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BEDDIS WATER SERVICE COMMISSION
ANNUAL GENERAL MEETING

Notice of Meeting on TUESDAY, June 21, 2016 at 11:00 AM
Portlock Park Meeting Room, 145 Vesuvius Bay Road, Salt Spring Island, BC

Wayne McIntyre | Simon Wheeler | Ruth Waldick | Geoff Bartol | Doreen Hewitt

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AGENDA

1. **Call to Order**

2. **Approval of Agenda**

3. **Adoption of Minutes of the 2014 Annual General Meeting held on September 14, 2015**

4. **Chair's Report**

5. **Report**
   - **5.1 Annual Report for 2015 Fiscal Year**

6. **Election of Officers**

7. **New Business**

8. **Adjournment**

To ensure quorum, advise Tracey Shaver 250 537 4448 if you cannot attend.

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Minutes of the Annual General Meeting of the Beddis Water Service Commission Held September 14, 2015, at the Salt Spring Island, Public Library, 129 McPhillips Avenue, Salt Spring Island, BC

DRAFT

Present: **Director:** Wayne McIntyre
Commission Members: Simon Wheeler (Chair), Ruth Waldick, Geoff Bartol
Staff: Keith Wahlstrom, Manager, Engineering Salt Spring Electoral Area, Dan Robson, IWS Operations Manager, Peggy Dayton, CRD Finance, Erin Jory, Recording Secretary, Karla Campbell, Senior Manager

1. Call to Order

The Chair called the meeting to order at 1:02 pm.

2. Approval of Agenda

MOVED by Director McIntyre, **SECONDED** by Commissioner Wheeler,
That the Beddis Water Service Commission agenda of September 14, 2015 be approved.

CARRIED

3. Adoption of Minutes of 2014 Annual General Meeting held October 30, 2014

MOVED by Director McIntyre, **SECONDED** by Commissioner Bartol,
That the Beddis Water Service Commission minutes of October 30, 2014 be amended in Item 6.1 by replacing "supports" with "discussed issues regarding", and approved.

CARRIED

4. Chair and Director Reports

4.1 Chair

Chair Wheeler provided a brief report.

- Raised the level of intake pipe
- Improved water quality
- Draught conditions monitored
- Subscribers conserved 22% usage from previous years (2015 versus 2014)
- Permission obtained for site access to the old tank for dismantling

5. Reports

5.1. 2015 Annual Operations Report

MOVED by Commissioner Bartol, **SECONDED** by Commissioner Wheeler,
That the Beddis Water Local Service Commission amends the 2015 Annual Operations Report by replacing 2013 with 2014 in the second section of the Water Production and Demand, and receive it for information.

CARRIED

5. Election of Officers

Commissioner Waldick agreed to stand for an additional term. Commissioner Wheeler and Commissioner Bartol had no objections, and Commissioner Waldick was nominated by acclamation.

6. New Business

There were no items.

7. Adjournment

MOVED by Commissioner Bartol, **SECONDED** by Commissioner Waldick,
That the meeting be adjourned at 2:34 pm.

CHAIR

SENIOR MANAGER

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BEDDIS WATER SERVICE
2015 ANNUAL REPORT
Tuesday, June 21, 2016

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 AGM minutes approved (by Commission members), and to present reports on the work of the Commission on 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 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 raised by the public at the AGM will be considered by the commission at a subsequent regular meeting.

The Annual General Meeting is for the 2015 fiscal year.

DRINKING WATER SYSTEM

Water Production and Demand

Annual water production since 2009 is shown in Figure 1. A total of 23,162 m^3 of water was extracted from Cusheon Lake in 2015. This is 16.6% less than in 2014, and 10.0% less than the average production since 2009 (25,722 m^3). This decreased is a result of the drought experienced in 2015 and the direct appeal to customers to use less water.

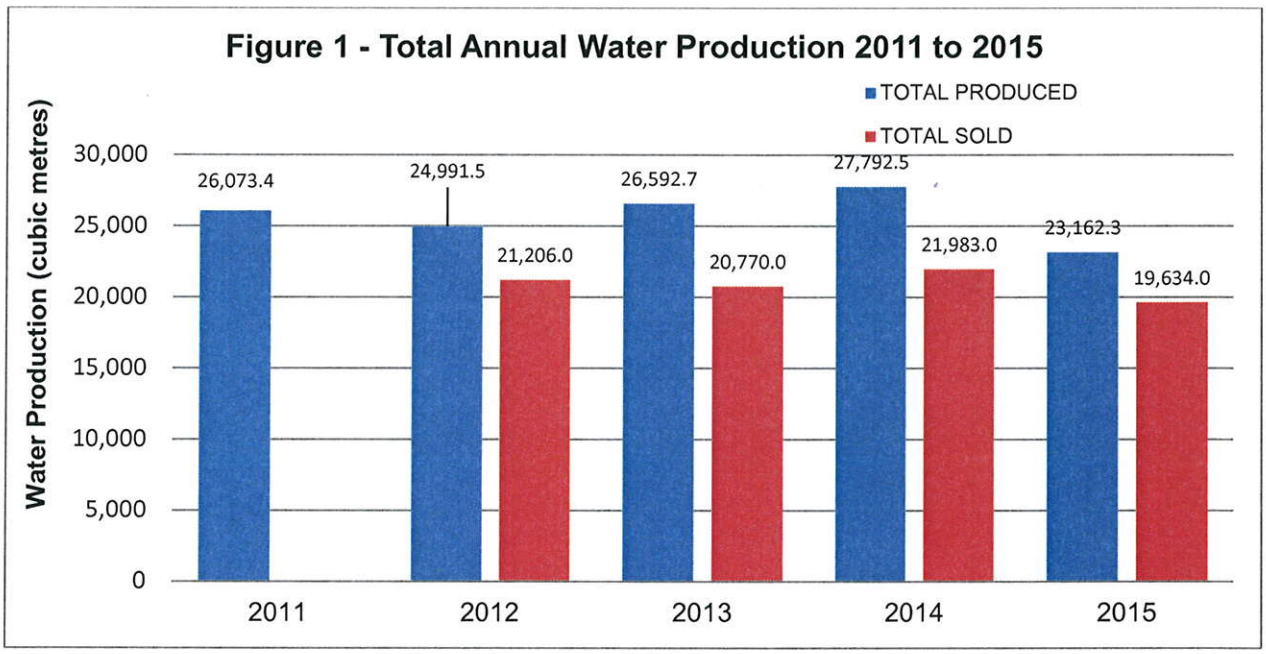
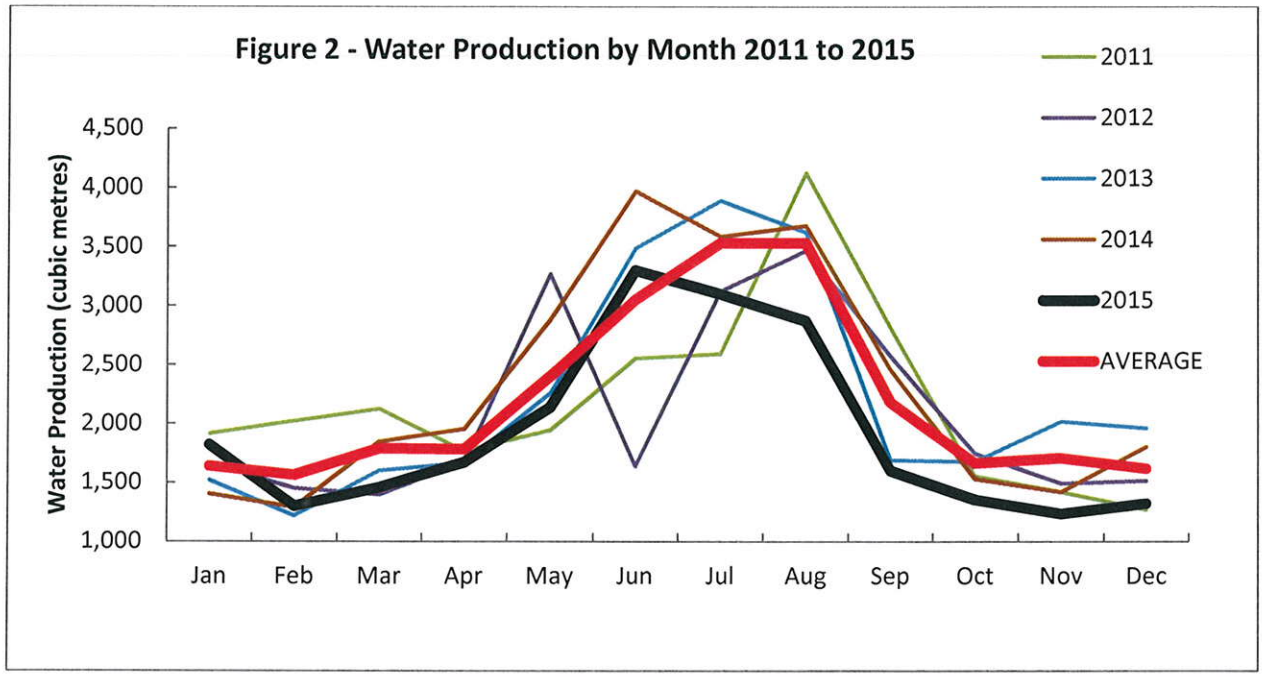


Figure 2 shows monthly water production since 2011.



The Beddis Water System is fully metered, and water meters are read every three months. Water meter data enables water production and consumption to be compared in order to estimate leakage losses in the distribution system. The difference between production and total metered consumption, called non-revenue water, includes distribution leaks, meter error, and unmetered uses such as fire hydrant usage, distribution system maintenance and process water for the treatment plant. Non-revenue water is shown in Table 1:

Table 1 - Non-Revenue Water (Water Produced Versus Water Sold)

Year	2012	2013	2014	2015
Produced (m^3)	24991.5	26592.7	27792.5	23162.3
Metered (m^3)	21206.0	20770.0	21983.0	19634.0
Unmetered (m^3)	3785.5	5822.7	5809.5	3528.3
Unaccounted	15.1%	21.9%	20.9%	15.2%

This amount of non-revenue water is considered high but likely due to on-going process water requirements.

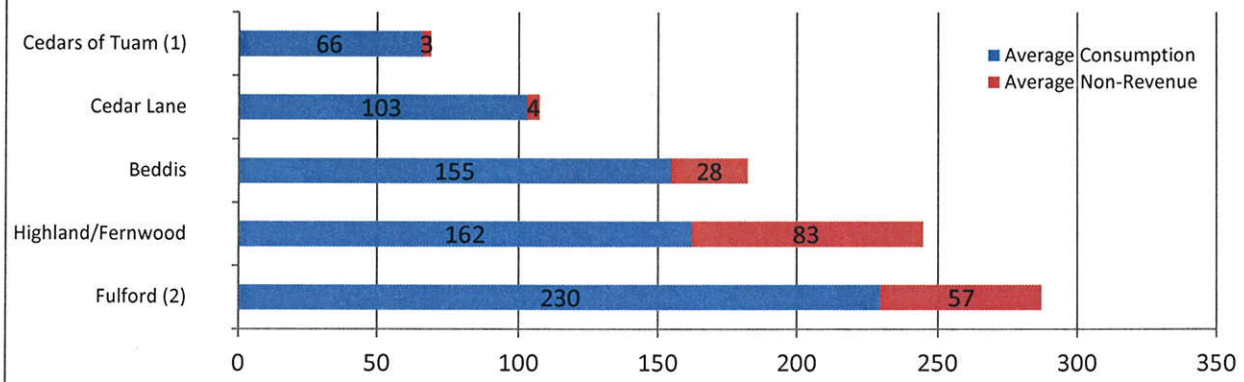
The average single-family residence in the Beddis Water System used 155 m^3 in 2015, a 10.4% decrease from the 2014 use of 173 m^3. However, one customer in the Beddis Water System accounted for a significant proportion of overall use. When this customer is excluded, the average is reduced to about 147 m^3.

Monitoring of future years' flows will help determine if the water users are, as with other water service areas, seeing a reduction in water use as a result of conservation efforts and declining indoor water use resulting from the use of low flow fixtures and high efficiency appliances.

An average water demand by residential service connection for water service areas operated by the Capital Regional District (CRD) on Salt Spring Island is shown in Figure 3. This comparison

shows that Beddis customers are mid-level users when compared to other service area customers.

Figure 3 - 2015 Average Annual Consumption and Non-Revenue Volumes Per Customer/Connection - CRD Salt Spring Water Systems



*** (1) Cedars of Tuam assigned a 5% non-revenue due to no measured water produced volume.**
(2) Fulford is assigned a 20% non-revenue as customers are not metred

Water Quality

In 2015, the analytical results of water samples collected from the Beddis Water System showed that the drinking water supplied to the customers was generally of good quality. The new treatment system functioned very well and was able to produce good quality drinking water under varying source water conditions. Only two disinfection by-product test results slightly exceeded the Canadian Guidelines limits. CRD staff is committed to constantly reviewing current practices and if necessary making adjustments to the treatment process to minimize the number and magnitude of any exceedances.

The data below provides a summary of the water quality characteristics in 2015:

- The raw water exhibited typically low concentrations of total coliform and *E. coli* bacteria throughout the year with periods of higher concentrations of total coliforms during the summer months.
- No parasitic oocysts and cysts (*Cryptosporidium* and *Giardia)* were detected.
- The raw water samples indicated fluctuating and elevated concentrations of iron and manganese. Episodes of elevated iron and manganese concentrations can lead to discolouration of the drinking water (only an aesthetic problem).
- The raw water was soft (median hardness 40.0 mg/L $CaCO_3$).
- The raw water turbidity (cloudiness) was generally around or slightly above 1 NTU with some higher peaks in the fall when algal blooms occurred (Sept/Oct). Highest recorded raw turbidity was 4.80 NTU on September 23.
- The mean annual total organic carbon, and indicator of organic compounds and material in the lake water, was a low to moderate 4.95 mg/L.
- The treated water was bacteriologically safe to drink and no coliform bacteria were detected throughout the year.
- The treated water turbidity was typically well below the turbidity limit of 1.0 NTU with a range from 0.08 NTU to 0.35 NTU.
- The mean annual levels of disinfection by-products (TTHM and HAA) across the distribution system were below the 100 µg/L and 80 µg/L limits in the Guidelines for

Canadian Drinking Water Quality (GCDWQ). However, we recorded exceedances on two occasions: TTHM reached 105 µg/L on May 13 at the Samuel standpipe and HAAs reached 81.5 µg/L on March 18 at the Hillview standpipe. Likely high water age in the pipes leading up to these standpipes are the cause for the high concentrations.

- The treated water total organic carbon (TOC) was higher than during the previous year, with a median value of 1.88 mg/L compared to 0.45 mg/L in 2014. There is currently no guideline in the GCDWQ for TOC levels, however the USEPA suggests a treated water TOC concentration of < 2 mg/L as confirmation of effective treatment and disinfection by-product control.
- All metal concentrations in the treated water were well within the Canadian Guidelines limits.

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/salt-spring-island-water-quality-reports/beddis-water-quality-reports

OPERATIONS

Weekly operations of the Beddis water system is provided by an on-island contract operator under agreement with the CRD. The contract operator performs routine scheduled activities such as system checks, water sampling for laboratory analysis and minor preventative maintenance activities all under the direction of the CRD as detailed in the operations agreement. The contactor also performs more significant preventative and corrective maintenance activities at the request of the CRD. These types of activities may include water system flushing, leak detection, and water leak repairs. In addition to operation and maintenance activities, the on-island contractor also provides stand-by and emergency callout response duties.

Additional operational support and guidance is provided by CRD personnel who typically perform more preventative or corrective maintenance in relation to the electrical and communication electronic equipment. Other operational support provided by the CRD include emergency response and remote water system monitoring and control using the CRD's Supervisory Control and Data Acquisition (SCADA) equipment. The SCADA system is used to alert the on-island contactor and if necessary CRD standby operations staff of a potential water system fault (e.g. reservoir low water level).

The on-island contract operator attended to regular weekly, monthly and annual operational duties as detailed in the Beddis water system operating agreement. The contactor however also performed additional services related to either emergency response, additional maintenance activities or capital improvement work.

Table 2 below details the additional work performed by the on-island contractor:

Table 2: Additional work completed by contract operator at request of CRD.

TASK	DATE	REASON
Water service connection repair	January 2015	Leak reported at 303 Cusheon Lake Road.
DAF air compressor repairs	March 2015	Assist the CRD to remove, repair and replace the non-functional air compressor.
Raw water intake inspection and cleaning	March 2015	Assist the diving contractor with the annual raw water intake inspection and cleaning
Low chlorine level programming	March 2015	Assist the CRD in implementing a low chlorine level water treatment plant shutdown program logic
Water system flushing	April 2015	Annual water system flushing preventative

TASK	DATE	REASON
		maintenance program
VFD Repairs	May 2015	Variable Frequency Drive (VFD) tripping out constantly required troubleshooting and resets.
Resolve raw water intake air locking issues	June, July and August 2015	As part of an approved capital project, installed equipment and assisted with the diving operations required to complete the capital work
DAF cleaning	July 2015	Drained, cleaned and inspected the dissolved air floatation (DAF) flocculation chambers. This activity is part of a preventative maintenance program to ensure the water treatment process functions optimally.
Reduce precipitate formation	July 2015	As part of an approved capital project, installed equipment and assist CRD in implementing programming logic for the injection of potassium permanganate
Water meter repair	August 2015	Water meter reported to be leaking at 110 Stewart Road
Turbidity meter cleaning	September 2015	Turbidity meter located at the water treatment plant not functioning properly, as a result the meter was serviced and placed back into operation.
Curb stop installation	October 2015	Water service connection to 127 Lionel Crescent required a curb stop valve to be installed in order for the homeowner to conduct his own water service line repairs.

CRD operations personnel completed a number of key tasks during this period. Table 3 below details the tasks performed.

Table 3: Tasks completed by CRD operations personnel.

TASK	NOTES
Emergency response to VFD failures at the water treatment facility	The variable frequency drive (VFD) were continually tripping as a result of low voltage. See capital improvements section for further details.

CAPITAL IMPROVEMENTS

The following three capital projects were planned for 2015:

1. Reduce Precipitate Formation ($13,600 allocated, $13,450 spent). Work included purchasing equipment and completion installations so potassium permanganate can be added to the water to reduce precipitate in the system.

2. Resolve Intake Air Locking ($7,500 allocated, $6,762 spent). Work included installing additional air purging equipment.

3. Creekside Pressure Control Station Rebuild ($25,000 allocated, $741 spent). This project was put on hold as there have been WorkSafeBC concerns raised relative to confined space entry requirements. An additional $25,000 has been allocated in 2016 due to this concern.

Subsequent to the approved budgets, there was one additional capital project added:

1. Emergency repairs of VFD (variable frequency drives) for the treated water pumps ($14,000 allocated, $17,738 spent). This project ended up being significantly more difficult to resolve than anticipated. The initial failure assessment pointed to failing internal VFD capacitors. New capacitors were installed in one drive, however the problem persisted. Subsequent to the first repair, working with the product manufacturer's engineering group and discussing the problems with other experts in the field, four contributing factors were identified and mitigated including:

    a. VFD programming change
    b. Installing additional external capacitor kits
    c. Replacing the pump motor cables with larger conductors to reduce power loss
    d. Increasing air exchanges to reduce operating temperatures

2015 FINANCIAL REPORT

Revenue includes parcel taxes (*Transfers from government*) and fixed user fees (*User Charges*), *Water Sales*, 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. *Contract for services* is payments to North Salt Spring Waterworks. *CRD Labour and Operating Costs* includes CRD staff time as well as the cost of equipment, tools and vehicles. *Debt Servicing Costs* are interest and principal payments on long term debt. *Other expenses* include all other costs to administer and operate the water system such as insurance, supplies, electricity and water testing.

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 the result 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 Beddis 2015 revenue of $201,658 includes:

- $71,590 – *Transfers from government*
- $57,531 - *User Charges*
- $71,927 - *Water Sales*
- $117 – *Interest*
- $493 - *Other revenue*

The total expenditures for 2015 were $189,510 comprised of:

- $7,820 - *General Government Services*
- $55,607 - *Contract for Services*
- $5,199 - *Waste Sludge Disposal*
- $13,334 - *CRD Labour and Operating Costs*
- $71,340 – *Debt Servicing Costs*
- $36,210 - *Other expenses*

The difference between revenue and expenditures at 2015 year end amounted to a net surplus of $12,148. There was a surplus of $11,890 carried forward from 2014, resulting in a total surplus of $24,038 of which $20,328 was transferred to the Capital Reserve Fund and $3,710 was transferred to the Maintenance Reserve Account. There was no surplus carried forward to the 2016 budget.

2015 User Fee charges were $453.00 per Single Family Equivalent (SFE) and 2015 Parcel Tax charges were $550.00 per Taxable Parcel.

The balances in the Beddis Water service capital funds and reserve accounts at December 31, 2015 were:

Description	Balance at end of 2015
Maintenance Reserve Account	$8,710
Capital Reserve Fund (1069 101894)	$72,524
Funds remaining to spend on projects in progress (WLA3193)	$23,852
Funds remaining to spend on projects in progress (WLA3825)	$21,942

Water System Problems - Who to Call:

To report any event or to leave a message regarding the Beddis Water System, call either:

CRD water system emergency call centre:	**1-855-822-4426 (toll free)**
CRD water system emergency call centre:	**1-250-474-9630 (toll)**
North Salt Spring Waterworks District (contract operator):	**250 537-9902**
CRD local operator (Ganges Wastewater Treatment Plant):	**250-537-4314**
CRD water system general enquiries (toll free):	**1-800-663-4425**

When phoning with respect to an emergency, please specify to the operator, the service area in which the emergency has occurred.

The new toll free number for reporting emergencies is being pilot-tested and will be evaluated at the end of 2016 to assess the use and need going forward.

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Salt Spring Island Electoral Area

Matthew McCrank, MSc, PEng
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Concurrence

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