

SUSTAINABILITY HIGHLIGHTS

Water is one of the Fraser Basin's most precious and valuable resources. Water is essential for human health and survival. It is a critical for irrigation, industry, energy, recreation and tourism. It is also required to sustain plants, animals and ecosystems. The vast network of tributary rivers, lakes, streams, marshes, bogs, swamps, sloughs and waterways that connects the cities and towns throughout the Basin makes it appear as though water resources are pure and inexhaustible. Freshwater is however a finite and increasingly vulnerable resource. Maintaining the quality of water, and ensuring an adequate supply, requires that individuals, governments, communities and industry work together to balance the diverse short and long term needs of communities, industry and the environment. It requires ongoing monitoring and, in many cases, it requires changes in behavior, technology, process and governance to support and maintain the water needed for a sustainable region.

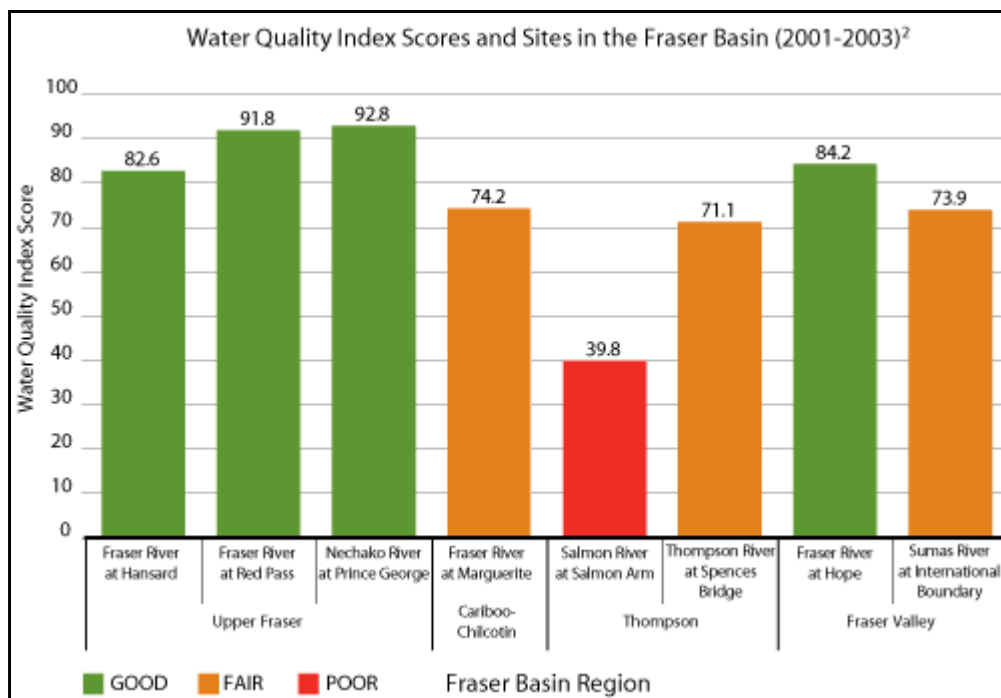
- Water quality has been consistently among Canadian's top environmental concerns with approximately 70% of Canadians indicating that they are "very concerned". ¹
- The majority of water consumption (63%) in the Fraser Basin is for residential use.
- In 2001, the average Canadian used 335 litres of water each day, which is more than double the water use in Europe.

Water Quality Index	FAIR/MIXED RESULTS - In 2003, 4 sites rated as Good, 3 were Fair, and 1 site was Poor.
Water Quality Trends	FAIR/MIXED RESULTS - In 2005, 1 site was Improving, 5 were Stable, and 1 site was Deteriorating.
Municipal Water Consumption	MIXED RESULTS/POOR - Total consumption has increased (21%) since 1991, but per capita consumption has dropped (7%).

ISSUES AND TRENDS

Status of Water Quality (2001-2003) ²

The Provincial Water Quality Index measures the impact of pollutants on water quality. Index scores rank the quality of the water against objectives, which are set for each water body based on the users of the water (humans and other life) and the waste streams entering the water body. Of the eight water bodies monitored in the Fraser Basin, four were rated 'Good', meaning that "conditions rarely depart from natural or desirable levels and that all uses are protected, with only minor threats or impairment"; three were rated 'Fair', meaning that "conditions sometimes depart from natural or desirable levels and that most uses are protected, but a few uses are threatened or impaired" and one was rated as 'Poor', which means that conditions in this water body usually depart from natural or desirable levels and most uses are threatened, impaired or even lost.



Water Quality Trends (2005) ³

Water quality trend monitoring is used to detect subtle changes over time that may result from an ongoing activity or land-use within the catchment area of the watercourse. Trend assessments, based on data collected over the past twenty years have been conducted at eight sites throughout the Fraser Basin. The water quality at five of these sites is stable, including three in the Upper Fraser, and one in each of the Cariboo-Chilcotin and Thompson regions. Data from the site at Hope in the Fraser River shows an improving trend and that in the Salmon River at Salmon Arm in the Thompson region is deteriorating with increasing turbidity and chloride.

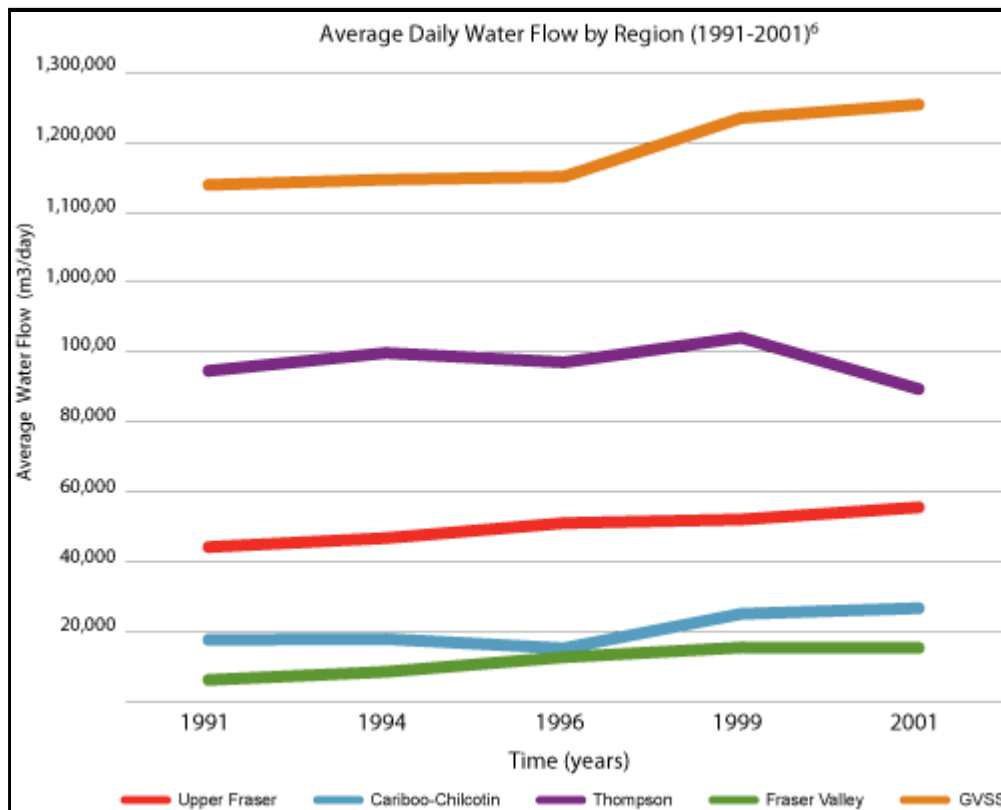
Drinking Water Quality (2001-2006) ^{4,5}

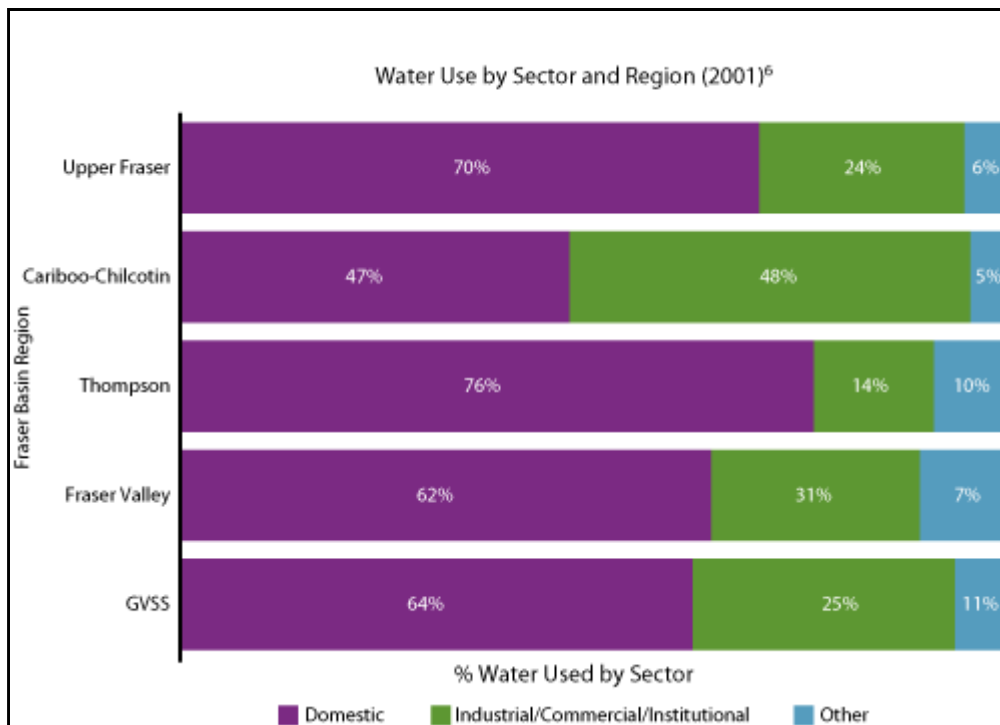
Health Canada estimates that unsafe drinking water causes 90,000 illnesses and 90 deaths every year in Canada. The latest Drinking Water Report Card issued by Sierra Legal Defense Fund suggests that the regulatory systems in place to protect drinking water in BC are improving somewhat. BC's grade was raised from a 'D' in 2001 to a 'C+' in 2006. BC's accredited labs for water quality testing and operator certification were considered to be good; however, improvement was deemed necessary with respect to treatment and

contaminant standards, testing and public reporting. BC's grade was near the median for Canada with five provinces receiving a higher grade and four receiving a lower grade.

Municipal Water Use (1991-2001) ⁶

According to the Municipal Use Database, the quantity of water used per day by municipalities in the Basin increased by over 21% between 1991 and 2001; however, per capita use dropped by 7%. Municipalities in the Thompson region reduced both the total amount of water used per day and the per capita daily use over this decade. The Fraser Valley, however, experienced a 167% increase in total daily use and a 21% increase in per capita use. With the exception of the Cariboo-Chilcotin region, the majority of municipal water is used for domestic purposes. In 2001, residential use accounted for 63% of water expended in the Basin, 30% was used by industry, institutions or businesses and 7% was lost through system flushes, leakages or unknown sources.





Langley plan to protect groundwater

In 2006 the Township of Langley in the Greater Vancouver-Sea to Sky region began work on the province's first community water management plan under the *Water Act*. The plan is intended to address or prevent conflicts between water users, or between water users and in-stream flow, as well as risks to water quality. It was initiated in Langley as a means of addressing declining local groundwater caused by rapid urban growth and also to protect water quality.



INSPIRED ACTION

What is being done?

- Municipalities and residences are making a greater effort to monitor their water use, through the use of water meters.⁶ Water metering has been proven to help reduce rates of water consumption.
- The extent of water quality monitoring has increased in BC, from sampling in 13 basins in 1998 to 20 basins in 2004.⁷
- www.waterbucket.ca is a new, interactive website designed to provide the information and resources to support integrated water management in BC through on-line dialogue and exchange of ideas. The website is a partnership involving government, Crown corporations, non-government associations and the private sector.

What else can we do?

- Fixing a tap that is leaking at a rate of only one drop per second will save more than 25 litres of water a day (10,000 litres / year). Converting to low-flow toilets (6 litres of water / flush) and showerheads (9.5 litres per minute) can save 2,000 litres of water per week.⁸
- Water audits can help businesses and institutions determine where excess water is being used and how to reduce water use through efficiency improvements.
- The establishment of province-wide standards for rainwater harvesting and water recycling would help to ensure that new developments are "water-wise".

REFERENCES

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