

# Rethinking Our Water Ways

*A Report on Regional Workshops  
on Water and Watershed Planning  
in the Face of Climate Change and Other Challenges*



**March 2012**

**Prepared by the Fraser Basin Council**



## Acknowledgements

The Fraser Basin Council acknowledges the Fraser Salmon and Watersheds Program, Environment Canada and the Real Estate Foundation of British Columbia for their financial contributions which enabled the Fraser Basin Council to plan and deliver five regional workshops and other opportunities to raise awareness and build capacity in support of water and watershed planning, stewardship, management and governance.

The Council also acknowledges the numerous individuals and organizations that contributed to the workshops as speakers, caterers, workshop venue managers, and most importantly the near 200 people who contributed as workshop participants.

The workshop series was planned, hosted, and delivered by a team of Fraser Basin Council staff, including (in alphabetical order), Chelsea Coady, Lindsay Gardner, Kelly Geisbrecht, Denise Hoskins, Steve Litke, Terry Robert, Marion Robinson, Mike Simpson, Marion Town and Erin Vieira.

The Council also acknowledges the BC Ministry of Environment and Natural Resources Canada as financial contributors to the watershed planning guide – Rethinking Our Water Ways. This publication was the impetus to organize and convene the regional workshops to facilitate dialogue about water and watershed issues, challenges, and opportunities throughout BC.



# Contents

	Page
1.0 Executive Summary .....	1
2.0 Introduction .....	3
3.0 Water and Watershed Issues, Challenges and Opportunities .....	6
3.1 Upper Fraser Region – Prince George Workshop .....	6
3.2 Cariboo-Chilcotin Region– 100 Mile House Workshop.....	9
3.3 Thompson Region– Salmon Arm Workshop .....	12
3.4 Fraser Valley Region– Chilliwack Workshop .....	14
3.5 Greater Vancouver – Sea to Sky Region – New Westminster Workshop ...	16
4.0 Moving Forward Through Collaborative Action.....	18
4.1 Key Themes.....	18
4.2 Conclusions .....	20
5.0 Appendices .....	22
Appendix I. Promotional Material.....	23
Appendix II. Workshop Agendas .....	25
Appendix III. List of Workshop Participants .....	31
Appendix IV. Educational Resources & Opportunities (shared by email following the Salmon Arm workshop) .....	35

## 1.0 Executive Summary

Between September 2011 and January 2012, the Fraser Basin Council organized and convened a series of five regional workshops on water and watershed planning throughout the Fraser Basin. The workshops were inspired by the Fraser Basin Council's work to develop a guide on water and watershed planning – *Rethinking Our Waterways - A Guide To Water And Watershed Planning For BC Communities In The Face Of Climate Change And Other Challenges*. A print version of the guide is available from the Fraser Basin Council upon request and an online version can be viewed at [www.rethinkingwater.ca](http://www.rethinkingwater.ca).

As the work on this guide approached completion, it was determined that it would be appropriate to launch the guide through a series of regional workshops in conjunction with speakers and presentations to share local and regional perspectives and experiences as well as a broad-based dialogue on water and watershed issues, challenges and opportunities.

The objectives of the workshops were to:

- Discuss key water and watershed issues;
- Raise awareness and capacity for water planning;
- Raise awareness and understanding of climate impacts on water and how to adapt through planning; and
- Learn about local and regional perspectives, initiatives and success stories.

Five regional workshops were delivered, in Prince George, 100 Mile House, Salmon Arm, Chilliwack and New Westminster, taking place from September 2011 to January 2012. The workshops were attended by 178 workshop participants and about 200 copies of the print version of the Guide were distributed. This workshop report focuses on the main points of discussion during the afternoon dialogue among small groups and plenary sessions. The first dialogue sessions focused on water and watershed issues, challenges / barriers and opportunities.

Some of the key issues discussed at the workshops and profiled in this report include:

- Climate change impacts;
- Energy resource development;
- Land use (and impacts on water);
- Public attitudes, awareness and engagement (or lack thereof);
- Water quantity;
- Water quality and pollution (including drinking water source protection);
- Jurisdiction and governance (of water, land and watersheds); and,
- Information and education.

Some of the key challenges / barriers discussed include:

- Lack of data, information and knowledge about water, watersheds and planning;
- Lack of financial and/or staff resources to improve information, to develop and implement management plans, and also for monitoring and compliance;
- Misalignment of watershed boundaries and administrative / political boundaries;
- Limited local authority to govern activities that impact water and watershed health;
- Lack of an over-arching, long-term vision for watershed health and sustainability;
- Lack of public awareness;
- Public attitudes and perceptions that water is abundant, and should be free without infringement on personal property rights;
- Societal under-valuing of water resources and watershed health; and,
- Diverse point and non-point sources of pollution.

Several opportunities were discussed in relation to the key issues, challenges and barriers. Some opportunities were general suggestions such as:

- Improving public awareness and education;
- Fostering greater collaboration in local planning and governance;
- Improving water storage capacity; and,
- Better articulating how sustainable water management and watershed health provides direct benefits in support of public values.

Other opportunities were related to specific tools or initiatives such as:

- Great Canadian Shoreline Cleanup;
- Agricultural Water Demand Model; and
- Local government bylaws to require topsoil retention during urban development.

The series of regional workshops – and the watershed planning guide that inspired the workshops – have contributed to building community capacity for watershed planning, management, stewardship and governance. The workshops helped to outline the intent and purpose of a wide range of planning processes available in BC. The workshops also provided an overview of the range of water-related impacts of a changing climate and explored ways to integrate climate change considerations into different water planning processes. Local and regional presentations profiled planning initiatives and other water-related initiatives underway in the regions, raising awareness about who is doing what. The workshops also provided an opportunity for individuals and organizations to connect with one another at the regional scale. In many cases people were introduced to important initiatives that they were previously unaware of.

It was very rewarding to facilitate dialogue about water and watershed health with diverse audiences in different regions of the Fraser Basin. The workshop participants were very passionate and knowledgeable about water and watershed issues. They expressed their appreciation for the opportunity to learn, exchange information and network with one another and demonstrated their interest in continuing to be stewards in their communities.

Based on the level and quality of interest, participation and dialogue in the workshops the Fraser Basin Council would like to highlight two over-arching lessons:

1. There is considerable value in regional, face-to-face gatherings on water and watersheds, to share information, to foster and strengthen relationships among individuals and organizations, to maintain momentum and to galvanize support for initiatives such as watershed planning and stewardship.
2. There is much interest and many opportunities for facilitating and enhancing collaborative approaches to watershed management, planning and governance throughout the Fraser Basin and beyond.

The Fraser Basin Council is encouraged by the interest, passion and commitment of people throughout the Fraser Basin when it comes to water and watersheds. This includes people from all orders of government (Federal, Provincial, First Nations and Local Governments), as well as community-based organizations, the business sector and interested citizens. The Council aspires to continue this type of dialogue and engagement through similar workshops in other regions of British Columbia and through other opportunities to connect with people such as planners, biologists, engineers, youth and others.

Building on these lessons learned, it is hoped that further shared learning between the regions may be facilitated through this workshop report.

## 2.0 Introduction

Between September 2011 and January 2012, the Fraser Basin Council organized and convened a series of five regional workshops on water and watershed planning throughout the Fraser Basin. The workshops were inspired by the Fraser Basin Council's work to develop a guide on water and watershed planning – *Rethinking Our Waterways - A Guide To Water And Watershed Planning For BC Communities In The Face Of Climate Change And Other Challenges*. A print version of the guide is available from the Fraser Basin Council upon request and an online version can be viewed at [www.rethinkingwater.ca](http://www.rethinkingwater.ca). The guide was developed through a literature review, interviews with local governments, input from an inter-disciplinary / inter-jurisdictional advisory committee, and research on specific water-related planning processes in BC. Developed for local governments, First Nations, and other government agencies, stewardship organizations, water use sectors and community stakeholders, the purpose of the guide is to help these organizations and individuals:

- Understand the value of water and watershed planning;
- Navigate through the web of current and emerging water issues;
- Understand the range of planning options that are available in BC; and,
- Build capacity to develop and implement plans that will strengthen watershed health and community sustainability.

The guide:

- Provides an overview of a variety of water and watershed planning processes that are available to communities in BC;
- Helps communities understand how to integrate climate change considerations within water and watershed planning;
- Shares knowledge, experiences and lessons learned from the literature and from practitioners that have undertaken water and watershed planning; and,
- Connects community planners and other practitioners with a wide range of available tools and information resources.

As the work on this guide approached completion, it was determined that it would be appropriate to launch the guide through a series of regional workshops in conjunction with speakers and presentations to share local and regional perspectives and experiences as well as a broad-based dialogue on water and watershed issues, challenges and opportunities.

The objectives of the workshops were to:

- Discuss key water and watershed issues
- Raise awareness and capacity for water planning
- Raise awareness and understanding of climate impacts on water and how to adapt through planning
- Learn about local and regional perspectives, initiatives and success stories

This workshop report focuses on the main points of discussion during the afternoon dialogue among small groups and plenary sessions. The report is a synthesis of the key points, particularly those that were discussed the most, and/or seemed to have the greatest resonance among the workshop participants. The report is not a transcript of every point that was raised in each of the discussion groups. The presentations will be made available for download through the following website in April 2012 subject to receiving permission to distribute by the speakers: [www.rethinkingwater.ca](http://www.rethinkingwater.ca).



The following is a list of the local / regional speakers at the five regional workshops.

<p><b>Upper Fraser Region</b>  <b>Friday, September 23, 2011</b></p> <p>Understanding the Watersheds of Prince George</p>	<p><b>Prince George, Civic Centre</b></p> <p>Gina Layte Liston, Environmental Coordinator, City of Prince George</p>
<p><b>Cariboo-Chilcotin Region</b>  <b>Monday, October 24, 2011</b></p> <p>District of 100 Mile House water supply, infrastructure and upstream management            108 Mile Lake levels and water consumption            Cariboo Regional District OCPs and their role in watershed planning            San Jose Watershed Climate Change Adaptation modeling</p>	<p><b>100 Mile House, The Lodge</b></p> <p>Joanne Doddridge, Planner, District of 100 Mile House            Mitch Minchau, Manager of Environmental Services, Cariboo Regional District            Rick Brundrige, Manager of Planning Services, Cariboo Regional District            Harry Nelson, Assistant Professor, Dept. of Forest Resources Management, University of British Columbia</p>
<p><b>Thompson Region</b>  <b>Tuesday, November 1, 2011</b></p> <p>Shuswap River Sustainability Plan            Shuswap Lake Integrated Planning Process            The Agriculture Water Demand Model</p>	<p><b>Salmon Arm, Prestige Hotel</b></p> <p>Laura Frank and Anna Page, North Okanagan Regional District            Mike Simpson, Fraser Basin Council            Ted van der Gulik, BC Ministry of Agriculture</p>
<p><b>Fraser Valley Region</b>  <b>Wednesday, December 7, 2011</b></p> <p>Drinking Water and Health            Cultus Lake Stewardship            The Agriculture Water Demand Model</p>	<p><b>Chilliwack, Fraser Valley Regional District</b></p> <p>Marc Zubel, Fraser Health Authority            Marion Robinson, FBC and Lance Lilley, FVRD            Corrine Roesler, BC Ministry of Agriculture</p>
<p><b>Greater Vancouver-Sea to Sky Region</b>  <b>Wednesday, January 18, 2012</b></p> <p>The Tap Water Campaign of Metro Vancouver            Metro Vancouver's Integrated Liquid Waste and Resource Management Plan – Perspectives from an Advisory Committee            Water and Climate Adaptation in Vancouver            Peeling Back the Pavement: A Blueprint for Reinventing Rainwater Management in Canada's Communities</p>	<p><b>New Westminster, Inn at the Quay</b></p> <p>David Hocking, Metro Vancouver            Christianne Wilhelmson, Georgia Strait Alliance            Tamsin Mills, City of Vancouver            Jesse Baltutis, The POLIS Project for Ecological Governance</p>

The following are highlights of some of the outputs and outcomes of the series of regional workshops on watershed planning and related activities:

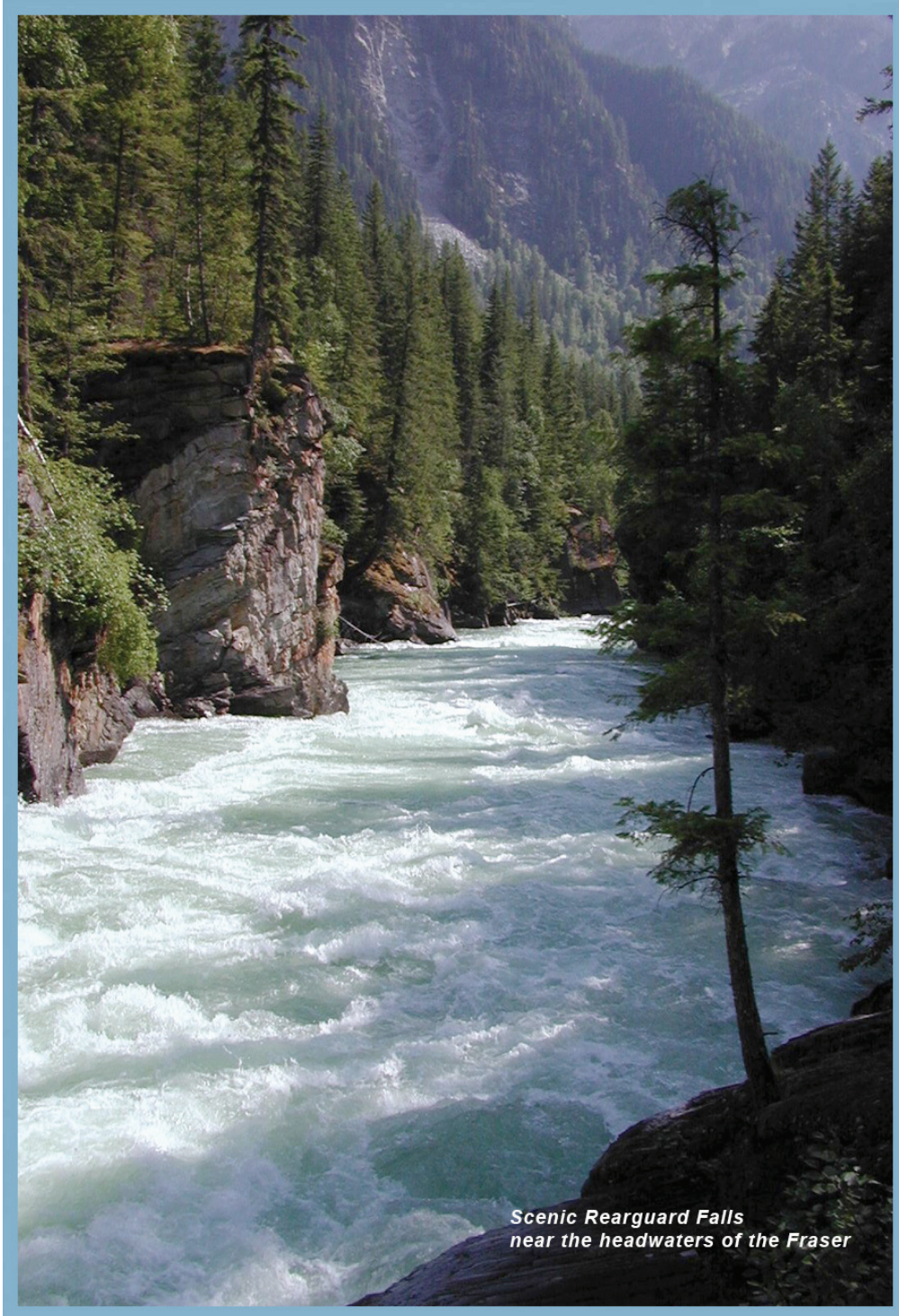
- Five regional workshops were delivered, in Prince George, 100 Mile House, Salmon Arm, Chilliwack and New Westminster, taking place from September 2011 to January 2012.
- 178 workshop participants
- About 200 copies of the print version of the Guide were distributed at the watershed planning workshops
- About an additional 160 copies of the print version of the Guide were distributed at other events and upon request.
- There have been 332 downloads of the PDF version of the Guide from the FBC web site [www.fraserbasin.bc.ca](http://www.fraserbasin.bc.ca).
- As of March 13, Google analytics indicated there were 674 visits, 492 unique visitors and 191 return visits to the web version of the Guide: [www.rethinkingwater.ca](http://www.rethinkingwater.ca). Based on these and other web analytics, it is estimated that there have been about 3500 views and/or downloads of the PDF version of the guide from this site.
- A presentation of the Guide was made at each workshop, followed by in-depth discussions of regional water and watershed issues.
- Watershed planning and lessons learned content was also presented at other relevant events including: Columbia Basin Watersheds Network workshop, BC Water and Waste Association's annual conference, Building Sustainable Communities conference, UNBC Knowledge to Action conference, and a national webinar on climate adaptation. These events reached approximately an additional 250 individuals from diverse organizations.

Presentations were made specific to each region regarding local water related issues, such as groundwater source protection, water quantity issues, and agricultural water demand, among others. At each workshop, participants discussed local watershed issues, challenges and opportunities, followed by a discussion of next steps in the region, and how to collaborate moving forward.



## **3.0 Water and Watershed Issues, Challenges and Opportunities**

### **3.1 Upper Fraser Region – Prince George Workshop**



*Scenic Rearguard Falls  
near the headwaters of the Fraser*

## **Water and Watershed Issues**

The top three issues identified at the workshop in Prince George were the effects of climate change on watersheds, resource development for energy, and the effects of different land uses on watersheds.

### *Climate Change*

Climate change impacts manifest in a number of conspicuous ways, such as the mountain pine beetle infestation. The amount and extent of dead pine is changing the hydrology: the reduction in root systems and shade result in higher and more prolonged freshets, creating increased risks of erosion and flood events. Another impact of climate change is the changes in precipitation, and resulting flood and drought events, and more extremes related to temperature.

### *Energy Resource Development*

Resource development is a significant issue in the Upper Fraser Region. For example, the construction of the Kenney Dam and associated spillway, has resulted in transferring 70% of the natural flows out of the Nechako River, influencing water storage, water diversion, hydro-electric power generation, aluminum smelting, flood risk, geomorphology and instream flows for environmental water uses. There are many other energy related impacts on the water resources of the Upper Fraser region and northern BC more generally, including hydro-electricity development, and water demand for hydraulic fracturing of natural gas deposits. There are also concerns related to water quality with these types of resource development. The cumulative effects of resource development for energy purposes is yet unknown, and is a cause for concern in the region.

### *Land Use*

A third key issue raised at the Prince George workshop was the effects of various land-uses on water quality. This includes the possibility of contamination associated with railway development and operations, pollution risk from spills, and agricultural chemicals, among other land uses. The workshop participants noted that historical decisions have left negative legacies for the present population to deal with. If we can limit our impacts on the land and water now, we can lessen our own negative legacies for future generations.

### *Public Attitudes and Awareness*

Other issues that were raised in Prince George included a frontier mentality in terms of using water and land, a lack of public awareness and education about water issues in general, and resulting pollution and garbage from recreational uses of lakes.

## **Challenges / Barriers**

Several challenges and barriers were identified in relation to the issues outlined above. These include:

- Lack of adequate funding to develop management plans;
- An “out of sight, out of mind” attitude from landowners and citizens and a general resistance to change;
- People are uninformed about the negative impacts they are causing, yet are easily overwhelmed if too much information is presented; and,
- Misalignment of political and watershed boundaries, impacting the effectiveness of different jurisdictions in managing watersheds, and making it difficult for the public and stakeholders to understand who has jurisdiction over what aspects of watersheds.

## **Opportunities**

The workshop participants identified several opportunities related to the barriers identified above. The most common opportunity suggested was collaborative partnerships, within and between agencies, sectors, universities, and other organizations, to name a few. The type of these partnerships could be mentorship, information exchange, funding, or others. Collecting and sharing information was also noted as a key opportunity. For example, conducting floodplain mapping data and sharing it with the community to help provide full disclosure of flood risks for homebuyers. Public education was also raised as an opportunity to address watershed issues, particularly on issues and initiatives such as preparation for emergencies and flooding, environmentally friendly cleaning products, low flow (i.e. low water use) appliances and the Great Canadian Shoreline Cleanup. Reconnecting people with food, nature and water was suggested as a way to create behaviour change, along with community-based social marketing, connecting different ways of knowing information.



## **3.2 Cariboo-Chilcotin Region – 100 Mile House Workshop**



*The Fraser Basin is diverse, offering rolling hills and flatlands, grasslands and canyons - the spirit of the Interior heartland*

## **Water and Watershed Issues**

A number of key water and watershed issues were raised in 100 Mile House, under the overarching headings of Water Quantity, Water Quality, Jurisdiction, Education and Perception of Water, and Land Use.

### *Water Quantity*

A number of workshop participants raised the issue of decreasing lake levels as related to increasing agricultural and residential demands on surface water resources. The Williams Lake aquifer has been in steady decline since 1969. The region will eventually have to find an alternative or additional source for its water supply. Already low and declining lake levels will be exacerbated by over-irrigation and climate change.

### *Water Quality*

Agricultural runoff, old or poorly maintained septic systems, and recreational activities all contribute to poor or compromised water quality concerns in the 100 Mile House area. The outflow of water from Green Lake is very low, increasing the possibility of contaminated or polluted lake water because pollutants accumulate and concentrate rather than flush out of the lake. Lack of education and awareness about lake pollution and water quality is an issue; as population and development around the lake have increased over the years, the pressures on surface water have increased as well, without enough education to help people understand the impacts of their actions.

### *Jurisdiction and Governance*

Many of the workshop participants were unclear or uncertain about who is responsible for what in the realm of water. This makes it easier for different agencies or organizations to “pass the buck” when there is no clearly defined responsibility. Although jurisdiction around water quantity and allocation resides with the provincial government, there appears to be a lack of resources to manage the issue of declining lake levels. The Cariboo Regional District does not have a mandate to create a watershed management plan which could address local water issues, so concerned residents are left not knowing where to start, nor how to effectively engage in addressing these issues. The management of water does not align with current political boundaries. There is a lack of enforcement on water withdrawals, and of regulation with regard to groundwater and drilling of new wells. This has an impact the quantity of available surface water due to the interactions between groundwater and surface water.

### *Information and Education*

Another broad and wide-ranging issue related to water in the Cariboo-Chilcotin region is information and education. There is a lack of information pertaining to surface and groundwater hydrology and how much water is consumed. There is also a lack of understanding of the cumulative effects of various activities within watersheds. Because there is insufficient information, people often undervalue the resource, or do not understand how their activities pollute it. For example, managing a watershed to reduce non-point sources of pollution such as cattle manure and recreational impacts is very difficult, as people do not necessarily realize the impacts of their actions and uses of the land. Another example is the growth in lakeshore development and associated nitrogen inputs. People are unaware how the development of numerous properties surrounding a lake, and the associated sewage, can have a negative impact on nutrient loading in lakes.

## **Challenges / Barriers**

Some barriers identified at the 100 Mile House workshop included:

- Considerable lack of education, information, data and technical expertise;
- Lack of financial and human resources to get the information needed to solve problems;
- Complex distribution of jurisdictions when it comes to water and watersheds; and,
- Difficulties in securing broad community support for watershed planning and management. This is particularly challenging in large watersheds.

## **Opportunities**

Despite the number of water and watershed issues and challenges that were raised at the 100 Mile House workshop, there was considerable optimism in terms of emerging opportunities to capitalize on.

### *Local Collaborative Governance*

In response to issues and challenges related to governance and unclear jurisdictions, there was interest expressed in creating a community watershed organization with legal designation and authority, that could influence what activities and land uses would be permitted in regional watersheds. This was seen as an opportunity to assert greater influence in protecting and managing watershed health. As there are many examples and different governance models throughout the province and elsewhere, an emerging group could look to other jurisdictions for ideas and models to apply in this region.

### *Education and Awareness*

Another significant opportunity is in the realm of building education and awareness on issues such as how to collectively improve the quality of the watershed, the local impacts of climate change, and how industrial users can play a positive role in watershed planning and management. Building partnerships with universities was identified as a great place to start.

### *Other Opportunities*

Other opportunities included improving water storage to ensure long-term drinking water supplies, protecting water quality at the source rather than treating water after it has been polluted, and building on the skills, knowledge and commitment that exists within the region.



### **3.3 Thompson Region – Salmon Arm Workshop**



## **Water and Watershed Issues**

### *Water Quality*

Water quality was listed as a priority issue in Salmon Arm, and the broader Shuswap area due to a number of causes, including over use of Shuswap Lake by tourists (particularly boating), foreshore and wetland development, inadequate and/or misplaced septic fields, improper handling of wastewater, and the effects of pharmaceutical drugs flushed into the water bodies.

### *Water Quantity*

Water quantity is also an issue of concern. Although the Shuswap area does not appear to have a water shortage or threat of drought, there are significant issues related to obtaining enough water for agriculture, while maintaining sufficient water flows to sustain the natural environmental features and functions (i.e. environmental flows). There is a lack of awareness here, as many people perceive water to be in abundance. Water consumption is very high.

## **Challenges / Barriers**

### *Information, Education and Public / Political Will*

Some of the key barriers to these issues of water quality and quantity is a lack of data and information. Part of this is related to limited resources available to collect sufficient data. It was stated that many elected officials are uninformed about the issues facing our watersheds and/or there is a lack of political will to address the issues through legislation, regulation or enforcement.

In terms of public will, there is a prevalent perception that water is a resource that falls free from the sky. Although it is essential to survival, there seems to be an artificially low economic valuation of water, which does not reflect its 'true' value, nor the responsibility of protecting the resource. Water is often perceived as a right without any corresponding responsibilities to steward water resources.

### *Funding*

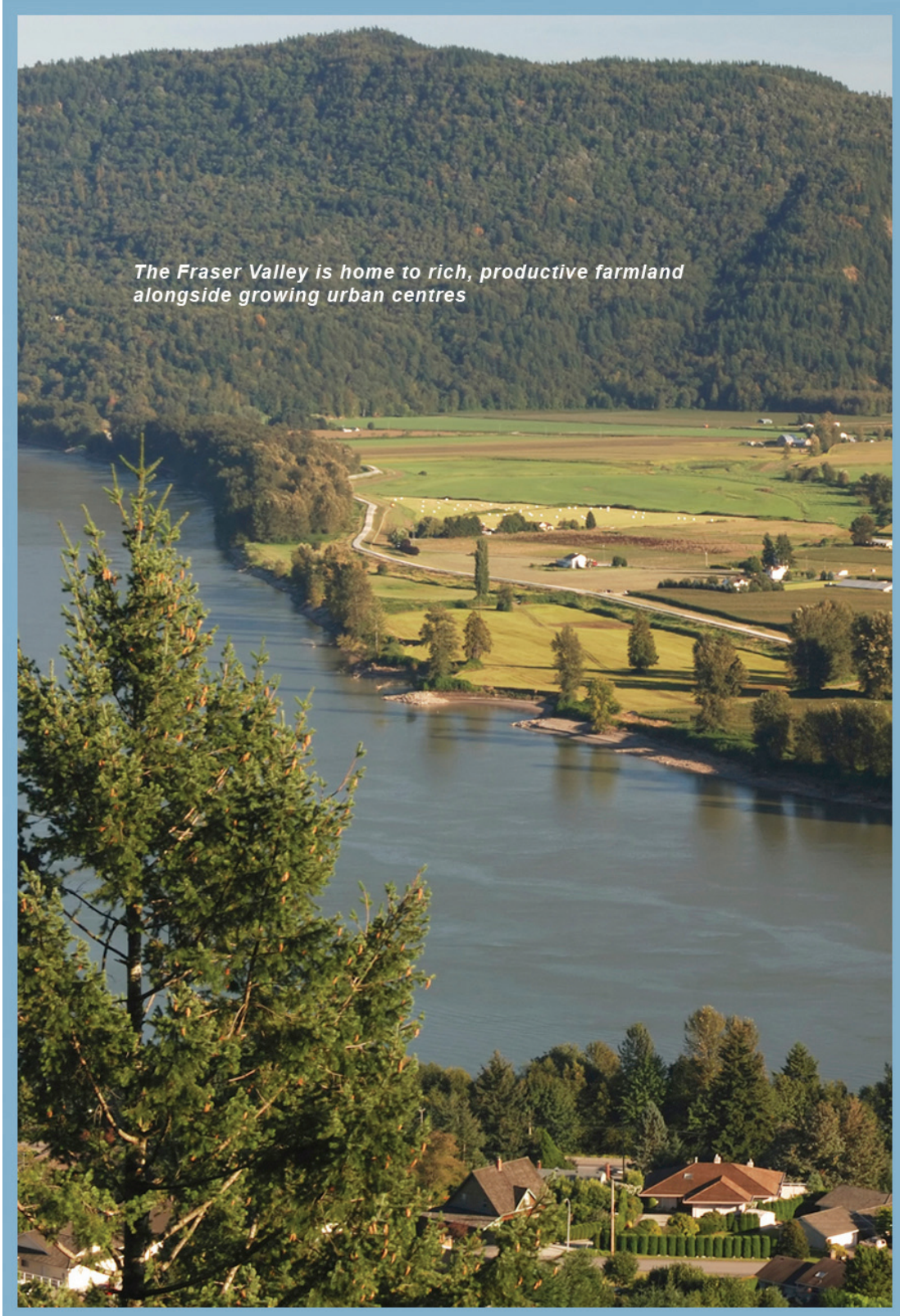
There is insufficient funding for education and awareness programs and this is a barrier to addressing conservation, perception and recreation issues in the Salmon Arm and Shuswap areas.

## **Opportunities**

Out of the issues and challenges that were discussed, emerged a willingness to formulate a watershed plan, identifying regional watershed needs and priorities. The Agriculture Demand Model, presented by Ted van der Gulik, presented an opportunity to look at future scenarios and plan ahead for them. Another opportunity that arose was from Dave Ramsey, a local school teacher, who is enthusiastic and willing to address water issues in his classroom. This inspired some follow-up correspondence after the workshop which helped to identify numerous other educational resources and opportunities (See Appendix IV). As a means of educating the public, water metering would help people understand both how much water they actually use on a regular basis, but also give a better sense of the 'real' cost of water. An education campaign is a great place to start. Bylaws and regulations are another arena where opportunities exist: creating regulations with better flexibility, to allow for creative solutions. For example, creating a bylaw to maintain a layer of topsoil would help ensure rainwater retention and reduce the need to irrigate to some degree. These measures are cost effective, and can have a measurable impact on the availability and quality of water resources.



### **3..4 Fraser Valley Region – Chilliwack Workshop**



## **Water and Watershed Issues**

A wide range of water and watershed issues were raised at the Chilliwack workshop.

### *Drinking Water Source Protection*

Drinking water source protection was a key issue that was raised. In particular there were concerns expressed about the poor agricultural management practices that can threaten source water quality. Other risks to source water protection that were identified included urban sources of pollution as well as changes in hydrology. For example, increases in impervious surfaces reduce groundwater infiltration and aquifer recharge.

### *Public Attitudes*

Attitudes towards water, and a general sense of entitlement were raised. Participants in Chilliwack agreed that there is a common perception that water is free and abundant.

### *Governance of Land and Water*

Governance of water, and who controls it, was an issue that garnered significant discussion. Overall, the issues at the Chilliwack workshop centered around land use, and the impacts of different land uses on watershed health as well as the quality and supply of groundwater. How do we ensure safe drinking water, when we cannot control the land-use decisions affecting water sources? How can citizens and interested groups influence decisions about their local watershed? In many cases there are multiple societal objectives that may be competing. For example, Fraser Valley farmers and food processors produce a significant amount of food. However, this comes with significant consumption of water as well as fertilizer and pesticide use that can compromise water quality and other aspects of watershed health. Which takes priority, water, or food?

## **Challenges / Barriers**

Many of the issues that were identified were re-stated as challenges and barriers, including:

- Lack of control over land-use, and thus over the infiltration of pollutants into aquifers from activities such as the use of pesticides and other agricultural chemicals;
- Without an overarching or long-term vision, many land-use decisions are made on an ad hoc basis, with an overall negative effect on the watershed;
- Wilful ignorance is a barrier that must be overcome to address attitudes towards water and water related issues. There is a perception that “I can do what I want on my land” without regard to the consequences to the watershed overall.

## **Opportunities**

Discussion about opportunities focused on themes related to education and collaboration.

### *Education*

Educating and raising awareness about natural systems was seen as an important opportunity to help people understand that sufficient clean water is important to all of us, as well as fish and other species we value. Education was noted to be the ‘low hanging fruit.’

### *Collaboration*

Collaboration would be beneficial in developing water efficiency plans, sharing resources between municipalities, avoiding duplication and overlap, and learning from other jurisdictions. In particular, collaboration can be an important strategy for local governments that are feeling the pressure of ‘downloading’. It was suggested to keep asking the question: “how can we do things better?”



### **3.5 Greater Vancouver – Sea to Sky Region – New Westminster Workshop**



#### ***Water and Watershed Issues***

The issues raised at the New Westminster workshop dealt primarily with participation, awareness, perception and valuation of water, rather than water quality, quantity, jurisdiction or other issues that were more prevalent in other areas.

#### ***Public Awareness and Engagement***

In particular, inspiring and facilitating public engagement and participation in watersheds is very challenging. People are more disconnected from their local streams and watersheds in urban environments and often do not appreciate natural water courses. This may be particularly true in the Metro Vancouver region where the drinking water supply comes from relatively distant watersheds that are substantially protected from human access and where stormwater and wastewater are discharged into the ocean rather than freshwater bodies. Furthermore, there is a lack of awareness of the importance of environmental flows. People do not appreciate that the health of various ecosystems depends on sufficient stream flow. Perhaps due to this disconnect and lack of awareness, there is a perception that water is plentiful and free, and thus there is no need to conserve the resource.

#### ***Pollution***

Pollution is an ongoing concern in the Lower Fraser region. Because pollution originates from multiple sources, the jurisdiction to manage pollution is somewhat unclear. There are numerous commercial and industrial sources of pollution in urban areas; managing pollution associated with urban runoff is complex and cumbersome. Particularly challenging is the management of non-point sources of pollution such as chemicals used in households and various pollutants that are washed into storm drains during rain events.

### **Challenges**

As with the Chilliwack workshop, the water and watershed issues raised by the participants in New Westminster were considered to be the key challenges. These included:

- A lack of public awareness about the value of water and aquatic ecosystems;
- A disconnect from water sources and wastewater discharge; and
- A complex mix of point and non-point sources of pollution.

### **Opportunities**

Some opportunities that emerged from the discussion are related to the fact that there have been successes to date, and the importance of capitalizing on these successes to help maintain momentum. There was some discussion about resistance to change and a general unwillingness to pay for improved water and watershed management. However, this was juxtaposed with the recent increase in the gas tax to support improvements to transportation infrastructure including public transit. The observation was made that there was relatively little – if any – significant backlash to this in the fall municipal election. How can we learn from – and build on – cases like this? One possible lesson is that when taxes or fees are collected, people are more willing to pay when these revenues go to very specific projects and services where the direct benefit is apparent. This principle could be applied in how we educate people about watershed issues. For example, there would be value in reframing the issues in a way that appeals to the values and interest of the public so they recognize how water and watershed management benefits them.



## 4.0 Moving Forward Through Collaborative Action



### 4.1 Key Themes

In the final session of each workshop, participants were asked to discuss the following types of questions (there was some variation in the questions across the different workshops):

- What future do we envision for our water and watersheds?
- What are some priorities for the future?
- What collaborations need to happen to benefit water and watersheds?
- What actions, strategies, or creative solutions will help get us there?
- Who else needs to be involved?

The workshop participants across all five workshops identified the desire for the maintenance of healthy watersheds in their respective regions. However, the issues that threaten the health of watersheds, and the priorities to address them, differ considerably throughout the basin. In terms of priorities for the future, and solutions to key watershed issues, building resilience and flexibility to adapt to changing conditions, such as climate change, energy development, increasing population and demand for water, were identified as priorities, most notably in Prince George, and the Upper Fraser region. The following are some of the key themes that emerged from the discussion.

*Collaborative Governance and Improved Decision Making at the Local or Regional Scale*  
Workshop participants in 100 Mile House and Salmon Arm raised the concept of new forms of governance at the local or regional scale. For example, in 100 Mile House, some participants were interested in creating a watershed group to build greater watershed resilience and to have the ability to exercise some measure of control over the decisions affecting their watershed. In Salmon Arm, the group raised the idea of forming a Shuswap Water Board, accountable to the citizens of the region, and able to inform decision makers of the needs and issues in the watershed in a unified and representative way.

Several participants at the regional workshops identified the Water Act Modernization process, and the proposed Water Sustainability Act, as a potential opportunity for a new model of watershed governance in BC, with the hope of enabling legislation and support from the province. The Fraser Basin Council offered to submit the workshop report to the staff

responsible for WAM to highlight the water and watershed issues that were discussed, including interest in new forms of governance at the local or regional scale.

#### *Education to Inspire Behavioural Change*

A strategy that stood out prominently at many of the workshops was education in various forms. Dave Ramsey, a teacher in Salmon Arm, strongly believes in bringing water sustainability education into the classroom, and bringing the classroom into the watershed. He has been developing a curriculum to engage youth, to help build an understanding of the natural world, and to foster a deeper connection to it. Other education opportunities identified included educating developers, farmers, governments and elected officials, among others, about the value and function of sustainable watersheds and riparian zones. Some participants in New Westminster noted that facilitating a paradigm shift is necessary, where people come to recognize and understand the complexity and functionality of our urban water systems and infrastructure (e.g. stormwater, waste water and drinking water treatment and distribution systems). It was expressed that these systems have worked so effectively in the past that people take them for granted. If people had a better understanding of how complex these systems are, and the pressures that are on them, they may be less likely to take them for granted, and put less strain on these systems through personal actions.

#### *Water Storage for Community Use, Agriculture and Environmental Flows*

Another strategy to improve the resilience of watersheds and communities is to improve water storage systems. This was raised in the context of the Cariboo-Chilcotin region at the 100 Mile House workshop where declining lake levels and aquifers were a key topic of discussion. Water quantity and availability is a critical issue in both the Cariboo-Chilcotin and the Thompson, particularly in support of the agriculture sector, and during low-flow periods. Food security is a concern that is becoming increasingly important, so maintaining sufficient water supply to ensure we meet our agricultural needs, yet leave enough water to ensure healthy environmental flows, was noted as an immediate challenge that must be addressed.

#### *Improving and Sharing Knowledge*

At most of the workshops a priority for the future was to improve and better share data, information and knowledge about water and watersheds. In addition to watershed inventories and assessments, monitoring data, mapping and scientific analysis, participants at most of the workshops indicated that the knowledge and world view of First Nations in BC would strengthen planning and management of water and watersheds. It was recognized that First Nations possess a valued world view that differs from non-Aboriginal people, and offers a deep understanding of water as the life-blood of our natural systems.

In addition to First Nations, partnerships with universities were suggested in the Upper Fraser and Cariboo-Chilcotin regional workshops as a way of obtaining the data and technical information to manage watersheds more effectively. The Thompson region is also in need of data, particularly on the cumulative effects of water withdrawals throughout the region. Partnerships with universities and other data collection and research entities may be very beneficial in this regard. For example, there is current work being done to collect watershed data, and map out watersheds. Pursuing partnerships of this nature would help inform watersheds processes and related decision-making.

In addition to information about specific water resources or watersheds, there was also an interest in getting a better understanding of the extent and status of different planning and governance initiatives throughout British Columbia. There was support to undertake an inventory of who has done what – and who is doing what – in the realm of water and watershed planning, management and governance.

### ***Broadening Engagement for Watershed Sustainability***

In response to the question – who else needs to be involved – three groups were identified at several of the workshops. Meaningful First Nations engagement was identified as critical for planning, management and governance of water and watersheds. It is important to distinguish First Nations as being more than stakeholders. Youth and the private sector were also identified as important groups to involve. These were under-represented in the series of regional workshops and are often under-represented in water and watershed initiatives such as planning, governance and stewardship. First Nations, business and youth may each bring their own unique set of interests, knowledge, skills and energy to the table that could benefit watershed discussions and actions, moving this work forward in a positive way.

## **4.2 Conclusions**

The series of regional workshops – and the watershed planning guide that inspired the workshops – have contributed to building community capacity for watershed planning, management, stewardship and governance. The workshops helped to outline the intent and purpose of a wide range of planning processes available in BC. They also provided an overview of the range of water-related impacts of a changing climate and explored ways to integrate climate change considerations into different water planning processes. Local and regional presentations profiled planning initiatives and other water-related initiatives underway in the regions, raising awareness about who is doing what. The workshops also provided an opportunity for individuals and organizations to connect with one another at the regional scale. In many cases people were introduced to important initiatives that they were previously unaware of.

It was very rewarding to facilitate dialogue about water and watershed health with diverse audiences in different regions of the Fraser Basin. The workshop participants were very passionate and knowledgeable about water and watershed issues. They expressed their appreciation for the opportunity to learn, exchange information and network with one another and demonstrated their interest in continuing to be stewards in their regions and communities.

Based on the level and quality of interest, participation and dialogue in the workshops the Fraser Basin Council would like to highlight two over-arching lessons:

1. There is considerable value in regional, face-to-face gatherings on water and watersheds, to share information, to foster and strengthen relationships among individuals and organizations, to maintain momentum and to galvanize support for initiatives such as watershed planning and stewardship.
2. There is much interest and there are many opportunities for facilitating and enhancing collaborative approaches to watershed management, planning and governance throughout the Fraser Basin and beyond.

The Fraser Basin Council is encouraged by the interest, passion and commitment of people throughout the Fraser Basin when it comes to water and watersheds. This includes people from all orders of government (Federal, Provincial, First Nations and Local Governments), as well as community-based organizations, the business sector and interested citizens. The Council aspires to continue this type of dialogue and engagement through similar workshops in other regions of British Columbia and through other opportunities to connect with people such as planners, biologists, engineers, youth and others.

We all depend on water, we all impact water and watersheds; therefore we all share in the responsibility to be good stewards of water for present and future generations and for other species and ecosystems.



## **5.0 Appendices**

**Appendix I: Promotional Material**

**Appendix II: Workshop Agendas**

**Appendix III. List of Workshop Participants**

**Appendix IV. Educational Resources and Opportunities Shared Following the Salmon Arm Workshop**

## Appendix I: Promotional Material

### **Rethinking Our Water Ways – Regional Workshops on Water and Watershed Planning in the Face of Climate Change and other Challenges**

- *Do you have responsibilities in the planning and management of watersheds or water resources in your community or region?*
- *Are you concerned about pressures on water quality or quantity?*
- *Are you concerned about the impacts of climate change on water resources and what we can do to manage these impacts?*
- *Would you like to learn about how you can contribute to a safe, secure supply of clean water for communities and ecosystems through water and watershed planning?*

The Fraser Basin Council is pleased to announce a series of regional workshops throughout BC to help people learn about and build capacity for water and watershed planning. If you answered 'yes' to any of the questions above, we encourage you to attend a workshop in your region.

- Friday, September 23, 2011      Prince George, Civic Centre
- Monday, October 24, 2011      100 Mile House, The Lodge
- Tuesday, November 1, 2011      Salmon Arm, Prestige Hotel
- Wednesday, December 7, 2011      Chilliwack, Fraser Valley Regional District
- Wednesday, January 18, 2012      New Westminster, Inn at the Quay
- Other      Additional workshops may also be planned for additional locations subject to interest and resources

These workshops are intended for those who have roles, responsibilities and interests in different types of water or watershed planning, including all orders of government (local, First Nations, provincial, federal) community stewardship organizations and various sectors that use water such as communities, industry, agriculture and ranching, and tourism and recreation.

The workshops coincide with the launch of a new guide **“Rethinking Our Water Ways – A Guide to Water and Watershed Planning for BC Communities.”**

Workshop participants will receive a copy of the Guide. The Guide and the associated workshops are intended to: discuss key water and watershed issues; raise awareness and interest in water and watershed planning; explore the value of a wide range of planning processes in managing water issues; and learn about local and regional perspectives, initiatives and success stories. The workshops will also raise awareness and understanding of climate impacts on water and how communities can integrate climate adaptation into watershed plans. The workshops will also offer opportunities to:

- Network with, and learn from, other practitioners and leaders within the region;
- Share experiences and lessons learned; and,
- Build capacity for water and watershed planning among local governments, First Nations, stewardship groups and other individuals and organizations.



**There is no cost to attend, but we ask that you register in advance to help us arrange logistics and catering. To [register](#) for a Water and Watershed Planning workshop in your region, [click here](#).**

We encourage you to circulate this notice to individuals and organizations that you think would be interested in these workshops.

**For more information, please contact:**

**Steve Litke**

Senior Program Manager  
Watersheds and Water Resources  
Program  
Fraser Basin Council  
Phone: 604-488-5358  
Email: [slitke@fraserbasin.bc.ca](mailto:slitke@fraserbasin.bc.ca)

**Lindsay Gardner**

Program Coordinator  
Watersheds and Water Resources  
Program  
Fraser Basin Council  
Phone: 604-488-5367  
Email: [lgardner@fraserbasin.bc.ca](mailto:lgardner@fraserbasin.bc.ca)

**Appendix II: Workshop Agendas**



## **A Forum for BC Communities on Water and Watershed Planning**

**Prince George Civic Centre (Room 208) – September 23, 2011**

### **Workshop Agenda**

- 9:30 – 10:00 Registration and Refreshments**
- 10:00 – 10:15 Welcome and Introduction**
- Welcome by FBC Director, Councilor Debora Munoz
- 10:15 – 11:15 Water and Watershed Planning**
- Introduction to Water and Watersheds in BC (issues and roles)
  - Introduction to Climate Impacts on Water in BC
  - Overview of the Guide – Rethinking Our Water Ways
  - Learning to Adapt through Water and Watershed Planning
  - Questions and Discussion
- 11:15 – 12:15 Local and Regional Issues, Initiatives, Success Stories, and Lessons Learned**
- “Understanding the Watersheds of Prince George” - Presentation by Gina Layte Liston, Environmental Coordinator, City of Prince George
  - Questions and Discussion
- 12:15 – 1:00 Lunch and Networking**
- 1:00 – 2:00 Roundtable and/or Plenary Discussions**
- What are the key water and watershed issues in our community or region?
  - What key challenges or barriers are related to these issues?
  - What are the existing or potential opportunities to look after water and watersheds in our community or region? (e.g. planning processes, partnerships, policy initiatives, technical studies / research, other resources?)
- 2:00 – 3:00 Exploring a Vision for the Future**
- What future do we envision for our water and watersheds?
  - What are some priorities for the future?
  - What actions, strategies, or creative solutions will help us get there?



Environment  
Canada

Environnement  
Canada

Fraser Salmon & Watersheds Program





*Regional Workshops on Water  
and Watershed Planning  
in the face of climate change  
and other challenges*

**Rethinking Our Water Ways –  
Cariboo-Chilcotin Workshop on Water and Watershed Planning  
in the Face of Climate Change and other Challenges**

**Monday 24 October 2011, 10:00am to 3:00pm  
Valley Room, The Lodge, 100 Mile House, BC**

- 9:30 – 10:00**      **Arrival and Refreshments**
- 10:00 – 10:15**      **Welcome and Introduction**
- 10:15 – 11:15**      **Water and Watershed Planning**
- Introduction to Water and Watersheds in BC (issues and roles)
  - Introduction to Climate Impacts on Water in BC
  - Overview of the Guide – Rethinking Our Water Ways
  - Learning to Adapt through Water and Watershed Planning
  - Questions and Discussion
- 11:15 – 12:15**      **Local and Regional Issues, Perspectives, Initiatives, Success Stories, and Lessons Learned**
- District of 100 Mile House water supply, infrastructure and upstream management – Joanne Doddridge, Planner, District of 100 Mile House
  - 108 Mile Lake levels and water consumption – Mitch Minchau, Manager of Environmental Services, Cariboo Regional District
  - Cariboo Regional District OCPs and their role in watershed planning – Rick Brundrige, Manager of Planning Services, Cariboo Regional District
  - San Jose Watershed Climate Change Adaptation modeling – Harry Nelson, Assistant Professor, Dept. of Forest Resources Management, UBC
- 12:15 – 1:00**      **Lunch and Networking**
- 1:00 – 2:00**      **Roundtable Discussions**
- What are the key water and watershed issues in our communities or region?
  - What key challenges or barriers are related to these issues?
  - What are the existing or emerging opportunities to look after water and watersheds in our community or region? (e.g. partnerships, planning processes, policy initiatives, technical studies / research, other?)
- 2:00 – 2:45**      **Exploring a Vision for the Future**
- What future do we envision for our water and watersheds?
  - What are some priorities for the future?
  - What actions, strategies, or creative solutions will help us get there?
- 2:45 – 3:00**      **Wrap-Up**



**Regional Workshops on Water  
and Watershed Planning  
in the face of climate change  
and other challenges**

Tuesday, November 1<sup>st</sup> 2011  
Balmoral Salon, Prestige Hotel, Salmon Arm, BC

**AGENDA**

9:30	Arrival and Refreshments	
10:00	<b>Welcome and Introductions</b>	Erin Vieira Fraser Basin Council
10:15	<b>Water and Watershed Planning</b> <ul style="list-style-type: none"> <li>• Introduction to water and watersheds in BC (issues and roles)</li> <li>• Climate impacts on water in BC</li> <li>• Overview of the guide: <i>Rethinking Our Water Ways</i></li> <li>• Learning to adapt through water and watershed planning</li> <li>• Questions and discussion</li> </ul>	Steve Litke Fraser Basin Council
11:00	<b>Local and Regional Issues, Initiatives, and Lessons Learned</b>	
	Shuswap River Sustainability Plan	Laura Frank and Anna Page North Okanagan Regional District
	Shuswap Lake Integrated Planning Process	Mike Simpson Fraser Basin Council
	The Agriculture Water Demand Model	Ted van der Gulik BC Ministry of Agriculture
	Questions and Discussion	
12:15	<b>Lunch and Networking</b>	
1:00	<b>Roundtable Discussions</b> <ul style="list-style-type: none"> <li>• What are the key water and watershed issues in our community or region?</li> <li>• What key challenges or barriers are related to these issues?</li> <li>• What are the existing or emerging opportunities to look after water and watersheds in our community or region? (partnerships, planning processes, planning initiatives, technical studies, research, etc.)</li> </ul>	
2:00	<b>Exploring a Vision for the Future</b> <ul style="list-style-type: none"> <li>• What future do we envision for our water and watersheds?</li> <li>• What are some priorities for the future?</li> <li>• What actions, strategies, or creative solutions will help get us there?</li> </ul>	<i>Facilitated by Erin Vieira</i>
2:45	Wrap-Up	
3:00	Adjourn	



**Regional Workshops on Water  
and Watershed Planning  
in the face of climate change  
and other challenges**

Wednesday, December 7<sup>th</sup> 2011  
Fraser Valley Regional District Office, 4<sup>th</sup> Floor Boardroom.  
45950 Cheam Avenue, Chilliwack, BC

**AGENDA**

9:30	Arrival and Refreshments	
10:00	<b>Welcome and Introductions</b>	Marion Robinson Fraser Basin Council
10:10	<b>Sto:lo perspectives about water</b>	Chief Otis Jasper
10:20	<b>Rethinking Our Water Ways - A Guide to Water and Watershed Planning</b> • Presentation • Questions and discussion	Steve Litke Fraser Basin Council
11:00	<b>Local and Regional Issues, Initiatives, and Lessons Learned</b> Drinking Water and Health  Cultus Lake Stewardship  The Agriculture Water Demand Model  Questions and Discussion	Marc Zobel Fraser Health Authority  Marion Robinson, FBC and Lance Lilley, FVRD  Corrine Roesler BC Ministry of Agriculture
12:15	<b>Lunch and Networking</b>	
1:00	<b>Roundtable Discussions</b> • What are the key water and watershed issues in our community or region? • What key challenges or barriers are related to these issues? • What are the existing or emerging opportunities to look after water and watersheds in our community or region? (partnerships, planning processes, planning initiatives, technical studies, research, etc.)	
2:00	<b>Exploring a Vision for the Future</b> • What collaborations need to happen to benefit water and watersheds? Please respond with your sticky note on the subject flipchart. • Do any of these subjects have a priority for the future? If so, which ones? Or together? • What actions, strategies, or creative solutions will help get us there? Who else needs to be involved?	Facilitated by Marion Robinson
2:45	Wrap-Up	
3:00	Adjourn	





**Regional Workshops on Water and Watershed Planning in the face of climate change and other challenges**

Wednesday, January 18<sup>th</sup> 2012  
 Inn at the Quay, Hyack Room  
 900 Quayside Drive in New Westminster, BC

**AGENDA**

9:30	Arrival and Refreshments	
10:00	<b>Welcome and Introductions</b>	Marion Town Fraser Basin Council
10:10	<b>Rethinking Our Water Ways – A Guide to Water and Watershed Planning</b> <ul style="list-style-type: none"> <li>• Presentation</li> <li>• Questions and discussion</li> </ul>	Steve Litke Fraser Basin Council
10:55	<b>Local and Regional Issues, Initiatives, and Lessons Learned</b>	
	The Tap Water Campaign of Metro Vancouver	David Hocking, Metro Vancouver
	Metro Vancouver’s Integrated Liquid Waste and Resource Management Plan – Perspectives from an Advisory Committee	Christianne Wilhelmson, Georgia Strait Alliance
	Water and Climate Adaptation in Vancouver	Tamsin Mills, City of Vancouver
	Peeling Back the Pavement: A Blueprint for Reinventing Rainwater Management in Canada’s Communities	Jesse Baltutis, The POLIS Project for Ecological Governance
	Questions and Discussion	
12:15	<b>Lunch and Networking</b>	
1:00	<b>Roundtable Discussions</b> <ul style="list-style-type: none"> <li>• What are the key water and watershed issues in our community or region?</li> <li>• What key challenges or barriers are related to these issues?</li> <li>• What are the existing or emerging opportunities to look after water and watersheds in our community or region? (partnerships, planning processes, planning initiatives, technical studies, research, etc.)</li> </ul>	
2:00	<b>Exploring a Vision for the Future</b> <ul style="list-style-type: none"> <li>• What collaborations need to happen to benefit water and watersheds?</li> <li>• Do any of these subjects have a priority for the future? If so, which ones? Or together?</li> <li>• What actions, strategies, or creative solutions will help get us there? Who else needs to be involved?</li> </ul>	Facilitated by Marion Town
2:45	Wrap-Up	
3:00	Adjourn	

## Appendix III. List of Workshop Participants

### Participants: Prince George

Lara	Beckett	Regional District of Fraser Fort George
Joan	Chess	Fraser Basin Council
Christina	Ciesielski	Carrier Sekani Tribal Council
Chelsea	Coady	Fraser Basin Council
Chris	Coben	City of Quesnel
Patrick	Coon	University of Northern BC
Kelly	Giesbrecht	Fraser Basin Council
Gina	Layte Liston	City of Prince George
Courtney	LeBourdais	UNBC-Northern Health 'Ecohealth & Watersheds' Knowledge to Action Project
Elke	Lepka	Takla Lake First Nation
Steve	Litke	Fraser Basin Council
Terri	McClymont	The Recycling and Environmental Action Planning Society
Phil	Owens	University of Northern British Columbia
Ian	Picketts	UNBC
Andrew	Seidel	UNBC School of Environmental Planning
Krystin	St Jean	UNBC/FBC
Tanya	Turner	City of Quesnel
Tina	Watt	City of Prince George
Jocelyn	White	City of Prince George

### Participants: 100 Mile House

Deb	Bischoff	Cariboo Regional District
Mitch	Campsall	District of 100 Mile House
Garry	Laursen	District of 100 Mile House
Christine	Lohr	MFLNRO
Al	Richmond	Cariboo Regional District
Roy	Allan	Green Lake Rate Payers Association (GLARA)
Robert	Barta	Ministry of Forests, Lands and Natural Resource Operations
Tracy	Bond	Baker Creek Enhancement Society
Alan	Boyd	Green Lake Rate Payers Association (GLARA)
Rick	Brundrige	Cariboo Regional District
Pat	Byrne	FLNRO 100 Mile House District
Herb	Carter	108 Resident
Tina	Chestnut	Fisheries and Oceans Canada
Joanne	Doddridge	District of 100 Mile House
John	Dressler	
Joe	Engelberts	City of Williams Lake
Lorrie	Fleming	Green Lake Rate Payers Association (GLARA)
Lindsay	Gardner	Fraser Basin Council
Kerri	Howse	FLNRO
Erin	Hunter	BC Timber Sales
Dan	Jackson	108 Community Hall
Steve	Litke	Fraser Basin Council
John	Massier	Cariboo Regional District
Angela	Mawdsley	University of Queensland
Allen	Midgley	Bonaparte Watershed Stewardship Society
Mitch	Minchau	Cariboo Regional District

Harry	Nelson	Dept. of Forestry, UBC
Susan	O'Sullivan	Ministry of Forests, Lands and Natural Resource Operations
Roberta	Patterson	Ministry of Forests, Lands and Natural Resource Operations
Maureen	Pinkney	
Bruce	Ratray	Cariboo Regional District
Ben	Sampogna	Ministry of Forests, Lands and Natural Resource Operations
Mark	Seilis	BC Timber Sales
Donnella	Sellers	Fraser Basin Council - Smart Planning for Communities
Shona	Smith	Fisheries and Oceans
Ron	Soeder	108 Greenbelt Commission
Joan	Sorley	Cariboo Regional District
Patricia	Spencer	Lower Bridge Creek Watershed Stewardship Society
Ann	Swann	BCLSS
Patty	Tawiyaka	Learning Adventures
Michelle	Schilling	Department of Fisheries and Oceans
Mike	Simpson	Fraser Basin Council

**Participants: Salmon Arm**

Dorothy	Argent	Switzmalph Cultural Society
Ronn	Boeur	
Neil	Brookes	Kingfisher Interpretive Centre Society
Frank	Bugala	WA:TER
Clive	Callaway	The Living by Water Project BC Ministry of Forests, Lands and Natural Resource Operations
Valerie	Cameron	
King	Campbell	Ducks Unlimited Canada
Jim	Cooperman	Shuswap Environmental Action Society
Shelley	Corbin	
Ed	Dahl	Salmon Arm Bay Nature Enhancement Society
Erika	Davidson	
Jill	de la Salle	Active Communities
Cardell	Dumais	Ministry of Natural Resources
Doug	Edwards	Agriculture & Agri-Food Canada
Dan	Ferguson	Interior Health
Laura	Frank	Regional District of North Okanagan
Kim	Fulton	School District 83, Wild B.C. SEAS
Lindsay	Gardner	Fraser Basin Council
Lee	Hesketh	
Pat	Hickerson	City of Armstrong
Barb	Jackson	TNRD
Dale	Kerr	Shuswap Water Action Team Society
Steve	Litke	Fraser Basin Council
Tom	Marstaller	City of Kamloops
Robert	Misseghers	APC area F for the CSRD
Robert	Niewenhuizen	City of Salmon Arm
Dave	Nordstrom	
Anna	Page	Regional District of North Okanagan
Corey	Paiement	City of Salmon Arm
Christa	Pattie	Ministry of Forests, Lands and Natural Resource Ops
Dave	Ramsay	Salmon Arm Secondary School
Laila	Salm	Ministry Forests Lands Natural Resource Operations
Nina	Sigloch	MFNRO

Mike	Simpson	Fraser Basin Council
Ron	Smith	Partnership for Water Sustainability in BC
Marc	Solomon	City of Kamloops
Lisa	Sterritt	Armstrong Food Initiative Society
Jan	Thingsted	Columbia Shuswap Regional District
Ruth	Thomas	Neskonlith Indian Band
Ted	van der Gulik	BC Ministry of Agriculture
Peter	Vander Sar	Lower Shuswap Stewardship Society (member)
Erin	Vieira	Fraser Basin Council
Jim	White	Rangeland Associates
Laurie	Williams	Armstrong Spallumcheen Active Communities Trail Committee
Tom	Wrinch	Shuswap Waterfront Owners Association
Kyle	Young	City of Salmon Arm

**Participants: Chilliwack**

Ashley	Aune	Langley Environmental Partners Society (LEPS)
Lina	Azeez	Langley Environmental Partners Society (LEPS)
Stephanie	Captein	Langley Environmental Partners Society
Vic	Carrao	Fraser Valley Angling Guide Association
Willie	Charlie	Sts'ailes (formerly Chehalis Indian Band)
Graham	Daneluz	Fraser Valley Reg. Dist.
Rachel	Drennan	Fraser Valley Watersheds Coalition
Pauline	Favero	City of Abbotsford
Lisa	Fox	Fraser Valley Conservancy
Tara	Friesen	City of Chilliwack
Lindsay	Gardner	Fraser Basin Council
Lewis	Kirkness	Cultus Lake Community Association
David	Lamson	FVRD Electoral Area E Director
Meghan	Lee	Township of Langley
Lance	Lilley	Fraser Valley Regional District
Steve	Litke	Fraser Basin Council
Suzie	MacMillan	Fraser Valley Conservancy
Nichole	Marples	Langley Environmental Partners Society
John	McAuley	Yarrow Waterworks District
Leigh	McCracken	B C Federation of Drift Fishers
Boyd	Peters	Sts'ailes (formerly Chehalis Indian Band)
Sheldon	Reddekopp	BC MoE, South Coast Sub-Region
Morgan	Ritchie	Sts'ailes (formerly Chehalis Indian Band)
Ashley	Robertson	
Marion	Robinson	Fraser Basin Council
Corrine	Roesler	Ministry of Agriculture
Chris	Skonberg	Cultus Lake Aquatic Stewardship Strategy
Owen	Skonberg	Cultus Lake Aquatic Stewardship Strategy
Justin	St.Andrassy	Township of Langley
Monte	Staats	Sunshine Coast Regional District
Anoop	Tatlay	Langley Environmental Partners Society
Andres	Torres	ISH
Marion	Town	Fraser Basin Council
Amy	Wakeford	City of Abbotsford
Marc	Zubel	Fraser Health Authority

## **Participants: New Westminster**

Cheryl	Ashlie	Maple Ridge Municipality
Jesse	Baltutis	POLIS Project on Ecological Governance
John	Basey	Bazink Solutions Inc.
Lloyd	Bie	City of Richmond
Beth	Brooks	Sunshine Coast Regional District
Glen	Carlson	GoConserve Environmental Consulting
James	Casey	WWF-Canada
Rodney	Clapton	B.C. Federation of Drift Fishers
Kel	Coulson	City of Burnaby
Hari	Deuga	N/A
Harald	Fograscher	Corporation of Delta
Lindsay	Gardner	Fraser Basin Council
Ashley	Graham	The Corporation of Delta
Tracy	Green	Village of Anmore
David	Hocking	Metro Vancouver
Ngaio	Hotte	University of British Columbia
Lee	Johnson	SFU
Mark	Johnson	DFO
Adam	Kebede	
Dave	Langill	Maxxam Analytics
Steve	Litke	Fraser Basin Council
Donald	MacKenzie	Vancouver Multicultural
Dana	McDonald	Waterlution
Tamsin	Mills	City of Vancouver
James	Ogilvie	WorleyParsons
Catherine	Ouellet-Martin	Fraser River Discovery Centre Society
Lucas	Pitts	City of North Vancouver
Tim	Pringle	Partnership for Water Sustainability in BC
Tom	Reeve	Delcan
Allison	Schein	
Jessica	Shoubridge	UBC/NRCan
Mark	Sloat	Township of Langley
Alyson	Thompson	
Marion	Town	Fraser Basin Council
Lise	Townsend	City of Burnaby
Christianne	Wilhelmson	Georgia Strait Alliance
Pamela	Zevit	South Coast Conservation Program

## **Appendix IV. Educational Resources and Opportunities (shared by email following the Salmon Arm workshop)**

The following were shared by Kim Fulton by email following the Salmon Arm workshop. The discussion on the need for educational resources prompted this correspondence.

- Wild B.C. - Wild B.C. has trained facilitators throughout B.C. that deliver workshops to teachers and community groups. Specifically Project Wet, Project Wild, Water Stewardship, Climate Change, Get Outdoors and a host of others. Wild B.C. is financed by funds from the Habitat Conservation Trust Fund. Wild B.C. presents workshops and training and teachers then deliver instruction to their students. The materials are linked to the B.C. curriculum at all levels k-12. For more info <http://www.wildbc.org/> The contact person is Kerrie Morton and there is potential for beneficial collaboration between Wild B.C. and the Fraser Basin Council.
- DFO - DFO has Education Coordinators through out the province and they provide education to schools and community groups through out the province mainly through the Stream to Sea program, (formerly Salmonids in the Classroom)<http://www.pac.dfo-mpo.gc.ca/education/index-eng.htm> They also have community advisors who coordinate programs through out the province and do a lot of work with first nations. Neil Brookes from Kingfisher and Joanne Nicklas <[jnicklas@sd73.bc.ca](mailto:jnicklas@sd73.bc.ca)>; work with schools in the Thompson Okanagan. The focus is of course is on fish and fish habitat and taking action. Stream Keepers was developed by DFO and there are many active Stream Keepers groups through out the province. [www.pskf.ca/](http://www.pskf.ca/) <[www.pskf.ca/](http://www.pskf.ca/)>
- There are many stewardship organizations through out B.C. who are concerned with water issues. <http://www.stewardshipcentre.bc.ca/>
- There are hundreds of organizations like Shuswap Environmental Action Society who are trying too.
- Commercial entities such as Royal Bank have funded educational initiatives. In fact, the North Okanagan Shuswap School District received a \$5000. grant to facilitate water stewardship initiatives in the schools. A little discretionary funding can make things happen.
- Teachers in B.C. are working full out to do their best. Water is a topic through out the curriculum k-12. The "towel" has also been thrown to school for a whole plethora of other worthy public education issues. What gets taught/ learned depends a great deal on the individual passions of the teacher and the abilities of the students.

In a subsequent email, Jim Cooperman offered the following web resource:

<http://www.shuswapwatershed.ca>





*Fraser Basin Council*