Project, including an assessment of effects from pre-disturbance conditions (approximately 1960) and to consider projects and activities which could potentially interact cumulatively with the HVC MLE Project. Dr. Klinkenberg considered several indicators in his assessment, including:

- changes in landscape composition;
- wildlife habitat effectiveness; and
- elements of food security.

Dr. Klinkenberg noted that one approach to considering cumulative effects is to consider a culturally-important species and how the habitat for that species has changed over time. He chose to assess how moose and mule deer have been significantly impacted by the cumulative effects of the HVC Mine, including by loss of wetland habitat, road mortality due to increased traffic in the region, and adverse impacts on food security and habitat suitability, and also examined natural factors (topography and vegetation) and non-natural factors (roads, urban areas, industrial activities, clear cuts, and forest fires) which could affect the two species and habitat suitability for them.

In early spring, moose used to traverse across HiHium Lake as part of their migratory route. During this time, the mountain by Savona Lookout would become a nursing ground for moose and mule deer and be covered with cows and does, with calves birthed by Copper Creek and Criss Creek. These migratory routes were known and followed by the deer and moose, and disturbance with these routes impacts their ability to feed and reproduce.

Over the last three decades, moose populations near the HVC Mine site have crashed: since 1995, the moose population has declined from 143 to 14 in 2019. These population declines are attributed to a host of factors, including habitat loss and alteration. Mule deer populations are also declining across the southern portion of the Province, which is also partially attributed to habitat loss and alteration. A decrease in suitable habitat for these species has an adverse effect on the Indigenous populations that rely on those species for food security and their way of life, including SSN members. The adverse impacts on SSN's Aboriginal right to hunt for food must be mitigated and all efforts taken by Teck to ensure that moose and mule deer populations endure.

Further to Dr. Klinkenberg's review of data collected in relation to the environmental, cultural, social, and economic impacts of the HVC Mine within the region, he determined there to be several significant issues of concern associated with the impacts of the proposed HVC MLE Project.

14.2.1 Decrease in Habitat

Within the Wildlife and Wildlife Habitat RSA, the landscape changes from pre-mine to current conditions have resulted in a decrease of moose security and thermal cover of 27%, as well as a decrease of winter forage suitability of 29%. Dr. Klinkenberg found that there have been decreases in moose habitat suitability due to the impacts of severe fires and clear cutting, as well as the impact of the mine and its related activities, including roads, since 1960.

Most of the roads in the Highland Valley area, including the nearby Highway 97C, were created to service the mine as well as Logan Lake, a community created to house the mine's employees. The density of roads in the Highland Valley area has a significant adverse impact on the amount of habitat preferred by moose and mule deer. According to Dr. Klinkenberg, Teck explicitly considered the disturbance effect of roads (for example, it is known that mule deer and moose both avoid being close to roads, and therefore habitat within 200 metres of a primary road has its quality reduced by 50%), but failed to consider the direct impact of road density.

Mule deer appear to completely avoid areas with road densities above 3.73 km of road/km², which describes 24% of the Wildlife and Wildlife Habitat RSA. Dr. Klinkenberg reveals that had Teck considered that restriction, the overall loss of mule deer habitat would have been 15% greater (resulting in a total decline of 53% for the mean habitat score from 1951 to current conditions).

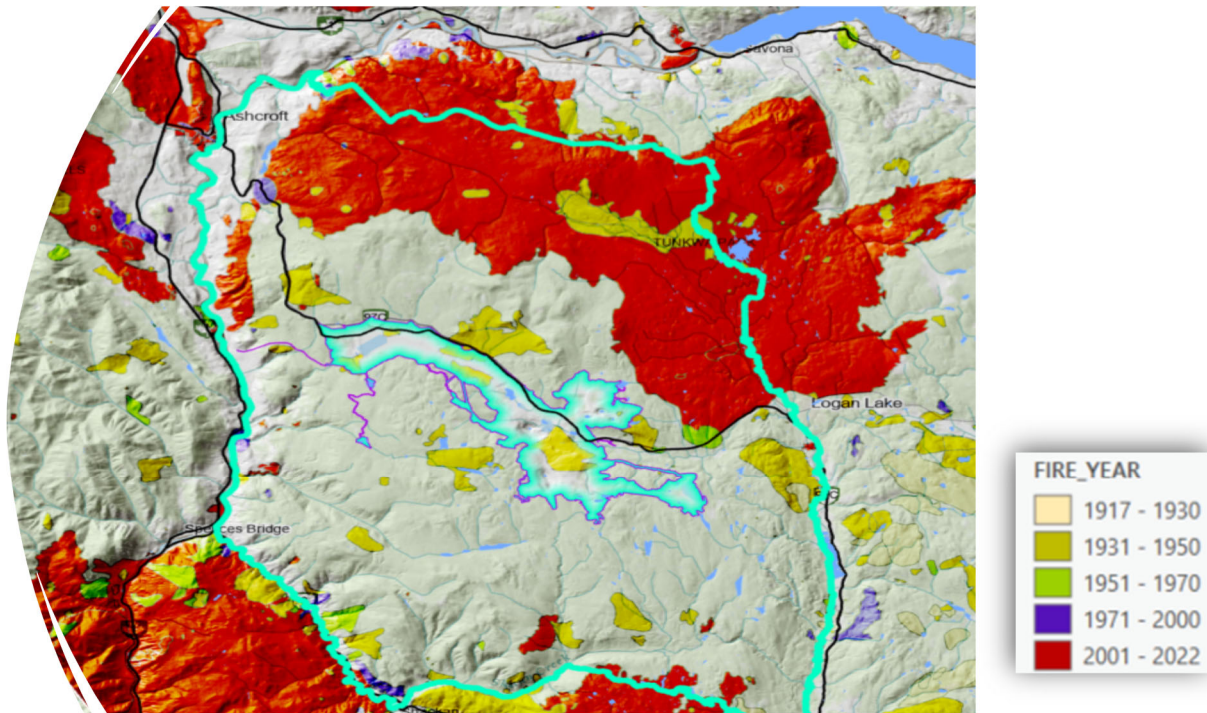
Reducing the number and density of roads would improve habitat conditions for all species, however, Teck's Social, Environmental and Regulatory Approvals Manager, Jaimie Dickson, stated during the Panel Hearing that Teck has more control over roads which are within the HVC Mine site.

Cut blocks (forested areas that have been authorized for logging) have significantly increased and have had a corresponding negative effect on moose and deer habitat. The destruction of forest is the direct destruction of habitat.

SSN takes the position that no old growth forests should be harvested within Secwépemcúílecw and does not authorize any clearing of old growth within our traditional territory. Despite this, however, Teck proposes to remove 38.4 ha of OGDAs as part of the HVC MLE Project.

The number of forest fires, as well as the area they impact, have greatly increased in recent years within our traditional territory, as detailed in Figure 14a below.

Figure 14a: The Geography of Forest Fires within and surrounding the HVC Mine RSA from 1917-2022



The Tremont Creek wildfire which occurred in 2021 was particularly devastating, burning 63,438 ha primarily within SSN's traditional territory of which 35,000 ha were within the Wildlife and Wildlife Habitat RSA. This and other fires, including the recent Shetland Creek fire which occurred in August 2024, have significantly reduced the available moose habitat in the Highland Valley area. For further discussion on the Tremont Creek and other wildfires, see Chapter 7.

14.2.2 Impacts to Food Sources

The Panel is aware that moose dive into the rivers and streams to forage on aquatic plants. One study on the Archipelago of Isle Royale rising up out of the deep waters of Lake Superior (US) describes moose as a species that helps the entire ecosystem remain stable and fill the roles of both prey and herbivore. In "The Wolves and Moose of Isle Royale, Restoring an Inland Ecosystem", author Nancy Castaldo discusses the impacts of warming temperatures due to climate change on the moose and states at pages 58-59 as follows:

The warming island makes it even more difficult for moose, which overheat, eat less, and suffer from the increased population of harmful ticks. These factors impact all the moose, including the ones already weakened, bringing yet another stress to the island's wildlife. The moose settle somewhere in the shade or hang out in the ponds as the weather warms to keep them cool. The ponds also provide them with nutritious aquatic plants to munch that contain more protein than plants growing on land.

The plants growing in water also contain a valuable source of sodium that moose need. Most mammals take in sodium all year, but moose ingest large amounts only at certain times, mostly in early summer, as a supplement to their regular diet of branches and twigs. Their bodies store sodium for use during the colder months when these sources are unavailable. The heat takes its toll. If they do not eat enough when food is plentiful, they will have a difficult winter.

Teck failed to consider the impacts of climate change on the cumulative effects of the HVC MLE Project.

Deforestation also impacts sources of food for moose. Moose have been shown to avoid new cutblocks (1–8 years), select for regenerating cutblocks (9–24 years), and avoid older cutblocks (25–40 years) (Chris J. Johnson and Roy V. Rea, *Response of moose to forest harvest and management: a literature review*, 2023). Cutblocks in and around the HVC Mine site have also been shown to provide forage of poorer nutritional quality than forests (Camille L. Roberge, *Forage quality and moose (Alces alces) nutrition in a logged landscape*, 2023). The combined impact of forest harvesting and the HVC MLE Project would continue to result in a decimated moose population.

There are many other factors which may impact these species' food sources, including pollution from mine-related dust, seepage of contaminants into our soils and surface and ground water, and overgrazing of cattle, which Teck failed to consider in its cumulative effects assessment.

14.3 Loss of Autonomy over Way of Life and Decision-Making

The cumulative effects of permitting, tenures, industry, and population influence reveal that 99% of our *tmicw* are impacted. Cumulative effects in Secwépemcúlecw include, but are not limited to, the loss and displacement of *kw'séltkten*, pollution of the four elements (water, earth, air, and fire), and adverse effects on the entire Highland Valley which threaten the downstream health of the Thompson River salmon population. There is no respect for the continuing adverse impacts on the salmon and the waters within the Highland Valley area and other species such as moose and mule deer, nor is there any cumulative effects study that accounts for our autonomy as Indigenous peoples and our decision-making authority within our territory. We are not consulted with regarding how our future generations' losses will be offset or mitigated and how they will be recovered. This is an exercise of the colonial power which takes away our rights to freely determine and pursue our way of life at Ctseltáalnéws, an area our ancestors relied on prior to colonization, and which causes us mental harm and anguish.

We also experience trauma due to our inability to exercise Aboriginal rights to teach our children our way of life at the Highland Valley area, halting the intergenerational transfer of knowledge, as well as the loss of our right as ancestral people to practice and enjoy our way of life in this area. This represents a complete loss of autonomy and negatively impacts our members and our communities.

As the availability and harvestability of traditional plants has noticeably declined over the last two decades, due to human-caused habitat destruction, climate change and natural disasters, our Elders often refer to the cumulative impacts of the above factors as *q̓wempúlecw* ("the land has become bare").

Conclusion

There are many cumulative effects which have impacted the Wildlife and Wildlife Habitat RSA and surrounding lands over the past 60 years, and the magnitude and severity of those impacts has increased significantly in the past 30 years. As such, actions in response to those impacts are becoming necessary if we are to preserve what remains of the aquatic and terrestrial ecosystems and the cultural and heritage resources in the region.

Dr. Klinkenberg recommended steps which Teck could take to mitigate some of the effects discussed in this Chapter, including road decommissioning to reduce environmental disturbances, monitoring road accidents and promoting speed restrictions, creating wildlife barriers to prevent

accidents, and monitoring the population to determine if mitigation measures are having the desired effect.

The Province has been put on notice of the cumulative impacts of the HVC Mine, together with other industrial activities authorized by the Province within our title lands, which are the subject of an ongoing claim in the BC Supreme Court. SSN acutely feels the impacts of all of the industrial development: it has only 1-3 staff members who are responsible for reviewing and engaging on all Crown industrial projects, which relate to more than 68 pieces of legislation.

The Province is also aware of the jurisprudence on justifying infringements of Aboriginal rights, including the recent case of *Yahey v British Columbia*, 2021 BCSC 1287, which makes clear that the jurisprudence on justification considers the existence of a compelling and substantial objective for the infringing regime or statute, whether the Crown has properly prioritized Aboriginal rights and met its fiduciary obligations, whether there has been as little infringement as possible, and whether compensation was available.

During the Panel Hearing, SSN's Territorial and Environment Protection Manager, Mr. Travis Marr, spoke about how *yecwminmen* are ancestrally responsible to *tmicw* in its all-encompassing elements and relations as caretakers of the Highland Valley area. SSN asserts that its Aboriginal rights and title have been unduly infringed by the existing HVC Mine site and would continue to be unduly infringed by an approval of the HVC MLE Project.

Conditions for Approval

- Require Teck to explicitly consider the cumulative effects of land uses, such as cattle grazing and the secondary effects of logging on watersheds, and how those cumulative effects within watersheds would impact mule deer and moose, including by conducting field studies to determine how the various watershed hazards translate into reduced moose and mule deer habitat.
- Require Teck to reduce the number of resource roads within its permitted mine area and support regional incentives to decommission roads within the Wildlife and Wildlife Habitat RSA, following protocols developed previously by the Tripartite Working Group (2016).
- Require Teck to inform the public about potential food safety issues by posting signs at trail heads, etc., in the affected areas that inform people to thoroughly wash any fruits from the area prior to consumption to remove dust residue.
- Require Teck to study the minerals in the soils in the region, and how those minerals might be entering the food and water system.
- Require Teck to provide support to the local communities through the provision of office space, logistical support, and funds to prevent and fight forest fires, drawing guidance from the existing work of the Simpcw Indigenous Initial Attack Crew working out of Chu Chua near Barriere, BC.
- Require Teck to enhance its recent efforts to monitor the feral horse populations which compete with mule deer and moose for habitat.

15. Indigenomics

“And so our ties to that whole area is really strong. That's where we gather a lot of our medicines. That's where our berries and other roots and that are gathered from, but specifically our medicines. Our medicines, the Syilx used to come up the Okanagans to come and gather -- come with the families that they were connected to in order to get the medicines that only grow in that area.

And when you know about the medicines, so I'm a ... the non-Indigenous way of knowing and being, is an ethnobotanist. So I know our medicinal plants, our roots, our berries, the plants that grow above the ground, the plants that grow under the ground, and at different times of the year you pick medicine in different areas, and it depends on the elevation whether it's high alpine, mid alpine, the lower elevations of the mountains, those that are close to the river, all of those are done and there were specific times and specific seasons for gathering the different medicines that we gathered throughout our territory.”

-Elder Jeanette Jules

Introduction

As Carol Anne Hilton describes in her book titled “Indigenomics”:

Indigenomics is the process of claiming a seat at the economic table. It involves centring Indigenous rights to an economy, rights to modernity, and rights to be consulted and to provide consent. It is interwoven with the establishment of legal pressure points for economic inclusion, higher standards of stewardship, collaborative decision making, and reciprocal prosperity.

SSN asserts its inherent rights and title to the entirety of the *tmicw* under our stewardship, including the Ctselt̓saltnéws area which is also referred to as Highland Valley. Ctselt̓saltnéws, which means “throughout-saline-bitter place with a trail through it”, is a culturally, spiritually, and economically vital landscape for SSN.

SSN can trace its occupation and use of Secwépemcúlecw through our *stspetékwill* to the time of our ancestors, the Coyote People, who occupied the higher plateaus of Secwépemcúlecw as far back as 10,000 years ago. For at least 10,000 years, these high plateaus, including Ctselt̓saltnéws, have served as an integral part of our seasonal round activities that take us throughout the *tmicw*.

Over the course of thousands of years, Ctselt̓saltnéws has become an important resource gathering location for medicines, berries, hunting, and fishing, a spiritual training location, an important travel route, and it possesses many other tangible and intangible cultural heritage purposes.

The operation of the existing HVC Mine since 1962 has impeded our ability to use this land for harvesting, hunting, and fishing. Streams have been rerouted, waters have been contaminated, wildlife habitat has been lost or altered, and plants have been coated in a layer of dust. The seasonal round of resource harvesting performed by our ancestors has been hampered by the loss of land resulting from the mine site as well as the downstream impacts of the mine's activities. The loss of land leads to a loss of culture, intergenerational knowledge, and our way of life.

15.1 Loss of Lands and Resources

15.1.1 The Seasonal Round

Ctselt̓saltnéw̓s played an important role in the annual and cyclical seasonal round carried out by our ancestors, which was a vital part of their traditional Indigenous economy and continues through to this day. Since the 1960s, however, the watercourses and landscapes of this area have been dramatically altered by Teck's mining activities, including the rescinding of multiple lakes, the disruption of waterflow, and the depletion of aquifers. While the existing HVC Mine site has disrupted the valley's productive ecosystems, complicating research, we know that the habitats and ecozones that comprise Ctselt̓saltnéw̓s were once robust and productive areas relied on by our ancestors throughout the year in accordance with the availability of resources.

Ctselt̓saltnéw̓s is connected to SSN communities by way of an extensive trail system that provides access to key resource collection areas. These trail systems are well documented. Our ancestors engaged in trading with the Coast Salish peoples and other groups, trading both in goods as well as knowledge of the trail systems.

This area was an important hunting area for mule deer as well as elk living on the grasslands to the east of what is now the HVC Mine site. Hunting blinds were typically placed by water sources or near migration routes, movement corridors, or game trails. SSN members have identified at least eight hunting blind features which are located to the northeast of the Valley Pit near the proposed site of the Bethlehem expansion pit, with another two located west and northeast of the Highland TSF pond. It is likely that other hunting blinds existed which were never surveyed and have been destroyed by the HVC Mine. We recommend that Teck meet with SSN to map these features and create and enforce a buffer zone to prevent any further damage to these culturally significant sites.

The creeks and rivers flowing from the higher peaks were biological hotspots for predictable and annually recurring crops of a variety of berries, medicinal and other traditional plants. The lakes and creeks in this area, including *Tsensúnkwem*, *Skwtúse7* (Lac LeJeune), Bose Lake, *Xyemémsell* (the now-rescinded Big Divide Lake), Guichon Creek, and Mamit Lake, sustained populations of trout and other lake fish.

The traditional plants and medicines found in Ctselt̓saltnéw̓s were intensely used and managed by the Secwépemc for subsistence, medicine, technology, structure, and for spiritual and ceremonial purposes. SNRC's cultural heritage team documented 149 plant and tree species which our members use within 25 km of the existing mine site: see Chapter 7 for more information. Identified culturally modified trees also speak to our knowledge and occupation of the area.

Land tenure concepts regulated access to these resources. All people of Secwépemc ancestry had common use of and access to Secwépemcúlecw, with marriage ties and descent creating political and territorial alliances that allowed access to the lands and resources of other nations. *Sexlitemc* are people without kinship ties to Secwépemc relatives – these people did not have the right to access resources within Secwépemcúlecw. *Yecwmíhmen* were appointed by our communities to monitor the quality of a particular resource at known locations, and would communicate their findings to the Chiefs to make resource gathering decisions.

Our ancestors often hunted, fished and gathered plants in groups of interrelated families, and the eldest hunter would equally divide the collected resource amongst the group. If a community member lacked food, their relatives would provide for them or the Chief would discreetly collect food for them from the community.

Our ancestors held extensive knowledge about Ctselt̓s̓altnéw̓s and its resource patterning, species behaviour, and landscape ecology. The transformation of this landscape into the existing HVC Mine site has resulted in a loss of the use of land, as well as the loss of Indigenous traditional knowledge and the intergenerational transfer of that knowledge (see Chapter 16 for more information). The proposed HVC MLE Project would expand the area of disturbance as well as prolong the time in which the mine and its infrastructure remain on our land, continuing to impede our way of life and disrupt our traditional Indigenous economy for both present and future generations.

Additionally, upon completion of the mine's closure, the land cannot and will not be returned to pre-mine conditions. In its Reclamation and Closure Plan, Teck states that the returning land use objective is as follows:

[T]o restore pre-mine ecosystems, both terrestrial and aquatic, to the extent that is possible, so that the ecosystems on the post-mine landscape will support one or more traditional land uses, including but not limited to hunting, gathering, fishing and trapping, as well as the provision of wildlife habitat and recreation opportunities.

Even if met, this objective foresees a permanent loss of our ability to exercise Aboriginal rights and title in the area.

"We could sit here and talk about stories about this mine till we're blue in the face. If something happens, that knowledge, that wisdom is gone. They just roll over it like a bulldozer and taking us with it, our stories, our legends."

-Elder Terry Deneault

15.1.2 Loss of Trade in Copper and Other Minerals

Long before the HVC Mine began operating in the 1960s, our ancestors used *tseqwtseqwéscen* (copper), which translates to "the red rock that you do something with", to manufacture a variety of items. Our ancestors used copper in knives, blades, chisels, arrowheads, and spear heads, as once they were sharp they would not dull, and also used copper in cooking pots. They made bracelets and arm bands from copper as it was known to help with stiffness in joints - both gold and copper were used in healing and maintaining good health.

Ethnographer James Teit detailed the Secwépemc use of six-inch-long copper tubes as decorations that were often attached to a belt, as well as ear ornaments of varying shapes and sizes. Copper was often exchanged for roots, horses, Indian Hemp and other items, and we traded copper beads with other Indigenous communities.

Historical evidence shows Secwépemc use of both European-made trade copper as well as copper which was dug and procured by our ancestors within Secwépemcúlecw. For instance, geologist George M. Dawson wrote in 1896 that Copper Creek (located on the north shore of Kamloops Lake) derived "its name from that fact that the Indians have from time immemorial known it as a locality of native copper." To the east of Copper Creek is Painted Bluffs, which is an area Skeetchestn elders recall being named *Tsqweqwiyesceñk* (meaning "much copper on side-hills").

"[M]y grandfathers, both Tommy and Andrew, spoke about our areas that we went... and gathered our copper, what they called Indian copper, and my grandfathers were probably the last ones who knew how to process our copper, and it was done in a traditional way. It was

done through ceremony. They didn't just go and take the copper, dig out the copper and do anything. There was a ceremony that you needed to do. There was a process that you needed to do in order to do that. And the bladder of a moose but if they had a bladder of a buffalo, that's what they would use to get the coals really hot."

-Elder Jeanette Jules

SSN maintains its Aboriginal rights to mineral resources in our territory today, including in Ctselt̓saltnéws and including the right to manage and use and trade minerals such as copper. SSN does not accept any uses or extractions of minerals without our consent through the application of our laws.

15.2 Employment, Business and Procurement

Teck states that the existing HVC Mine is one of the largest regional employers, with more than 1,300 onsite employees, of which 226 (or 17%) self-identify as Indigenous. In 2021, the existing mine had over \$600 million in annual operating expenditures, of which approximately \$153 million was procured from local businesses in and around Kamloops.

Teck estimates that the construction expenditures for the HVC MLE Project would total \$740 million over a 2.5-year period and would generate 2,910 full-time equivalent jobs - a full-time equivalent job is one person working full-time for one year, and that the total annual employment while operating the HVC MLE Project would be equivalent to nearly 3,200 jobs (including the existing 1,300 employees).

Following the closure of the HVC Mine, Teck estimates that it would require 200 employees for the first three years to conduct closure-related activities, a decreased number of employees over the next seven years, and would "stabilize at 10 employees over the long-term to provide site management and security services."

During the Panel Hearing, Teck acknowledged that the majority of their workers are hired contractors that are brought in from outside of Kamloops, especially during the construction phase. This influx of workers raises concerns about the potential for increased violence against Indigenous women and girls, as discussed in Chapter 13.

In its application, Teck proposes to prioritize hiring local employees, including Indigenous community members, and lists several measures to increase Indigenous employment, including:

- the development of an Indigenous employment strategy;
- cultural awareness training supports to local training and educational institutions; and
- improving communications with Indigenous governments and organizations.

While these measures are a good first step, further information is required. For example, when is the Indigenous employment strategy set to be completed and implemented?

SSN would like to review and provide input on the Indigenous employment strategy as well as see committed timelines for the strategy's completion and implementation. The success of these measures would also be strengthened if Teck considered and addressed employment and contracting barriers that Indigenous peoples and businesses often face. To date, Teck has not made any commitments regarding skills training and education for SSN members, and most of the SSN members who are hired at the mine are hired as labourers and not as skilled workers.

Teck measures the number of SSN employees at the mine site **[Redacted for confidentiality]**. Teck has not provided information on the retention rates for Indigenous employees overall. This is crucial information, as Teck acknowledged in its application that racism towards Indigenous Peoples has been an ongoing challenge and has been experienced by those working at or engaging with the existing mine site. During the hearing, Teck's consultant Mr. Bart Koppe confirmed that during the engagement process they "heard a lot about harassment, racism in the workplace and violence as well." A recent Inspection Report completed by the Inspector of Mines - Health and Safety in August of 2024 also reported the following contravention of Section 3.1.3 of the Health, Safety and Reclamation Code for Mines in BC at the existing mine site:

It has come to the attention of the inspector that there is a hazard to persons on the mine site in relation to workplace conduct. Specifically, an environment conducive to practical jokes, horseplay, and other foolhardy behavior that causes an unsafe working environment.

Additional measures need to be taken to ensure that the HVC Mine site is a safe and welcoming place for our members to work.

15.3 Social Plans

Teck indicates that they would develop a Social Management Plan to consolidate all of their plans and actions to address social impacts generated by the HVC MLE Project, which they would review annually. This plan has not yet been submitted to SSN or the Province. Given that the HVC Mine has been operating since the early 1960s, it is concerning that Teck is only now turning their mind to developing a Social Management Plan for the site.

A crucial part of this plan would be a Community Feedback Mechanism to manage complaints and grievances and set out dispute resolution processes. Presently, there is no system in place for SSN members to submit a complaint to HVC (other than a new Respectful Workplace Policy rolled out earlier this year in which employees and contractors can make a complaint), and Teck is not required to publicly disclose the number of complaints and grievances it receives.

SSN would also like to see a Commitment Management System as part of the Social Management Plan to track the commitments made by Teck as well as the progress and completion of same.

Teck should jointly develop this Social Management Plan with Indigenous governments and organizations, including SSN, within one year of any approval of the HVC MLE Project to ensure that SSN's perspectives, interests, concerns, and issues are incorporated into the plan.

Teck also plans to create a Social Closure Plan closer to the date of mine closure which would focus on managing the socioeconomic effects of the closure. This will be a critical document for detailing additional mitigation and management measures that Teck would take to manage the impact of the mine's closure on community well-being. In its application, Teck states that this plan will "draw upon Teck's extensive experience closing mines, including strategies used and lessons learned", yet fails to provide any further information.

SSN would like further information on indicators, strategies, and mitigation measures Teck has previously used and plans to include in this plan, including whether Teck will commit to providing social investment funding to SSN in this plan to improve resiliency.

Conclusion

Indigenomics is a success-based framework that moves beyond documenting socioeconomic gaps and centres around the Indigenous right to economy. In its application, Teck fails to consider how the HVC MLE Project would impede SSN's right to economy as well as how the HVC MLE Project could advance SSN's economic efforts. As *Kukpi7* Wayne Christian stated during the Panel Hearing:

You have a partnership group, but we're not part of that partnership. We're outside. Even though it's on our territory in our backyard, we're not a part of the process. ... we come here not as beggars in our own land. We come here as equals, and we come here to work together.

First, Teck does not adequately consider how the HVC MLE Project's use of additional land as well as its extended use of already-disturbed land would impede on SSN's culture, interests, laws, and values. In conducting its Economic Effects Assessment, Teck provided a limited assessment of the potential negative impacts of the HVC MLE Project while emphasizing the HVC MLE Project's overall positive impacts. It failed to consider how the loss and alteration of land, air, wildlife, and resources would impact SSN's traditional activities and Indigenous economy.

SSN's economic interests are long-term and focus on the sustainable development of our traditional territory in accordance with our laws and values. SSN's experts, Impact Resolutions Socio-Economic Team, led by Ms. Pepita McKee, concluded that the economic benefits of the proposed expansion "do not outweigh the environmental impacts and the costs to food security, traditional land and water use, the right to clean air and way of life and to sustain our livelihood."

Secondly, Teck missed a key opportunity to play a pivotal role in reconciliation in helping to advance economic efforts by SSN and its members. SSN has many partnerships and contracts with different businesses which provide us with opportunities for business procurement and income generation: we are sophisticated and capable. Further, to date there has been no Impacts Benefit Agreement or Revenue Sharing Agreement negotiated between Teck and SSN to compensate SSN for the extractive work taking place on its traditional territory, nor has there been an ECDA between SSN and the Province to share the mineral tax revenue from the mine.

Teck does not currently have a public online registry of Indigenous businesses that it provides advance notice of future subcontracting and bid opportunities to, which would be a low-cost measure to enhance transparency and encourage greater participation of Indigenous businesses in subcontracting opportunities. There are no obligations on Teck to maximize business procurement opportunities with SSN businesses.

SSN is also concerned about the risks of the HVC MLE Project, including but not limited to:

- the risks associated with storing more than one billion tonnes of tailings in the Highland Tailings Storage Facility and the potential for dam failure of the L-L and/or H-H Dams;
- the risks associated with storing mine waste water in the Valley Pit for more than a century after the closure of the mine; and
- the financial and regulatory risks associated with deferring the construction of the water treatment plant until more than a century after the mine stops generating revenue.

The HVC MLE Project, as proposed, presents serious risks to the public, governments, nearby Indigenous communities, and upstream and downstream populations (both human and non-human). These risks do not outweigh the economic benefits proposed by Teck and must be addressed.

Conditions for Approval

- Require Teck to jointly develop with SSN a map detailing the location of hunting blind features within the Highland Valley area, as well as create and enforce a buffer zone to prevent any further damage to these culturally significant sites.
- Require Teck to consult with SSN on its Indigenous Employment Strategy and a Business Procurement Strategy, and require Teck to set timelines for completion and implementation of the strategy no later than six months before the start of construction on the HVC MLE Project.
- Require Teck to jointly develop a Social Management Plan with SSN (and other Indigenous governments and organizations) within one year of approval of the HVC MLE Project.
- Require Teck to provide further information to SSN on indicators, strategies, and mitigation measures it plans to use in its Social Closure Plan and whether it will commit to providing social investment funding to SSN in this plan to improve resiliency.
- Require Teck to commit to consulting with SSN on its Social Closure Plan, which must be developed, submitted and approved by the EAO at least five years before the start of the Closure Phase.
- Require Teck to deliver mandatory cultural awareness training to HVC employees and workers employed by HVC contractors within six months of development and for each new hire. The cultural awareness training must include information on UNDRIP, federal and provincial legislative frameworks for implementing UNDRIP, meaningful consultation and obtaining free, prior, and informed consent, Indigenous history (including the legacy of residential schools and Indigenous rights), intercultural competency, and anti-racism.
- Require Teck to prepare and submit a plan to support the participation of SSN in any pre-construction surveys as well as environmental monitoring required by the Environmental Assessment Certificate, if issued. This plan should be submitted to the EAO and SSN at least 60 days prior to the planned start of any pre-construction surveys.
- Require Teck to establish a public web-based registry of Indigenous businesses for contractors to identify Indigenous businesses for subcontracting opportunities during the Construction, Operations, Closure and Post-Closure phases, and require Teck to provide 90-day Request for Proposal pre-notifications of future bid opportunities in excess of \$100,000 anticipated contract value with adequate goods and services descriptions, the anticipated date of bid issuance, and the contract award date.
- Require Teck to provide annual reports on contracting and procurement opportunities provided to SSN which detail any engagement taken with SSN on such opportunities, the value of procurement from SSN contractors and suppliers and the methods for communicating contracting and procurement opportunities to SSN workers, businesses and the community.
- Require Teck to retain an Indigenous liaison throughout the Construction, Operations, Closure and Post-Closure phases of the HVC MLE Project to support Indigenous

workers at the mine. The liaison should be Indigenous and have experience living and working in community.

- Require Teck to retain a Qualified Professional to develop, in collaboration with SSN, a Construction Environmental Management Plan that is submitted to the EAO and SSN for review at least 60 days prior to the planned start of Construction. The plan should address, at minimum, the following:
 - Access management;
 - Acid rock drainage and metal leaching management;
 - Blasting management;
 - Chance finds, including protocols for notifying all Participating Indigenous Nations;
 - Emergency response;
 - Erosion and Sediment control;
 - Fire suppression;
 - Geological and Terrain hazards;
 - Human-wildlife conflict;
 - Invasive plants management;
 - Noise Management;
 - Traffic management;
 - Wildlife protection;
 - Exposure of Employees to contaminated areas;
 - Management and any remediation contaminated soils in the Project Footprint, including through water seepage and infiltration;
 - Site restoration;
 - How biodegradable oils will be used for equipment within 30 meters of a waterbody;
 - Vegetation management;
 - Surface water and groundwater protection;
 - Surface topsoil management;
 - Water management, including hazardous waste; and
 - Spill prevention and response related to hydrocarbon storage and leaks or other accidental emissions from machinery or equipment and notification to SSN in addition to the government, together with strict requirements to respond to any incidents forthwith.

- Require Teck to consult with SSN about opportunities for revenue sharing.

- Require that at least 50% of any monetary fine that Teck incurs in relation to the HVC MLE Project resulting from noncompliance with an Environmental Assessment Certificate and associated authorizations and permits be split equally amongst the participating Indigenous governments and organizations for the purpose of supporting research and programming related to reducing impacts to and/or restoration of land, water quality, air quality, habitat, wildlife populations, and other conservation measures. To direct funds, the Province should form a committee which includes SSN representatives.

16. Intergenerational Teachings and Knowledge Transfer

*“Our elders have taught us, and I was taught from a very young age, that our language and culture are intrinsically entwined with two principles, *kwséltkten*, family, and our land. Our culture and our laws are based on family and kinship. You are not -- who you are and what access you have to the land is determined by your kinship ties within Secwépemc territory. Your ability to -- your ties to the land through your family and your ability to connect with the land is directly tied to our language. Everything we have in our language is intrinsically connected there, and if our land dies, you might as well kill our language and our culture.”*

*This expansion will more than anything impact us, the youth, because it is our future and our duty. We are the future keepers of our *Tmicw*, of our land. If you take that away, we no longer have a connection to the land. We are lost and we might as well be a nation adrift with no connection, no ties to the land because it is our ties to the land that anchors us as Secwépemc people.”*

-SSN youth representative Julianne Ignace

Introduction

Our connection to Secwépemcúlecw goes back several thousand years and, despite the impacts of colonization, our vital relationship to the lands remains intact. The practice of our Aboriginal rights is embedded in the *stsptékwll* that disseminate knowledge and memories to new generations through our language, Secwepemctsin. If we do not have our land, we will lose our language and if we lose our language, we will become poor and pitiful. These *stsptékwll* anchor us to the land and connect us with our ancestors.

The HVC Mine's operations have already caused a 65-year interruption in knowledge transfer at Ctseltšalnéws, and the extension of the mine's operations as proposed in the HVC MLE Project would effectively terminate and destroy knowledge transfer until the mine ceases its operations and the mine site is remediated and reclaimed. Generations of our people would not know the area; all our relations would be forever disrupted and may not return to the area due to the mine's impacts.

The effects of colonization on Secwépemc people have been many and include epidemics, the establishment of Indian reserves, residential schools, and industrial development, including agriculture, mining, urban development, road construction, and ranching. These effects have lasted generations and are directly associated with incarceration, low income, poor quality employment, substance misuse, suicide, suicide ideation, shorter life expectancy, and low levels of educational attainment. Residential schools specifically led to a great disruption of intergenerational teachings, which has had a devastating impact on the health and wellbeing of individuals, families, and communities.

All of these effects have served to cumulatively restrict or remove access to Secwépemcúlecw, limiting our access to traditional plants, foods, and medicines, and to places of key historical, cultural, and spiritual value.

16.1 Loss of Intergenerational Culture, Language, and Connection to the Land

One significant impact of the HVC Mine and the proposed HVC MLE Project is its impediment on SSN's ability to protect and preserve its culture at Ctselt'saltnéws. Preservation of culture is maintained by teaching children their language: everything we have in our language is intrinsically connected to the land. Our connection to the land is fundamental to the transfer of knowledge from our Elders to the younger generations.

During the Panel Hearing, we heard evidence of the importance of being on the land to teach our children our Indigenous knowledge. This knowledge cannot be taught from a book - we teach our children through our oral histories and our teachings, which are experienced on the land and water. They are learned through showing and teaching, and through stories connected to the land.

"Those laws are a really important part of what we do in our everyday life. You can see it in our way of life, how people interact – our people interact with each other. This stuff has been passed down. We don't know it, but it's within us, and just understand that what you've been taught by your ancestors, by your people, has come from somewhere. It didn't just sort of appear out of nowhere. It's come from the land. It's come from the generations and oral history of our people."

-Kukpi7 Wayne Christian, Panel Chair

Our ancestors held extensive knowledge about Ctselt'saltnéws and its resource patterning, species behaviour, and landscape ecology. The transformation of this landscape into the existing HVC Mine site has resulted in a loss of the use of land, as well as the loss of Indigenous traditional knowledge and the intergenerational transfer of that knowledge.

The proposed HVC MLE Project would expand the area of disturbance as well as prolong the duration of the HVC Mine's operations and the impediment of our way of life, including our traditional Indigenous economy for both present and future generations. The continued loss of place that would result from the expansion of the HVC MLE Project would result in the continued loss of connection to the land and the loss of the ability to transfer knowledge to the youth in our communities. SSN has already suffered through seven decades of the HVC Mine's operations, resulting in generations that have not been able to learn our knowledge at the Highland Valley area.

Additionally, upon completion of the mine's closure, the land cannot and will not be returned to pre-mine conditions. The Elders and knowledge keepers who can teach our youth and restore our community are aging. Even if the land could be restored (which we do not accept can be done), the people who hold the knowledge of where and how to hunt, fish, and gather will no longer be with us.

16.2 Loss of Harvesting Plants and Medicines

During the Panel Hearing, Freda Jules identified that the Highland Valley area is one of the areas where she was taught orally and learned her traditional way of life, including different ceremonies, medicines and language. The Tkemlúps reserves were very close to the Highland Valley area, and they picked all of their medicines and plants outside of the reserve boundaries. SSN's way of life was through seasonal rounds, including the picking of traditional medicines and foods at the Highland Valley area, which Freda called "our ancestral land". Freda detailed that she was taught by her grandmothers and grandfathers and their sisters, as well as her great uncles, on SSN's way of life on this land.

Some of the medicines that Freda Jules was taught to pick in the Highland Valley area include:

- monkey vines/rope which was used for healing bones;
- common juniper, which is a powerful medicine;
- firs which have a sacred medicine; and
- sweat balsam which was used as diabetes medicine.

Freda shared that there are many teas and roots which were drunk as healing medicine, and a number of important berries which grew throughout our mountains at Highland Valley, including wild raspberries, wild potatoes, and *sxúsem* (soapberries). Many other plants were gathered in this area which were used for food and medicines in our healing, including birch, evergreen, and sage, which was also used in smudge ceremonies.

"We utilize the medicines in our healing. We need these in order -- like, you know, it's our way of life. It's our culture. If we don't have these to pick, I think there would be a great loss for our people. The different plants and medicines, they come into bloom at different times and all depending on the elevation of the mountainside, you know, it's -- it all varies."

-Freda Jules

During the Panel Hearing, Samantha Draney also detailed her strong connection with the plants, which was fostered by being homeschooled and getting to spend a lot of time with the Elders. Samantha shared that gathering medicinal plants reconnects us to the land and helps us reconnect as Secwépemc stewards and that it can also help alleviate addiction tendencies, prevent future addition, and help heal generational and personal trauma. It is good for the body, heart and soul and reconnects us to our relatives.

As part of her work, Samantha conducted a field assessment at Ctselt̓saltnéw̓s, including at the HVC Mine site, where she was able to identify the names for various herbs, shrubs, and trees by their common name, Latin name, and Secwépemc name. She also described the abundance she surveyed, their traditional use, and community significance. Further information is provided on the specific plants that she gave evidence about during the Panel Hearing in Chapter 7.

Since she was a child, Samantha had been sent by Elders to harvest for plants and medicines, including at the Highland Valley area. They directed her as to where, when, and how to collect these plants, what part of the plant to use, and how they are to be used for healing.

Colleen Seymour also shared information during the Panel Hearing, including that she was taught through oral histories by Elder Christine Simon and her father. She described her experiences in the Highland Valley area with her family looking for teepee poles and *sxúsem*. She described the wildlife she would see, including black bears and a lot of moose. She described digging for roots in the mountains, mixing roots with other plants, and the knowledge that was passed to her from her grandmothers and grandfathers. Colleen explained that the water at Highland Valley was different than other places, and that is why the medicine people went there.

Colleen would be woken up early in the morning to go out in the mountains and harvest *sxúsem*. She went to pick medicines with her mother and would have to come home and clean them and dry them. While she was out there, she was taught the stories of our history and the seasonal round.

Her family still picks berries and medicines in these areas today. She feels a connection by being on the land learning from her family and being able to go back to that area to continue learning.

"I'm going to take you over here to this place, you could always get grouse. Like, you're never going to go without. And the way my mom used to say it is that grouse was really good just like people. Like, they have chicken soup for colds and that, but she said, those birds, they eat everything, like all the plants from the land, so when we end up taking them, we get that."

-Colleen Seymour

16.3. Loss of Communal Aboriginal Fisheries

Communal Aboriginal fisheries and the lakes, streams, and creeks at Ctselt'saltnéws are very important to our people, some of which have been completely destroyed by the HVC Mine. SSN's communities are currently unable to utilize our historical and traditional Highmont Creek fishery due to the HVC M11 permit. We have conveyed concerns regarding the downstream impacts of the HVC Mine to Mamit Lake, Guichon Creek and Skwtúse7 (Lac Le Jeune), which has not been addressed in the assessment of the HVC MLE Project.

Tkwenemiple7 Marshal Gonzales was taught to fish from a young age and has been fishing his whole life. A lot of the fishing areas are gathering places for our families to come together. During the Panel Hearing, Tkwenemiple7 Gonzales provided information about the cumulative adverse effects of the HVC Mine and the proposed HVC MLE Project, as discussed in Chapter 6.

Tkwenemiple7 Gonzales also shared information on how smaller creeks in the Highland Valley area allow for young and more inexperienced Secwépemc to safely learn fishing methods and water safety measures, and serve as good training grounds to ensure that individuals have skills and knowledge before moving on to larger rivers. The Highland Valley area is a place for training young and inexperienced people.

"The main fisheries we look on is the trout fisheries in the springtime after long winters of going through our salmon stocks over the winter, and then it's the first fresh fish that we get is our trout fisheries in spring, which is very important to us in -- the stories of our families going out to these areas is important."

We are not like some other First Nations w[h]ere fish just flow by. Those fish are coming to spawn in our Territory, in our Nation. A while ago there were 34 salmon runs in the Thompson River, 24 different species. We've shut fisheries in the Bonaparte, in the Deadman's and in Tranquille and for the last probably 40 years now we haven't been able to utilize some of these fisheries for our training ground, so there's a loss of knowledge on some of these techniques."

-Skeetchestn Tkwenemiple7 Marshal Gonzales

16.4 Loss of Hunting and Habitat

There has been a devastating decline in the moose population over the last three decades, resulting from a variety of factors including habitat loss and alteration, as detailed in Chapter 14.

The wildlife baseline assessed by Teck did not consider Secwépemc input and had many shortfalls respecting individual species models, including moose and ruffed grouse, as detailed in Chapter 11.

Grouse play an important role in Secwépemc teachings on learning to hunt and becoming a man. As stated by R. Jensen in personal communications, “You start with something small like chicken and rabbits until you learn and show that you can respect these animals. Once you do that you are given the right to take something like a deer”. When describing how he taught his nephew to hunt, Ed Jensen stated in personal communications, “...making sure he could shoot straight and only after he knew what the value of our resources are did I let him shoot the rifle and so he started, you know, with grouse and rabbits”.

During the Panel Hearing, Elder Terry Deneault, a former leader of the Skeetchestn community, described how he grew up on the land by the HVC Mine. His father and uncles worked in the Bethlehem sawmills and he saw our ancestors use the whole Highland Valley area as a breadbasket. Mr. Deneault described how his uncles went hunting and picking medicines and they taught him. He also described trapping in the area with trap lines by the Peters’ cabin, noting that up along the other mountain going towards Green Mountain was the Camille’s trap line and two others, which were trapping areas that Secwépemc people used for centuries.

“If you take a look at the mountains, the sqeltús is high, one of the highest mountains around. Fall time lot of falcon up in that area. I’ve driven through back up in that area, and that white foam lake, all the contaminants in that. I seen this beautiful teniye drinking out of that. I was saying to myself, and we eat that.”

-Elder Terry Deneault

Mr. Deneault explained his sadness about the encroachment of the HVC Mine on SSN’s territory and how to tell the upcoming generation that their land is already gone. Mr. Deneault stated that allowing this mine to expand does nothing for our people who continue to suffer, and that if the mine is not allowed to expand, our kids will be able to learn about who they are.

During the Panel Hearing, Elder Randy McNab also described his concerns about the adverse impacts of the proposed HVC MLE Project on hunting and fishing. Mr. McNab followed his dad to different hunting areas and has seen a decline of plant species and different wildlife in the Deadman River, Deadman Valley, and near *Tsensúkwem*, Tobiano, and 6 Mile. Until the mid-1960s, he and his family used to go fish for salmon in the North Thompson River, and for rainbow trout or the steelhead that had spawned in the spring, but now there are none. Mr. McNab shared how one time while spearing salmon, they smelled the water which was brown and it stunk, yet they were still catching these fish.

Secwépemc knowledge keeper Ed Jensen shared his knowledge of hunting and trapping in the Highland Valley area during the Panel Hearing. Mr. Jensen was raised as a hunter and fisherman within the community and was taught the traditional ways. He explained how the HVC Mine takes up a large footprint in this part of SSN’s territory. He spent a lot of time hunting in this part of the country for moose and deer, stating that these were rich areas for us. His experience is that the Highland Valley area was an important mid-winter hunting area for the Secwépemc. There are other areas through Indian Gardens, above *Tsensúkwem* and Dominic Lake, that were important wintering areas and migration areas for moose and deer. He explained that he does not hunt at the Highland Valley area much anymore, due to declining numbers of wildlife. Mr. Jensen also explained his concern with eating berries, fishing and hunting from this area due to the cumulative effects, stating that a moose can walk far in a day and can bring heavy metals from drinking the water at the HVC Mine to another area.

Conclusion

The loss of grasslands, harvesting areas, and medicines within SSN's territory has already occurred due to development activities, such as urban development, agriculture, mining and exploration, and recreational use. Development activities have also resulted in the spread of fugitive dust and airborne contaminants which further threaten our culturally-significant traditional plant and wildlife species.

The HVC MLE Project would extend the duration of the HVC Mine's impacts and increase the magnitude of these negative impacts on the exercise of our Aboriginal rights. The biodiversity of our territory has been dramatically reduced both in terms of flora and fauna, and our culture, language, and lands are inextricably linked to the biodiversity of our traditional territory.

During the Panel Hearing, the Panel questioned Teck's representatives about whether they would eat fish with the present levels of mercury and selenium, and they declined to answer, stating that was a personal opinion. The Panel believes that this is a key question which is pivotal to the exercise of our Aboriginal rights and our ability to protect and preserve our way of life at Ctselt̓saltnéws.

The loss of fisheries in Ctselt̓saltnéws for the past 65 years, plus the continued loss for the next several decades if the HVC MLE Project is approved, is unacceptable to SSN. The Highland Valley area is a critical spring fishery and given what has already been lost, it is more important to revitalize the transmission of Secwépemc cultural knowledge than it is to continue producing the underlying minerals.

We are concerned that the HVC MLE Project would have a prolonged and cumulative adverse impact on the transference of traditional knowledge between generations. We have experienced and will continue to experience a significant loss of knowledge keepers within the next 40 years. Some of our hunters and fishers already avoid the Highland Valley area due to well-founded concerns regarding contaminated meat and fish. There must be mitigation measures put in place to address these concerns so that they can return to the area and teach our children our ways. Avoidance of the Highland Valley area for the continued life of the mine would significantly impact knowledge transfer.

The cultural significance of Ctselt̓saltnéws is unique, as discussed in depth throughout this report, and it cannot be replaced with another area. Extending the duration of the HVC Mine as proposed in the HVC MLE Project would have long lasting harmful cumulative impacts on this area and its biodiversity, and in so doing would cause irreparable impacts on our culture and traditional way of life. We have determined that the HVC MLE Project would work against initiatives to strengthen Indigenous knowledge and protect and preserve the intergenerational transfer of knowledge which is a key determinant of health.

We are able to restore ourselves and heal from the effects of colonization by connecting to the land and our *stsptékwll*. By going out on the land, harvesting and eating traditional foods, using medicinal plants, connecting with the Elders and other knowledge-holders, participating in traditional activities, and transmitting knowledge between generations, the health of the land and the people can be revived. The approval of the HVC MLE Project would continue to deny us the opportunity to restore the health of our people, connect to the land, and connect new generations to the teachings of the past.

17. Assessment of Accommodation Proposals

“And within the seasonal round, people we interviewed mentioned that they used to hunt in the area. The late Emily Bara remembered actually fishing with her family in one of the lakes that used to comprise the four lakes that comprise the Highland Valley area, people gathered medicinal plants, and there was prolific berry picking all throughout that whole tract of land.

And despite settlement and resource extraction, interviews with SSN members showed and remembered an ongoing presence of some resource gathering. And this shows the trails through the area and into the area. And looking at place names, so I compiled place names that I could find from George M. Dawson’s list of 200 plus names from names that tap recorded for the whole area roughly between Tkemlúps and Skeetchestn and then down to Ashcroft and Spences Bridge on the river and island ... This is how Dawson described the name as he tried to write is Ctseltsálnéws, salty or bitter all over trail or area is basically what that literally translates into. And that’s basically Highland Valley as it existed then.”

- Dr. Marianne Ignace

Introduction

During the Panel Hearing, Dr. Marianne Ignace, anthropologist, summarized the evidence she had researched through the numerous cultural heritage studies she completed which were all provided to the Province. Some of the summary information includes the fact that before the HVC Mine was there, there were a set of four lakes including *C̓tkwílcmeh̓ten* (called Quiltanton Lake according to how the surveyor at the time heard our name for the lake), which was rescinded under the mining pit. Several Elders from Skeetchestn and Tkemlúps have oral history stories associated with *C̓tkwílcmeh̓ten*, in particular, **[Redacted for confidentiality]** from Skeetchestn and Elder Jeanette Jules shared knowledge about how this area was a practicing place for *tkwílcmeh̓ten*, as discussed in Chapter 5. The area between the outflow of *C̓tkwílcmeh̓ten* and Guichon Creek was named Witches Brook in remembrance in some of the work that the *tkwílcmeh̓ten* did there. The *tkwílcmeh̓ten* have many descendants among our communities.

In the 1880s, the federal and provincial governments allowed settlers to pre-empt and obtain fee simple title to some of the Cook’s Ferry people’s land on the valley of the Thompson River. In exchange, they gave the Cook’s Ferry Band some swampy meadows as reserve land at Highland Valley, some of which is now located along the central section of Witches Brook.

17.1 Accommodation Proposals

Despite all of the evidence of historic and continued Secwépemc use and occupation of the HVC Mine site presented before and during the Panel Hearing, no accommodation proposals have been received from Teck.

[Redacted for confidentiality]

On October 10, 2024, the Province agreed to provide financial assistance to SSN in the amount of \$50,000.00 to support SSN’s participation and involvement in the provincial assessment of the HVC MLE Project. SSN has approached the Province for an ECDA to share in the revenue earned from the HVC MLE Project, but has not received an offer for such an agreement.

17.2 Remediation Agreements

In 2020, Teck first voluntarily reported its non-compliance with the *Fisheries Act* to the DFO. Since this time, SSN has engaged with Teck to try to come to an agreement to bring Teck back into compliance. The intent of this work, beyond remediating and mitigating the impacts of Teck's non-compliance, was to show the Panel that Teck could be a good guest in SSN's territory having agreed to take immediate steps to address these issues.

[Redacted for confidentiality]

17.3 Teck Agreements and Participation in the Hearing

Teck has not presented proposals for revenue sharing or other financial benefit to SSN for the HVC MLE Project. Teck participated in the Panel Hearing through its technical experts and consultants who attended on panels to present information, however, no Board representative attended to answer questions from the Panel.

Conclusion

The Panel has determined that the accommodations proposed by Teck and the Province are non-existent and therefore wholly insufficient to justify the many significant impacts and risks associated with the proposed HVC MLE Project. The HVC MLE Project would continue to fundamentally alter Ctselt̓saltnéws in ways that cannot be accommodated. We have a responsibility to ensure Ctselt̓saltnéws is there for our future generations, who are presently losing their language and their culture due in part to the HVC Mine. We have a responsibility to restore the land and leave it intact for our future children to make sure that they can stay connected to the land. We recommend that SSN not give its consent to the HVC MLE Project and that Teck immediately halt its mining operations and begin to undertake remediation and restoration plans.

18. Rationale for Recommendations

Introduction

In recognition of SSN's Aboriginal rights and title, and the cultural, spiritual, and historical and continued importance of Ctselt̓saltnéws, the Panel recommends that SSN not give their free, prior, and informed consent to allow for the further development of the lands and resources for the purposes of extending the life of mine, increasing production, and expanding the mine footprint as detailed in the HVC MLE Project, the Basal Aquifer Dewatering Amendment, the Bethlehem Extension Project, and the BC Hydro Highland Valley Copper Load Increase Project in accordance with SSN's laws, traditions, customs, and land tenure systems.

Articles 25 and 32 of *UNDRIP* recognize Indigenous peoples' right to determine and develop priorities for the development or use of their lands and recognize Indigenous peoples' right to maintain and strengthen their spiritual relationship with traditionally occupied lands and waters, and water resources, and to uphold their responsibilities for future generations. Both Canada and the Province of BC have endorsed *UNDRIP* through legislation.

In addition to considering whether to provide free, prior, and informed consent to the HVC MLE Project, throughout the Panel Hearing, the Panel was also to consider whether the impacts of the HVC MLE Project were reasonable or sustainable, such that the project would not result in significant or irreparable harm to the water within SSN's territory or to SSN members' right to enjoy clean and abundant water, and whether the HVC MLE Project would adversely impact SSN's ability to exercise good stewardship over the water resources within SSN territory for the health of all SSN's relations and for future generations.

The Panel has decided that the impacts of the HVC MLE Project are not reasonable or sustainable. The HVC Mine has already caused significant harm to water in SSN's territory, and the Panel finds that the HVC MLE Project would result in additional significant and irreparable harm to this water and unreasonably interfere with SSN's Aboriginal rights to enjoy abundant and clean drinking water and to preserve and protect that right for future generations.

Given the history of SSN's dealings with the both the federal and provincial regulatory authorities in relation to the HVC MLE Project, the Bethlehem Extension Project, and the Basal Aquifer Dewatering Project, the Panel has no confidence in the EAO's assessment process for the HVC MLE Project. The Panel considers it to be highly likely that the EAO and the Provincial Ministers will approve the HVC MLE Project. Accordingly, this Panel recommends several project conditions which should accompany any such approval of the HVC MLE Project, which are compiled at Chapter 19.

In this Recommendations Report, the Panel has considered these specific questions in depth and described the impacts of the HVC MLE Project if approved by the Province, despite SSN not giving its free, prior, and informed consent to any approval. Each chapter of this report has detailed particulars of the infringements on SSN's Aboriginal rights and title which have not been mitigated or accommodated by Teck or the Province.

The following impacts and infringements are of the utmost concern, and have not been satisfactorily addressed by way of mitigations or accommodations.

18.1 Destruction of Culture at Ctselt̓saltnéws without Consent

The SSN title claim is made over Ctselt̓saltnéws, which includes the HVC MLE Project area, even though such lands are held in fee simple by corporations. SSN never consented to the transfer of

our lands to private or Provincial land holders. While there is a long history of Secwépemc people occupying the area around Witches Brook and Ctselt̓saltnéw̓s, ultimately the Secwépemc people were dispossessed of their lands through various colonial laws, expropriations, and Provincial decisions which continue to this day.

The Panel recommends that SSN not give its free, prior, and informed consent to the HVC MLE Project, which would pave the way for further destruction of Ctselt̓saltnéw̓s and irreversible adverse impacts to SSN's Aboriginal rights and culture. No effort has been made by the Province to consider, or reasonably consider, accommodation of SSN's Aboriginal interests. The adverse impacts of the HVC MLE Project cannot be in the public interest because they are not in SSN's Aboriginal interest.

Ctselt̓saltnéw̓s was and is a cultural landscape of spiritual work and power that was a unique and important meeting ground for *tkw̓ilc*. The area they worked in included *C̓tkw̓ilcmé̓nten*, the area settlers named Witches Brook, and the area east of the Valley Pit near Bose Lake. The *tkw̓ilc* who were active in the area continue to be remembered by name, and their descendants live in the Skeetchestn and Tkemlúps communities. The southeast part of this valley remains a sacred area for the Secwépemc people who practiced here.

One significant impact of the HVC Mine and the proposed HVC MLE Project is its impediment on SSN's ability to protect and preserve its culture at Ctselt̓saltnéw̓s. Preservation of culture is maintained by teaching children their language which is intrinsically entwined with *kw̓'séltkten*, family, and our land. Who someone is and what access they have to the land is determined by their kinship ties within Secwépemc territory. Our ties to the land and our ability to connect with the land is directly tied to our language. Removing our connection to the land would set us adrift. It is the ties to the land that anchor us as Secwépemc people.

Through its strength of claim assessment process, the Province has systematically preferred the Nlaka'pamux over SSN based on its review of ethnographic studies on a *prima facie* basis. The Province has entered into an ECDA with Nlaka'pamux which deals with shared decision-making and revenue sharing in relation to the ongoing operations of the HVC Mine, and has deprived SSN of the same, both in relation to the HVC Mine and the HVC MLE Project, if approved. This Recommendations Report makes clear that the Province's strength of claim assessment for SSN is a wholly inadequate approach.

18.2 Aboriginal Rights to Water in SSN's Territory

With the wider and deeper Valley Pit envisioned by the HVC MLE Project, Teck estimates that the extraction of water at this pit alone would increase from 18,000 m³ to 51,000 m³ per day. This increase in pumping would further reduce the baseflow to Witches Brook, which is a fish-bearing creek that already has dry parts of the stream at certain times of the year. The HVC MLE Project would also result in a significant increase in the annual average volume of water use, increasing by 38% from 77 to 113.5 million m³.

The groundwater quality in the HVC Mine area is affected by seepage from the HVC Mine infrastructure, including the Highland TSF, inactive and reclaimed TSFs, the L-L and H-H Dams, and waste rock dumps that surround the open pits. The continued contamination of and removal of water from these aquifers without adequate recharge can lead to lowered lake water levels, intermittent or totally dry perennial streams, a loss, sinkhole formation in areas of heavy withdrawal, and a reduction in water quality rendering the water unusable. With the proposed HVC MLE Project, the Main and Basal Aquifers are not projected to recharge until 112 years after the closure of the mine.

Within SSN's traditional territory, SSN has the right to safe, clean, and reliable drinking water for its members, as well as the right to carry out our way of life, which relies in part on water resources and activities, and the right to sustain our culture and customs, including language, over the long-term. Regrettably, the Province has not recognized and engaged with SSN about the cultural aspects of water, nor has it ensured that there are acceptable and sustainable water resource practices, access to water resources, and practical solutions.

Indigenous groups have long suffered the extraction of large volumes of fresh water within their traditional territories without consent, as evidenced by the existing mine site which SSN did not consent to and the depletion of *Cíkwíłcmenten*, *Xyemémsell*, Little Divide Lake, and *Ctśalétkwe* since the HVC Mine began operating in the early 1960s. Many of the tributaries that would otherwise flow into Pukaist Creek and Witches Brook are intercepted by the Highland TSF and the Valley Pit dewatering while the mine is active. Teck's failure to manage the waterflow to fish-bearing creeks from the HVC Mine site, such as Pukaist Creek and Witches Brook, is unacceptable.

Numerous contaminants are migrating off of the mine site and into nearby watercourses, including sulphate: the sulphate concentrations at the HVC Mine are alarmingly elevated in comparison to the background concentrations. Elevated sulphate can cause mercury to transform into methylmercury, which is more toxic to aquatic environments. The HVC MLE Project would exacerbate these conditions and cause further water quality exceedances. This contamination accumulates in fish and other aquatic organisms, impacts the wildlife which drink the water, and settles on and seeps into our traditional plants and medicines, all of which impedes our seasonal round.

The Panel recommends that SSN not give its free, prior, and informed consent to any further taking of water for the HVC Mine's operations, both now or in the future.

18.3 A Water Treatment Plant is Required Now

Teck's plan to construct a water treatment plant 120 years after the closure of the mine is not sustainable, is unprecedented internationally, and is contrary to acceptable mining practices. It is an unreasonable regulatory approach to allow Teck to defer construction of a much-needed water treatment plant instead of incurring the construction costs now. By allowing Teck to defer this required infrastructure, the price of this environmental obligation is not built into the mine's inventory costs (nor is it provided for in the reclamation bond) and the true cost of the HVC MLE Project is not assessed. By including a water treatment plant in its post-closure phase, Teck took the risk that the EAO could determine in the EA process that such a plant was necessary during the operation of the HVC MLE Project.

In Lower Witches Brook, the base flow is predicted to be 23% lower with the HVC MLE Project, however, any further reduction in the base flow is unacceptable to SSN. The volume of water required by Teck can be reduced through active and adequate water treatment, and there is no principled basis for why Teck should not be required to build the appropriate inventory to support its mining operations. The Panel has repeatedly provided feedback that Teck has not implemented appropriate mitigation measures and sustainable practices to protect the water table in the proposed HVC MLE Project.

Requiring the construction of a water treatment facility at the outset is a prudent approach for the Province to take to balance the adverse impact of the HVC Mine on Indigenous rights to water and implements a precautionary approach to managing the water table in the Highland Valley for future generations. Construction of a water treatment plant during the operation of the HVC MLE Project is a necessary condition to any extension of the life of the HVC Mine.

18.4 Tailings Risks

The proposed increases to the crest elevation of the L-L and H-H Dams at the HVC Mine site are to accommodate more than one billion tonnes of tailings, which would be produced predominantly by the HVC MLE Project, as well as the current life of mine and the Bethlehem Expansion Project.

Teck has denied SSN's requests for key documents necessary to assess the risks of the L-L and H-H Dams, both at their approved and current design and the proposed expansions as anticipated in the HVC MLE Project. Further, Teck has failed to complete a new dam breach analysis and updated study for the proposed increases to the dams.

With more than one billion pounds of tailings to be stored in the Highland TSF, a breach of these dams would have catastrophic downstream effects. Teck must be required to take additional measures to study the risks of expanding the dams as proposed in the HVC MLE Project and provide both the Province and SSN with the findings of these studies prior to any approval of the Project. The immense risks of the dams must be taken seriously by the Province and taken into its consideration as to whether to approve the HVC MLE Project. Without sufficient information to assess these risks, we do not support or condone increasing the size of the L-L and H-H Dams.

18.5 Airborne Contaminants and Dust

There are many significant harvest areas on or near the HVC Mine that have already been impacted by the mine's operations, which produce significant amounts of dust. This dust already prevents some SSN members from harvesting any plant which grows within a four km radius of the mine site – although the dust travels far beyond this. If the HVC Mine grows, so too will the radius within which dust impacts traditional plants, further displacing SSN members from harvesting traditional plants and trees within Secwépemcúlecw which our ancestors have relied on for thousands of years.

The dust caused by the existing HVC Mine has already impacted air quality in the area, and the anticipated increase in dust would exacerbate these impacts. Teck has too few monitoring stations which were created for other purposes and were used out of convenience rather than being optimal monitoring locations. Teck uses outdated collection technologies and self-monitors the dust: more stations are required as well as an independent monitoring program. Teck's existing monitoring stations also do not extend far enough from the HVC Mine site, leaving SSN without information on the mine's dust impacts on much of Secwépemcúlecw – including the communities where many of our members live.

18.6 Cumulative Effects – All My Relations

There are many cumulative effects resulting from industrial developments which have impacted the HVC Mine site and surrounding lands over the past 60 years, and the magnitude and severity of those impacts has increased significantly in the past 30 years. For example, over the last three decades, moose populations around the HVC Mine area have rapidly declined: since 1995, the moose population has declined from over 140 individuals to fewer than 20. These population declines are attributed to a host of factors, including habitat loss and alteration. A decrease in suitable habitat for a species has an adverse effect on the Indigenous populations that rely on that species for food security and their way of life. The adverse impacts on SSN's Aboriginal right to hunt for food must be mitigated.

Cut blocks (forested areas that have been authorized for logging) have significantly increased: the destruction of forest is the direct destruction of habitat. SSN takes the position that no old

growth forests should be harvested within Secwépemcúlecw and does not authorize any clearing of old growth within our traditional territory. Despite this, however, Teck proposes to remove 38.4 ha of OGDAs as part of the HVC MLE Project.

The Panel determines that the cumulative effects are not sustainable. Our members face daily challenges in accessing safe water for drinking and exercising their Aboriginal rights due to the governments' continued authorization of projects which interfere with SSN's Indigenous rights to water, to sustain our way of life for future generations, and to protect and preserve our Aboriginal title lands.

18.7 Loss of Intergenerational Transfer of Indigenous Knowledge and Language

We also experience trauma due to our inability to exercise Aboriginal rights to teach our children our way of life at Ctselt̓saltnéws, halting the intergenerational transfer of knowledge, as well as the loss of our right as ancestral people to practice and enjoy our way of life in this area. This represents a complete loss of autonomy and negatively impacts our members and our communities.

Smaller creeks present in the Highland Valley area allow for young and more inexperienced Secwépemc to safely learn fishing methods and water safety measures and serve as good training grounds to ensure that individuals have skills and knowledge before moving on to larger rivers. The Highland Valley area was also an important winter hunting area for the Secwépemc and an important spring fishery that fishers used after depleting their salmon stocks over the long winter.

The HVC MLE Project would extend the duration of time we are impacted and increase the magnitude of the negative impacts of the HVC Mine on the exercise of our harvesting rights. The biodiversity of our territory has been dramatically reduced both in terms of flora and fauna. Our culture, language and lands are inextricably linked to the biodiversity of our traditional Territory.

The Panel has determined that the cultural significance of Ctselt̓saltnéws is unique and cannot be replaced with another area. Extending the duration of the HVC Mine through the HVC MLE Project would have long-lasting harmful cumulative impacts on this area and its biodiversity, and in so doing, would irreparably impact our culture and traditional way of life. Our ties to the land and our ability to connect with the land at the Highland Valley area are directly tied to our language. The death of our land will lead to the death of our language and our culture.

18.8 Teck As a Guest

Since the HVC mine began operating in the early 1960s, it has polluted our waterways, contaminated our plants and animals, and disrupted habitats and migration routes, impeding our ability to continue our way of life and exercise our authority on our traditional territory.

Teck has not demonstrated that it can comply with its permits or authorizations, and it is unable to protect the surrounding watercourses where it operates. Teck has interfered with our laws and way of life and is not a welcome guest: it has not proven itself to be worthy as a guest on our territory.

Since 2011, public sources record (and it has not been independently verified) that Teck and/or its subsidiaries have been fined more than \$93 million for water pollution-related charges, including a \$60 million fine for depositing deleterious substances into the Upper Fording River in relation to the Elk valley coal mine. We have seen from Teck's operations at the Elk Valley coal mine in BC that the costs to clean up contaminated water can be much higher than estimated. A

report completed by Burgess Environmental in 2024 estimated that it would cost \$6.4 billion just to remove the selenium from the water affected by the coal mines – a number that is \$4.5 billion higher than the total reclamation security required by BC for Teck at that mine (\$1.91 billion).

Past history is the best predictor of future events. Accordingly, the Panel recommends that SSN not provide its free, prior, and informed consent to any further approvals in relation to the HVC Mine and the HVC MLE Project. Until Teck proves itself to be a good guest in SSN's territory, it should stop operating and clean up the HVC mine, reclaim and remediate all contamination, and leave.

19. Recommended Conditions to Accompany Any Approval of the HVC MLE Project

The Panel recommends that SSN submit to the EAO the following conditions which should accompany any approval granted by the Province for the HVC MLE Project, notwithstanding that the Panel does not consent to any approval. These conditions have been laid out at the closing of previous chapters of this Recommendations Report, and have been compiled in this chapter.

Water Beings and Water World

- Require Teck to advance the design of the water treatment plant system from pre-conceptual to basic engineering prior to the approval of the HVC MLE Project, as detailed design is required for bonding purposes should the HVC MLE Project advance to permitting.
- Require Teck to submit plans for the design and build of a water treatment facility within two years of approval of the HVC MLE Project that ensures sustainable practices are employed to balance and protect the water table as the mine progresses.
- Require Teck to construct a water treatment facility within ten years of approval of the HVC MLE Project using advanced technology and best practices that implement a water treatment system that purifies the water used in the mining process before it is discharged back into the environment.
- Require the resumption of natural flows under an unpumped condition as a prerequisite to taking the water treatment plant offline.
- Require Teck to invest in and report on sustainable practices in mining, including:
 - technologies that require less water;
 - the amount of water at the HVC mine site that Teck is not able to recycle in the mining process; and
 - measures implemented to reduce the volume of water that is non-recyclable.
- Require Teck to meet the applicable standards set in the BC *Contaminated Sites Regulation* which are designed to protect the water table and address contamination.
- Require Teck to revise its SAMP to sequester sulphate out of the system as opposed to just recirculating water.
- Require Teck to include mercury on the list of parameters to be monitored in Teck's monitoring programs, both for surface water and sediment.
- Require Teck to assess and monitor the impacts of dustfall and associated increased sedimentation to surface water and aquatic habitat, and directly measure dustfall via sediment trap or snow sampling for input to waterbodies.
- Require Teck to modify the TARP in its Water Management Plan to ensure trigger levels have quantifiable increases and defined timelines that result in specific mitigations or operational responses.

- Require Teck to develop a plan to address and remedy the present water quality parameters and exceedances resulting from existing mine operations.
- Require Teck to install surface, sediment, and groundwater monitoring stations immediately adjacent to the Valley North Dump, Highmont West Dump and Valley South Dump, and have the samples taken by an independent party and reported to the regulator and a committee which includes SSN representatives.
- Require Teck to immediately report any exceedance of water quality standards to SSN.
- Require Teck to annually evaluate and prepare a report assessing drought conditions and whether watercourses impacted by the mine's operations have fallen or are at risk of falling below their critical environmental flow thresholds.
- Require Teck to develop of a water monitoring program whose aim is to detect and monitor the flow of water away from the mine site, towards Ashcroft, Savona, Logan Lake and Kamloops, into the larger receiving environment.

Fish

- Require Teck to treat the water at Highmont Creek to mitigate water quality exceedances, and re-establish the lower Highmont Creek channel to allow the isolated rainbow trout population, if this is safe for other fish, to be reconnected with Witches Brook.
- Require Teck to further develop mitigation measures to protect aquatic organisms and areas where habitat loss is expected.
- Require Teck to review and integrate guidance documents for wetland protection, including Chapter 6 of the March 2009 Interim Guidelines for Wetland Protection and Conservation in British Columbia.
- Require Teck to seek cohesion with SSN through the development of a fish habitat offsetting or compensation plan, and require Teck to include in this plan:
 - adequate compensation for SSN for the spiritual and cultural loss resulting from the loss of fish and fish habitat; and
 - a comprehensive monitoring plan to ensure the habitat is functioning and meeting and/or exceeding goals and expectations.
- Require Teck to engage in additional consultation with SSN to determine additional recommendations to mitigate the loss of access to hunting and fishing areas.
- Require Teck to update its Annual Aquatics Biological Monitoring Program to develop and implement a plan to reduce the concentrations of mercury, selenium, and other contaminants in fish tissue within the project area to levels determined jointly with SSN which are deemed safe for our members to once again enjoy unrestricted fish meals.

- As salmonid fry are known to rear in non-natal streams, require Teck to treat all watercourses as having the potential to support juvenile fry as rearing habitat.
- Require Teck to implement the mitigation and protection strategies it has implemented on known salmon-bearing watercourses on non-salmon bearing streams as well to ensure all fish species can access habitat features within the Project area.
- Replace all round culverts within the M-11 Permitted Area with bottomless arches or free-span bridges, and replace all small culverts with large flood gates to permit salmon and nutrients to flow freely.
- Recommend that Teck's revegetation and protection activities focus on prioritizing the building and/or maintaining of riparian corridors instead of buffers.
- Require Teck to create reservoir storage for clean water to serve Witches Brook, Pukaist Creek, Highmont Creek and other nearby flow-sensitive watercourses which may be impacted by water diversion to increase drought resilience.
- Require Teck to provide a copy of its Water Stewardship Strategy, including the Witches Brook Ecological Stewardship Strategy, to SSN for review and input.

Flora

- Require Teck to develop a Cumulative Effects Management plan, in partnership with forestry companies, industry, municipalities and First Nations, to address the ongoing cumulative impacts within the Vegetation and Ecosystems RSA.
- Require Teck to develop a Traditional Plants Identification and Management Plan including summarized maps of ecosystems which support any of the traditional plants listed in the Appendix to this Chapter.
- Require Teck to eliminate the use of herbicides and develop a holistic vegetation management plan.
- Require Teck to provide additional detail on how predicted hydrology changes associated with Pukaist Creek and Witches Brook would affect vegetation and ecosystems and how such effects would be mitigated by, for example, the use of seed collection, greenhouses, and re-seeding soil piles.
- Require Teck to fulfill its commitment to complete a community-led follow up Dust and Traditional Plant Study, with involvement from SSN and which assesses the Traditional Plants listed in the Appendix to this Chapter. This study should be completed and provided to SSN and the EAO within one year of approval of the HVC MLE Project.
- Require Teck to complete a Traditional Foods study which assesses traditional plants, small and large game and fish that are relied on by SSN, as determined in conjunction with SSN. This study should be completed and provided to SSN and the EAO within one year of approval of the HVC MLE Project.
- Require Teck to jointly develop with SSN an Access Management Plan for the Construction, Operations, Closure and Post-Closure phases of the HVC MLE Project

that provides safe access to the Project Area for the exercise of traditional harvesting practices and ceremonial practices.

- Require Teck to study the cumulative impact of fugitive dust containing potentially toxic minerals (in particular copper, but including more than 10 known minerals) on the harvesting of soopolallie berries (and other fruits and roots).

Mining Waste Water

- As detailed in Chapter 5 regarding a water treatment plant:
 - Require Teck to advance the design of the water treatment plant system from pre-conceptual to basic engineering prior to the approval of the HVC MLE Project, as detailed design is required for bonding purposes should the HVC MLE Project advance to permitting.
 - Require Teck to submit plans for the design and build of a water treatment facility within two years of approval of the HVC MLE Project that ensures sustainable practices are employed to balance and protect the water table as the mine progresses.
 - Require Teck to construct a water treatment facility within ten years of approval of the HVC MLE Project using advanced technology and best practices that implement a water treatment system that purifies the water used in the mining process before it is discharged back into the environment.
- In its pre-conceptual design of the water treatment plant, require Teck to:
 - incorporate sulphide addition;
 - incorporate methods of mitigating the formation of reduced selenium species in water treatment plant effluent (for e.g., use advanced oxidation processes as at the selenium treatment systems in the Elk Valley); and
 - consider and mitigate the potential for algae in water treatment plant influent with appropriate design measures, such as the use of multimedia filtration or other source control measures.
- Require Teck to provide the estimated annual costs of operating the water treatment plant and detail how it would fund the indefinite operation of the treatment plant.
- Require Teck to provide a total bond amount which is equal to the full estimated liability of the expanded mine within two years of the approval of the closure plan for the mine. The calculations used to define the bond amount should be made available to SSN for comment, review and potential adjustments. The Province should require a bond amount from Teck which is equivalent to the full estimated liability of the expanded mine.
- Strengthen the existing care and maintenance condition in the M-11 permit to explicitly require numeric water balance modelling to evaluate a 20-year period of care and maintenance followed by a return to operations. If the modelling shows that water cannot be stored safely without using open pits, then require Teck to incorporate implementation of a water treatment system – to be qualified during the advanced design stage detailed above.

- Require Teck to conduct continued research and development on the inactive pit lakes at HVC, with the objective of developing, implementing and demonstrating a comprehensive, integrated pit lake treatment approach on one or more of the inactive pit lakes. Objectives of the treatment should include the following:
 - Demonstrate consistent removal of contaminants to below water quality objectives in the pit lake, including management of contaminant loading from future mine contact water influx;
 - Evaluate metal sequestration through pit lake treatment;
 - Detail comparison of the lake geometry (e.g. bathymetry, surface area/volume) and dynamics of the inactive pit lakes to that expected of the future Valley Pit Lake, so that any pit lake treatment approach developed for the three smaller inactive pit lakes can be appropriately scaled up and applied to the Valley Pit Lake; and
 - Develop a long-term (potentially perpetual) care plan for the resultant pit lake that details the frequency and nature of any future pit lake treatment prescriptions in sufficient detail to allow such plan to be incorporated into reclamation and security bonding.

- Require Teck to ensure that the liners or other methods it uses to keep water from escaping waterways accommodates summer temperatures and ensures the water is kept within a safe temperature range, including by considering the use of lighter-coloured liners, using vegetation for shading, and other natural alternatives. Ensure that all lined ponds or waterways have mechanisms for animals to escape should they fall in (i.e., ladders).

Tailings

- Require Teck to eliminate the use of a wet tailings impoundment and invoke dry disposal of mine waste within one year of approval of the HVC MLE Project.

- Require Teck to provide SSN with a copy of the following documents:
 - AMEC Environmental & Infrastructure 2014, *Highland Valley Copper H-H Dam Break and Tailings Runout Study*;
 - KCB 2014, *L-L Dam Consequence Classification Assessment Based on the 2014 Dam Breach and Inundation Study*;
 - 2015, *Consequence Category review by the Engineer of Record*;
 - KCB 2020, *Highland Tailings Storage Facility 2019 Design Update: L-L Dam and H-H Dam*; and
 - Mr Rick Friedel P. Eng, 2022, *Consequence Category review by the Engineer of Record*.

- Require Teck to provide SSN with access to the mine site so that we can have an independent engineer assess the infrastructure.

- Require Teck to complete a new dam breach and inundation study and provide a copy to SSN for review and comment prior to the approval of any increases to the existing L-L

and H-H dams beyond the approved LoM designs.

- Require Teck to provide SSN with a copy of the study containing the cultural and environmental effects assessment in relation to the Highland TSF.
- Require Teck to provide more information on the proposed spillway to Pukaist Creek which would be constructed during the closure phase, including proposed downstream impacts of the spillway.
- Require Teck to assess the L-L and H-H Dams based on closure and post-closure conditions.
- Require Teck to complete a dam breach analysis for the closure and post-closure phases to inform emergency planning.
- Should a breach of the L-L or H-H Dam occur, require Teck to immediately, and permanently, close the HVC Mine site.
- Require Teck to commence interim tailings reclamation activities by 2028 to maximize, within operational constraints, or as a minimum, the newly disturbed land base area at the maximum pace achievable for effective reclamation.
- Require Teck to engage SSN and other impacted Indigenous rights holders in the planning and execution of reclamation activities.
- Require Teck to contract SSN-affiliated businesses to perform reclamation activities and for native plant supply and planting.
- Require Teck to provide funding for native plant seed collection and growth within greenhouses with SSN lands funded by Teck and operated by SSN.
- Require Teck to provide an irrevocable letter of credit or similar security to fund end of life mine reclamation and remediation activities.
- Require Teck to develop a supplemental Wildlife Management Plan to address the potential impacts of the Valley Pit on wildlife. This plan should include mitigation measures to limit the impacts of the Valley Pit and the contaminated water held within it on wildlife populations, including:
 - Placing a well-designed exclusion fence around the Valley Pit to ensure that no wildlife enter the pit; and
 - Monitoring the surface water quality within the Valley Pit to ensure that no adverse impacts to waterfowl are expected to occur should they land within the Valley Pit.

Land

- Require Teck to conduct an appraisal of the land occupied by the mine footprint proposed in the MLE Project and provide SSN with damages in the equivalent amount.

- Require Teck to develop and submit to SSN a Stewards of the Land Management Plan which details how they will work towards becoming a good guest within Secwépemcúlecw.

Wildlife

- Require Teck to collect baseline data on species which it failed to adequately inventory, including bobcat, cougar, and mule deer. Teck should also be required to use this data to update its WMP with effective mitigation measures to limit the impacts to these species.
- Require Teck to update its habitat modelling with more recent data which accounts for the impacts of the Tremont Creek and other recent wildfires and update its WMP to reflect that change in habitat accordingly.
- Require Teck to revise and update the WMP, with SSN engagement, to:
 - Identify and mitigate the loss of SSN environment and social values from the existing mine to date, its cumulative effects, and the additional impact associated with the proposed HVC MLE Project;
 - Provide a means for monitoring and addressing the future impacts to wildlife resources, and to mitigate for past effects on the wildlife resources, to promote conservation and recovery;
 - Include very clear monitoring protocols and population thresholds, as well as management actions to be taken if the thresholds are approached; and
 - Incorporate the following monitoring opportunities into the WMP:
 - Estimating populations and composition of moose and mule deer with sufficient statistical confidence to allow changes to be identified;
 - Monitoring of the grassland and forest bird community to determine species richness, distribution, abundance, and the introduction of invasive species; and
 - Monitoring habitat health (e.g., forage values) for declines in nutrient content, changes in metals and contaminants, and changes in digestibility or other parameters.
- Require Teck to work with SSN to co-develop stand-alone management plans for key species, including moose, mule deer, American black bear, and elk.
- Require Teck to collect baseline data on road mortality, monitor and determine the areas of greatest impact, and advance mitigations to reduce these impacts.
- Require Teck to install additional wildlife cameras at key watercourses within the M11 Permitted Area to detect water consumption by wildlife and pair these detections with a water quality sampling program to assess the quality of water being consumed at these

locations.

- Require Teck to provide an annual report on the wildlife detections, including detection trends by species, gained through the wildlife cameras which are deployed across the M-11 Permitted Area, and the accompanying water quality program.

Sky World

- Require Teck to draft and submit for approval a comprehensive Air Quality Management Plan within 6 months of approval of the HVC MLE Project. The Air Quality Management Plan should include additional mitigation measures to address off-site dust impacts to human and ecological receptors.
 - Require Teck to consider the effects of degraded air quality on community-based indicators developed jointly with SSN (for e.g., including the effects on cultural traditions such as the harvesting of traditional plants) and develop appropriate mitigation and/or accommodation measures. This information should be included in the Air Quality Management Plan.
- Require Teck to complete and submit to the EAO and SSN an Air Assessment Report on an annual basis.
- Require Teck to develop a Light Management Plan to minimize lighting during nighttime hours unless required for active work.
- Require Teck to measure and publicly disclose its scope three emissions at the mine site on an annual basis.
- Require Teck to create a site-specific plan to reduce its GHG emissions at the mine site that aligns with its company-wide target of achieving net-zero scope one and two emissions by 2050 and its ambition of achieving net-zero scope three emissions by 2050.
- Should Teck consider the use of offsets to reduce its emissions at the mine site, require Teck to only use offsets which are additional and third-party verified, and to prioritize offsets which support SSN or other Indigenous communities and Nations in BC.
- Require Teck to increase its monitoring of the off-site impacts of dust, including having monitoring stations which measure TSP, PM₁₀, and PM_{2.5} levels at Ashcroft and Savona and other locations where there is known increased dust pollution compared to background areas.
- Require Teck to conduct additional studies about the on-site dust impacts, including to its employees and contractors, and implement additional mitigation measures as needed based on its findings.
- Require Teck to implement additional mitigation measures to address off-site dust impacts to human and ecological receptors, including by exploring the use of natural barriers such as walls of trees, shrubs, and plants to reduce dust.

- Require Teck to support an independent air quality monitoring program to verify its dustfall and particulate matter samples.
- Require Teck to use the best available technology to measure fugitive dust and particulate matter.
- Require Teck to measure and report on PM_{2.5} and PM₁₀ levels at its onsite particulate monitoring stations located at L-L Dam and Shula Flats.

Holistic Health

- Require Teck to develop in collaboration with Indigenous groups an Indigenous Mental Health Understanding and Support Plan to address the impacts of the mine on our ability to balance physical, emotional, mental, and spiritual health.
- Require Teck to allocate dedicated lands for SSN members and cover the costs to construct a camp facility on these lands where our members can go at any time to encourage and promote land-based activities and SSN's connection to Ctselt'saltnéws.
- Require Teck to conduct a study on the impacts to our members' health of consuming contaminants deposited or absorbed by traditional plants and in the digestive systems of wildlife.
- Require Teck to consider the safety, security, and equitable benefit of Indigenous women, girls, and 2SLGBTQQIA people at all stages of project planning, assessment, implementation, management, and monitoring in accordance with Calls for Justice 13.1, including by:
 - Developing in consultation with SSN (and other Indigenous governments and organizations) a Construction Workforce Management Plan to monitor and mitigate the socioeconomic and health effects of the HVC MLE Project's Construction that includes an Employee Accommodation Strategy and an Off-Site Traffic Management Plan. This plan should be submitted to the EAO for review and approval no later than 60 days before the planned start of construction on the HVC MLE Project.
 - Developing in consultation with SSN (and other Indigenous governments and organizations) a Gender-based Analysis Plus Management Plan to monitor and mitigate any adverse effects of the Project on diverse subgroups. This plan should be submitted to the EAO for review and approval no later than 60 days before the planned start of construction on the HVC MLE Project.
 - Creating or expanding a drive home program and providing funding for additional support.
- If the EAO/EMLI has not yet completed a gender-based socio-economic impact assessments on the HVC MLE Project, this must be done as part of their decision-making in accordance with Call for Justice 13.2. Upon completion of this impact assessment, require Teck to add provisions and plans to mitigate risks and impacts identified in the impact assessments in its application prior to it being approved.

- Require Teck to identify and adopt mitigation measures in its application to address the increased demand on social infrastructure due to the HVC MLE Project in accordance with Calls for Justice 13.5.

Cumulative Effects

- Require Teck to explicitly consider the cumulative effects of land uses, such as cattle grazing and the secondary effects of logging on watersheds, and how those cumulative effects within watersheds would impact mule deer and moose, including by conducting field studies to determine how the various watershed hazards translate into reduced moose and mule deer habitat.
- Require Teck to reduce the number of resource roads within its permitted mine area and support regional incentives to decommission roads within the Wildlife and Wildlife Habitat RSA, following protocols developed previously by the Tripartite Working Group (2016).
- Require Teck to inform the public about potential food safety issues by posting signs at trail heads, etc., in the affected areas that inform people to thoroughly wash any fruits from the area prior to consumption to remove dust residue.
- Require Teck to study the minerals in the soils in the region, and how those minerals might be entering the food and water system.
- Require Teck to provide support to the local communities through the provision of office space, logistical support, and funds to prevent and fight forest fires, drawing guidance from the existing work of the Simpcw Indigenous Initial Attack Crew working out of Chu Chua near Barriere, BC.
- Require Teck to enhance its recent efforts to monitor the feral horse populations which compete with mule deer and moose for habitat.

Indigenomics

- Require Teck to jointly develop with SSN a map detailing the location of hunting blind features within the Highland Valley area, as well as create and enforce a buffer zone to prevent any further damage to these culturally significant sites.
- Require Teck to consult with SSN on its Indigenous Employment Strategy and a Business Procurement Strategy, and require Teck to set timelines for completion and implementation of the strategy no later than six months before the start of construction on the HVC MLE Project.
- Require Teck to jointly develop a Social Management Plan with SSN (and other Indigenous governments and organizations) within one year of approval of the HVC MLE Project.
- Require Teck to provide further information to SSN on indicators, strategies, and mitigation measures it plans to use in its Social Closure Plan and whether it will commit to providing social investment funding to SSN in this plan to improve resiliency.

- Require Teck to commit to consulting with SSN on its Social Closure Plan, which must be developed, submitted and approved by the EAO at least five years before the start of the Closure Phase.
- Require Teck to deliver mandatory cultural awareness training to HVC employees and workers employed by HVC contractors within six months of development and for each new hire. The cultural awareness training must include information on UNDRIP, federal and provincial legislative frameworks for implementing UNDRIP, meaningful consultation and obtaining free, prior, and informed consent, Indigenous history (including the legacy of residential schools and Indigenous rights), intercultural competency, and anti-racism.
- Require Teck to prepare and submit a plan to support the participation of SSN in any pre-construction surveys as well as environmental monitoring required by the Environmental Assessment Certificate, if issued. This plan should be submitted to the EAO and SSN at least 60 days prior to the planned start of any pre-construction surveys.
- Require Teck to establish a public web-based registry of Indigenous businesses for contractors to identify Indigenous businesses for subcontracting opportunities during the Construction, Operations, Closure and Post-Closure phases, and require Teck to provide 90-day Request for Proposal pre-notifications of future bid opportunities in excess of \$100,000 anticipated contract value with adequate goods and services descriptions, the anticipated date of bid issuance, and the contract award date.
- Require Teck to provide annual reports on contracting and procurement opportunities provided to SSN which detail any engagement taken with SSN on such opportunities, the value of procurement from SSN contractors and suppliers and the methods for communicating contracting and procurement opportunities to SSN workers, businesses and the community.
- Require Teck to retain an Indigenous liaison throughout the Construction, Operations, Closure and Post-Closure phases of the HVC MLE Project to support Indigenous workers at the mine. The liaison should be Indigenous and have experience living and working in community.
- Require Teck to retain a Qualified Professional to develop, in collaboration with SSN, a Construction Environmental Management Plan that is submitted to the EAO and SSN for review at least 60 days prior to the planned start of Construction. The plan should address, at minimum, the following:
 - Access management;
 - Acid rock drainage and metal leaching management;
 - Blasting management;
 - Chance finds, including protocols for notifying all Participating Indigenous Nations;
 - Emergency response;
 - Erosion and Sediment control;
 - Fire suppression;
 - Geological and Terrain hazards;
 - Human-wildlife conflict;
 - Invasive plants management;

- Noise Management;
 - Traffic management;
 - Wildlife protection;
 - Exposure of Employees to contaminated areas;
 - Management and any remediation contaminated soils in the Project Footprint, including through water seepage and infiltration;
 - Site restoration;
 - How biodegradable oils will be used for equipment within 30 meters of a waterbody;
 - Vegetation management;
 - Surface water and groundwater protection;
 - Surface topsoil management;
 - Water management, including hazardous waste; and
 - Spill prevention and response related to hydrocarbon storage and leaks or other accidental emissions from machinery or equipment and notification to SSN in addition to the government, together with strict requirements to respond to any incidents forthwith.
- Require Teck to consult with SSN about opportunities for revenue sharing.
 - Require that at least 50% of any monetary fine that Teck incurs in relation to the HVC MLE Project resulting from noncompliance with an Environmental Assessment Certificate and associated authorizations and permits be split equally amongst the participating Indigenous governments and organizations for the purpose of supporting research and programming related to reducing impacts to and/or restoration of land, water quality, air quality, habitat, wildlife populations, and other conservation measures. To direct funds, the Province should form a committee which includes SSN representatives.