

APRIL 2021

Nqw'elqw'elústen (Meager Creek) and Múmleqs (Keyhole) Hot Springs **Visitor Use Management Strategy**

PHASE 1



1. Introduction

1.1 BACKGROUND

Nqw'elqw'elústen (Meager Creek) Hot Springs and Múmleqs (Keyhole) Hot Springs are both natural hot springs in the remote S'tuqált's (Upper Lillooet River Valley), located about 60 kilometers northwest of the Village of Pemberton, within the territory of the Líl'wat Nation. Both hot springs, and the river valleys in which they are situated, have significant cultural and spiritual values, wildlife and ecological values, and recreational values. Both hot springs are protected as A7x7úl'mecw (Spirited Ground Areas), and are important spiritual, cultural and food gathering areas for Líl'wat Nation. Unfortunately, both hot springs have seen negative impacts from unmanaged recreation visitation in the past, beginning in the 1980s when the area became accessible by vehicle and popular with the settler population.

In light of continued and increasing public visitation during site closures, the Province and Líl'wat Nation have taken this opportunity to lead a planning process to reassess management of both hot springs. This document is the outcome of the initial phase of this work, and recommends a phased approach to guide adaptive management.



MOUNT PLINTH, PART OF THE MOUNT MEAGER VOLCANIC COMPLEX

1.2 PURPOSE

The purpose of the Visitor Use Management Strategy is to guide the long-term, adaptive management of Nqw'elqw'elústen (Meager Creek) Hot Springs and Múmleqs (Keyhole) Hot Springs. Specifically, the Strategy will:

- Protect Líl'wat Nation cultural resources, values, and opportunities
- Protect wildlife habitat, sensitive species, and other important ecological values
- Provide recreational experiences and opportunities that align with Líl'wat Nation cultural values and interests, and that do not negatively impact these important values
- Provide guidance for commercial adventure tourism activities and recreation authorizations

2. The Planning Process

2.1 PARTNERSHIP BETWEEN BC & LÍL'WAT NATION

This project is a partnership between the Province and Líl'wat Nation that began in Fall 2019. The partnership is built on a foundation of mutual respect and an acknowledgement of Líl'wat rights and title. The Province recognizes this project as an important step towards realizing the goals of the United Nations *Declaration on the Rights of Indigenous Peoples* (UNDRIP) and the BC Declaration on the Rights of Indigenous Peoples Act (DRIPA). This project furthers the Province's commitment to lasting and meaningful reconciliation with First Nations.

The project working group includes representatives from Líl'wat Nation, the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, and the Ministry of Environment and Climate Change Strategy. The planning process is guided by the Visitor Use Management Framework¹.

1 <https://visitorusemanagement.nps.gov/VUM/Framework>

2.2 EXTERNAL ENGAGEMENT

Project partners have engaged local governments, stakeholder groups, the Líl'wat community, and the public to understand the diversity of values and concerns at both hot springs. Engagement opportunities have included a public online survey², a Líl'wat led community meeting, and an online survey for Líl'wat citizens. Local governments and stakeholder groups have been engaged through virtual meetings and on-going correspondence. The Fraser Basin Council has assisted project partners with facilitation and has also facilitated outreach and engagement with local governments, stakeholders, and the public.

3. Key Issues

The following issue statements summarize shared concerns with the current situation at Nqw'elqw'elústen (Meager Creek) Hot Springs and Múm'leqs (Keyhole) Hot Springs:

- » Unauthorized visitation to both hot springs is occurring, negatively impacting important cultural places, wildlife, and the environment.
- » Líl'wat citizens do not feel comfortable visiting these areas due to public visitation and the impacts from recreation visitation. As a result, Líl'wat use, practices, and access to these areas are compromised or avoided all together.
- » Many visitors to S'tuqált's (the Upper Lillooet River Valley) lack awareness and knowledge about Líl'wat culture and territory, as well as knowledge and education regarding the land and environment, backcountry preparedness, and respectful use.
- » Many members of the public and Líl'wat Nation citizens are not adequately informed of safety risks from natural hazards, such as landslides, debris flows, and avalanches.

2 https://landuseplanning.gov.bc.ca/api/document/5ee7b68a0d08e6001bcd14d7/fetch/WhatWeHeard_SurveyResults_HotSprings_May2020.pdf

- » Information about the hot springs posted on social media and independent websites is often inaccurate and does not support respect for existing regulations.
- » User built tubs at Keyhole Hot Springs are not professionally designed or maintained, negatively impact a unique natural feature, and are within a mineral lick utilized by wildlife. Unsanctioned water diversion negatively impacts at-risk species such as the vivid dancer damselfly. The Líl'watátkwa7 trail traverses steep slopes and is prone to rockfall, and water crossings are challenging to maintain.
- » Líl'wat Nation and the Province do not have adequate management capacity or resources to manage the existing levels of recreation use and impacts at the hot springs.



YELLOW MONKEY FLOWER GROWING AT MÚM'LEQS (KEYHOLE) HOTSPRINGS

4. Values and Roles of Nqw'elqw'elústen (Meager Creek) & Múmleqs (Keyhole) Hot Springs

4.1 LOCATION

Nqw'elqw'elústen (Meager Creek) Hot Springs and Múmleqs (Keyhole) Hot Springs are within the exclusive territory of the Líl'wat Nation. Meager Creek Hot Springs are located on Nqw'elqw'elústen (Meager Creek). Keyhole Hot Springs are located along Stúqált's (the Upper Lillooet River), below Múmleqs (Keyhole Falls). Both hot springs are approximately 60 kilometers from the Village of Pemberton. The hot springs are located within the Mount Meager Volcanic Complex, where geothermal waters emerge from beneath the volcanic massif.

The Mount Meager Volcanic Complex is one of the most geologically active areas in North America. In August 2010, warm weather triggered the collapse of approximately 53 million cubic meters of rock and debris from the south flank of Q'welq'welústen (Mount Meager), generating the largest historic landslide in Canada³. The debris flow traveled over 12 kilometers, temporarily blocked both Líl'watátkwa7 (the Lillooet River) and Meager Creek, and destroyed most of the Meager Creek forest service road and the bridge over the Lillooet River.



CAPRICORN CREEK, TEN YEARS AFTER THE 2010 Q'WELQ'WELÚSTEN (MOUNT MEAGER) LANDSLIDE

3 Roberti, G. et al. 2018. Landslides and glacier retreat at Mt. Meager volcano: hazard and risk challenges. *Geohazards* 7. Canmore.

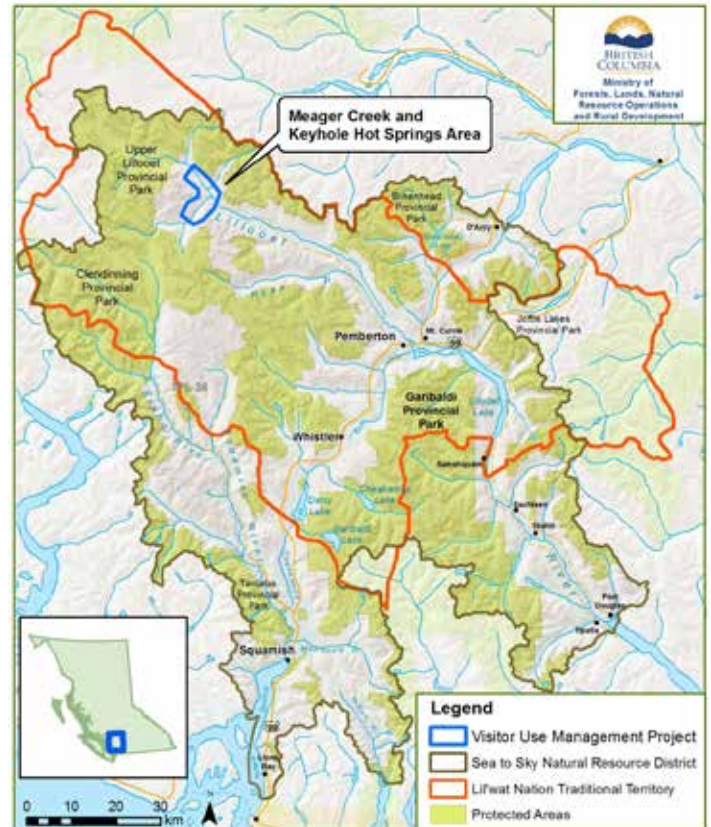


FIGURE 1: MAP OF PROJECT AREA

4.2 IMPORTANT VALUES

Nqw'elqw'elústen (Meager Creek) and Múmleqs (Keyhole) Hot Springs are within Líl'wat territory and are places of cultural and spiritual significance for Líl'wat Nation. As stated in the Líl'wat Land Use Plan⁴, in English and in the Ucwalmícwts language: The Líl'wat have always been, and will continue to be, a people of the land – *I sqwéqwel's i Líl'wata Úcwalmicw sqwal'minítas i skélkel7a tmicw. Wa7 t'u7 wa7 tsúwa7s i Líl'watemca ti tmicwiha.*

The areas over and around both hot springs are protected as A7x7úlme'cw (Spirited Ground Areas). A7x7úlme'cw represent important spiritual, cultural and food gathering areas for Líl'wat Nation.

The importance of these places is reflected in Líl'wat oral history and in Ucwalmícwts place names, which describe geographic features and tell a story about each place. Q'welq'welústen, meaning “cooked face place, or really hot face,” describes Mount Meager. Nqw'elqw'elústen refers to Meager Creek and the

4 [Líl'wat Land Use Plan, Phase 1](#). 2006.



STUQÁLT'S (UPPER LILLOOET RIVER)

watershed. Nqémpa Stswaácw (or qempátkwa7), meaning “hot creek,” also describes Meager Creek. Múrnleqs, meaning “to look down your nose,” describes Keyhole Falls (from the perspective of someone standing at the top of the falls). Líwatátkwa7 is the place name for the Lillooet River.

Líwat Nation citizens access Nqw’elqw’elústen (the Meager Creek watershed) and Stúqált’s (the Upper Lillooet River Valley) to carry out cultural practices, connect with their territory, and carry out activities such as hunting and gathering. However, this has been impeded by the amount and types of public use of the area.

The natural hot springs, and the river valleys in which they are situated, provide important habitat for many wildlife species in the Upper Lillooet River Valley, in particular grizzly bear, mountain goat, wolverine, wolf, deer, and moose. This area is home to the threatened South Chilcotin grizzly bear population unit. Grizzly bears and wolverine are both listed as species of special concern under federal legislation, and are provincially ranked as vulnerable. The Upper Lillooet is a very important wildlife migration corridor for deer, moose, and mountain goats. Mineral licks at both Meager Creek and Keyhole hot springs provide wildlife with year-round nutrients. Both Meager Creek and the Upper Lillooet River also support fisheries values.

The warm water and its unique water chemistry provides habitat for specialized species, and provincially rare and at-risk species have been documented at both hot springs. For example, the vivid dancer damselfly (*Argia vivida*) is a species of special concern in British Columbia and Canada that occurs at both hot springs. The vivid dancer breeds in geothermal springs and is threatened

by intensive recreational use. Meager Creek Hot Springs is also the only known location within BC where the American bulrush (*Schoenoplectus americanus*) grows.

Natural hot springs have a recreational draw for those wanting to bathe in a remote, wilderness setting. Visitors value the solitude, the natural surroundings, and the wilderness setting. The Upper Lillooet Valley has a unique and dynamic geological history, and provincially significant features, such as Múrnleqs (Keyhole Falls). The Mount Meager Volcanic Complex continues to be explored for geothermal energy.

4.3 HISTORY AND CONTEXT LEADING TO CURRENT RECREATIONAL USE

Stúqált’s (The Upper Lillooet River Valley) has been home to the Líwat Nation for thousands of years. The area was widely used by Líwat people for ceremonial and spiritual practices, vision questing, hunting and gathering, trade and travel. The area was settled in the 1800s, the Village of Pemberton was incorporated in 1956, and the highway from Whistler was built in 1975. The hot springs began to see recreational visits by the settler population in the 1970s, as the construction of roads for forestry and industry improved public access to the area. Líwat Nation did not consent to the recreational or industrial use that began within their territory in the 1970s and continues today.

4.3.1 NQW’ELQW’ELÚSTEN (MEAGER CREEK) HOT SPRINGS

By the 1980s, Nqw’elqw’elústen (Meager Creek) Hot Springs was a popular recreation destination and in 1994 the hot springs saw an estimated 27,500 visitors. There was no site operator, which led to management issues. After being ordered closed by the Ministry of Health in 1995, the Province decommissioned the user-built tubs. In 1999, the Province contracted Sea to Sky Onsen to construct stone pools with proper water circulation and draining systems. In August 1999, the Province acquired an Order in Council exemption from the BC Pool Regulation (*Public Health Act*)⁵ for hot springs,

5 [BC Pool Regulation \(Public Health Act\), Schedule 1](#) – Exemptions.

making it possible to re-open the pools for public use without having to meet typical swimming pool standards, such as chlorinating the water.

During this same year, recognizing the risk in the area, the Province commissioned a landslide risk management plan for Meager Creek Hot Springs. The plan was initiated, and in 2000 the hot springs were re-opened for day-use only. Access to the area was governed by daily weather thresholds, as the probability of large-scale landslides increases with heavy rainfall, extreme temperatures, and associated glacial melt water. Camping was relocated to the Upper Lillooet Campsite along the Upper Lillooet FSR. Approximately 6,000 people visited the hot springs in 2003. Between the fall of 2003 and summer of 2010, flooding and debris flows blocked access to the hot springs, and the site was closed for much of this time.

On August 6, 2010, the Q̓welq̓welústen (Mount Meager) landslide occurred, completely destroying the forest service roads that accessed the valley. While the landslide did not destroy the Meager Creek Hot Springs recreation site, the Province closed the site due to public safety concerns in 2010. Because road access to the hot springs was effectively cut off that year, the number of visitors to the site in the years after the landslide was likely very low. Road access to Meager Creek has been recently re-established for industrial traffic, but the hot springs have remained closed to the public due to safety concerns, and public motorized access restrictions are in place to protect wildlife and public safety. Despite these measures, unauthorized visitation during the closure has continued.

4.3.2 MÚM LEQS (KEYHOLE) HOT SPRINGS

Recreational visitation to Múmleqs (Keyhole) Hot Springs (also known as Pebble Creek Hot Springs) began in the 1980s, as Stúqált's (the Upper Lillooet River Valley) became accessible by vehicle. In 2013, Innergex Renewable Energy Inc. began construction of the Upper Lillooet Hydro Facility and gained authorization from the Province to construct the Lílwatátkwa7 Trail (Lillooet River Trail). With a new trail, improved road access and the advent of social media, the popularity of Keyhole Hot Springs increased dramatically. In 2016, between 100-700

people were observed at Keyhole Hot Springs each weekend between March and May. Many visitors left garbage behind, and irresponsible camping practices resulted in the food habituation of several black bears. Dangerous and aggressive bear behavior towards visitors occurred regularly. The Lílwatátkwa7 Trail and the hot springs were closed in June 2016, and again in summer 2017, to protect public safety and reduce the likelihood of additional bears becoming habituated to unnatural food sources. In 2018 the Province enacted a seasonal closure (April 1 – November 15) of the Lílwatátkwa7 Trail and Keyhole Hot Springs to prevent dangerous encounters with food habituated bears and to prevent further food habituation. The timing of this closure also supports the recovery of the local threatened grizzly bear population. Public visitation to Keyhole Hot Springs has continued during the seasonal closure.

5. Existing Management Direction

Area specific management direction for Nq̓w'elq̓w'elústen (Meager Creek) Hot Springs and Múmleqs (Keyhole) Hot Springs can be found in the [Lílwat Land Use Plan](#), the [Land Use Planning Agreement between Lílwat Nation and the Province of British Columbia](#), the [Sea to Sky Land and Resource Management Plan](#) (LRMP), the [Sea to Sky Coordinated Access Management Plan](#), the [Upper Lillooet Access Planning Project \(Gates for Grizzlies\)](#), as well as through Provincial legislation, orders and regulations.

Public motorized access restrictions are in place along the Lillooet South forest service road to protect wildlife and public safety. These can be found on the [Sea to Sky Natural Resource District Road Safety Information website](#). Public motorized access to Stúqált's (the Upper Lillooet Valley) is also restricted during times of elevated landslide hazard, as determined by weather criteria outlined in the 2017 [Landslide Risk Management Plan](#), and during periods of high avalanche risk.

Location	Public visitation allowed?	Established as a Provincial Recreation Site or Trail?*	Relevant legislation
Meager Creek Hot Springs (pools & trail)	Closed year-round**	Yes (recreation site)	BC's <i>Forest Recreation Regulations</i>
Keyhole Hot Springs (pools)	Closed seasonally*** (Apr 1 – Nov 15)	No (recreation reserve notation)	BC's <i>Land Use Policy - Permission</i> , enforced through the <i>Land Act</i>
Lílwatátkwa7 Trail	Closed seasonally*** (Apr 1 – Nov 15)	Yes (recreation trail)	BC's <i>Forest Recreation Regulations</i>

* [Through BC's Forest and Range Practices Act.](#)

** The Meager Creek Hot Springs recreation site has been closed since the 2010 landslide.

*** Irresponsible camping and lack of proper food storage practises at Keyhole Hot Springs resulted in the food habituation of several bears in 2016. The seasonal closure of the trail and hot springs was enacted to prevent dangerous encounters with food habituated bears and to prevent further food habituation.

6. A Shared Vision for Nqw'elqw'elústen (Meager Creek) and Múmleqs (Keyhole) Hot Springs

The following long-term vision has been developed collaboratively by the Province and Lílwat Nation, with input from local governments, stakeholders, Lílwat citizens and the public. These statements describe shared aspirations for the future of Nqw'elqw'elústen (Meager Creek) Hot Springs and Múmleqs (Keyhole) Hot Springs and reflect Lílwat Nation's connection to the land, cultural and spiritual values, sensitive ecosystems, important wildlife habitat, and wilderness characteristics of these areas.

- * *Lílwat Nation has a presence on the land and Lílwat rights and title to the land are respected.*
- * *Sacred sites, archaeology sites, pictographs, traditional trails, and other important features are protected.*

- * *Lílwat Nation citizens continue accessing Nqw'elqw'elústen (the Meager Creek drainage) and Stúqáíts (the Upper Lillooet River Valley) without being deterred by public use or the impacts of public use. Lílwat Nation citizens feel comfortable carrying out traditional practices, cultural practices, spiritual cleansing, hunting, and gathering.*
- * *Any visitors to Stúqáíts (the Upper Lillooet River Valley) are aware they are within Lílwat territory, and have opportunities to learn about Lílwat Nation's culture and history on the land.*
- * *The ecosystem is healthy and functioning, water is clean and free flowing, and wildlife is thriving. The currently threatened South Chilcotin Ranges grizzly bear population continues to recover.*
- * *Wildlife habitat, rare and at-risk species are protected. Important and unique natural features, such as mineral licks, are protected.*
- * *Management of the hot springs is a joint effort between the Province and Lílwat Nation. Lílwat Nation has economic benefits where opportunities arise.*

- * Adequate resources support education, management, and enforcement.
- * All visitors to Stuqált's (the Upper Lillooet River Valley) are well-informed about existing risks from natural hazards. Information is accurate and effectively conveyed to the public
- * Education effectively achieves respect for Líl'wat cultural values, the land and environment, wildlife, as well as rules and regulations. There is a very high level of compliance from the public.
- * Nqw'elqw'elústen (Meager Creek) Hot Springs retains a wilderness character and is difficult to access. Public motorized access does not occur.
- * Múm'leqs (Keyhole) Hot Springs retains a wilderness character. Visitors can expect to experience solitude and closeness to nature. Visitors to the hot springs are mindful of their use and impacts. Visitors are respectful of wildlife and do not engage in behavior or activities that may result in the habituation of wildlife, or otherwise bring harm to themselves, others, or wildlife in the area.



NQW'ELQW'ELÚSTEN (MEAGER CREEK) IN SPRING



DEER TRACKS AT THE EDGE OF SHALLOW WARM POOLS, NEAR MÚM'LEQS (KEYHOLE) HOTSPRINGS

7. Management Strategies & Actions

The focus of the Visitor Use Management Strategy is to identify feasible management actions that will help achieve the long-term vision for Nqw'elqw'elústen (Meager Creek) and Múm'leqs (Keyhole) Hotsprings. The Province and Líl'wat Nation recognize that additional management actions are needed at both hot springs to ensure the protection of Líl'wat Nation cultural values, important ecosystems and wildlife habitat, species-at-risk, and public safety. Project partners have come to consensus on management actions (Table 2), which incorporate feedback received from local governments, stakeholders, Líl'wat citizens, and the public.

The Strategy is meant to guide adaptive management, and the Province and Líl'wat Nation will take a phased approach to implementing this Strategy. The Phase 1 actions listed below will be reassessed in Fall 2021, after initial monitoring efforts provide more information. Actions may be adjusted in the future, depending on how successful they are at achieving the desired conditions.

Management Goal	Management Actions
<p>1. Increase awareness and respect for Lílwat territory, and increase education on Lílwat culture and history on the land</p>	<ul style="list-style-type: none"> • Improve signage where appropriate and update the Recreation Sites and Trails BC website to provide information on Lílwat culture and history on the land <ul style="list-style-type: none"> ◦ Include Lílwat place names and Ucwalmícwts language on information sources, where appropriate
<p>2. Protect biological diversity, wildlife habitat and natural features, sensitive, rare, and at-risk species, the wilderness setting, and Lílwat citizens' ability to carry out traditional use practices freely</p>	<p><u>Meager Creek Hot Springs</u></p> <ul style="list-style-type: none"> • Continue site closure to minimize negative impacts from recreational use • Conduct minor site rehabilitation and install signs and/or minor barriers to protect vegetation and sensitive habitat, and discourage use • Increase official management presence, compliance and enforcement as feasible (see Goal 5) • Monitor effectiveness of closure measures <p><u>Keyhole Hot Springs</u></p> <ul style="list-style-type: none"> • Continue seasonal closure, rehabilitate parts of the site, and make minor infrastructure improvements to minimize negative impacts from recreational use • Install signage and/or minor barriers to protect mineral licks & sensitive habitat • Conduct an Archeological Overview Assessment • Increase official management presence, compliance and enforcement as feasible (see Goal 5) • Monitor effectiveness of closure measures
<p>3. Ensure ongoing access for Lílwat Nation citizens</p>	<ul style="list-style-type: none"> • Communicate to Lílwat Nation citizens and provide information on access
<p>4. Increase information and education on the following:</p> <ul style="list-style-type: none"> • Environment & wildlife values of the hot springs • Risks from natural hazards • Rules & regulations for public use of the hot springs and access to the Upper Lillooet • Leave No Trace principals • Impacts from human activity to sensitive species and the environment 	<ul style="list-style-type: none"> • Update Recreation Sites and Trails BC's website and signs, as appropriate • Post weather criteria for landslide hazard rating directly on the Sea to Sky Forest Service Road web page and explore feasibility of posting real-time landslide hazard rating online • Install signs with information on landslide risks & weather criteria for road closures • Provide information to local government, tourism organizations, and stakeholder groups to ensure accurate and consistent messaging • Discourage promotion of the hot springs by tourism organizations

Management Goal	Management Actions
<p>5. Increase on-site management presence, monitoring, compliance and enforcement by the Province and Lílwat Nation, as feasible</p>	<ul style="list-style-type: none"> • Explore opportunities for Lílwat Nation and the Province to work together to increase on-site management and monitoring • Explore opportunities for a Lílwat Nation Stewards Program at the hot springs • As resources allow, increase Conservation Officer Service patrols during site closures • Explore opportunities for Lílwat Nation to join compliance and enforcement patrols led by the Province • Explore opportunities for Lílwat Nation to actively manage Keyhole Hot Springs during open periods
<p>6. Manage public access and safety according to best available information and guidance, particularly regarding risks from landslide hazards</p>	<ul style="list-style-type: none"> • Continue to provide information to the public and to Lílwat Nation citizens on landslide hazard and safety risks in the area • Continue to manage access to the Upper Lillooet according to existing Landslide Risk Management Plan, update if new information becomes available

8. Implement, Monitor, Evaluate, and Adjust

8.1 IMPLEMENTATION

A collaborative approach will be taken to implement the actions outlined in this document, subject to available funding and staff resources. An implementation committee, made up of Provincial staff and representatives from Lílwat Nation, will guide this process. Where possible, the Province and Lílwat Nation will collaborate with local governments, stakeholders, and/or community organizations to support the goals of this Strategy.

8.2 IMPORTANT INDICATORS FOR MONITORING

Indicators are specific resource or experiential attributes that can be measured to track changes in conditions so that progress toward achieving and maintaining the long-term vision can be assessed. The Province and Lílwat Nation have identified indicators, as well as objectives for each

indicator, that reflect the desired conditions for Nqw'elqw'elústen (Meager Creek) Hot Springs and Múmleqs (Keyhole) Hot Springs. These are attributes related to environment and wildlife, sensitive and at-risk species, Lílwat culture and connection to land, safety and preparedness, and compliance.

Indicators will be monitored to track the changes in conditions at Meager Creek and Keyhole hot springs. The indicators themselves will be assessed and evaluated over time to determine how well they reflect the current state in relation to the desired conditions. Monitoring efforts will coordinate with existing initiatives and utilize established monitoring protocols where possible. Through monitoring, it will be possible to track changes in conditions and determine if the situation is trending towards the desired conditions, or away from them.



8.3 EVALUATE AND ADJUST

As the initial management actions are implemented during Phase 1, monitoring will provide important information. After the initial phase of monitoring, project partners will reassess the current state and determine what/if additional management strategies and actions are needed. Project partners acknowledge that new information may arise that may influence the desired conditions, indicators, and management actions. Project partners recognize this is a new approach to managing recreation in the Sea to Sky corridor and seek to learn from the process. Ultimately, the Strategy will guide the Province and Liíwat Nation in the long-term, adaptive co-management of Nqw'elqw'elústen (Meager Creek) and Múmleqs (Keyhole) hot springs.

