



Making a difference...together

**WILDERNESS MOUNTAIN WATER SERVICE
2013 ANNUAL REPORT
NOVEMBER 24, 2014**

Purpose of the Annual General Meeting

The agenda for the Annual General Meeting (AGM) is approved by the members of the Commission. The purposes (and hence the agenda items) of the meeting are:

- To have the last year's Annual General Meeting minutes approved (by Commission members), and to present reports on the work of the Commission, the past year's operation, maintenance, capital upgrades and financial information of the service to the service residents and owners,
- To nominate members for appointment to the Service Commission, and
- To enable the public to share comments on subjects which relate to the work of the Commission. The Commission can identify (under "new business") issues on which it wants feedback at the meeting. Motions are usually not considered from the public at the AGM.

System Overview

Established in the early 1980's, the Wilderness Mountain Water Service (WMWS) consists of 84 lots, 70 of which are serviced. The system was operated and maintained by a private company until converted into a Capital Regional District (CRD) service in 2009. Conditional to becoming a CRD service, upgrades to the water system to meet current drinking quality guidelines were required. The source of water for the WMWS is Wilfred Reservoir, a small surface water body created by the construction of two dams. Prior to the upgrade works, water drawn from the reservoir was disinfected with chlorine, the water was then pumped into the distribution system which is comprised a network of polyvinyl chloride (PVC) water mains. Approximately 54,000 Imperial gallons of balancing storage is maintained in two tanks located on Ambience Way.

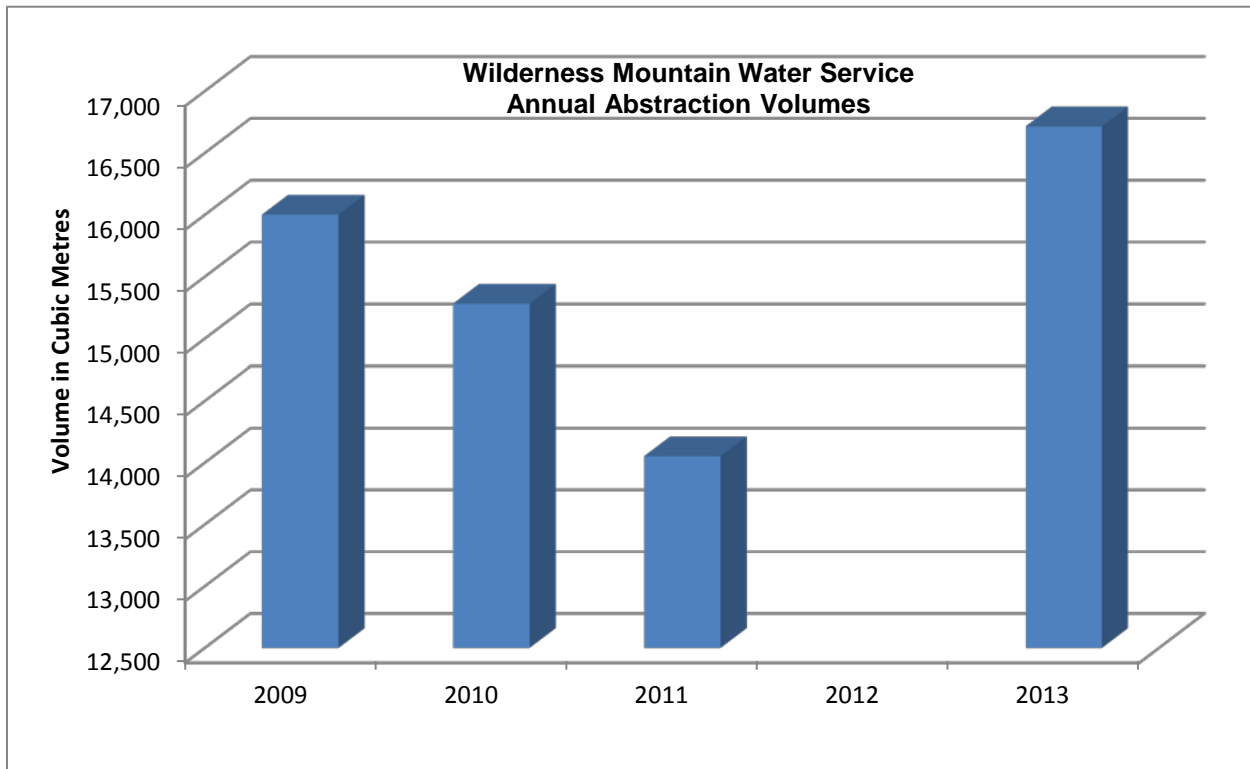
The new treatment facility was commissioned in 2012 provides coarse filtration, ultraviolet light and chloramination (ammonia and chlorine) disinfection to the raw water from Wilfred Reservoir. In recent years, water suppliers have increasingly turned to chloramination as an alternative to chlorination (using only chlorine) because the chloramines provide a longer lasting disinfectant residual in the distribution system, lower chlorinous taste and lower disinfection byproducts such as trihalomethanes.

Water Supply and Consumption

Based on the total metered volume of 16,715 m³ drawn from the Wilfred Reservoir in 2013, the average annual consumption per individual connection in the Wilderness Mountain Water System is estimated at approximately 239 m³ or 15% greater than that of 2011 at 207 m³. Due to only partial recordings, a 2012 total volume is unavailable for comparison. The water supply

trend for the Wilderness Mountain system is shown in **Figure 1.**; however, the noticeable increase shown for 2013 may be due to several factors, including but limited to: a new production meter measuring accurately whereas the old meter (replaced in 2012) could have been inaccurate and reading low, system losses including leaks, flushing, reservoir cleaning and changes in demand.

Figure 1. Annual Water Volumes Supplied from Wilfred Reservoir



Although the majority of customer connections are metered (original to subdivision in the 1980's), the meters have not been read regularly because they are not used for billing; therefore, since water customer consumption is unknown, the amount of non-revenue water is also unknown. Non-revenue water is typically used for operational and treatment process purposes such as water main flushing, and reservoir cleaning. Non-revenue water also includes water lost to leakage in the distribution system, including private side connections and fire-fighting activities.

Drinking Water Quality

Typical Wilderness Mountain Water System water quality characteristics for 2013 include:

Untreated Source Water Entering the Treatment Plant

- In 2013, bacteriological samples were collected once every two weeks with the levels listed below easily meeting the US Environmental Protection Agency limit of 20 *E coli* in at least 90% of the samples to remain an unfiltered surface water supply.

- Total coliform bacteria median of 69 colony forming units (CFU) per 100 mL and ranged from 0 to 517 CFU/100 mL.
- *E. coli* bacteria median of 0 CFU/100 mL and ranging from ‘Not Detectable’ to 17 CFU/100 mL.
- Source water turbidity (cloudiness) was usually below the limit of 1 NTU (median of 0.73 and ranged from 0.47 to 1.24 NTU).
- Total organic carbon was moderate at 3-4 milligrams per litre (mg/L).
- No *Giardia* or *Cryptosporidium* parasites were detected in 2013.

Treated Distribution System

- The treated water in the distribution system is bacteriologically safe to drink. In 2013, there were three total coliform samples ranging from 1 to 3 CFU/100 ml. The resamples were negative for total coliforms.
- Disinfection by-products (total trihalomethanes and haloacetic acids) results varied in the distribution system but both parameters remained well below the permissible limits in 2013.

Routine water quality data is posted on the CRD website at:

<https://www.crd.bc.ca/about/data/drinking-water-quality-reports/juan-de-fuca-water-quality-reports/wilderness-mountain-water-quality-reports>

Operations

The WMWS had operated reliably in 2013. Operation and maintenance activities in 2013 and to date include:

- Annual tank cleaning, flushing and exercising of distribution system isolation valves
- Routine water sampling
- Removal of vegetation at the storage tanks
- Periodic security checks of the reservoirs
- Repairs to intake structure at Wilfred Reservoir
- Calibration of turbidity meter
- Leak checks and repair – various
- Removal of silt fence at Wilfred Reservoir
- Twice weekly filter maintenance and replacement as required
- Twice weekly disinfectant chemical addition
- Twice weekly maintenance of UV system and disinfectant chemical feed pumps
- Weekly sampling of raw and disinfected water at various sampling locations
- Recording of reservoir levels
- Twice weekly recording of disinfectant residual values at various sampling locations
- Responding to customer issues
- Daily remote monitoring of water production through disinfection plant

Capital Improvements

In 2013 there were no capital improvements made to the water system.

Financial Report

Attached is a copy of the *Statement of Operations (Unaudited)* for Wilderness Mountain Water Service as prepared by CRD Finance and Corporate Services for the 2013 fiscal year. The statements provide an overview of the revenues and expenditures for the year.

Revenue includes parcel taxes (*Transfers from government*) and user fees (*Sale of services*), and small amounts for interest on savings and miscellaneous revenue such as connection charges and late payment charges (*Other revenue*). *Expenses* include all costs of providing the service. *General government services* include budget preparation, financial management, utility billing, and risk management services. *Other expenses* include all other costs to administer and operate the water system, and the principal and interest payments on borrowing to finance capital projects. *Other fiscal services* include administration costs for loans.

The difference between *revenue* and *expenses* is reported as *Net revenue (expenses)*. Any transfers to or from capital or reserve accounts for the service (*Transfers to own funds*) are deducted from this amount and it is then added to any surplus or deficit carry forward from the prior year, yielding an *Accumulated surplus (or deficit)* that is carried forward to the following year.

The 2013 revenue of \$116,452 included \$60,957 of parcel tax, \$54,865 of user fees and \$630 of other revenue. The total expenses were \$114,692 for operation and administration of the service, including all operating expenses and insurance.

The difference between revenue and expenses in 2013 amounted to a net revenue of \$1,760 which when added to the carry forward surplus of \$2,000 created an overall surplus of \$3,760 which was transferred in its entirety to the Wilderness Mountain Water Service Capital Reserve Fund.

As of December 31, 2013, the Capital Reserve contained \$60,247.

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