



Workshop Proceedings – Preparing for Climate Change in the Fraser Basin: How Can our Water Management Systems Adapt?

**November 6, 2007
Vancouver, BC**

Workshop Overview

The Fraser Basin Council (FBC) hosted a workshop on adaptive decision-making, water management and climate change. The workshop explored links between climate change adaptation strategies and decision-making processes in the Fraser Basin.

The workshop brought together approximately 40 participants currently active on climate change from diverse fields including four orders of government, industry and businesses, non-government organizations, professionals and academics.

Workshop Goals

The workshop was organized by FBC's Climate Change Task Committee to increase awareness around climate change adaptation strategies. The goal of the workshop was to facilitate dialogue on climate change and adaptive planning / decision-making in water management. As a result of the workshop, it was hoped participants would be better equipped to address the potential impacts of climate change on local watersheds and to develop community climate change adaptation action plans throughout the Fraser Basin.

The workshop was also held in order to guide future FBC programs related to climate change and adaptation.

Workshop Structure

Workshop participants were presented a hypothetical climate change / water crisis scenario set in 2030. Speakers representing diverse fields of thought presented four responses to the water crisis scenario. After the solutions were presented, participants broke into small, multi-sectored, working groups to further discuss adaptation strategies.

Workshop Agenda

- 10:00-10:10 *Welcome*
David Marshall Executive Director, Fraser Basin Council
- 10:10-10:20 *Climate Change in the Fraser Basin: Overview of Future Trends*
Bob Peart, Director, President, Nexus Learning Group
- 10:20-10:50 *Visualizing Climate Change at the Community Level*
Dr. Alison Shaw, UBC Collaborative for Advanced Landscape Planning
- 10:50-11:00 Break
- 11:00-11:10 *Climate Change on the Ground: a Community Scenario for 2030*
Michael O'Brien, Corporate Secretary and Vice President of Strategic Planning and Legal Services, Vancouver Airport Authority
- 11:10-12:10 *Approaches to Adaptation – Resolving a 2030 Scenario*
Panelists included John Anderson, BC Cattlemen's Association; Bob Ransford, Counterpoint Communications; Mark Edwards, Teck Cominco and Kim Stephens, Water Sustainability Action Plan for British Columbia
- 12:10-1:00 Lunch
- 1:00-1:30 *Plenary Dialogue and Panel Interaction*
- 1:30-3:00 *Small Group Discussions*
- 3:00-3:15 Break
- 3:15-3:45 *Concluding Discussion – Identification of Priorities*
- 3:45-4:00 *Workshop Summary*

Workshop Proceedings

A) Climate Change in the Fraser Basin: Overview of Future Trends

Bob Peart, Director, President, Nexus Learning Group

Projected climate trends were presented for the Fraser Basin. Trends included increases in temperature and changes in precipitation patterns. The impacts of these climate changes were projected to impact ecosystems (e.g. shift vegetation zones) and residents in the basin. (see background report for further details)

B) Visualizing Climate Change at the Community Level

Dr. Alison Shaw, UBC Collaborative for Advanced Landscape Planning

Dr. Shaw presented a tool developed to visualize and communicate climate change impacts. Her presentation included visual representations of projected snowpack melting in North Vancouver and projected sea level rises in Delta.

Arising Key Questions: How could climate change impacts be visualized in the interior of the Fraser Basin?

C) Approaches to Adaptation – Resolving a 2030 Scenario

John Anderson, Rancher

John Anderson spoke from his experience as a rancher and chair of the Nicola Watershed Community Round Table. He presented four strategy areas including water & land use planning, governance, transportation and agriculture.

In water & land use planning, John identified a need to integrate these two areas of planning. Other solutions he proposed included creating water conservation incentives and restrictions on groundwater use.

For governance-based solutions, he promoted the idea of implementing no-regrets policies that would bring benefits regardless of the exact impacts of climate change. He suggested a shift from a 'wait and see' decision-making model to a 'trust and consequences' approach to decision-making.

Within agricultural strategies, John asked whether people are ready to pay to support the local food industry. He promoted the need for economic balance and connecting people back to their food supplies.

Bob Ransford, Counterpoint Communications

Bob highlighted three areas of adaptation work: communications, government and planning. Specifically he suggested a need for a communications plan, government reform and changes to planning practices.

Bob recommended a communication plan include flexibility, trust building and education. Bob underlined that the “messenger is the message” rather than the “medium is the message”. He presented Al Gore as an example of a successful messenger, trusted by the public.

In the realm of governance reform, Bob recommended more authority be given to the local level. He identified the need for changes in the relations between civil servants and elected politicians.

Bob promoted increasing collaborative physical planning, as well as developing adaptability in our built forms and environment. He stressed the need to foster a multi-use approach in the public realm.

Mark Edwards, Teck Cominco

Mark presented a case study of Kimberly, BC as a successful adaptation story. He explained that Kimberly has spent 10 years transitioning from predominately a mining town to a four-season tourist town. Mark suggested Kimberly adapted successfully and that certain lessons learned may be transferable to climate related adaptation strategies. He underlined that Kimberly was successful due to a change in mindsets, government involvement, and a handful of active individuals.

Mark put forward several possible solutions for the 2030 Tumbling Creek scenario. He saw a need for collaboration between water users and regulators, the development of incentives to conserve water, the implementation of stringent environmental controls and learning from other successes (e.g. Australia, Chile). Speaking from his industry’s perspective he underlined that incentives cannot be entirely local because industry moves between regions and countries.

Kim Stephens, Water Sustainability Action Plan for British Columbia

Kim spoke from his experience as a water practitioner who has worked with local governments. He suggested that climate change is not the single driver or risk, but rather is one of many variables in water management. In his words “the glass is half full and the water level is rising.” His proposed three areas of focus for adaptation work: teachable moments, clear thinking and a basic water equation.

Kim suggested that specific teachable moments arise when the public may be more receptive. He identified 2003 as an example of a teachable moment due to

the droughts, floods, forest fires, windstorms and pine beetle infestations. He thought future teachable moments should be identified and used to move forward adaptation strategies.

Clear thinking, Kim suggested, is crucial in adaptation solutions. He stressed a need to ask the right questions because different questions will give different answers.

Kim presented the following water equation:

$$\text{water out} = \text{water in}$$

He explained that there are many variables on both sides of this basic equation, but that both sides inevitably equate.

Kim concluded that building resiliency would best be done in small, incremental steps.

D) Small Group Discussions

The following question was discussed in small groups:

What adaptation actions related to water management can be taken in the next year to implement successful:

- Environment-based adaptations
- Governance-based adaptations
- Economic-based adaptations
- Social-based adaptations

Four groups were formed and each group was assigned one of the sectors to develop a list of adaptation actions.

Environment-based adaptations

1. Support Local Governments placing water into Official Community Plans (OCPs) and sub-divisions (primarily rural) through provisions of money, knowledge, etc.
2. Implement strategies for aquifer re-charge.
 - A) Promote better understanding of water supplies/issues
 - B) Promote alternative technologies (e.g. low flush toilets)
3. Conduct a water balance (supply/demand). Estimate through an inventory of water supply.
4. Promote water balance model for new procurements.
5. Compile list of best practices.
6. Establish a water adaptation user coalition to advocate water adaptation.
7. Compile a list of priority storage areas and place a value on each one.

8. Provide incentives to protect natural aquatic systems.
9. Identify the cost structure of water.

Governance-based adaptations

1. Building capacity of local decision makers, in order to build support for provincial or federal decisions
2. Focus on sub-regions, go where there is energy
3. Use simple language.
4. Engage land users.
5. Conversations are key between elected officials and staff.
6. Create new local water management team / organization: local users, industry, city, greater regional district support
7. Institutionalize these arrangements through agreements / charters between governments and local groups.
8. Use existing mechanisms such as Official Community Plans.

Example: On Vancouver Island, 3-year process, mobilizing elected leadership to develop. A 50-year vision and settlement strategy developed.

Economic-based adaptations

1. Placing a higher actual and/or perceived value of water.
2. Create a crisis and/or perception there is one. Use social marketing and public education.
3. Examine cost setting scenarios or tools for different regions and situations. Cost drives change.
4. Engage in broad based dialogue.
5. Establish water use targets, incentives and penalties for new and existing development. (examine measures used in Las Vegas in the 2003 drought)
6. Land Use and Water Planning Integration:
 - Rural and Urban situations differ
 - Urban: Metro Vancouver allocates supply based on municipal development projections and plans, but issues emerge as a result of limited government regulation powers.
 - Rural: At least 5 agencies to deal with e.g. local management board, Ministry of Transportation, Ministry of Environment, Department of Fisheries and Oceans
 - Municipalities driven by economic objectives for example increased tax base
 - Integration is better where water is deficient
 - Look at improving integration everywhere for example the north coast
 - Look at examples that work
7. Need to address:
 - “Why should I care in context of economic drivers”
 - “I can’t care for ecosystem values if I can’t feed or clothe my kids.”

8. Enhance measures to monitor groundwater levels.
9. All land use planning tools should include water conservation demand management approaches (e.g. landscaping, seasonal restrictions, etc.).
10. There's a need for additional modeling and inventorying around hydrology of Mountain Pine Beetle affected areas.
11. Reforestation plans and activities need to take into consideration the changed hydrology (government licensee interface)
12. Increase flood preparedness.

Social-based adaptations

A summary of the steps to action include

1. Identify whether there is a receptive community present to engage in adaptation strategies. If there is a lack of receptivity, then the first step is to build a receptive community base.
2. Identify a clear target audience. Suggestions include populations most vulnerable to climate change impacts and the 'congregation' – not just the 'choir'
3. Identify possible trusted conveners in the community who could engage community members in a shared learning charrette process.
4. Share a damage report. One method would be to stage a mock crisis.
5. Engagement at the community level is key.
6. Use various tools e.g. planning, community based social marketing, etc.

Other brainstormed actions included

- Ads
- consumptions meters
- identify and remove barriers to behaviour change
- put a price on consumption
- use teachable moments e.g. last summer's drought
- promote ownership and accountability
- give people the tools to make change

E) Concluding Discussion – Identification of Priorities

The final workshop session included a group discussion on remaining questions and potential priorities. This was inspired by a summary of the workshop given by Michael Clague, a FBC committee member.

Questions, Priorities, Themes:

- Climate change is one of several contributing pressures on water systems, but is not the only factor to be considered.
- The economics of water systems and climate change need more analysis and is an area for possible future engagement.
- The importance of trust was repeatedly highlighted.

- Some identified challenges include time, processes and holistic thinking. The conflict and tension between rushing too quickly to action and the tyranny of bureaucracy was apparent.
- Government, private sector, economic markets and grassroots groups were all identified as having the potential to play a larger role in adaptation actions. More discussion is needed on how these groups may interact and the different roles for each group.
- The need for putting actions and commitments in writing, perhaps as a charter, was identified.
- The sharing of personal stories and success stories is important.