



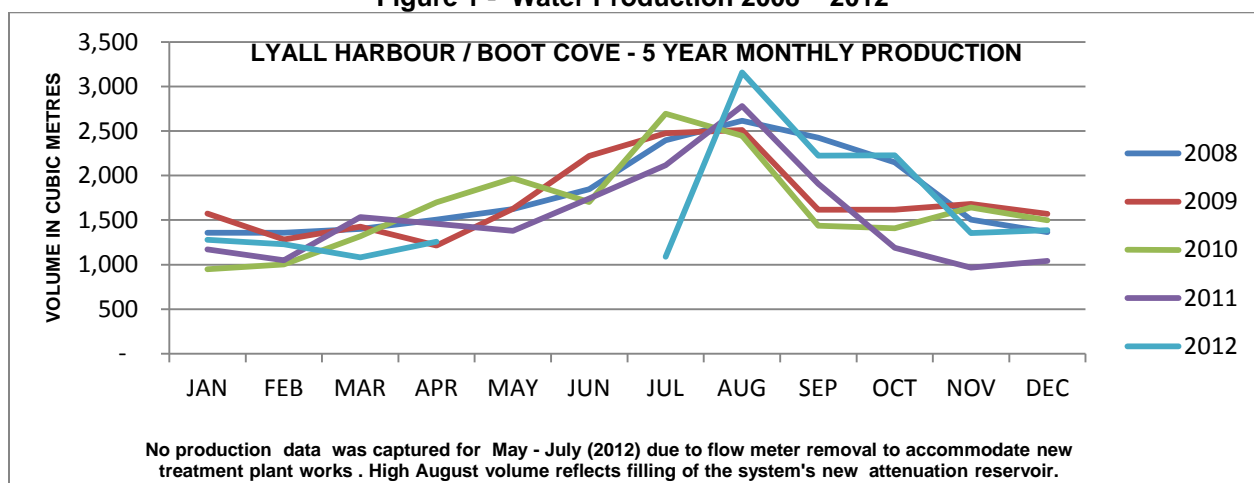
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## LYALL HARBOUR - BOOT COVE WATER LOCAL SERVICE 2012 ANNUAL REPORT OCTOBER 11, 2013

### Water Production and Consumption

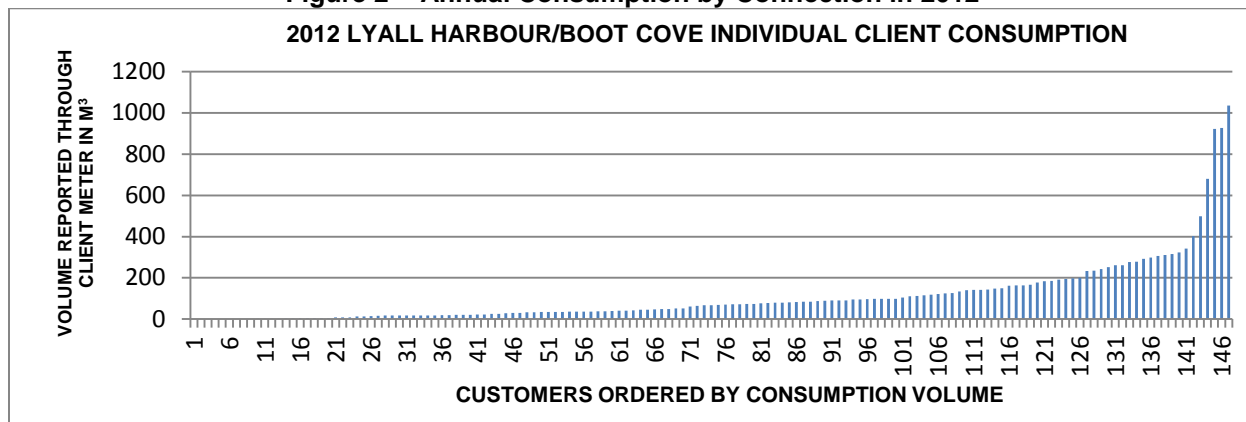
The total volume of water extracted from Money Lake in 2012 is unknown as the flow meter was removed from May to July to accommodate capital upgrades at the water treatment facility. **Figure 1** shows recorded monthly raw water feed to the plant with data missing during the May to July period. A total of 18,334 m<sup>3</sup> of raw source water was extracted from Money Lake in the previous year of 2011.

**Figure 1 - Water Production 2008 – 2012**



The total 2012 metered water consumption (sum of all customer metered usage) was 16,554 m<sup>3</sup>, an increase of approximately 1,166 m<sup>3</sup> or 7.5% over 2011's consumption volume of 15,388 m<sup>3</sup>. 2012 annual use by connection is shown in **Figure 2**.

**Figure 2 - Annual Consumption by Connection in 2012**



### **Planning for a Water Usage Charge**

Based on previous public input and subsequent discussions with the Committee, staff are developing alternatives for a water usage charge for the Committee to consider in 2014. For residential customers, these alternatives will generally be as follows:

1. A structure typically used by other CRD small water systems that holds costs approximately constant for most users, may result in a modest decrease in cost for very low water users and a cost increase for very high water users (typically the top 3-5% of users). This alternative provides a strong water conservation incentive but also poses a moderate risk of a revenue shortfall if higher consumers change water use behavior and begin consuming less.
2. A structure that retains existing taxes and fees to cover operating and debt costs and adds a new usage charge for high consumption only that is used to build capital reserves. Customers with average or lower usage per quarterly billing cycle would not be subject to the new usage charges, and customers that use the most water would pay the highest costs. This alternative provides a moderate conservation incentive to customers who use more water than average, and poses no risk of a revenue shortfall.
3. A hybrid structure that may yield modest savings for very low users holds the cost approximately neutral for most users and increases the cost to very high users less severely than Alternative 1. This structure poses a small risk of a revenue shortfall but provides a conservation incentive to all users.

A new rate category may need to be established for non-residential customers (e.g. a uniform consumption charge) in order to avoid unduly charging premiums for higher overall usage. Consumption charges could be phased in over several years to enable customers to adapt to the changes and to minimize unanticipated changes in revenue.

### **Water Quality**

Since the fall of 2011, Water Quality Division staff has been posting water quality data for the Lyall Harbour – Boot Cove Water System on the CRD website listed below:

<http://www.crd.bc.ca/southerngulf/water/lyall-bootcove/index.htm>

During the majority of 2012, the Lyall Harbour – Boot Cove Water System was being supplied with water from Money Lake via the old water treatment process. The new water treatment process using seepage water from below the Money Lake dam was put into place in November 2012. Hence, the data provided below for the 2012 Annual Report is based primarily on water quality characteristics prior to the upgrade.

- The treated water was bacteriologically safe to drink.
- Prior to the upgrade, the treated water turbidity (cloudiness) was just over the turbidity limit of 1.0 NTU. The new filtration system should reduce the turbidity in 2013.
- Prior to the upgrade in 2012, the treated water total organic carbon was moderate – ranging from 3 to 6.5. This level should also fall in 2013.
- Prior to the upgrade in 2012, total trihalomethanes, disinfection by-products of chlorine reacting with organic carbon, were tested in May and September. One of the September samples exceeded the limit of 100 micrograms per litre. However, with a reduction of total organic carbon in the new treatment process, exceedences like this should be eliminated in 2013.

## **Operations**

The Lyll Harbour/Boot Cove Water System has operated reliably over the past year, although peak summer water demands continued to stress the old treatment plant prior to commissioning of the recent capital upgrades. The upgrades include enhanced filtration and the addition of a new balancing water storage tank, eliminating the need to treat water to meet peak instantaneous demands. The new system upgrades allow a steady flow of water to be treated and fluctuations in water demand are now dealt with by using stored water to balance the customer's consumption needs.

In 2009, the recirculation of seepage water to Money Lake was reinstated, greatly increasing the reservoir storage potential. As required by provincial legislation, the 2011 Lyll Harbour/Boot Cove Capital Plan included a Dam Safety Review (DSR) by a qualified consultant which has now been completed. The dam continues to operate safely and a recommended list of works has been prioritized by the consultant to ensure the dam remains safe to operate in the medium to long term. These items will be recommended for inclusion in future capital budgets.

Significant operations activities in the past year include:

- Disruption to water delivery through burst temporary supply line: Contractor resolved in March
- Repaired raw water standpipe leak
- Installed 4" gate valve and 2" flush on lake recirculating line
- Repaired leak on 3" recirculating line at upper building
- Installed floor drain and perimeter pipes at upper building
- Resolved high bacterial count on Bonnybank and Payne Roads with water main flushing and retesting
- Resolved chlorine system mechanical failure: correct residuals re-established (prior to new plant commissioning)
- Performed annual maintenance at Boot Cove and East Point PRVs
- Performed valve repairs at system surge tank
- Installed new connection at 189 East Point Road
- Discovered service leak on East Point Road – owner notified
- Reattached log boom and installed new staff gauge at Money Lake
- Addressed damaged infiltrator caused by downed tree (December storms)
- Repaired damaged meter and MXU on Sunset Boulevard

## **System Upgrade Project**

In 2008, a \$1,279,200 Canada – British Columbia Municipal Rural Infrastructure Fund grant was awarded to the CRD to complete water treatment and distribution system upgrades and to install customer water meters for the Lyll Harbour/Boot Cove water service.

Upgrades to the Lyll Harbour/Boot Cove Water System were completed and commissioned in November 2012. Two projects were running concurrently:

### **Balancing Reservoir**

The construction of a 30,000 imperial gallon bolted steel balancing reservoir located adjacent to the existing fire storage tank on the hill above the Saturna Recreation Centre is complete and was put into service in June, 2012.

### **Water Treatment**

The new water treatment process was commissioned in November 2012 and includes:

- improved disinfection through ozonation, ultraviolet disinfection and chlorination
- new filters and media
- reduction of the treatment process flow rate through the use of balancing storage
- capture of the seepage water below Money Lake #1 Dam
- re-plumbing of the existing treatment building at Narvaez Bay/Harris Road
- installation of a remote monitoring and alarm (SCADA) system

Operator training and resolution of remaining deficiencies are currently being completed.

### **Financial Report - 2012**

Attached is a copy of the *Statement of Operations (Unaudited)* prepared by CRD Finance and Corporate Services for 2012. The statement provides an overview of the revenues and expenses for the year.

*Revenue* includes parcel taxes (*Transfers from Government*), user fees (*Sale of Services*), small amounts for interest on savings (*Interest Earnings*) and miscellaneous revenue such as late payment charges (*Other Revenue*).

*Expenses* includes all costs of providing the service. *General Government Services* includes budget preparation, financial management, utility billing and risk management services. *Other Expenses* includes 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* includes 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 Lyall Harbour/Boot Cove 2012 revenue of \$153,224 and expenses of \$159,420 yielded a net deficit of \$6,196. There were no transfers to or from capital or reserve accounts, so the deficit was applied to the opening balance of \$20,111 yielding a net surplus of \$13,915 carried forward to 2013.

User Fees increased from \$375 in 2012 to \$390 in 2013, and parcel taxes remained unchanged at \$560.

As of 31 August, 2013, the Capital Reserve Fund (#1025) contains approximately \$4,893.

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Concurrence

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Attachment: 1