



Making a difference...together

LYALL HARBOUR - BOOT COVE WATER LOCAL SERVICE 2014 ANNUAL REPORT AUGUST 15, 2015

Purpose of the Annual General Meeting

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

- To have the last year's Annual General Meeting minutes approved (by committee members), and to present reports on the work of the committee, the past year's operation, maintenance, capital upgrades and financial history of the service to the service residents and owners,
- To nominate members for appointment to the service committee, and
- To enable the public to share comments on subjects which relate to the work of the committee. The committee can identify (under "new business") issues on which it wants feedback at the meeting. Motions raised by the public at the AGM will be considered by the committee at a subsequent regular committee meeting.

Water Production and Demand

A total of 21,587 cubic meters (m³) of raw water was obtained directly from Money Lake # 1 and the seepage collection system and treated in 2014, which is 5% higher than the previous year and approximately 20% higher than the five year annual average.

A total of 17,874 m³ was consumed by individual customers of the Lyall Harbour/Boot Cove Water Service in 2014, which is 19% more than the previous year and 14% more than the previous three year average. The annual water production and the annual water demand from 2010 to 2014 are shown in **Figure 1** below.

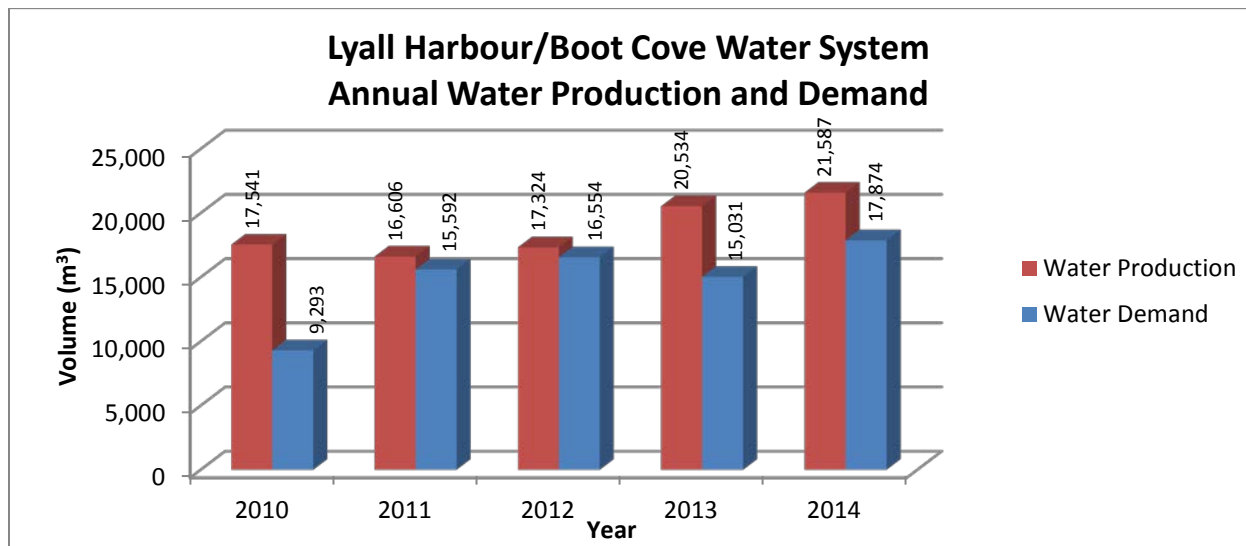


Figure 1 – Lyall Harbour/Boot Cove Water System Annual Water Production and Demand

The difference between annual water production and annual customer demand is referred to as non-revenue water and can include; water system leaks, water system maintenance and operational use (e.g. water main flushing), potential unauthorized consumption, backwashing of filtration equipment and fire-fighting use.

The 2014 non-revenue water represents about 17% of the total water production for the service area. Through the operation of the water system, the Capital Regional District (CRD) staff has and will continue to monitor water production and customer demand in an effort to identify and mitigate any water loss.

Referring to Figure 1, it should be noted that in 2010, the customer water meters were in progress of being installed and the difference between the water produced and customer demand reflects that not all water delivered to the customers was recorded.

Individual 2014 water demand for each customer connected to the water service is detailed in **Figure 2**. It is important to note the highest consumption customer identified in the chart below was the result of a leak that occurred during the fourth quarter billing period. This leak was brought to the customer's attention by Operations Staff as a result of looking for potential water system leaks. The customer immediately made the necessary repairs. The second highest consumer was not identified as having a leak. This particular customer is a high seasonal water consumer.

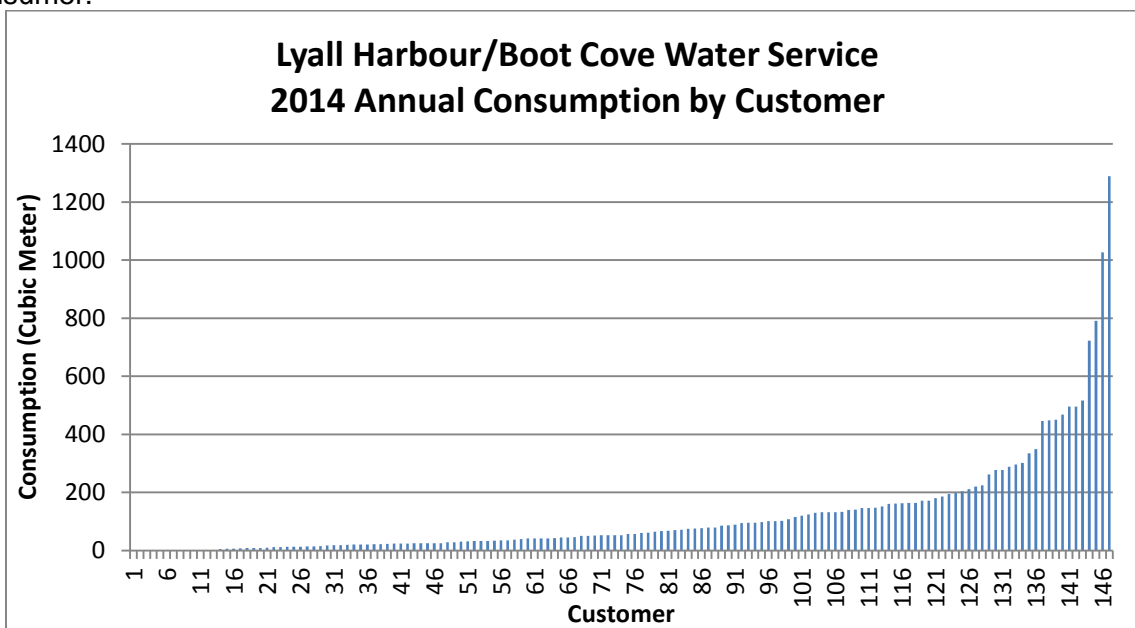


Figure 2 – Lyall Harbour/Boot Cove Water System 2014 Annual Consumption by Customer

An average water demand by residential service connection for water service areas operated by the CRD is shown in **Figure 3**. This comparison shows that Lyall Harbour/Boot Cove customers, on average, use approximately half of what Greater Victoria area customers use on an annual basis. This is likely the result of seasonal residential customer use and awareness of the limited raw water supply.

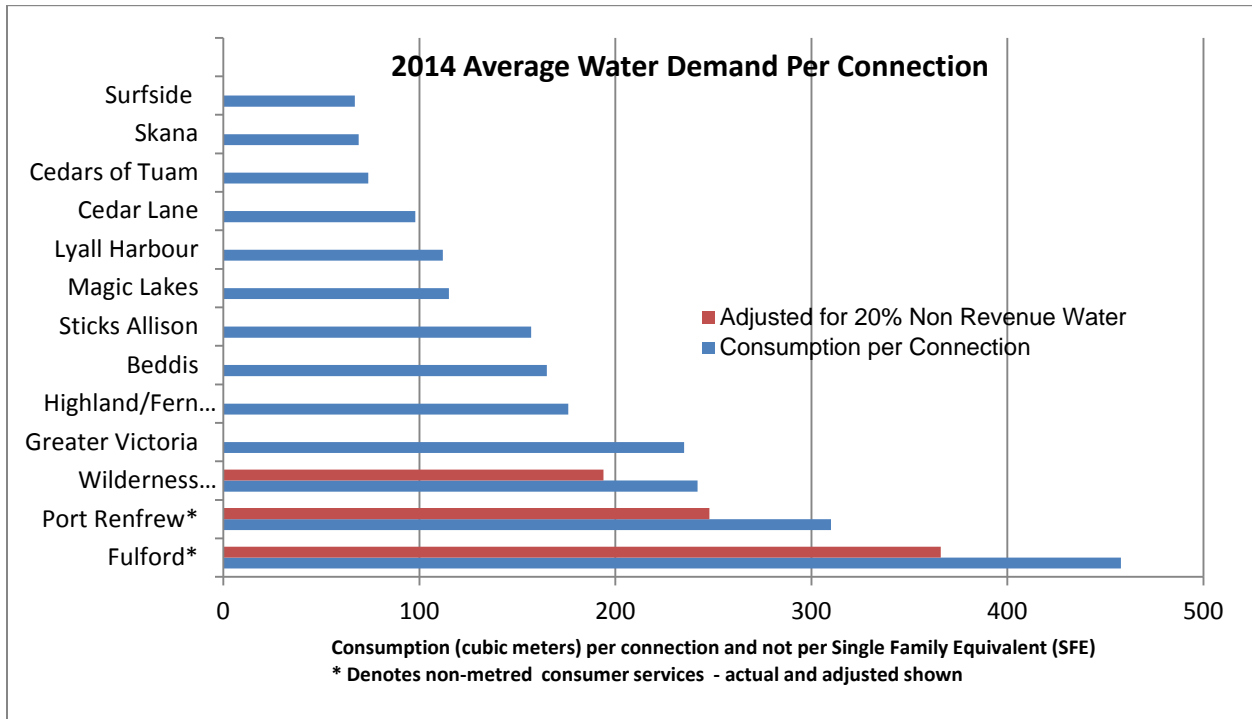


Figure 3 – 2014 Average Water Demand per Connection

The water surface level of Money Lake is routinely measured and recorded and the lake level has been maintained at a higher level, especially during the summer months, since about 2008 when the seepage collection and return system was installed.

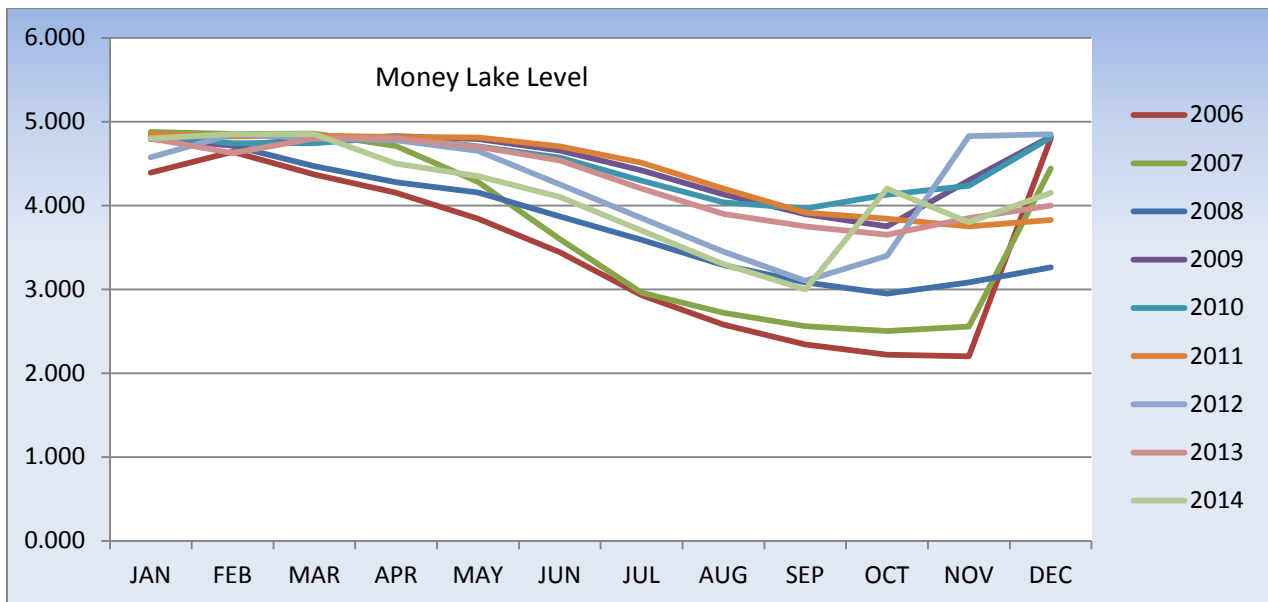


Figure 4 – Money Lake Level (meters)

Water Quality

Since November 2012, the new water treatment process uses predominantly seepage water collected from below the Money Lake dam only to be supplemented with flows from the lake itself during peak summer demand. Overall, the quality of the water supplied to the customers was good and safe to consume throughout 2014.

The data below provides a summary of the water quality characteristics in 2014:

- The raw water exhibited very low concentrations of total coliform bacteria and in all samples collected in 2014, no *E. coli* nor any parasites were detected.
- The raw water had a naturally high concentration of iron.
- The raw water was slightly hard (median hardness 47.8 mg/L CaCO₃) and was slightly acidic (median pH 6.82).
- The treated water was bacteriologically safe to drink.
- The treated water turbidity (cloudiness) was usually near or just over the turbidity limit of 1.0 NTU, with some exceptions at lower usage locations.
- The annual average level of disinfection by-products (THM) across the distribution system was below the 100 µg/L limit in the Guidelines for Canadian Drinking Water Quality (GCDWQ).
- The treated water total organic carbon (TOC) was moderate, ranging from 3.0 to 11.9 mg/L. There is currently no guideline in the GCDWQ for TOC levels.

Water quality data collected from this drinking water system can be reviewed on the CRD website:

<https://www.crd.bc.ca/about/data/drinking-water-quality-reports/southern-gulf-islands-water-quality-reports/lyall-harbour-boot-cove-water-quality-reports>

Operations

2014 was the second full year of operating the new water treatment facility and water reservoir, which was originally commissioned late in 2012. During this time, operations staff has gained valuable insight and knowledge in operating and maintaining the new water system and its components. Although overall, the system has been functioning adequately, there have been some challenges with the operation of the ozone disinfection equipment. This equipment is highly technical and requires ongoing frequent preventative maintenance, beyond what the manufacturer recommends, to ensure the equipment operates safely and reliably.

Significant operations activities in 2014 included:

- Repairs to the ozone disinfection equipment (failed ozone destruction cells).
- Repaired leaking air release valve on East Point Road.
- Trouble-shooting related to the customer service leak.
- Rebuilt sodium hypochlorite pump.
- Repairs to the ultraviolet light disinfection equipment (failed ballast).
- Emergency repairs Money Lake dam spillway log boom, and
- Rebuilt recirculation pump and replaced piping connections.

Capital Expenditures (2014 to 2019)

There were no planned capital improvements budgeted in 2014, although the 2015 and five year budget process identified several capital projects for the period between 2015 to 2019. In particular, the current (2015) and future water system capital improvements are as follows:

Dam Safety Improvements – The dam safety review completed in 2012 identified several items related to the Money Lake Dam #1 infrastructure and operation to ensure that the dam performs safely. In 2015, three work items were included in the capital budget including the updating of Operation, Maintenance and Surveillance Plan and Emergency Preparedness Plan, re-caulking of the concrete spillway at the dam, and to replace the spill way log boom to prevent floating debris from entering and obstructing the spillway.

Future dam safety work includes a soil investigation, piezometer installation and simple seismic stability assessment scheduled for 2016 and two phases of the installation of a gravel toe berm on the downstream side of the dam in years 2017 and 2018. The five-year dam safety improvements total \$146,000, half of which is funded from the water system (parcel tax and reserve fund) and the other half is funded from the Community Works Fund (gas tax).

Equipment Infrastructure Replacement – The approved 2015 capital budget includes projects to replace the roof on the water treatment plant and a variety of valve replacements totaling \$18,500. Future capital projects include additional valve replacements including air release valve, isolation valves and bypasses and standpipes totaling \$38,000 in years 2016 to 2019.

The five year equipment infrastructure replacements totals \$56,500 of which half is funded from the water system (parcel tax and reserve fund) and the other half is funded from the Community Works Fund (gas tax).

Financial Report – 2014

Attached is a copy of the *Statement of Operations (Unaudited)* prepared by CRD Finance and Corporate Services for 2014. 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 Lyll Harbour/Boot Cove 2014 revenue of \$171,717 and expenses of \$166,815 yielded a net surplus of \$4,902. There were no transfers to or from capital or reserve accounts, so the surplus was added to the opening balance of \$12,841 yielding a net deficit of \$7,939 carried forward to 2015.

2014 User Fee charges were \$461.14 per Single Family Equivalent (SFE) and 2014 Parcel Tax charges were \$600.00.

As of 31 December 2014, the Capital Reserve Fund (#1025) had a balance of \$12,027.

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