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Coldwater Indian Band



*Southern Interior Beetle
Action Coalition*

Eco-Health, Ecosystems and Watersheds Workshop

October 19th and 20th 2011

Nicola Valley Institute of Technology, Merritt BC



Workshop Summary as at November 2, 2011

Prepared by the Fraser Basin Council

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Fraser Basin Council

Introduction

This workshop was initiated by Scotty Holmes, Water Stewardship Coordinator for the Coldwater Indian Band, and was inspired by the success and collaboration fostered at two previous workshops on similar subject matter: the *Hydrological Impacts of Mountain Pine Beetle in the Fraser Basin* (March 2010 in Kamloops) and *Fostering Collaborative Responses to Hydrological Changes in the Nicola Watershed* (March 2011 in Merritt) workshops, both of which were facilitated by the Fraser Basin Council.

To continue the momentum, collaboration, relationship-building, and knowledge sharing of these two events, a third workshop was held to provide an opportunity to discuss the topics of eco-health and traditional ecological knowledge (also known as Aboriginal knowledge) and how they be better integrated into the “western science” scheme of watershed management with considerations for climate change.

Funding for the workshop is acknowledged from Health Canada, Coldwater Indian Band, Southern Interior Beetle Action Coalition, Stuwix Resources Ltd., and Upper Nicola Band.

The two day workshop was attended by members of Coldwater and Upper Nicola Indian Bands, foresters, elected officials, academia, engineers, concerned citizens, students, and civil servants. In total, nearly 50 people were registered for the workshop representing a variety of interests in eco-health and watershed management.

This document summarizes the presentations and dialogue of the workshop held in Merritt on October 19th and 20th, 2011. The presentations are available online at www.fraserbasin.bc.ca and www.coldwaterindianband.org and are in portable document format, viewable with Adobe Acrobat, and are named as the presenters’ last name (e.g., Scotty Holmes presentation is named *Holmes.pdf*).

Welcome

After welcoming comments, a round of introductions (please refer to Appendix II for a list of workshop participants), and acknowledgement of the workshop sponsors’ contributions, the context for the workshop was reviewed:

- Long history of water conflicts in the Nicola Valley
- Past recommendations have not been implemented
- Nicola Water Use Management Plan has been created
- Mountain Pine Beetle is just one of many factors affecting hydrology
- Water is a common commodity however interests and rights are colliding
- Aboriginal rights and title are still evolving
- There are multiple perspectives and realities

Given the context for the workshop, the goals were outlined as follows:

- Share traditional ecological knowledge and western science approaches to ecosystem and watershed management
- Explore connections of ecosystem and watershed management to human health
- Increase the knowledge and capacity of First Nations to participate in research, studies, and management of watersheds
- Explore how integrating traditional knowledge and modern science can expand the awareness of sustainable ecosystems and watershed health
- Expand user knowledge of the impacts of land use and MPB effects on the long-term viability of safe drinking water in the Nicola Valley and the linkage to human health

The proposed outcomes for the workshop were outlined as follows:

- Development of a converging approach from Natural Resources, Environment Health, and Traditional Ecological Knowledge towards healthy watersheds and healthy people
- Integrate environment species practices, natural resource management, and social sciences with public health to address the deficiencies in each approach when taken on its own
- Create partnerships between First Nations, environmental health offices, watershed managers, and institutions

And finally, the agenda for the workshop was reviewed. Please refer to Appendix I for a copy of the agenda.

Presentations and Discussion

Theme: watersheds and management by 'Western science'

1. The Nicola Use Water Management Plan ("WUMP")
presented by Elizabeth Salomon-de-Friedberg,
Nicola Watershed Community Round Table

The Nicola WUMP was created for the Nicola watershed, over 7000 km² including small communities with an abundance of pine, fir, and grassland ecosystems. The Nicola River is the main stem; Spius Creek and Coldwater River are major tributaries but the watershed is divided into ten sub-basins. The planning process for the WUMP included a detailed water budget process, which revealed much information about supply and demand including an average daily domestic use of 771 L/person/day, groundwater accounts for 95% of source water in the watershed, and agriculture is the highest use of water (approximately 81%). The hydrological cycle in the watershed peaks in the four-month fresh period which occurs mid-March to mid-July. As in nearly all watersheds, the groundwater and surface water are intrinsically linked; therefore, groundwater extractions affect surficial stream flow.

Acknowledging that climate change will affect hydrological patterns, water supply, the hydrological cycle, and water security, the supply and demand study in the Nicola concluded that while the water supply can usually meet demand, it may not do so in a typical 10-year drought. Compounded by changes to forested landscapes (due to Mountain Pine Beetle and salvage harvesting), surficial water flows are expected to change drastically. This will be observed by a compressed hydrological cycle and ultimately reduced annual water supply.

The Nicola WUMP has several guiding principles and its recommendations focus on the following actions:

- Public education and outreach
- Water quantity
- Water quality
- Environment
- Management

The WUMP was submitted to the Provincial government in April 2010; in August 2011, a response was issued by the Water Stewardship Branch of the BC Ministry of Forests, Lands and Natural Resource Operations thanking the Nicola Watershed Community Round Table for their work and emphasizing that the plan is not legally binding and therefore its implementation is contingent on the voluntary participation of the member agencies. Elizabeth concluded her presentation by stating that the Round Table is at this point uncertain about their future in managing the watershed and pointed out that as a community group they are limited in resources and jurisdiction over the watershed.

You may visit www.nwcr.org to learn more about the Round Table or the Nicola WUMP.

2. The Okanagan Watershed presented by Anna Warwick-Sears, Okanagan Basin Water Board

The Okanagan watershed included 12 municipalities in three regional districts, four First Nation bands and their traditional territories, and has a total population of 325,000. Major land uses within the watershed include agriculture, forestry, tourism, and mining. The landscape is semi-arid and has a unique biodiversity. The watershed has a snow-dominated hydrological cycle and is subject to huge variation in supply from year to year.

The Okanagan Basin Water Board (OBWB) was founded in 1970 following a comprehensive Okanagan basin study. It is an inter-jurisdictional board that operates from public funding and is composed of elected officials, First Nations, water supply associations, and the water stewardship council. In its infancy, the OBWB was primarily concerned with sewage outfalls to the lake and an abundance of aquatic weeds. Today, its role is more strategic in nature and focuses on bridging the interests across the watershed, being a voice to senior government,

providing decision-makers with science and information, and focusing on actions that benefit the entire Okanagan community.

Issues in the Okanagan include rapid and far-reaching growth resulting in increasing demand for water. Other issues include the need for information and coordination regarding water resources, reduced financial resources, recovery from the wildfires of 2003, compressed hydrological cycle due to climate change, and local parochialism: the tendency of agencies/organizations/governments to work alone on specific issues. In response to these issues, the OBWB runs a number of programs on water management, Eurasian watermilfoil control, public outreach and education, communications to a vast array of other organizations/agencies/governments, and water science and studies including an Okanagan Supply and Demand project. The latter revealed that 86% of water use goes toward irrigation and that the average domestic use in the Okanagan Valley is 675 L/person/day.

Anna emphasized that the biggest challenge in the Okanagan watershed is a social challenge, not a scientific one. On a positive note, all the elements are in place for success and key partners are committed to working together. A guiding principle of the OBWB is “if you want to go fast, go alone; if you want to go far, go together”. Anna also emphasized the need for partners in collaborative processes to be frank, open and honest about what they can and cannot bring to the table in terms of tools, resources and willingness to participate.

3. Watershed Hydrology and the Ecosystem presented by Don Dobson, Urban Systems Ltd.

Don began his presentation by providing the Western science definition of watershed management, which is *the process of creating and implementing plans, programs and projects to sustain and enhance watershed functions that affect the plant, animal and human communities within a watershed*. Within this context, Don gave a description of the Coldwater River (a tributary to the Nicola River) and an assessment of its condition. Climate change is causing rising temperatures and changing weather patterns, which in turn are affecting the hydrological cycle by potentially reducing annual runoff, increasing demand for water due to warmer drier summers, and increasing the frequency and intensity of rainstorms and electrical storms (which in turn cause a spike in the hydrograph).

Consequently, drought management in the Coldwater and Nicola systems must plan for low flows, must acknowledge that demands are consumptive and resources are at risk, and must account for in-stream flow requirements and stream health.

Building on Elizabeth’s presentation and the intrinsic linkage between surface water and ground water, Don emphasized surface flow in the Nicola basins is heavily dependent on contributions from ground water. A challenge to watershed managers in the Nicola is that the groundwater or aquifers are not well understood. A series of groundwater monitoring wells are helping to shed some light on the subject, however.

Don concluded by stating the opportunity that exists for the communities in the Nicola watershed to apply lessons learned from other similar watersheds to better balance human needs and environmental needs within the Nicola watershed. Don's key message was that there is a lot of information available, it just needs to be integrated better.

WORKing roles for participants: plenary discussion

Following the three presentations, facilitator Mike Simpson asked the workshop participants the following questions:

- What did you learn? What did you find most interesting?
- What is of the most value for your organization or industry sector? For what particular issues?
- What outstanding questions do you have?

The following feedback was collected from the participants:

- Term: snow-dominated groundwater. Draws connection between snow and hydrological cycle.
- Significance of accounting for multiple values and needs; application to water conservation
- Integrating various plans and steering groups; coordinated, collaborative processes
- New word: parochialism
- Consistently come back to holistic planning and collaboration
- Need to increase awareness and passion among NVIT student body
- Need to establish a way to maintain momentum that groups have established. There are challenges related to people moving, retiring, etc.
- There is a staggering amount of data and information sitting on shelves; let's capitalize on it
- Feeling encouraged to collaborate and participate; not to feel or be isolated
- Realities of climate change
- Interesting to hear the model of OBWB and the potential applicability of the model to other groups or agencies
- Very difficult to keep informed on current research initiatives. Difficult for general public to get plugged in.

- Interesting trends and similarities between Nicola and Okanagan hydrological data

Theme: ecosystems and traditional knowledge

4. Ecosystem Restoration and Traditional Knowledge presented by Ellen Simmons, En'owkin Centre

The En'owkin Centre in Penticton maintains a 100-ha area known as the Locatee lands, or Ecommunity. Located in the valley bottom, it is relatively undisturbed habitat for a growing number of species at risk. The Ecommunity hosts a number of programs, tours, workshops, classes, performances, opportunities to get involved with ecosystem restoration and sustainable hands on work projects, all in the name of integrated practices of culture and ecology in land management.

Ellen elaborated on the restoration project on the Locatee lands. This project is funded by federal interdepartmental recovery funds and supported and guided from the En'owkin Centre's Traditional Ecological Knowledge (TEK) team. Specific projects include plantings, eradication of invasive species, and the restoration of wetlands. The project leaders are also considering the feasibility of a controlled flood, based on what TEK has taught them about floods and ecosystem maintenance in black cottonwood stands. Similarly, they have proposed a controlled burn on the Locatee lands to support the development and documentation of TEK applied to land management. An ultimate goal of the En'owkin Centre is to develop a framework for TEK to be integrated in recovery strategies and other Western land management processes.

Ellen clarified that traditional ecological knowledge (TEK) is a general term that is sometimes incorrectly applied to a specific body of knowledge, depending on the culture and traditions it refers to. It covers specific local extensive areas, encompasses historical and current uses of lands and resources, and expresses a knowledge and understanding of different traditional protocols such as food and medicines. The Syilx people in the Okanagan, for example, have Syilx knowledge. Ellen compared and contrasted TEK and Western Science, emphasizing that one substantial difference is that TEK is acquired through tradition and personal experience, rather than through testing.

5. Traditional Ecological Knowledge presented by Mary Sandy, Esh-kn-am Cultural Resources Management Services

In her role as a staff anthropologist and archaeologist, Mary has thought often of how to integrate TEK - also known as Aboriginal Knowledge (AK) or Indigenous Knowledge (IK) - with Western science and predictive ecosystem modeling. Mary's perspective is that Western science and TEK each bring their own specialty to land management: Western science can reveal much about suitability at one point in time, whereas AK/TEK can reveal much about capability over a long period of time, both looking to the past and the future.

A foundation of TEK is that every component of an ecosystem has life. Accounting for this, when you take or harvest something from the Earth, you must give something back to it of

equal or greater value. This principle of reciprocity is what sustains the Earth. TEK has circular momentum in that it is always going forward while always looking back.

For First Nations people, health is a concept analogous to a balancing mobile: if one part of it is slightly out of balance, then the entire mobile is out of balance.

6. Four Components on the Degree of Acuity
Scotty Holmes, Coldwater Indian Band

Scotty opened his presentation with a humorous disclaimer that he hopes not to offend any workshop participants but that he felt compelled to share with audience about his concerns for the Earth, its inhabitants, and human society.

He drew attention to the state of global ecosystems that are experiencing pressure from rapidly growing human populations, the associated resource exploitation and consumerism, and the power struggle within corporations and institutions. Human senses of ownership and defense mechanisms have resulted in competition for supremacy, and the perception of infinite available resources. These misconceptions are compounded by utter confusion within institutions and agencies and the inherent tendencies of leverage-holders to work in silos rather than collectively. The fear is that an increase socio-economic stress could trigger an uncontrollable slide to chaos.

Scotty acknowledged that perhaps equilibrium could be re-established, if all available tools and resources are used and people are willing to come together to reconcile with one another and their natural resources. Outstanding questions include what role will First Nations play, and is there a 'user plan' that is truly culturally, economically, and environmentally balanced? Scotty opined that it is time to get away from us vs. them, natives vs. non-natives. He expressed a desire for natives to work together with non-natives, and that natives can no longer blame government for the lack of native participation.

Scotty cautioned against short term thinking and adopting 'fad' processes that are mainly based on economics and human needs. He stressed the importance of striking a balance between environmental justice and social justice. His vision of the future includes people living in harmony with the ecosystem, working together with cross-jurisdictional authorities (recognizing that natural resources don't respect political boundaries), resulting in healthy watersheds and healthy people.

WORKing roles for participants: plenary discussion

Once again, facilitator Mike Simpson asked the workshop participants to respond to the same set of questions (see page 6) in response to the presentations under this theme. The following feedback was collected from the participants:

- The common thread for the day seems to be, "if you want to go far, go together"

- Value in hearing the ‘TEK’ presentations, but I personally view it more simply as hearing my elders tell traditional stories and share knowledge
- SIBAC board is an example of collaboration: represented by the entire Southern Interior, 9 Regional Districts, 7 First Nations. These people sit at the table together and make decisions together.
- It is important to have cross-cultural meetings such as this; sharing values and helping one another understand where we’re coming from and what our values are based on.
- We have to focus on what we have in common with one another. Toss out the ‘us versus them’ approach.

Theme: ecosystems and human health

7. Ecohydrology: Sustainable Water Resources and Ecosystem Management
presented by Kevin Bladon, Thompson Rivers University

Kevin presented his research findings from the Southern Rockies Watershed Project. The impact of wildfire on drinking water quality is substantial, and wildfire frequency and severity are projected to increase in BC and Western Canada due to climate change. Given that forests are the source of most drinking water in BC, it is anticipated that there will be significant changes to drinking water quality if forests are burning.

The observations of Kevin’s research on drinking water and ecohydrology in burned watersheds and burned and salvage-harvested watersheds as compared to controlled watersheds include:

- Burned forests have greater snow depth and density, yielding a greater snow water equivalent
 - This yields more discharge in the creeks and rivers
 - Peak freshet and half-flow dates have advanced timing in a burned forest
 - More water, more often
- Burned and burned-and-harvested forests yield increased sediment, which may be linked to higher prevalence of disease. Sediment is a vector for pathogens, heavy metals, and nutrients.
- Elevated levels of limiting nutrients in aquatic ecosystems (such as phosphorus) result in increased primary production (growth of algae and plants) and secondary production (invertebrates)

The implications for drinking water treatment are taste and odour concerns, increased turbidity (requiring extra filtration), increased potential for disinfection by-products, and

increased presence of microcystins associated with Chlorophyll *a*. The latter two have been linked to health problems such as cancer, gastroenteritis, tumours, and others.

8. Assessment of health risks from environmental contaminants:
three examples from British Columbia First Nations communities
presented by Andrew Jin, Consulting Epidemiologist

Andrew began by introducing himself and clarifying that while he is trained as a medical doctor, his profession is in the field of epidemiology which means that he studies patterns of illness in human populations. As such, Andrew has worked with many communities in BC, including a number of First Nations communities, and conducting risk assessments for various environmental contaminants.

Using case studies from his work, Andrew explained how he can determine if a natural food - for example, salmon from the Fraser River - are safe for local people to eat if the salmon have encountered an environmental contaminant. By assessing how much contaminant is found within the food, how much a person would ingest in a typical meal (=exposure), and what the typical human tolerance is to that particular contaminant, an epidemiologist is able to make a recommendation about whether that food is safe to eat or not.

Andrew stressed that human tolerance to contaminants is considered much lower than other organisms; human tolerance is measured on a very fine scale against feeling very well, not as a live-or-die scenario. It was also pointed out that epidemiology doesn't factor in the benefits of following a traditional diet or lifestyle and consequently the risk assessment may be considered skewed.

9. Linking health, ecosystems & society in Northern BC watersheds
presented by Margot Parkes, University of Northern British Columbia

Margot introduced herself and her personal interest in preventative management: she considers her work as "a fence at the top of a cliff, as opposed to an ambulance at the bottom of the cliff". Preventative management involves looking at all aspects of health, and integrating social and environmental components into it. While conventional science is a major component of health management, scientific methodologies have a difficult time with some concepts of health because they are difficult to measure.

Margot's research in New Zealand, Hawaii, and Northern BC has revealed some interesting observations, made recommendations, and raised additional questions:

- Indigenous knowledge from New Zealand and Hawaii include principles of guardianship, reciprocity, and land-to-sea connectivity
- Health and well-being are intrinsically embedded within the ecosystems where we live
- Connecting health, environment, and community brings in health issues beyond drinking water and contaminants

- Recurring questions about integration, participation, and collaboration. Who, what, and how to do this? And just as importantly, what are we excluding in all of this, what happens when those pieces are excluded?
- What are we doing to create action and learning? Recognizing common objectives, how can we take initial steps toward our goals?

An example of some of the work that Margot is involved in is a restoration project on Murray Creek, near Vanderhoof. Ranchers have undertaken a riparian restoration project, which will benefit surface-groundwater interactions and protect source water while simultaneously ensuring the sustainability of their rural livelihoods, food security, and local fish populations, it enables healthy community development, provides opportunity for education, youth engagement and active lifestyles. In other words: many health benefits!

WORKing roles for participants: plenary discussion

For the third time in the workshop, facilitator Mike Simpson posed a few questions to the audience (refer to Page 6) and asked them to react to the three presentations from this theme. The following feedback was collected from participants:

- Feeling overwhelmed and fascinated by all presentations
- Most interested in the quantifiable impacts on water quality by wildfires
- Comparing water quality in burned versus burned-and-salvage-harvested watersheds is relevant to my work
- Our society generally hesitates to speak about love and belonging
- Agencies can be genuinely interested in a much bigger picture than what their own particular mandate may be, but they are faced with institutional operational challenges of being put in silos
- A project for at-risk Aboriginal youth is on the radar in Kelowna. It will focus on getting youth re-connected to the land

WORKing roles for participants: SO WHAT, NOW WHAT?

Workshop participants divided into two small break-out groups and were given the following questions to discuss:

- How do we make sense of all this?
- What can and will we do differently?
- What are the next steps?

The following feedback was collected from participants:

<i>How do we make sense of all this?</i>
<ul style="list-style-type: none">• Watersheds are inherently connected to health, which is connected to every other issue going on within a watershed• Would be beneficial to establish watershed-level objectives and relate it to community health and well-being• Utilize existing research; so much is already available. Utilize existing data sources.• Realize the importance of networking
<i>What can and will we do differently?</i>
<ul style="list-style-type: none">• A field visit would help to set the context and re-connect to the land• Be open to new processes and ways of doing things• Learn how to make current processes more integrative• Take social responsibility; try to understand the source of an issue.
<i>What are the next steps?</i>
<ul style="list-style-type: none">• Host a future meeting in one of the Nicola First Nation communities. It helps to set the context and facilitate better learning and understanding. It can help to paralyze institutional barriers and get people integrated. Engage the First Nation bands; ask them to share a special place.• Potential sites for a future meeting or tour include monitoring past works on Spius Creek or another tributary; meet at a recreational site that has changed within a lifetime; doing so can stir memories.• Establish a committee or re-ignite an existing committee to ultimately move the Nicola WUMP forward, involving First Nations. Do it for the benefit of all users.• Remember the importance of using layman's terms to reach the general public. We won't make much progress if we don't communicate effectively.• Keep the communities informed of current initiatives• Implement projects cooperatively to meet watershed-level objectives.

Concluding Remarks and Agreed Upon Next Steps

Outstanding questions for the day were *who has the mandate to convene people*, just as have over the last two days? And, *who becomes the leader or spokesperson for taking initiatives forward?*

Group discussion established that it often takes a Crisis, Catalyst, or Character to get people working together and maintaining momentum. Instead, we all must work on working together.

The Nicola Similkameen Innovative Forestry Society identified itself as a key partner for keeping the spirit of collaboration moving forward within the Nicola watershed. The Nicola Watershed Community Round Table is also a suitable leader for the watershed. It's important to recognize that neither of these groups has authority or jurisdiction over watershed management, but instead are a collective of individuals, organizations, and interests that can come together to work in collaboration.

It was agreed that Scotty Holmes is to take the lead and include the following: Nicola First Nations, whether the Nicola Tribal Association or individual member communities; Nicola Watershed Community Round Table; Nicola Similkameen Innovative Forestry Society to address the following:

- Pursue commonalities of the Nicola WUMP with First Nations interests
- Implement the actions resulting from this workshop
- Plan future dialogues, meetings and/or field trips

Appendix I - Agenda



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Eco-Health, Ecosystems and Watersheds Workshop

Wednesday October 19th 2011 8:30 AM - 4:30 PM

Thursday October 20th 2011 8:30 AM - 3:00 PM

Nicola Valley Institute of Technology, 4155 Belshaw Street, Merritt BC

AGENDA

Workshop Objectives

- Share traditional ecological knowledge and western science approaches to ecosystem and watershed management
- Explore connections of ecosystem and watershed management to human health
- Increase the knowledge and capacity of First Nations to participate in research, studies and management of watersheds
- Explore how integrating traditional knowledge and modern science can expand the awareness of sustainable ecosystems and watershed health
- Expand user knowledge of the impacts of land use and MPB effects on the long-term viability of safe drinking water in the Nicola area and the linkage to health

Proposed Outcomes

- Development of a converging approach from natural resources, environment health and traditional ecological knowledge towards healthy watersheds and healthy people.
- Integrate environment species practises, natural resource management and social sciences with public health to address the deficiencies in each approach when taken on its own.
- Create partnerships between First Nations, environmental health, watershed management and institutions

Wednesday, October 19th

8:30 am	Opening prayer and welcomes	Chief Harold Aljam, Coldwater Indian Band Mayor Susan Robine, City of Merritt Director Randy Murray, TNRD Area M
8:45 am	Introductions	Scotty Holmes, Coldwater Indian Band Mike Simpson, Fraser Basin Council

Morning theme: watersheds and management by Western science

9:00 am	The Nicola Water Use Management Plan (WUMP) <ul style="list-style-type: none"> • Brief history of Nicola WUMP • Gaps or what the WUMP did not address 	Elizabeth Salomon-de-Friedberg, Nicola Watershed Community Round Table
9:45 am	The Okanagan Watershed <ul style="list-style-type: none"> • Description of watershed, land use, water licence allocation by sub-basin, etc. • Brief history of Okanagan Basin Water Board 	Anna Warwick-Sears, Executive Director Okanagan Basin Water Board
10:15 am	Coffee and networking break	
10:45 am	Watershed hydrology (surface and groundwater) and the ecosystem	Don Dobson, Senior Water Engineer Urban Systems Ltd.
11:30 am	Small Group Exercise	15 minutes in small groups
	<i>Refer to the questions in your participant folder</i>	<i>Facilitated by Mike Simpson</i>
12:00 pm	Lunch (provided)	



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Afternoon theme: ecosystems and traditional knowledge

1:00 pm	Ecosystem Restoration and Traditional Knowledge	Ellen Simmons, FORREX and En'owkin Centre
1:45 pm	Traditional Ecological Knowledge	Mary Sandy, Senior Staff Archaeologist Esh-ko-am Cultural Resources Management Services
2:30 pm	Coffee and networking break	
3:00 pm	Four components on the degree of perspectives or acuity	Scotty Holmes, Coldwater Indian Band
3:45 pm	Small Group Exercise	15 minutes in small groups
	<i>Refer to the questions in your participant folder</i>	<i>Facilitated by Mike Simpson</i>
	How can connections be made between different systems of knowledge?	
4:15 pm	Summary and highlights of Day 1	Scotty Holmes, Coldwater Indian Band
4:30 pm	Adjourn for the day	

Thursday, October 20th

8:30 am	Welcome and introductions Overview of Day 1, objectives for Day 2	Scotty Holmes, Coldwater Indian Band Mike Simpson, Fraser Basin Council
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Theme for the day: ecosystems and human health

9:00 am	Ecohydrology: sustainable water resource and ecosystem management	Kevin Bladon, Assistant Professor Thompson Rivers University
9:30 am	Assessment of health risks from environmental contaminants: three examples from British Columbia First Nation communities	Andrew Jin, consultant
10:15 am	Coffee and networking break	
10:45 am	Linking health, ecosystems and society in Northern BC watersheds	Margot Parkes, Assistant Professor University of Northern BC
11:30 am	Small Group Exercise and Sharing	15 minutes in small groups
	<i>Refer to the questions in your participant folder</i>	<i>Facilitated by Mike Simpson</i>

12:00pm Lunch (provided)

1:00pm	Small Group Exercise: <i>So what? Now what?</i>	
	<ul style="list-style-type: none"> ▪ How do we make sense of all of this? ▪ What can/will you do differently? ▪ What are the next steps? 	
2:15pm	Reporting out: big ideas from each group, addressing what, who, when, how	Facilitated by Mike Simpson
2:45pm	Wrap up, next steps, evaluation	
3:00pm	Adjourn and safe travels!	

Appendix II - Workshop Participants

The following were present for at least a portion of the 2 day workshop:

First Name	Last Name	Organization
George	Armstrong	
Kevin	Bladon	Thompson Rivers University
Dalyce	Brandt	Southern Interior Beetle Action Coalition
Valerie	Cameron	Ministry of Forests, Lands & Natural Resource Operations
Don	Dobson	Urban Systems
Dustin	Engelhart	Environmental Natural Resources Technology Program, NVIT
Lucas	Eustache	Environmental Natural Resources Technology Program, NVIT
Chief Donna	Gallinger	Nicomien Indian Band
Fiona	Goorman	Environmental Health Officer
Brian	Hobbs	Urban Systems
Casey	Holmes	Upper Nicola Indian Band
Scotty	Holmes	Coldwater Indian Band
Marc	Imus	Min of Jobs, Tourism & Innovation
Cheryll	Jack	Student Society
Barb	Jackson	Thompson Nicola Regional Dist
Andrew	Jin	Consultant
Harold	Joe	Nicola Watershed Community Round Table
Len	Joe	Stuwix Resources
Harry	Jules	NVIT
Harry	Kroeker	City of Merritt
Gloria	McGovern	Student Society
Kishay	McKigney	Nicola Valley Institute of Technology
Ian	McLean	Environmental Health, Regional Director
Elmer	O'Hanley	Nicola Watershed Community Round Table
Margot	Parkes	UNBC
Ginny	Prowal	City of Merritt Water Resources Advisory Committee
Michelle	Quilliam	Environmental Natural Resources Technology Program, NVIT
Mayor Susan	Roline	City of Merritt
Elizabeth	Salomon-de-Friedberg	Nicola Watershed Community Round Table
JR	Sandy	Environmental Natural Resources Technology Program, NVIT

Mary	Sandy	Esh-kn-am Cultural Resources Management Services
Ellen	Simmons	Forrex & Enowkwin Centre
Mike	Simpson	Fraser Basin Council
Gary	Telford	Agriculture & Agri-Food Canada
Glenn	Thiem	Forsite Consultants, Nicola-Similkameen Innovative Forestry Society
Rene	Thomsen	Tolko Industries Ltd.
Everett	Tom	Environmental Natural Resources Technology Program, NVIT
Erin	Vieira	Fraser Basin Council
Diane	Wandler	City of Merritt Water Resources Advisory Committee
Anna	Warwick-Sears	Okanagan Basin Water Board