

Lillooet Nature Centre Feasibility Study

Prepared for the Lillooet Naturalist Society & Cayoose Creek Community
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Table of Contents

Table of Contents	2
Introduction	3
Current Analysis	3
Requirements.....	6
The Approach	6
Children' Survey Results (47 total)	7
Survey-Brochure Results (See Appendix 1 for details).....	7
The Lillooet Friendship Centre Open House (See Appendix 2 for details).....	9
Cayoose Creek Band Open House	10
Visioning Sessions Summary.....	10
Operational Research	12
The Benefits of a Nature Centre	12
Positions	12
Programs	14
Creating the Facilities	15
Getting Organized	17
Getting Support: Building Community	18
Financial Matters: Costs and budget	19
Conclusion.....	21
References	23
Appendix 1: Survey Results.....	24
Appendix 2: Lillooet Friendship Centre Open House.....	25
Appendix 3: Nature Centre Examples.....	26
Appendix 4: Funding Sources.....	27

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Introduction

The Powerhouse Foreshore Restoration Project (PFRP) is a community initiative being partnered by the Lillooet Naturalist Society and the Cayoose Creek Band, which is one of the eleven communities of the St'át'imc Nation. The project has undertaken ecological restoration in an area around the confluence of the Cayoose Creek as it flows into the Fraser River. Work was towards bringing the place back to the way it used to be in the past. It engages many important ecological and cultural values, and has received widespread support.

Recent comments were made regarding the possibility of building a Nature Centre at this site. The vision is to have a home and trail system where locally developed environmental and cultural programs could be implemented. It would promote a stewardship ethic encouraging people to take personal action towards sustainability. The building structure would showcase alternative technologies and a green design. It could eventually become a part of a chain of small centres along the Fraser River featuring unique aspects of each area, as well as teaching the importance of salmon and the need to live sustainably in all parts of the watershed.

The PFRP received funding from the Fraser Salmon and Watershed Program and the Bridge Coastal Fish and Wildlife Restoration Program to carry out a feasibility study. The project was to involve the community in discussions regarding the implications and support for building a nature centre. It included looking into building and site design options, as well as carrying out research into the operation of and funding opportunities. The architect has experience working with aboriginal communities and with landscape and green architectural design. He was hired to translate the ideas expressed during the visioning sessions into a realistic vision and to develop professional materials.

Current Analysis

In 2008, the Lillooet Naturalist Society (LNS) and Cayoose Creek Band (St'át'imc) implemented Phase one of the Powerhouse Foreshore Restoration Project. The goal was to mitigate site damage caused by the construction and operation of the BC Hydro Dam and Cayoosh Creek Canal complex.

This site is located within the District of Lillooet boundaries and within the St'át'imc traditional territory. The Powerhouse Road to the west and the Cayoose Creek Reserve lands to the north border it. It is currently zoned 'industrial' and 'unsurveyed Crown land'. It runs along the foreshore of the Fraser River, from the mouth of Seton River to Cayoosh Canal Outlet. This is where the Seton basin and Fraser River valleys meet. It has also been designated as a wildlife habitat area for the Western Screech-owl.

Restoration work aimed to create a diverse and healthy habitat for wildlife focusing specifically on species-at-risk. Activities included decommissioning roads, redirecting traffic to one roadbed, site clean up, ponderosa pine protection, and removal of invasive plant species. It entailed collecting, propagating, and replanting of native plants, trees, shrubs, herbs, and grasses, as well as completing several wildlife studies. It served as a learning tool and a community capacity building exercise. Phase two was carried out in 2009. It was during Phase One that the vision to build a nature education centre originated.

Although the Lillooet Naturalist Society and Cayoose Creek Band are the primary partners for this feasibility project, further support has been attained through a network of affiliations. Letters of support to carry out this feasibility study has been received the Lillooet Tribal Council, the District of Lillooet, BC Nature, the Rivershed Society of BC, the Ministry of Environment (MoE), and the

Department of Fisheries and Oceans (DFO). Cayoose Creek Band was willing to offer advice and support in developing the plan that reflects cultural and wildlife values. MoE agreed to provide recommendations and advice on the role of centre programs and ensure the plans do not negatively impact wildlife habitat. DFO is willing to ensure plans do not impact riparian zones and rivers. The local Peace and Ecology Group, LIONS, local media, as well as other local organizations and businesses have also provided further support.

The *Lillooet Naturalist Society* consists of six directors and has been registered as a society since 2003. They promote enjoyment and understanding of nature by its members and to the public. They support protected natural areas via parks, ecological reserves, wilderness areas, wildlife management areas, wild and scenic rivers and other such protected areas. They also believe in defending the integrity of existing sanctuaries. They aim to encourage and engage in the protection and restoration of threatened and endangered species paying special attention to preserving essential habitats. They are also interested research and fundraising to protect the integrity of all natural ecosystems. The following is a link to their website:

<http://www.lillooetnaturalistsociety.org/>

Their website provides reference to local mammals, reptiles and amphibians, bats, birds, insects, and fish. It has news, resources, links, and activities and events pages. The LNS are involved in partnering initiatives with local organizations and First Nation communities, including Cayoose Creek Band. They are committed to organizing and promoting local events and activities working towards their goals. Recent activity from the previous year in 2009 include:

- A Powerhouse Foreshore Restoration Day – a field day with a local elementary school
- Wild Native Plants & Nursery – open house & volunteer planting days
- BC Nature Camp
- Earth Science Event – learning about lichens, soil, and local geology
- Celebrating World River Day and Shoreline Cleanup
- Salmon in the Canyon Festival – celebrating the Fraser River
- River Shed Discovery – Three Rivers Join One/ Bridge River Fishing Rocks
- Coastal Fish Farms
- Animal tracking and mapping with the Lillooet Cadets
- A presentation on the White Bark Pine & Grizzly Bear
- Wildlife and Bears - including bartering goods and campfire stories
- Mule Deer mitigation and ecology in the St'át'imc Nation Territory
- Fire Ecology and Bugs
- Reptiles and Amphibians i.e. Coast Tailed Frog Research
- Bats at the Old Bridge
- Annual Christmas Bird Counts
- Burrowing Owl
- Wetlands
- Habitat Restoration
- Independent Power Projects
- And more

The *Rivershed Society of British Columbia (RSBC)* has developed stewardship partnerships all along the Fraser River. The LNS is an affiliate. They envision salmon flourishing in the rivers and people flourishing in their communities. Their mission is to inspire communities to care about the river sheds. They value being a part of the natural environment as it sustains people. They believe that achieving responsible stewardship, conservation, and protection is a process. They feel individuals can make a difference through awareness that develops into understanding, inspiration, empowerment, action, citizenship, and leadership. A long-term vision has evolved to see a chain of small nature centres along the Fraser River that would showcase the unique aspects of the river in each of the regions they are situated. They would stress the importance of the Fraser River to salmon and the need to live sustainably along the river. To date there is only one such centre, which is the Fraser River Discovery Centre in New Westminster.

<http://www.rivershed.com/index.shtml>

BC Nature, also known as the Federation of BC Naturalists, represents more than 50 nature clubs and societies through the province. The LNS are also apart of this federation. All offer a variety of activities from birding outings, to wildflower hikes and walks, to stewardship projects, and a variety of speaker programs. Their constitution lists four purposes: to provide naturalists and BC nature clubs with a unified voice on conservation and environmental issues; to foster an awareness, appreciation and understanding of our natural environment, that it may be wisely used and maintained for future generations; to encourage the formation and cooperation of nature clubs throughout BC; and lastly, to provide a means of communication between BC naturalists. Some are involved in running a nature centre. The Williams Lake Field Naturalists Society operates the Scout Island Nature Centre. <http://bcnature.ca/index.html>

Cayoose Creek Band, also known as Sek'wel'wás, is literally translated to mean, "broken in half, which refers to a big rock. The community is made up of three reserves located south of the town of Lillooet where Seton River joins the Fraser River. Its governance consists of one Chief and three Council members. It has a registered population of 192 members as of Feb 2010. This includes members living in and away from the community. This figure was in accordance with Indian and Northern Affairs retrieved from their website on March 2010. <http://www.aboriginalcanada.gc.ca/acp/community/site.nsf/en/fn591.html> and <http://maps.fphlcc.ca/sekwelwas>

Cayoose Creek is one of the eleven communities that make up the *St'át'imc Nation*. The St'át'imc way of life is inseparably tied to the land, in which the rivers, mountains, lakes, flora and fauna provide the means for hunting, fishing, food harvesting, medicinal gathering, etc. The *St'át'imc Chiefs Council (SCC)*, politically representing the communities, holds a vision to see a continued and renewed relationship between the people and the land. They envision respect for nature and their cultural traditions. By using the ways, laws, and standards passed from generations and by putting the health of the water, air, plants, animals, and lands before all else. They acknowledge the authority of the people who decide on management of the lands and resources and aim to serve the communities so resources continue to provide sustenance in old and new ways to all St'át'imc people.

The *Lillooet Tribal Council (LTC)* is the administrative centre mainly for the northern St'át'imc communities. These communities include: Cayoose Creek (Sekw'el'was), Bridge River (Xwisten), Lillooet Band (T'it'q'et), Pavilion (Ts'kw'aylaxw), Fountain (Xaxli'p), and Seton Lake (Chalath). They live within the vicinity of Lillooet, and tend to enter into partnerships with each other through various initiatives. <http://www.statimc.net/>

The *Upper St'át'imc Language, Culture and Education Society (USCLES)*, is one such organization housed at the LTC. Their overall goal has been towards enhancing and maintaining the St'át'imcets language and other cultural knowledge through education. Their current aim includes the construction and operation of a St'át'imc Cultural Centre. <http://www.lillooetbc.com/Residents/First-Nations.aspx>

The *District of Lillooet* offers a variety of indoor and outdoor activities for all ages in terms of its organizations, facilities and natural surroundings. Its municipal departments include basic living services ranging from administration, planning, by-laws, economic development, fire department, public works, and recreation. It consists of one mayor and four council members whose mission is to provide public services to address the needs of and enhance the quality of life of the community. They strive to be innovative, action-oriented, and to develop leadership in government. The 2006 census estimates a population of 2,324 with an overall population of about 5,000 from surrounding communities that use Lillooet as their trading centre. The local School District 74 includes Cayoosh Elementary, George M. Murray Elementary, Lillooet Secondary, and the Lillooet Adult Learning Centre. Other local education institutes include Fountain View Academy, which is a Christian high school, and the Thompson Rivers University/ Lillooet Training and Education Centre. <http://www.lillooetbc.com/home.aspx>

In 2007 the Intergovernmental Panel on Climate Change (IPCC) reports examine climate change and the impacts it is having on natural systems and human society. It states climate change *is* occurring and there is high confidence (90%) that it is being accelerated by human actions, largely by greenhouse gases. Climate change is expected to raise temperatures 2 – 4 degrees by the end of this century, which has major implications for sockeye salmon (IPCC, 2007). Salmon are sensitive to temperatures and exposure to water temperatures above 20C has been strongly correlated with pre-spawning mortality (Morrison et al., 2002). <http://www.ipcc.ch/index.htm>

Requirements

The goal is to build a Nature Education centre that would provide a home to implement locally developed environmental and cultural programs in the community and to showcase 'green' alternative technologies. These programs would aim to create awareness on human impacts on the watershed, as well as promote individual responsibility to the environment thereby initiating personal action towards sustainability.

To achieve this goal the following objectives for this study have been identified:

- To develop a framework and process that ensures involvement of the community in all decision making processes that are both collaborative and respectful.
- To hold Visioning Sessions where the community will take ownership of the project and brainstorm ideas and eventually come to a consensus on feasibility and design plans.
- To complete a feasibility report to include details on funding opportunities and long-term operational structures.
- To develop visual plans to include site selection and positioning, and a culturally and 'green' inspired building design.

The Approach

The project started in May 2009 when two facilitators were hired, Colleen Jacob and Toby Mueller. Both designed a survey-brochure introducing the idea of having a Nature Centre in Lillooet and opened up to a seven-question survey (Appendix 1). Toby spent the spring-summer distributing the survey and setting up information booths at a number of local events. She also carried out a children's survey. They held an open house at the Lillooet Friendship Centre on July 15, 2009 providing information on what a nature centre is and gathered initial input from community members (Appendix 2). The survey and LFC open house results suggest support by the community to build a nature centre in Lillooet.

Timing was appropriate to connect with the Cayoose Creek Band to determine if they were willing to go forward with the project. At a Chief and Council meeting, on September 15, 2009, it was decided to have another open house but this time at Cayoose Creek Band office to determine the level of support from their members. In addition,

Colleen attended an annual general meeting of USCLES, whose vision is to build a St'át'imc Cultural Centre. They understood the focus of the nature centre is on nature. They acknowledged working with St'át'imc communities by way of promoting their cultural initiatives, and with to maintain their relationship with the LNS and Cayoose Creek. Shortly hereafter, Lillooet underwent evacuation due to a forest fire, and Toby was unable to continue her role as facilitator.

The open house at Cayoose Creek Band was held on October 15, 2009, in which displays were set up and the survey-brochures were distributed and gathered. An update and discussions on the project was followed by a site tour of the restoration site and the nearby spawning channel. When people were asked which site they preferred, most suggested the restoration site, then the spawning channels, and next in an area called the Penstocks. Question came up if this was also going to be for tourism, and it was stated that it is mainly looking at education for the local

community, although the potential for tourism is there. There was no objection to going forward; therefore it was decided to carry on with organizing two visioning sessions.

The Visioning Sessions were held on December 5, 2009 and Feb 27, 2010, and were open for anyone to attend. At the first session the architect, Alfred Waugh, incorporated the open house and survey information into the presentation and gathered ideas on the visual design and site placement for the nature centre. At the second session, he presented visual images of the nature centre and received any further comments from community members.

Communications included news articles in the Bridge River Newspaper, and the St'at'imc Runner. Information and meeting dates were posted on the LNS website. An invite was sent out to Cayoose Creek community prior to the first visioning session, and further invites were sent out via email to all those who expressed interest through the survey or open houses. Invitations were extended to nearby St'at'imc communities via a letter informing each of the feasibility study for a nature centre. Also seeking their input at the Open house or through the survey. Letters were also sent to USCLES, and the St'at'imc Chiefs Council.

On January 9, 2010, Colleen did a short update on the project during the LNS annual general meeting. The last steps included making any final changes to the Pre-design Study, and to complete the research and final report.

The following is a summary of the results from the surveys, the LFC open house, the visioning sessions, and the operations and funding research.

Children' Survey Results (47 total)

Do you think building a nature education centre in Lillooet is a good idea?

Yes	81%
No	11%
Double Answer Yes/ No	4%
Unsure	4%

- 87% said they enjoyed going on nature field trips
- 66% liked learning outside, and 38% said they liked learning inside
- 62% liked learning with friends, and 23% said they like to learn alone
- 62% liked to learn by reading a book, 49% liked learning by listening to teachers, 47% said by doing something, and 38% said by watching TV.
- When asked what nature topics they were interested in 85% said wild animals. Others said taking care of the land 49%, native plants 47%, salmon 43%, rivers and watersheds 38% and water conservation 30%

Survey-Brochure Results (See Appendix 1 for details)

56 Surveys

Would you be interested in seeing a small 'green' nature centre/ interpretive centre?

Yes	84%
Unsure	11%
No	0%
No Response	5%

The Benefits of a Nature Centre

It would provide educational value for the whole community. It could become a central location for teaching and learning. A place to provide information, share knowledge, and raise consciousness. Awareness is viewed as a key to proper management of the Fraser River

watershed. Learning opportunities include field trips, open classes, school groups, tours, hands-on activities, research, expert presentations, and a resource library. One person appreciates the potential for education, but also expressed enjoying the site the way it is.

With its focus on nature, it would serve to create local awareness on issues concerning nature. People will learn such things as native plant growing and uses, restoration, how to go 'green', and about sustainability. It would provide a glimpse of nature as it showcases local flora and fauna, and its benefits would be preserving plant and animal habitats. People would learn ways to protect and conserve nature, and it would show that the people care about and appreciate the local ecosystem.

One pointed out that a nature centre does not exist in Lillooet, and that it would be good to have interpretive centres along the Fraser River. By focusing on the Fraser River it would show that people are living along the banks of an important river and near an interesting river junction. It provides easy access and a good walking area. Additional possibilities include eco-tourism, with the option of including local history and features, and First Nations culture.

What would the challenges be?

- Funding to keep it open in the long-term, and deciding if it would be seasonal or year round. Financial sustainable for administration, staff wages, and maintenance. Continued fundraising. Getting it off the ground, keeping it up to date, and building it well.
- Everyone working together in cooperation. Volunteers and getting enough people involved and participating. Support from local First Nations communities.
- Location and use. More traffic to this delicate area may have a greater impact and it would be less secluded.
- Offering a continued variation in themes
- Advertisement and promotion
- Tourism is seasonal.
- Vandalism and keep it litter free

Topics of Interest

1. Salmon ecology, history, and conservation	91%
2. Traditional St'át'imc land use	88%
3. Native plants	88%
4. Local endangered species	84%
5. Ecological restoration	80%
6. Human/ wildlife interface	79%
7. Water conservation	77%
8. Green home design	71%
9. Sustainable technology	63%

Other interests: medicinal uses and edible garden, sustainable forestry practice, yurts, flora and fauna, ongoing research and education, historical interaction between people.

Interests in terms of sustainable technology, green home design, and retrofitting

1. Alternative energy (i.e. solar, wind, microhydro)	75%
2. Low water gardening (xeriscaping)	66%
3. Domestic water conservation	52%
4. Low tech water purification	39%
5. Passive solar building	38%

Other interests: solar system, permaculture, rainwater capture, geothermal, wind, easy parking, straw bale/cob/green roof, compost bathrooms, and learn about 'green' design.

Would a Nature Centre provide a good tourist destination?

- | | |
|---------------|-----|
| 1. Yes | 86% |
| 2. No | 0% |
| 3. Don't know | 11% |

The Lillooet Friendship Centre Open House (See Appendix 2 for details)

Questions and concerns centered on operational, stakeholders, and ecological factors. People asked what the mandate of the nature centre would be and if it would be supported through short or long-term funding. Would it be seasonal or open all year? Would it hire local workers or be run through volunteers or not manned at all? Others mentioned vandalism as a concern. One said to identify and deal with opposing concerns in a positive manner. Questions arose regarding land use and ownership of the centre and the restoration site. Others inquired about First Nations support and involvement i.e. employment and training opportunities. Also that it did not compete with local aboriginal tourism and cultural centres. Ecological concerns focused on further impacts to the area, the watershed, and that it promotes taking action in response to the consumer type lifestyles.

The following outlines what people thought should be included as a part of a nature centre program. The natural ecology should be viewed as a whole system and includes the river shed, watershed, salmon life cycle, native and invasive plants, and species and habitat. An education component that includes science, art, and nature programs that aim to create a sense of wonder and connectedness to the land. It could have activities and games for children and young people. By way of sustainable living people wanted to see respect and honor of all things, awareness, and to encourage people to make lifestyle changes. A few suggested the use of more natural ways, to live more lightly on the land, use solar power, and xeriscaping. Other suggested, pollution, destruction, prevention, preservation, protection, conservation, restoration, wildlife rehabilitation, stewardship, and aboriginal history/ culture.

A 'green building' was seen as being self-sustaining, off the grid, having a low carbon footprint, and low emissions. Also having low impact by using local skills, not using unnecessary space, and uses local natural materials with low embodied energy. That it is non-polluting, non-toxic, and uses a minimum amount of cement. One that educates what a 'green' building means, gives back to the land and water, and is architecturally designed to be a part of the natural surrounding.

The term 'land stewardship' was explained as understanding how the ecosystem works. To accept the roles and responsibilities at a personal and community level in terms of taking care of the land. To harvest responsibly by using only what is needed, and to return as much back to the system as possible. Others referred to nurturing, conserving, and restoring. Also by sharing, respecting, living a balanced life, having modest expectations, and being proud of where one lives.

People said the current restoration site was an appropriate location because it allows for ample parking, highway access, but would require more signage. Others suggested along Cayoose Creek, the Spawning Channel, the Cayoose Park Campsite, along the bridge below Station Hill, the Old Bridge or Old Dump site, or the house by the library where tour buses stop. It was suggested to involve the Lillooet Tribal Council (USCLES), all St'át'imc communities, the School District, libraries, the New Pathways to Gold Society, Lillooet Food Matters, Girl Guides, and other day camps.

Ways to generate income to support the nature centre include government funding, grant writing, casino, tourism partnerships, and community fundraising. One suggested applying to the United Nations Educational, Scientific and Cultural Organization to designate the watershed or traditional fishing areas as a world heritage site based on its natural and cultural uniqueness. To charge a fee for tours, day camps, mini workshops, education programs, and room rentals for professional

and education functions. Hire a permanent staff member to manage and write proposals, and to have a store selling education books and natural artistic items. Additional ideas were for native plant sales, a community garden, and First Nations culture for tourists.

Cayoose Creek Band Open House

Site Location

During the Cayoose Creek Open house the community members were asked what location they would prefer. Choices included the Restoration Site, the Spawning Channel, or other. Out of the ones who responded most preferred the restoration site (10 responses), next was the Spawning Channel (6 responses), and the third choice was at the Penstocks (4 responses). Another suggested on the right or left side of the Cayoose Creek Bridge. Additional comments were to extend the trail to Seton Lake, and the possibility of future restoration opportunities.

Visioning Sessions Summary

The Lillooet Naturalist Society appointed Alfred Waugh Architect (AWA) to produce a pre-design study for the Lillooet Nature Centre and a trail system network. Refer to the Pre-Design Study for full details.

The Design Objectives

- To provide a place to raise awareness and appreciation for the local ecosystem;
- To provide educational programs and install exhibitory promoting action towards the conservation of the region's natural environment; And to recognize Cayoose Creek community' connection to the land.

Methodology

Two visioning sessions were held on Dec 5, 2009 and Feb 27, 2010 to carry out the following:

- Meet with community members to establish a collective vision, which includes community objectives, character, cultural reference, and site planning suggesting the location of the trail network, public areas and the Lillooet Nature Centre;
- Conduct architectural conceptual design work to integrate collected information from the visioning sessions into a visual representation of the vision;
- Produce conceptual diagrams and text to describe the vision;
- Produce rendering(s) as requested by the committee.

Site and Design Concept Criteria

- Make appropriate use of the land;
- Use water, energy, forest products, and other resources efficiently;
- Enhance visitor's understanding of the local ecology and geological history;
- Conserve plants, animals, endangered species, and natural habitats;
- Protect cultural resources;
- Create a facility that will reflect the Cayoose Creek' commitment to conserve the natural environment in the area.

Site Selection

The two sites considered were the Powerhouse Foreshore Restoration site and the Seton Spawning Channel. It was decided that both areas would be used; the Lillooet Nature Centre would be located at the BC Hydro site, and an outdoor pavilion would be located at the Seton Spawning Channel. A network of nature trails will connect the two facilities with exterior exhibitory located along the trail to guide and enrich visitor experiences.

Sustainable Strategies

The space use program for this facility was developed in conjunction with sustainable strategies. The nature centre would serve as a demonstration for low impact development. It would be designed to minimize energy use and possibly be a net producer of energy i.e. solar. Capture of water and on site wastewater management were also discussed. The design concept offers programmatic flexibility, and will be in response to the natural surroundings.

Building Space Requirements

LILLOOET NATURE CENTRE

Net Assignable Space	
Multi-Purpose Space	606.5 sq ft
Office and Workspace/Reception	209.5 sq ft
Kitchenette	82.0 sq ft
Washrooms and Service Space	202.0 sq ft
Total net assignable space	<u>1100.0 sq ft</u>
Total Gross Area for the Lillooet Nature Centre	1426.0 sq ft

SETON SPAWNING CHANNEL PAVILION

Covered and Unserviced Net Assignable Space	
Total net assignable space	2252.0 sq ft

Construction Methodology

A Construction Management Process will be used to build the Lillooet Nature Centre. A Construction Manager will be hired by the Society on a percentage fee based on the estimated construction value of the project. This process is selected over a traditional bid-bid process to allow the integration of volunteer work and design modifications that may occur to suit budget modifications and availability of donated material. The Construction Manager will manage the bidding and selection of sub-trades, volunteer workers, consultants, schedule, and budget.

Construction Estimate

The objective of this Pre-Design Study is to produce a visual design concept for the Lillooet Nature Centre in order to market and promote support for this facility. Upon approval from various governing authorities the Lillooet Naturalist Society will attain a professional cost consultant to produce a Class 'D' cost analysis based on the design concept proposed in this report. This Construction Cost Analysis will be used as the basis to develop a project budget and will include the following:

Construction Costs:

- Lillooet Nature Building and Site Development construction cost at the BC Hydro Site;
- Seton River Spawning Channel Pavilion building and Site Development construction cost;
- Trail construction cost including Exterior Signage construction cost.

Soft Costs:

- Primary Consultant fees including Architectural and Structural, Electrical, Mechanical, Civil Engineering;
- Construction Management Fee;
- Building Permit;
- Lillooet Nature Centre Administration;
- Environmental Assessment Report.

Schedule

Between 2010 and 2011 a new governing body for this facility will be formed and composed of members from the existing LNS, the Cayoose Creek Band, and members of the Lillooet community. This new governing body will raise funds for this project, define programming, and develop an operations and maintenance plan for this facility. It will also source donated materials and attain the design and construction management team. The Lillooet Nature Centre is scheduled to begin construction after 2011 at a time deemed appropriate by the new governing body.

Operational Research

The following information was obtained from, *The Nature Centre Book: How to Create and Nurture a Nature Center in Your Community*; it provides a 'useful road map' for creating a nature centre.

The Benefits of a Nature Centre

1. A nature centre serves as an educational tool focusing on nature as well as offering people an enjoyable and educational experience. It is one way to reconnect, protect, teach, appreciate, and be a sample of the local natural environment. It provides communities with a place to appreciate an outdoor classroom for schools and the public, a tourist destination, and help create a sense of community. Local citizens can use their skills as volunteers, hosts, guides, or entertainers.
2. They range from having no buildings or structures, while others have museums or elaborate indoor facilities. Interpretive services may include outdoor programs in natural science, the study of nature, and focus on conservation. The possibilities are wide ranging including landscape architecture, planting programs or habitat restoration, science projects, workshops, xeriscaping, recycling, composting, watershed management, ecological awareness, tree planting, etc.
3. The three major goals of a nature centre tend to focus around the following areas of concern including:
 - a. Education
 - b. Interpretation
 - c. Conservation
 - d. Recreation

Positions

Nature centres tend to get started by the local community that provides the expertise doing the best they can.

1. The success of a nature centre is based on the people as they become familiar with the land, create programs, develop the facilities and raise the money. They create the sense of community through volunteerism or employment positions. Although some nature centres run entirely through volunteers, this tends to be the minority.
2. *Volunteers* are a valuable part of getting a nature centre started and come from a variety of sources. A list of volunteers information sheet is an effective way to sign up volunteers, by keeping track of who can contribute what, and to ensure their assistance is followed through with and utilized to the most. It is likely a volunteer coordinator position will be needed due to the importance and time-consuming job it takes. Volunteers who have the ability to manage projects and do it well is a key factor. It is suggested to enjoy the early phase of not having employees, but eventually it will become apparent that volunteers can only do so much.

3. Most move on to being a nonprofit organization, and others continue to grow. Paid *employees* play an important role in the viability of the organization when it comes to taking care of details. For continuity and accountability, centers need a paid administrator and links to professional organizations. A small nature centre can usually be sustained with a small budget, an administrator and a few volunteers. When operational funds become available a few positions may be considered:
 - a. Director
 - b. Teachers
 - c. Interpreters
 - d. An office manager
 - e. A book keeper
 - f. A fundraiser
 - g. Other

4. *Hiring a director* during the early stages is an important step as it provides continuity of service and quality; It is someone the organization can rely on. This position may begin as a director/ teacher or a director/ interpretive position. This may be one of the most important roles of the board is to hire a director who will be the centre's public image, responsible for direction, goals, funding, hiring of other staff, etc.

5. Many centres evolve into staffing several positions in addition to an administrator. Staff help define the character of the nature centre. Employees should love nature and people, as staff will help the community fall in love with your center. Their ability to teach and inspire the community that is sensitive to meeting the aspirations of the nature centre. Nature centre employees are not likely to get rich, but conscientious directors see to raise salaries of employees.

6. Large communities are able to provide a good-sized budget, but smaller communities need to keep expectations modest. As a non-profit organization all financial matter must be well documented. It also means keeping personnel records and having clear personnel policies and procedures. Some things to consider include recruitment, interviewing, contracting, evaluating, termination, and record keeping. Other things to consider are paying taxes, worker compensation, as well as insurance issues. Issues such as local regulations should be advised through attorneys and accountants.

7. Developing intern programs in *partnership with University and colleges* are another alternative in areas of biology, agriculture, earth science, and environmental science students. It is a good way for individuals who are preparing for careers in these related fields of study and are often seeking apprenticeship opportunities. It can be a great advantage working with highly educated and motivated students who may only need college credit as payment. Student involvement range from caretaking and maintenance, administration, interpretation, wildlife management, research, gift shop operations, etc. Some centres offer lodging, uniforms, or weekly stipends, although details can be customized with each college/ university.

8. Developing positions require a steady *revenue source*. There are various options to consider.
 - a. Many nature centres establish partnerships with city or local government, and have positions funded by the government entity. Positions may include an executive director, an interpreter, or other position council chooses. Other agencies may also be interested in this kind of arrangement, even if they choose to partially fund a position would be of assistance. Talk to potential partners regarding the needs of the organization.

 - b. Others approach donors with your needs. An initial step is to identify the position and cost needed to staff that position, and then present the cost to identified

donors. It is good to be able to describe why this position is important, and how you plan to continue funding this position in the future. At times donors are willing to offer what they can or fund the entire position for short or long-term periods.

- c. Grants from foundations and private donors are usually obtained for the first few years for a staff position with expectation that the position will pay for itself by finding additional revenue, increasing visitor numbers, or by improving the programs. Permanent staff positions are usually not likely through grants.
- d. Many older nature centers rely on endowments to fund positions, since endowments are permanent funds, which are usually invested and supply regular income. Some donors like the idea of funding a memorial 'chair' through an endowment to the organization such as a teacher, interpreter, executive director, etc. The endowment would have to be large; since the chair would be funded by the interest accrued. This is the type that would ensure the survival and success of the nature centre.

Programs

The *program* assists with generating life and excitement at the center. Learning about nature can be fun, practical, and important. Education assists with making good decisions in connection with the environment. Much of the activities that take place in a nature centre allow people from all backgrounds to come together for a common purpose.

1. Interpretive strategies: factual information is important but the philosophy of a nature centre will determine what information is presented and why.

“An interpretive strategy is an educational approach designed to further the mission of the nature center. If the mission is to instill in visitors an ethic of conservation, then the interpretive strategy will attempt to provoke an intellectual and emotional response in the visitor that will foster conservation” (p 71, Evans & Evans)

Interpretive planning is a design of how the site will be presented, in which the text will define the themes and messages that reveal the 'story of the place'. Elements include site, building, trails, exhibits, publications and education programs. It ensures a common thread that ties all these features together, as well as compliment the beauty and ecological uniqueness of the natural settings.

Displays or exhibits range from expensive to very inexpensive. Professional firms can assist with designs and fabrication, and consultants can help with developing themes. Keeping in mind most displays hold an average attention of only a few seconds, which should be weighed against the cost of the display and other budget items.

A few interpretive strategies are provided below:

1. Trail walk and encounters
2. Outdoor signs and exhibits
3. Indoor exhibits, discovery rooms or discovery boxes
4. Talks and demonstrations by naturalists, and historians
5. Slide shows, movies, and multi-media events
6. Theatrical presentations, puppet shows, concerts
7. School curricula
8. Live animal demonstrations
9. Animal rehabilitation programs
10. Tree planting ceremonies and native plant workshops
11. Gardening programs and projects

12. Xeriscaping
13. Storytelling
14. Other

2. It is crucial that public presentations and school programs be of top quality, responding to the interests of the audience. Children have different needs and interests than adolescents or adults, and so on. With a mix of groups of different ages and interests it would be beneficial to have something for everyone. Learning through experience tends to be a common approach, even while using some of the best resources.
 1. Children respond best through interactive and fun presentations. They like to touch, move, and laugh. Puppets, live animals, discovery activities, and games work, while lectures tend not to work. It is good to watch for the energy level knowing when to move on or to have backup activities in place if needed.
 2. It is encouraged to invent your own programs and allow creativity to come about. Encourage members to develop experimental programs, finding out what works and what doesn't. Many reflect the creativity and resourcefulness of local individuals and groups.
 3. Every program is a way of expressing your message bringing people in touch with nature, helping them learn, and fostering their curiosity. Every program will be an experiment that will be refined and changed.
 4. There are many groups that show interest in relation to the nature centre's mission that would appreciate the opportunity to have programs at a nature centre. It is recommended to provide them with the space, include them publically, and help them in any way, In return many will exchange by way of volunteering, participate in activities, help with fundraising, etc.
 5. Let the community know about the programs i.e. posters, public service announcements, newsletter, and word of mouth.
 6. Evaluation is one way to gauge the effectiveness of each program, and sponsoring foundations will require it as part of their terms. It will assist in acquiring feedback and allow you to modify and make improvements. More and more program requirements are focused on outcomes especially for non-profits. Methods can be very simple to very complex. A few examples include visitor feedback form, surveys, checklists, interviews, observations, focus groups, etc.

Creating the Facilities

1. Bringing people into a natural setting will have an impact to that area from a variety of sources including vehicles, foot traffic, noise, children, vandalism, etc. As visitors grow the needs of those visitors and of the land will become evident.
2. Community involvement in the decision-making process is vital, as in what kinds of facilities does the community want. Talking to a wide range of potential users, including experts. Some things to consider include environmental fragile areas, high interest areas, and areas that lend itself to high impact activities such as buildings, parking, picnic areas, rest rooms, exhibits, points of interest, water access, camping, hiking, and interpretive trails.

3. Nature centre facilities vary considerably. Some have the most modest facilities and displays, which may also be most inspiring to visitors, while others are highly developed. Designing the building offers a challenge when it is designed to introduce the public to nature, as the goal is to educate without distracting from the natural surroundings. Careful planning will ensure a top-quality centre and prevent the land from being abused and degraded.

The following is a list of facility options prioritized from most basic to the most extravagant options:

- a. Parking: Direct drivers by placing large rocks or logs to designate parking areas are an important first step.
- b. Restroom options: Flush, compost, or portable toilets
- c. Litter barrels: Things to consider is purchasing, servicing, and securing them. Volunteers' routine pick-up. Others introduce a 'carry in' carry out' policy that promotes education and personal responsibility.
- d. Trail construction: Develop in stages and need to consider erosion, rain runoff, steep grades or sharp turns that may become hazardous. Good to get advice from experienced trailblazer.
- e. Signs: Let the public know they have arrived; where the trails are; and what is special about the area. They create the public image and carry the theme of the project.
- f. Drinking water: It is not essential, although visitors will feel more accommodated especially in a hot dry climate area.
- g. Headquarters building: Examples of optional functions include administration office, classrooms, welcome area, laboratory, computer terminals, discovery rooms, exhibits, library, bookstore or shop, public phone, rest room, drinking fountain, storage, theatre, etc. Costs will often dictate the availability of facilities. Few things to consider are local donations and volunteerism when it comes to building construction.
- h. Indoor/ out door exhibits: A part of the interpretive strategy emphasizing the message of the organization. Involves planning, execution, and maintenance. A great deal of money can be spent in which it is usually easier to find funding for displays than for operational costs and salaries. Recommended when possible to include operational costs so interpreters can give life to the displays and to the centre.
- i. Greenhouses and gardens: Help to connect people with the plant world through hands-on gardening or propagation demonstrations of native species.
- j. Alternative Energy and Building Systems: demonstrating solar panels, solar hot water systems and cookers, wind-powered generators composting toilets, cisterns, and other alternative energy systems can help educate the public about conservation through technology.
- k. Other options include: Outdoor stages/ Theatres/ Circles; Recycling and/ or composting; Live animal enclosures; Wildlife rehabilitation

facilities; Laboratories; Farmers markets; Facilities for Special-Needs Populations, etc. (Refer to Evans and Evans 2004 for more detailed examples)

Getting Organized

Leadership

A leader pulls everything together considering both timing and with clear direction and strong support. *The Directors Guide to Best Practices: Leadership* is a highly recommended source by Evans and Evans 2004. It provides a checklist of highly recommended practices.

Developing a “Vision”

What does the group hope to accomplish, and why? It is helpful that the group clarify this vision early on in the development stage. This can be arrived at through a process that allows each member to express ideas, hear different points of views and seek common ground. Consensus building helps the process evolve most productively. Once there is agreement about the group’s vision should planning start. A vision can be broad leaving room for change and revision, and not suppress creativity.

Initial Action Plan

Create a clear and coordinated method of achieving goals. It does not need to clarify every step to be taken, but it does need to clarify areas of interest and responsibility and the expectations the members have of each other. Group communication is important. A contact person with phone, email, and post office box enables the group to receive and distribute information when necessary. The action plan is generated at a meeting involving brainstorming and consensus building. A list of vital activities is generated, along with names and volunteers who agree to take responsibility for certain actions, and timelines. Charting informal and formal systems in the community will reveal who to approach and why.

Starting a Nonprofit Organization

You can incorporate your nonprofit by filing articles of incorporation (or other charter documents), so it exists as a separate legal organization. This will allow the group to seek funding from foundations, charitable organizations and private individuals that can make tax-deductible donations. The laws that govern non-profit organizations differ, and would require an attorney’s assistance. You will also need a board of trustees, officers, and bylaws. In Canada, the Canada Customs and Revenue Agency (CCRA) grants charitable status, and you must be incorporated to achieve charitable status. Also in Canada you can apply for incorporation and tax exempt status at the provincial or federal level. For example, you could start a nonprofit that is incorporated, tax-exempt and eligible to receive tax-deductible donations.

http://managementhelp.org/strt_org/strt_np/strt_np.htm

Below is a site that provides a few links to government web pages dealing specifically with nonprofit incorporations.

<http://www.charityvillage.com/cv/guides/guide4.asp>

Bylaws and Articles of Incorporation

Bylaws are the legally required operating rules of your incorporated organization. It includes everything from selecting and terms of board members to legal structure and tax exempt. They can be quite general and revised when needed, and can be developed by an attorney that has expertise in nonprofit law. They must also have articles of incorporation which is a legal document describing the purpose of the organization, place of business, and how it will be run.

Boards

A founding board will need to develop a mission statement, goals, objectives, and methods of money management. When creating a nonprofit organization it will have a board of trustees that make decisions for the organization, and it may have an advisory board, which make suggestions in a non-decision-making way. Initially a board can be formed with the core group, and future boards be determined by the bylaws.

Board of trustees is members who provide leadership and give time and effort towards vital tasks. 12 members or less can act swiftly and allow a broad spectrum of the local community. Positions and meeting schedules may include: Board of trustees with 10 – 50 member (4 – 6 per year), Executive committee (monthly), Advisory board (biannually), Presidents council (as needed), and Standee committees (varies). The good schedule of meetings will keep all informed without having them feel over overworked.

Committees

Committees are a bridge between staff and trustees, as well as the nature centre and the community. Standing committees address continuing projects or specific projects, such as membership, finance, education, etc. This provides opportunity for groups to solve problems and complete tasks that will build ownership and keep the organization from leaning too heavily on staff or one or two workers. Job descriptions for each committee ensure effectiveness, which also has involvement from at least one staff member and the executive director. Other factors include setting annual goals that are written down, knowing what they are responsible for and to get it done, and to allow for creativity to flow.

The Mission Statement

The mission or purpose is usually stated broadly indicating why the organization exists – the guiding principle. In developing the mission statement a board meeting should be facilitated through consensus building. Suggested ideas are presented in terms of what they envision they are working toward. As ideas are explored understanding of each other's interests, and areas of common ground will emerge. It is recommended to work towards a concise mission statement with broad possibilities.

Membership

Members provide the money and energy for the organization. They show public support, fundraising, create a volunteer pool, and political influence. Start with early gatherings sing a sign-in sheet with name, address, email, and phone numbers. Send out newsletters to anyone who has shown interest, and always have a membership form. There are a variety of ways to encourage new members i.e. membership campaign.

Liability and Safety

The organization will need insurance. Most foundations, government entities and funding sources will require proof of liability insurance, fire and theft coverage for buildings, fiduciary, and other coverage depending on the risks associated with a particular area. Most organizations require participants of adventurous outdoor activities to sign a waiver. It would be beneficial to talk to an attorney. It is good to take precautions to prevent injuries.

Getting Support: Building Community

- Allow any institution to become involved. Aim for diversity. Provide self-addressed envelopes, and gather letters of support. (Example letter on pg 147 Evans and Evans 2004)

- Word of mouth is important, as it is personal. Newsletters of local groups are a good tool for communicating what you have done and where the project is heading. Get the word out by various sources including, public service announcement, press releases, presentations, mailing, door-to-door, posters, and church bulletins.
- Graphic Designing provides the image of the organization to the community. Have clear expectations. One suggestion is to ask to draw up a few examples.
- Inform the media in a professional and respectful manner Keep the message positive and realistic. Providing the media representative written information with the facts to avoid inaccuracies in reporting. Choose who will represent your organization to the media, as someone who is clear thinking with personality and organization skills.
- A community-based nature centre must reach out to as many groups as possible. When dealing with a problem it is helpful to think in terms of who can help with finding a solution. Others to consider are local government, chamber of commerce and businesses, schools, churches, service organizations, clubs, local residents, families, children, teachers, tourists, benefactors, city planners, farmer and ranchers, conservationalists and environmentalists, gardeners, ministers, spiritual leaders, special needs populations, senior citizens and nursing home residents, health care providers, etc.
- Dealing with Opposition and Conflict. There are several likely sources of conflict including within the organization, neighbours, citizens who favor using the land for other purposes, or people with philosophical objections. The first rule is to respect the differing opinions and attempt to work it out with compromises. Deal with conflicts personally rather than through the media or third parties. Some conflicts may have to be dealt with through the political process via council decision or referendum. Consensus building and compromise are preferred.
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Financial Matters: Costs and budget

Each nature centre develops at its own pace usually starting out small and growing through manageable steps. Thinking of long-term relationships by positioning the organization in the community and by serving the community well. It is important to understand costs, develop a realistic budget, and to work out a fundraising strategy that is suitable. Fundraising strategies vary widely. It is advisable not to borrow money, and to keep records of all financial activities from the very beginning. Keeping receipts of all purchases, records of all volunteer time or materials donated, along with people's time and activity.

You will need a budget of what you expect to receive and spend during the next year, and a record of actual income and expenditures (financial statement). This provides funders a clear understanding of what you intend to do and what you have done. Another suggestion is to have two budgets, a 'dream' budget and another 'bare bones survival' budget. Book keeping can get very complicated when accounting for different groups of funding i.e. grants, membership fees, donations, building funds, etc. It is important to keep track of where funds come from and how they were used on a month-to-month basis. It helps to have someone with book keeping and or accounting experience, and it will become evident that a professional accountant will be needed as the centre expands. Each centre will develop its own unique budget. Accurate book keeping cannot be over emphasized.

Sample Annual Operational Budget

Operating Income

Contributions

Individual Contributions
 Foundation Grants
 Businesses & Organization Donations
 Local Government

Other Sources

Fundraising
 Membership Fees
 Book & Gift Shop Sales
 Plant Sales
 Public Programs Fees
 Indoor Room Rental
 Outdoor Classroom Rental 1
 Outdoor Classroom Rental 2

Operating Expenses

Education Programs

In-Kind

Wages & Benefits	15,000+
Staff Education & Training	1000
Supplies & Miscellaneous Expense	2000
Bussing	2000

Nature Centre Maintenance & Improvements

Trails & Signs	4500
Nature House Displays	4000
Volunteers – students	
Volunteers – Adults	

In-kind
 In-kind

General

Salaries

Director/ Interpreter	20,000+
Janitorial	1400
Bookkeeping	1400
WCB premiums	120
Other	-
Staff Development	1000
Mileage/ Travel Expenses	1200
Office Supply	1200
Postage	2000
Banking Service & Charges	100
Insurance	2500
Advertising & Publicity	1000 - 4000
Books to sell	200+
Nursery Expenses	3500
Telephone	1200
Utilities	1200
Legal Fees	-
Miscellaneous	-

Planning

The need for a master plan will arise as the project evolves, especially when ready to begin applying for donations and grants. The plan facilitates cooperation and unity of purpose, preventing many conflicts. It will also help sell the product to potential supporters. Included are the physical site, institutional vision and capacity, program, and funding plans. The first step is to decide upon the interpretive goals and strategies to accomplish the mission. Advice from experienced nature centres is strongly suggested at this stage. It will evolve over time and may need flexibility as change is sometimes needed. The two books Association of nature Center Administrators (ANCA) *The Director's Guide to Best Practices Interpretive Design of Nature Centers: Buildings* and by Evans and Evans 2004 provide useful information on carrying out a master plan. There is no standard master plan but may include the following:

- Mission Statement
- Interpretive strategy
- Facility options
- Land management policies
- The operations and maintenance policies
- Budgeting
- Funding approaches
- Marketing plan

Map of the major features

Location of all existing and proposed trails, buildings, roads, parking areas, facilities, exhibits, fragile areas, points of interest, utility lines, water shed areas, and hazards

The Strategic Plan

The strategic plan is a long-range action plan that includes organizational issues, marketing strategies, communications, and advertising. The book by Evans & Evans 2004 provides further information on carrying out a strategic plan.

Conclusion

The purpose of this study was to inquire into building a nature centre at the restoration site. The centre would run programs encouraging people to take action towards sustainability, and showcase alternative technology and green building design. It may also become a part of a chain of small nature centres along the Fraser River featuring the importance of the river. The project was to involve the community regarding support for the nature centre, and to carry out research into operational and funding options. The architect hired was to translate ideas expressed into a building and site design.

The restoration project and nature centre feasibility study has received widespread support through their network of affiliations that share similar goals. This is evident in their letters of support, and various partnerships that have been formed. The children' survey and the adult surveys, although a small sample size, did provide indication of general support from the Lillooet community. By meeting with Cayoose Creek Council and members they have also showed a willingness to go forward with the process. At this time it would be important to maintain and expand on this level of support. Having a visual of the project will help to determine the level of support on a wider scale with BC Hydro, local organizations, and surrounding First Nation communities. As mentioned by a community member, it was suggested that if any opposition should come forth it should be dealt with in a positive manner.

An option is to not build a centre and to continue running their programs through the LNS. The benefits to having a building are that it will provide a home base to develop programs and store nature education materials all in one location. The next steps involve developing a new governing body to carry this forward, and to ensure all concerns are addressed in a positive manner. Much of the basic information to start a nature centre has been provided through this study, although there is plenty of information available that could help guide the process further. Also to keep in mind that all nature centres start off small, at their own pace, and each develop differently.

This study paid particular attention on nature, although cultural aspects have come up through the surveys and open house processes. A cultural motif was incorporated through the architectural building design as it draws upon the pit house typology. There has not been full discussion through this process for Cayoose Creek community to start up any cultural initiative. If they were to consider it in the future, USCLES mentioned their willingness to assist them by way of promotion as they do for other St'át'imc communities. The LNS fully acknowledges USCLES plan to establish a Cultural Centre and do not wish to impinge upon their vision. Interest exists to maintain and build upon the relationship between all three entities.

Lillooet Nature Centre and Cayoose Creek are the two main partners involved in this initiative, and both share in the values of protection and preserving natural habitats. The original purpose of the restoration site was to create a healthy habitat for wildlife i.e. the Western Screech Owl. In order to be consistent with these goals, this project will need to determine any impacts that exist and determine what measures could be taken to protect any sensitive areas.

As one person pointed out any building will have an impact, in which it has been the interest of the LNS and Cayoose Creek Band to consider and to address these impacts. One way to do this was to hire an architect who has alternative technology and green building design experience. He has incorporated much of the suggestions that were provided by the community from the open house and survey responses. The goals for the building are to have a low impact, and to be designed to minimize energy use. It also involves both passive and active sustainable strategies.

It was not possible to carry out a complete economic analysis, as the cost of operating and building the nature centre was not been fully determined. The lifespan of a nature centre has been suggested at 30 years or more. A low estimated cost of about \$65,000+ to run a nature centre provides an indication of how much it could cost to operate a nature centre, and a professional cost for construction will need to be completed. The use of a construction manager will help offset building costs, as it will incorporate donations and volunteer time. Building locally will also have its benefits by supporting local community members and businesses. Another difficulty carrying out such an analysis is in the fact that this project deals with ecological sustainability, as it is not easy to put a price on ecological factors and the well being of nature. The next phase will require further investigation into actual costs and to attain necessary funding. (See Appendix 3 for Nature Centre Examples & Appendix 4 for various Funding Sources).

The focus of this nature centres is on awareness, understanding, appreciation, and sustainability towards the natural environment and the Fraser River. To date there is no other nature centre in Lillooet, and there is only one in British Columbia that focuses on the Fraser River. There has been a growing concern on climate change and its implications on nature and human beings. As these changes become more noticeable people may become more compelled to look at ways in which they could change both at a personal and community level. Another real concern lies in the fact that any impacts on the Fraser River and sockeye salmon will in turn affect the St'át'imc way of life. In particular, this will affect their traditional practice of drying salmon, in which this region is known for this very unique practice. It is appropriate timing to focus on the happenings of the natural environment as the benefits of awareness is that people may begin to make changes that will light their footprints upon the earth.

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Appendix 1: Survey Results

Appendix 2: Lillooet Friendship Centre Open House

Appendix 3: Nature Centre Examples

Appendix 4: Funding Sources