

Introduction

To comply with the Drinking Water Protection Act and Regulations, as well as to comply with the conditions on our Permit to operate as issued by Vancouver Coastal Health, the District of Squamish will be annually issuing a report describing the quality of our drinking water. The purpose of this report is to raise the understanding of drinking water and awareness of the need to protect our drinking water sources

Where Does Our Water Come From

Our water system serves the population of the District of Squamish (17,158 as per Stats. Canada) with an average daily demand of 9,258,202 Liters per day (winter) and 11,260,487 Liters (summer). Our water sources are Powerhouse springs (well), Mashiter Creek (surface supply) and Stawamus River (surface supply).

There are approximately 150 kms of waterlines and 3,695 single and/or duplex connections, 287 multi-unit connections and 270 Industrial Commercial Institutional (ICI) connections.

- Primary water source is Power House Springs – 7 wells with a consumption in 2013 of 3.394,620 m³/year 100% of total usage)
- Backup is the Stawamus surface source, consumption in 2013 was 0 (.10% of total use) and Mashiter source consumption was not in used in 2013

Testing

We test the drinking water for numerous contaminants. Last year, we conducted weekly testing at 9 locations. These include weekly Ecoli and total coliforms, a full-enhanced potable twice a year and we have begun a new program where Trihalomethanes (THM) are sampled once a year and full metals testing done twice a year. (Results in appendix)

It should be noted that all drinking water, including bottled drinking water, might be reasonably expected to contain at least small amounts of some contaminants. The low-level presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Vancouver Coastal Health at 604 815 6841.

Boil Water Advisories

There were no boil water advisories or boil water orders in 2013.

Challenges

District of Squamish has over 80% asbestos concrete water main lines. These lines do not create a health hazard but they are reaching the end of their designed life span. In 2013 we had 8 water main breaks.

During the summer months the residents and ICI customers in Squamish use a tremendous amount of water. This not only puts a strain on the distribution system but also taxes the Powerhouse well water supply. When this happens the two surface supplies may open to supplement the supply. Although Squamish has excellent surface sources of water, neither of these sources is filtered, consequently, the quality of water can be affected by rain events or upstream activity. The District would prefer to not ever use the surface supplies and by saving water we could achieve that goal.

In 2013 we had very little rain from the end of June to the end of December. This drought condition can cause problems when combined with an increase in consumption. We are very concerned about 2014 with low snow and extended drought conditions forecasted.

Programs

- a) **UDF** – Uni-directional flushing is a method of flushing the water distribution system that increases pipe velocities to scour the lines. This ensures the distribution system is robust and improves water quality. Most water lines were flushed in 2013.
- b) **Leak Detection** – The District has an ongoing leak detection program. With leak detection equipment and trained crews they conduct a water use survey that identifies areas in town that had leaks. District crews now focus on those areas to find and repair leaks. This will improve our distribution system as well as conserve water. The District is adding zone water meters to help us identify areas where there may be leaks.
- c) **Cross Connection Control (CCC)** –Cross connections can allow contaminants to enter the distribution system via negative pressure or siphoning. This program is ongoing and along with the new CCC Bylaw in place and the District of Squamish staff working with ICI customers to ensure compliance.
- d) **Automated Monitoring** - At strategic locations, the District installed electronic chlorine residual analyzers that will send out an alarm if residual chlorine levels should fall below our required level. More were added in 2013.
- e) **Fire Hydrant Ratings** –_Started in 2012 we now rate the fire hydrants with the NFPA flow rate standards and paint to identify as per the NFPA color coding.
- f) **Water metering** – This program began in 2012 to meter ICI customers.
- g) **Fill Stations** – The District now has two fill stations located across town for the convenience of water-hauling trucks and to assist in eliminating the need to use our hydrants for this purpose.
- h) **Water Conservation Bylaw** – a water conservation bylaw was adopted by Council in 2013
- i) **Water Conservation Educator** – the District hired a water conservation educator to inform the public and advise on the new bylaw

Water Conservation

The District of Squamish is responsible for operating and maintaining safe and effective water services for our community. Certified staff ensures our water meets or exceeds government requirements. The Water Conservation Education Plan, through actionable items that reduce water

waste and promote water conservation, will ensure that the District's water services and the community's water needs are met in a long-term sustainable manner.

The strategies proposed within The Water Conservation Education Plan align with various Provincial initiatives such as: the proposed Water Sustainability Act, BC Climate Action Plan, Action Plan for Safe Drinking Water in British Columbia, Integrated Resource Recovery, Live Smart BC and with Living Smart: British Columbia's Water Plan.

Furthermore, The Water Conservation Education Plan reflects the District of Squamish Official Community Plan Section 24, Municipal Facilities and Utility Services objectives:

- To ensure that utilities and municipal infrastructure are planned to accommodate the existing and future needs of Squamish's population;
- To provide leadership in sustainable municipal infrastructure servicing;
- To provide leadership in the conservation of energy, water, and material resources;
- To protect the quality and quantity of the municipal water supply source;
- To provide potable water of a level of quality that meets or exceeds provincial drinking water quality objectives;
- To provide treatment of municipal wastewater that meets or exceeds provincial standards;
- To deliver municipal infrastructure services in a fiscally responsible manner; and
- To provide sufficient infrastructure to ensure fire protection throughout the community.

OCP: Our mission is to protect and enhance the livability, sustainability and quality of life for our community and to embrace and benefit from the opportunities before us. We will be successful in serving the needs of our community through: Visionary leadership, Excellence in governance, Customer focused service, Strong community partnerships, and Sound financial and environmental management.

Some of the challenges we face in relation to the sustainable supply and demand of water are: impacts of an increasing population; anticipated economic development growth; effects of climate change such as drought cycles and increased temperatures; seasonal fluctuations in water consumption as a result of climate change and human behavior; an aging infrastructure; and the inherent challenges associated with motivating long-term sustainable behavior.

Benefits to Water Conservation

As we invite more people to come work, live and play in Squamish, we must practice due diligence in balancing the water needs of all sectors of the community i.e. residential, commercial, industrial, institutional, tourism and agricultural, with the finite water supply that exists.

- Cost savings: population growth will put demands on the existing infrastructure and water supply. Conserving water will delay the need to construct costly wells, pumping systems and reservoirs and will allow for further longevity of the existing system.
- Environmental benefits: the less water we use, the less water we treat and release into the natural environment. By conserving water resources, our community can continue to grow while proactivity sustaining our quality of life and ensuring the protection of our highly valued environment.

- Stewardship: conserving water and promoting water-use efficiency demonstrates leadership in resource management.
- Competing uses: by conserving water throughout the year, we will decrease the need for elevated water restrictions during the summer months subsequently allowing for essential emergency services such as meeting firefighting water needs.
- Community buy-in: community wide conservation education and incentive measures will increase the public's understanding, appreciation and ultimately, their protection of our finite water resources.

Goal

To promote a community-wide capacity for water conservation and water-use efficiency with the overarching goal of reducing gross community water consumption by focusing on reducing seasonal increases and daily peak time usages.

Closing

In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit the public. The costs of these improvements may be reflected in the rate structure. The budget for delivery and cost to maintain the distribution system for one year is 3.3 million. We ask that the public help us protect our water sources, which are the heart of the community.

If you have any questions about this report or concerning your drinking water, please contact Mr. James McKerr, Utilities Supervisor, 604 815 6864.

Water Main Breaks 2013

Area	Month
Laramie & Rae	February
Second & Main	March
Perth & Thunderbird	July
Boulevard & Kintyre	August
Government & Clarke	November
Pemberton at Loggers Lane	December

Water distribution maps are online at:

<http://squamish.ca/discover-squamish/maps-and-data/gis-map-viewer/>

Health Canada Guidelines for Canadian Drinking Water Quality –

<http://hc-sc.gc.ca/ewh-semt/water-eau/drink-potab/guide/index-eng.php>

Link to Well Protection Plan site *coming soon*

New Infrastructure brought in for 2013:

- Two PRVs (better flow and fire protection)
- Crumpit Wood subdivision
- Westway water main replacement
- Tantalus Crossing subdivision
- Cheakamus Place (improve water flows and fire protection)
- Rivendale subdivision

District of Squamish Water Network



