



Making a difference...together

**WILDERNESS MOUNTAIN WATER SERVICE
ANNUAL REPORT ON OPERATIONS
06 OCTOBER 2011**

System Overview

The Wilderness Mountain Water Service (WMWS) is a small water system consisting of 83 lots, 67 of which are developed, approximately 22 km southwest of Victoria in the Capital Regional District (CRD) Juan de Fuca Electoral Area. The system was developed circa 1983 and was operated by a private company before converting to a service of the CRD in 2009.

The source of water for the WMWS is Wilfred Reservoir, a small lake that was created by the construction of two dams. The system includes two pumphouses and two concrete storage tanks with a combined capacity of 270 cubic metres (60,000 Imperial Gallons). A submersible pump within Wilfred Reservoir pumps water from the source, at +/- 52 Imperial Gallons per minute (lgpm), into the distribution system and to the storage tanks through a network of 150 mm and 100 mm PVC water mains. Chlorine is injected at the source for primary and residual disinfection. Although most or all customer connections are metered, the meters have not been read regularly for several years and their accuracy is unknown.

Drinking Water Quality

Typical Wilderness Mountain Water System water quality characteristics include:

- E. coli bacteria in source water less than 20 colony forming units per 100 mL
- Treated water is bacteriologically safe to drink. No coliform bacteria detected in distribution system in 2010.
- Source water turbidity (cloudiness) usually below limit of 1 NTU.
- Low level of *Giardia* parasites detected in one sample in winter of 2010.
- Total organic carbon is typically 3-4 milligrams per litre (mg/L)
- Disinfection by-product (total trihalomethanes and haloacetic acids) results vary substantially in distribution system with both parameters exceeding the limits at times.
- Metals are typically below *Guidelines for Canadian Drinking Water Quality (GCDWQ)* limits.
- In 2010 and 2011, Wilfred Reservoir experienced spring algal blooms (primarily a yellow-brown algae called *Urogliona sp*) otherwise algal numbers have been relatively low. Very low levels of blue-green algae have been observed over the past two years. No water quality complaints were noted during these blooms.

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

<http://www.crd.bc.ca/jdf/water/wilderness/qualityreports.htm>

Water Supply and Demand

In 2010, approximately 15,282 cubic metres of water was supplied to the Wilderness Mountain water service area, or 228 cubic metres per household. Water usage in 2010 was 4.5% less than in 2009, partially due to a water main break that occurred July 22, 2009, and was repaired the same day, resulting in the loss of roughly 140 cubic metres of water. Daily average water production since May 2009 is shown in Figure 1.

Water System Upgrade Project

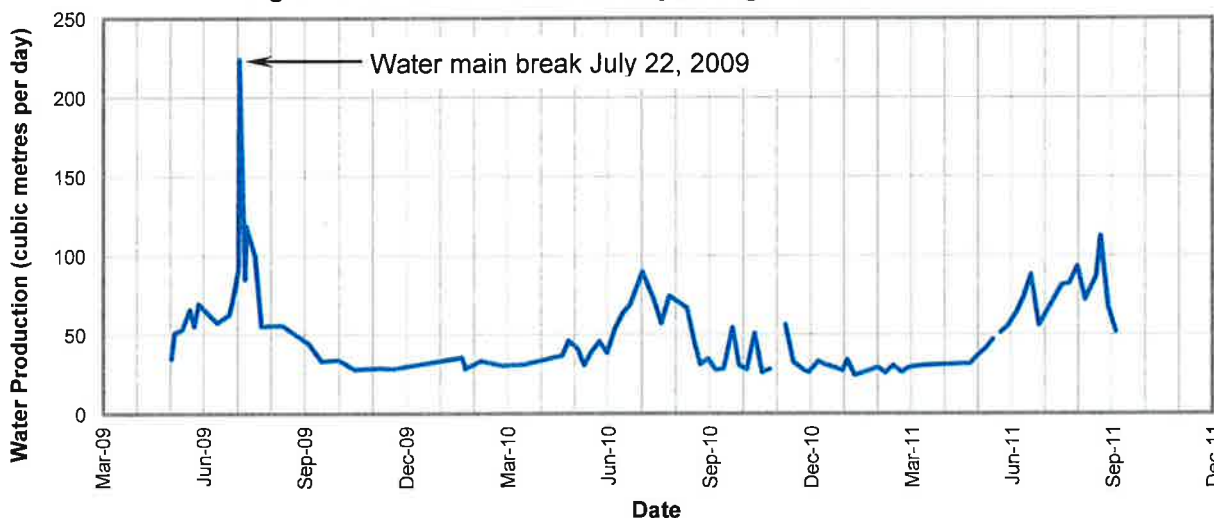
As a condition of conversion of the Wilderness Mountain water system to a local service of the CRD in 2008, the CRD required that the infrastructure be upgraded to comply with legislated requirements.

Upgrades at the Wilfred Reservoir pumphouse, including the installation of a new magnetic flow meter and flow controlled chlorine injection pump, were completed in spring 2011.

The original project plan to construct a new water treatment plant based on a Dissolved Air Flotation (DAF) process was estimated in 2010 to cost substantially more than the available budget. The CRD retained Kerr Wood Leidal Associates Ltd. to review the available data and recommend a more cost-effective treatment strategy. The study was completed in April 2011, including a recommended upgrade approach that was estimated to meet the project budget and schedule requirements. A request for proposals was issued for design and construction engineering services to complete the recommended upgrades. A contract was subsequently awarded to Stantec Consulting Ltd. for these engineering services.

Stantec completed an upgrade design in August 2011 that was estimated to meet the project requirements, and a call for construction tenders was issued. Two qualified bids were received; however, they substantially exceeded the available budget and the consultant's estimate. As of the end of September, Stantec was working to revise the design in an effort to reduce costs to within budget, while meeting the project objective and the March 31, 2012 grant funding deadline. The revised design will be retendered as soon as possible.

Figure 1. Wilderness Mountain Daily Average Water Production



Operations

The WMWS has operated reliably and cost-effectively in the past year. Significant activities in the past year include:

- Preventive maintenance, primarily of pump station equipment
- Routine water sampling
- Weekly security checks of reservoirs
- Repair of a leaking pipe in the pump station

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Tank cleaning and valve exercising are scheduled for this fall.

Financial Report

Attached is a copy of the *Statement of Financial Activities* as prepared by CRD Finance and Corporate Services for the year 2010 for the Wilderness Mountain Water Service. The statement provides an overview of the revenues and expenditures for the year. Revenues are generated primarily through parcel taxes and user fees, and small amounts for interest on savings and miscellaneous revenue such as late payment charges.

Expenditures include all costs to administer the service. General government services are charges levied by CRD Corporate Services for the financial processing of the budget and collection of fees and charges. Other includes all expenses needed for the operation of the service including all CRD labour costs for day to day operations, CRD service personnel hours performing maintenance and repairs, chemicals, electricity, water testing costs, maintenance parts allowances for electrical and mechanical equipment, rental or equipment as necessary and allowances for technical and staff support to the committee, and for the payment of debt.

The difference between revenue and expense is added to any surplus or deficit carried forward from the prior year. If there is a significant surplus, funds may be transferred to a reserve or capital project account. The surplus or deficit balance after any transfers is carried forward to the following year. Regional District services are not permitted to plan to carry forward a deficit, so a deficit in a given year usually requires a tax or fee increase in the following year to recover costs and prevent a subsequent deficit.

The 2010 revenue of \$91,109 included \$40,973 parcel tax, \$35,528 user fees and \$14,526 water sales. The total expenditures were \$70,268 for operation and administration of the service, including all operating expenses and insurance. The WMWS carried no debt in 2010.

The difference between revenue and expenditures in 2010 amounted to a net revenue of \$20,840. Of this, \$1,728 was applied to recover a deficit carried forward from 2009, and the remaining surplus of \$19,112 was transferred to the Wilderness Mountain Water Service Reserve Fund. The balance in the reserve fund at January 1, 2011 was \$30,421.



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Concurrence

CS/TT:ls
Attachment: 1

**CAPITAL REGIONAL DISTRICT
STATEMENT OF REVENUE AND EXPENDITURE
WILDERNESS MOUNTAIN LOCAL SERVICE AREA
FOR THE TWLEVE MONTHS ENDED DECEMBER 31, 2010**

J. Hull

	YTD		ANNUAL BUDGET
	ACTUAL	BUDGET	
REVENUE:			
Water Sales	\$ 14,526	\$ 14,472	\$ 14,472
User charge	35,528	35,353	35,353
Revenue from Parcel tax	40,973	40,973	40,973
Miscellaneous	82	-	-
TOTAL	\$ 91,109	\$ 90,798	\$ 90,798
EXPENDITURE:			
Operational & Maintenance	\$ 70,097	\$ 81,280	\$ 81,280
Corporate insurance	171	170	170
Contingency	-	2,000	2,000
Debt Servicing costs	-	2,810	2,810
Transfer to Capital Reserve Fund	19,112 *1	-	-
Transfer to MFA Debt Reserve Fund	-	2,810	2,810
Prior years deficit carry forward	1,728	1,728	1,728
TOTAL	\$ 91,109	\$ 90,798	\$ 90,798
SURPLUS/(DEFICIT)	\$ - *	\$ -	\$ -

Notes;

*1-2010 surplus was transferred to capital reserve as approved by the commission.