

Columbia Basin Resident's Views and Values on Water in the Columbia Basin - Report Summary



Project Goals and Objectives

Water issues are at the core of the Columbia Basin Trust's (CBT's) existence. CBT was created in recognition of the impacts associated with the management of water in this region.

Basin residents have identified a broad range of concerns regarding water quality and quantity. CBT wants to involve residents in building a network of organizations to address water issues and ensure that long-term water issues in the region are addressed according to residents' values and views.

In July of 2004, CBT surveyed Basin residents to identify their values and views about water. Using the information gathered from the survey, CBT aims to address the range of concerns by developing and identifying appropriate programming which will reflect the values and views of the people of the Basin.

Methodology

A comprehensive water questionnaire was developed to gather relevant and detailed information. The questionnaire was sent to a broad range of targeted respondents who were grouped into the following stakeholder categories: municipal, regional, provincial, and federal government agencies; community and watershed groups; industry and agriculture groups; recreation and tourism groups; and First Nations. The questionnaire was also made available to all Basin residents on the CBT website, and through a series of public meetings. Media releases and print ads were distributed Basin-wide notifying the public of the opportunity to give their feedback.

A total of 128-targeted respondents were sent the survey. Face to face meetings were arranged with some of the targeted respondents, and in total, 61 people were interviewed in a series of 34 meetings.

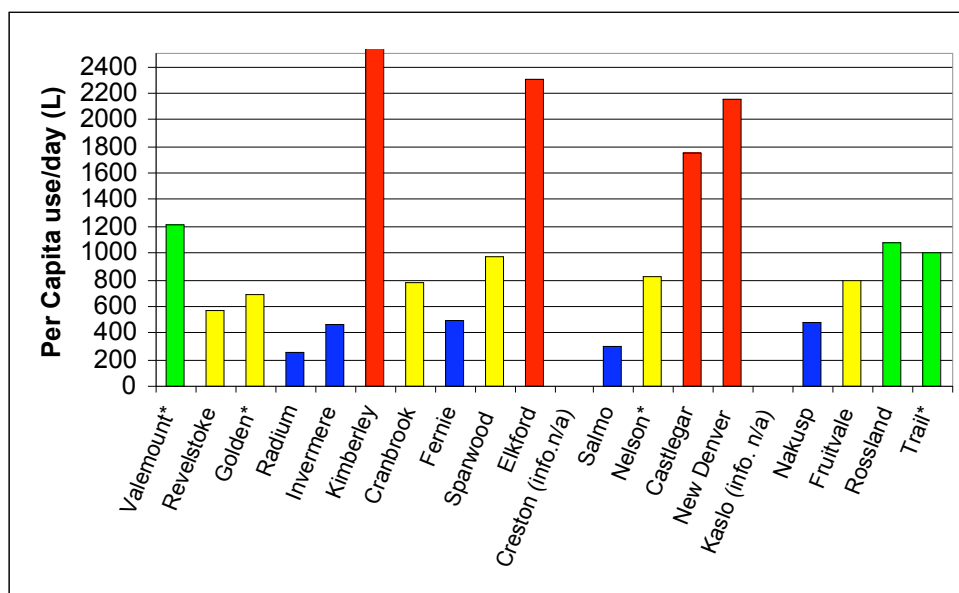
CBT received 67 completed surveys that were used for this statistical analysis.

Report Summary – Identified Concerns

1. Consumption

The survey results indicated that the most common concern among the respondents pertained to domestic water consumption. The average daily per capita water use in Canada is 638 litres; in BC it is 678 litres. Within the Columbia Basin, 12 out of the 18 (67%) municipalities that provided exact water use rates, exceed both the provincial and national water use averages.

Figure 2: Municipal per capita water use



*Data from 1999 Environment Canada statistics

Additional Sources:

Environment Canada 1999. Available at: <http://wlapwww.gov.bc.ca/soerpt/8surfacewateruse/municipal.html>

Although per capita consumption rates were not easily available for the surveyed areas that do not fall within the chosen municipal boundaries, 70% of all respondents still indicated that water consumption in their area was high.

Many municipal and regional government representatives expressed a concern for the cost of treating a resource that is, and has been, considered free. With new drinking water regulations that require more stringent treatment, monitoring, and operating responsibilities, the cost of providing potable water is increasing in conjunction with increased regulatory measures. Because of a noticeable abundance of water in many parts of the Basin, coupled with low flat-rate pricing¹ and a lack of residential metering (with the exception of Invermere), many respondents suggested that water in their communities is being used in a wasteful manner. For example, when asked if there are enough water

¹ The average cost of water for a single-family residence is \$206.65 per year (average taken from 15 of the surveyed communities).

resources for their needs, 80% of respondents agreed; however, 85% of respondents also agreed that conservation measures are needed for their area.

Respondents also indicated a need for water conservation because of low water supply in some areas in the Basin. Examples of low water supply include, wells drying up, depletion of aquifers, streams drying up during certain times of the year, and less snowfall and precipitation.

2. Health Regulations

The cost of providing potable water is a concern not only for public water purveyors, but also for private water users as well.² Since the amended *Drinking Water Protection Act* and regulations (that replaced the Safe Drinking Water Regulation under the Health Act) came into force May 16, 2003 there was an overwhelming concern among respondents about the resources required in being able to meet these new regulations.

Because the *Drinking Water Protection Act* applies to any water supply system that supplies more than one single-family residence,³ the magnitude of this concern is intensified due to the number of people that are affected. Funding is not available to individual users and the regional districts do not have the capacity to take over all existing small systems.

There is also concern about how to determine a course of action in meeting these new regulations. Respondents were uncertain about where to start and where finances would come from to meet the new standards.

3. Education

Respondents indicated concern about the lack of education and knowledge regarding the value and nature of water as a resource. This includes both the monetary value attached to the costs in providing potable water, as well as the value of water with respect to the ecological services it provides. As treatment requirements increase alongside consumption rates, then so does the cost of providing potable water. The concern is that most people do not understand this because they are not faced with having to pay the real cost of the water that flows through their tap (a result of low-cost, flat-rate pricing versus pay-per-use, i.e. metering).

Survey results indicated 85% of the respondents agreed that conservation measures are needed for their area. However, respondents also suggested that without education, addressing conservation would be ineffective. If residents do not know the costs involved in securing a safe water supply - pumping, treating, distributing, operating, and maintaining - it is difficult to get them to agree with conservation.

Surveyed respondents also showed a concern for the lack of knowledge Basin residents have about water. They expressed a desire to know more about:

- The hydrologic cycle
- The hydrogeology of the area
- Where water comes from (non-confined aquifer, confined aquifer) and what its influences (upstream activity, pollutants, climate change) are
- The role water plays in one's life

² 32% of respondents indicate being on a private system.

³ "The Drinking Water Protection Act defines a water supplier as the owner of a domestic water system supplying drinking water to anything other than a single-family residence. This includes very small water systems, such as those that supply a single business or several residences (a water users community) by well or creek" (Government of British Columbia: 2003).

- The ways the average Basin resident impacts their water system
- The impact of human activity on both drinking and aquatic water systems

4. Rivers

There is widespread concern for the sustainability of rivers and their tributaries within the Basin. For example, 49% of respondents agreed there is a pollution problem in the local streams in their area.

Specific Issues Identified About Rivers

1. **Resource extraction, industry, and development** on or near riparian areas, with respect to how they affect the quantity of run-off and the overall quality of the water within the rivers.
2. **Forestry activities** as possible pollution sources of the river systems.
3. **Agricultural activity**, specifically the impact cattle and other livestock have on domestic water resources and aquatic health. The concern is that their proximity and access to riparian areas allows for (a) contamination of the water through urine and excrement and (b) destruction of aquatic habitat through physical disturbance.
- 4.
5. **Septic system and sewage impacts** on the health of rivers in the Basin.
 - The unknown impacts on both downstream users and aquatic life, of primary and secondary treated sewage entering the river systems, is a concern.
 - The impact and quantity of septic field seepage entering the rivers.
 - The impact on domestic water supplies and aquatic life from the cumulative effect of septic systems on rivers, other surface sources, and groundwater supplies. Population growth in many areas of the Basin is putting increased pressure on existing septic fields and the encroachment of new septic systems into these more vulnerable areas worsens the concern.
6. The impacts of the wastewater produced from **Coal Bed Methane (CBM)** extraction on river integrity.
7. **The lack of aquatic habitat protection** within the rivers, lakes and reservoirs in the Basin.⁴ Concerns include the fragmentation of aquatic habitat and ensuing consequences (increased water temperature, depletion of nutrients, etc.) from dams, lack of meaningful riparian setback regulations for development, and level of pollution inputs from known and unknown sources.
8. **Ensuring preservation of the Columbia River Wetlands** by identifying current and potential threats.
9. The inconsistent flow of rivers in the Basin due to **manipulation from dams**. Specifically: the impacts of fluctuation levels of reservoirs and lakes; river flow; dilution of sewage that enters the river system; recreational access and use; and any subsequent economic impacts on tourism, property values etc.

⁴ Aquatic/terrestrial is indicated to be the 2nd most important use of water next to domestic

10. **A lack of domestic control over Basin water resources.** Inconsistent fluctuation levels of the river system are attributed to the control of the U.S. over international waters. Respondents emphasized that the management of the Columbia River Treaty (CRT) dams favours the needs of the U.S. over those of Canadian Basin residents.
11. **The lack of knowledge about the CRT** and how it directly affects them. Respondents indicated the need for a greater Basin awareness of CRT issues, and the advocacy of Canadian interests for future CRT negotiations.

5. Reservoirs

Survey respondents also indicated a concern for the fluctuating reservoir levels within the Basin. Inconsistent levels of the Koocanusa Reservoir have negatively impacted recreation and tourism. The fluctuation of the Arrow Reservoir has resulted in health concerns from dust levels, and affected recreational (access, moorage, fishing) and tourism uses. Fluctuating water levels have degraded the shoreline and aquatic sustainability.

The visual impacts associated with low reservoir levels has been linked to a decrease in tourism, shoreline property value, and the general aesthetic appeal of the environment.

The fluctuating water levels of Kootenay Lake make access difficult and also impact tourism. Respondents expressed concerns about U.S. needs being put before Canadian needs.

The survey found that many respondents believe there should be more long-term planning of water in the Basin that will address all users interests and values. There needs to be a balance where industrial, recreational, domestic, and agricultural needs are met in a way that will not compromise the interests and values of other users.

6. Water Quality

The protection of drinking water supplies from contamination was also a common concern among respondents. An issue for many municipalities is that of backcountry access (tenures included) and resource development in their watersheds. Many municipal watersheds do not fall within their municipal boundaries so they lack the jurisdiction necessary to ensure source protection. It should be noted however, that respondents living outside municipal areas are also concerned about the lack of local control over watershed access. Such access can lead to pollution and sedimentation of rivers and streams.

What needs to be done to address these issues?

1. Education

A Basin wide education program is needed. It is recommended that the education program start with the objective of increasing residents' understanding of water at a basic level. After that, more complicated issues can be addressed.

It is suggested that educating Basin residents in a way that will empower them to make informed choices and decisions regarding water use and water management on an individual and Basin wide level would be a positive approach. Equipping residents with a greater understanding of the water issues they face will help lead to greater community involvement in addressing these issues, and encourage neighbours to do the same. Respondents suggested that an education program should include information about the following:

- The hydrologic cycle – that available fresh water is a finite resource.

- Water quantity usage - water being used for toilets, lawn watering, showers.
- The cost of potable water – pumping, treatment, storage, distribution, finding new sources.
- The importance of water on a local and global level.
- The role of watersheds.
- The ways people influence and pollute water i.e. storm water, grey water, fertilizers, changing terrestrial landscapes, septic systems.
- The challenges, difficulties, and cost of cleaning up contaminated water sources.
- Identifying a community's water sources.
- The connection between water and our livelihoods – including water's role in sustaining food growth.
- Challenges and consequences of other communities that experience severe water quality and quantity issues.
- Success stories of communities that have taken a proactive and sustainable approach to addressing their water issues then managing their water resources accordingly.

2. Meters

Domestic metering is another way respondents feel water issues could be addressed. Making users pay for the amount of water they use, in a way that reflects the real cost of water will encourage less waste and a more mindful understanding of the true cost of potable water.⁵

3. Treaty Negotiations

Respondents also expressed a need for strong Basin representation in future Columbia River Treaty negotiations.

4. Legislation

A concern for legislation was expressed in the following areas:

- A need for ecologically meaningful riparian setback requirements for all types of development.
- A need for municipal control over the protection of their watersheds.
- A need for the regulation of human activity where it affects water supply.
- A need for conservation practices to be incorporated into a form of legislation.

What Role Could CBT Play?

Being extensively involved in a variety of capacities at the community level throughout the Basin, CBT could play an instrumental role in addressing the water related issues identified in this survey. Some of the suggestions received from respondents include:

- A Basin wide water education and conservation campaign that would speak to all residents and stakeholders including government, industry, and community groups.
- Help join communities where similar identified issues could be brought to a common table and addressed at a Basin wide level.
- Aid in the collaboration of communities to find local solutions to identified concerns.

⁵ After implementing residential water metering, the District of Invermere experienced a per capita water consumption reduction from 740 L/day to 470 L/day (most currently documented rate).

- Act as a “Centre for Excellence” for watershed management with an objective of identifying and increasing awareness of Basin water issues.
- Provide the expertise, funding, and necessary coordination to gather research regarding water conservation strategies for communities.
- Initiate a metering project that would share information, research, and cost analysis about metering, which would provide communities with all the necessary information to go forward with metering.
- Act as an advocate for Basin residents and their concerns regarding water related issues and impacts on sustainability as a whole.
- Fund and/or partner with existing community and watershed organizations that are mandated to protect watersheds and aquatic ecosystems, as well as educate the public on these issues. Ongoing funding would help ensure the sustainability of these established organizations.
- Devise a Columbia Basin Water Management Plan that would incorporate Basin residents’ values and views about water.