

REGIONAL DISTRICT OF NANAIMO

Water Service Area Annual Report 2015



Decourcey Water System

June 2016

REGIONAL DISTRICT OF NANAIMO

Water & Utility Services Department

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Appendix A - Map of Decourcey Water Service Area

Appendix B - Water Quality Testing Results

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1.0 Introduction

The following annual report describes the Decourcey Water Service Area and summarizes the water quality and production data from 2015. This report also includes a summary of inquiries and complaints, completed and proposed maintenance activities, the Emergency Response Plan, and the Cross Connection Control Program.

This report is to be submitted Island Health by the Spring of 2016.

2.0 Decourcey Water Service Area

The Decourcey Water Service Area was established in 1998 in a rural area south of Nanaimo, and comprises two properties on Bissel Road and three properties on Pylades Drive. The water source for the Decourcey Water Service Area comes from one groundwater well located nearby. The water supply is stored in one reservoir and is chlorinated manually. A map of the Decourcey Water Service Area is provided in Appendix A for reference.

2.1 Groundwater Wells

One groundwater production well is present at 3284 Bissel Road, Cedar, B.C.

Well / Name	Well Depth	Wellhead Protection In-Place	Treated/Untreated with Chlorine
#1	61.0 m	Yes	Treated

2.2 Reservoirs

One steel above-ground reservoir is present at 3280 Bissel Road, and has a capacity of 136 m³ (30,000 imperial gallons).

2.3 Distribution System

The water distribution system in Decourcey is composed entirely of 150mm PVC watermains (0.7 km). Four fire hydrants are located in the water service area.



Decourcey Water Storage Reservoir

3.0 Water Sampling and Testing Program

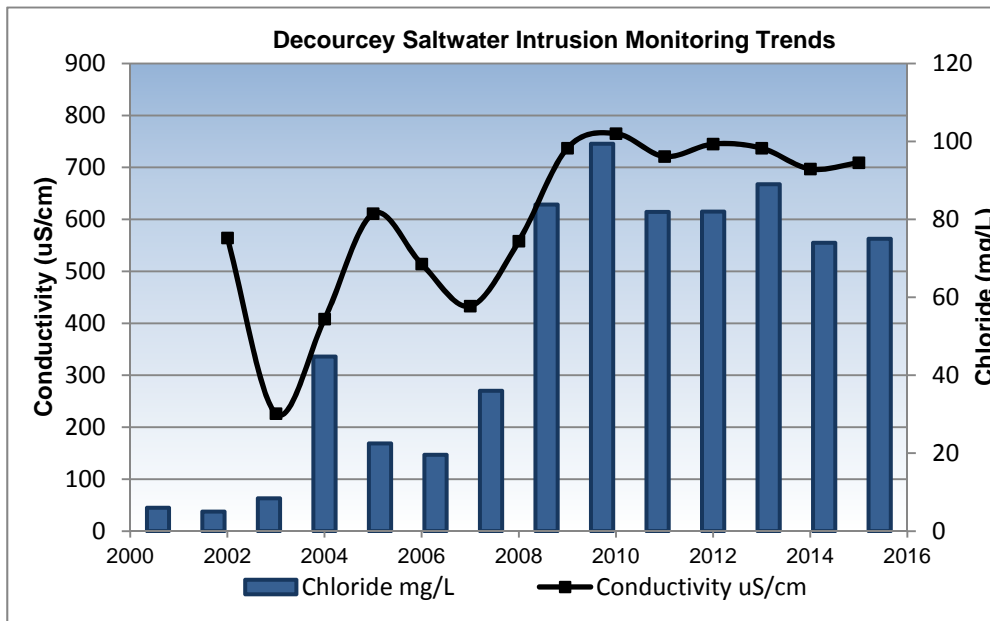
Water sampling and testing is carried out weekly in the distribution system. The following table includes a summary of all testing:

Timing	Location	Tests
Weekly	RDN (in-house) Laboratory	Total coliforms, E.Coli Temperature, pH, Conductivity, Turbidity, Cl ₂ Residual, Salinity, TDS Monthly- Iron and Manganese
Monthly	BC Centre for Disease Control or Maxxam	Total coliforms, E.Coli (BC CDC) Chloride, Fluoride (well water) (Maxxam)
Quarterly	North Island Labs (now Maxxam)	Trihalomethanes (treated water)
Annual Source Water Testing (every Fall)	North Island Labs (now Maxxam)	Complete potability testing of all raw well water, including T-Ammonia
Annual System Water Testing (every Spring)	North Island Labs (now Maxxam)	Complete potability testing of distribution system, including T-Ammonia

4.0 Water Quality - Source Water and Distribution System

Up-to-date water quality reports and lab data are posted monthly on the RDN website at www.rdn.bc.ca in the Services section, under “Water & Utility Services” then “WaterSmart Communities”. Tables of water quality testing results for both the source water and distribution system are provided at the end of this report under Appendix B.

The Conductivity and Chloride levels in the Decourcey well water had an increasing trend from the year 2000 to 2010, but appear to have stabilized since 2010.

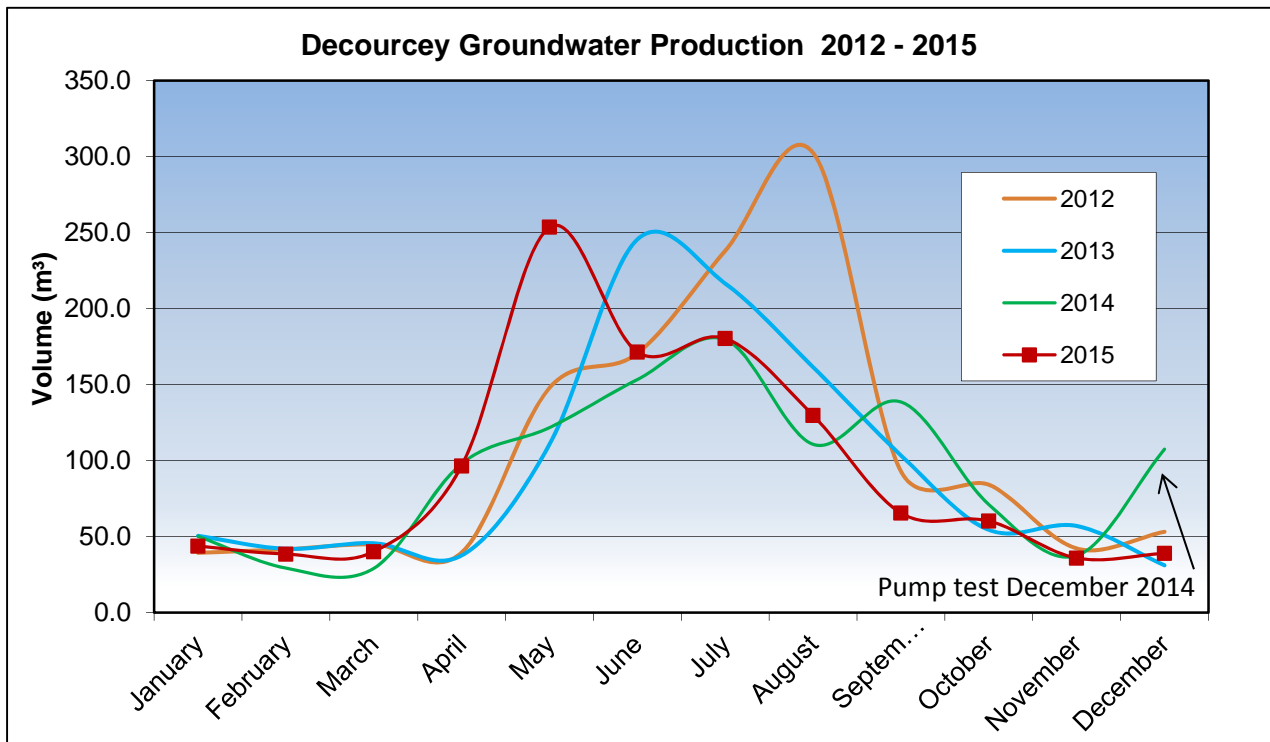


5.0 Water Quality Inquiries and Complaints

No complaints were received from the Decourcey water service area in 2015. A few inquiries were made by adjacent property owners asking to connect to the community water supply (and the answer was no). Weekly monitoring of individual water usage in July and August was undertaken by Water Services staff. Direct contact with property owners was made on several occasions to advise that water conservation should be taken quite seriously in order to protect the community drinking water supply, and to maintain water storage for fire protection. Each spring, letters are mailed to all water system users encouraging year-round water conservation in order to reduce or reverse the potential for saltwater intrusion.

6.0 Groundwater Production and Consumption

The monthly groundwater production in the Decourcey system for the past 4 years is shown in the chart below. Groundwater production in 2015 was similar to or lower than previous years, except a period of higher than normal use during April and May. This increase may be attributed to unseasonably warm spring temperatures and less than average precipitation, which resulted in an early start to the watering season.



In the Fall/Winter of 2015, the average usage per home in Decourcey was 0.32 cubic metres per day (70 imperial gallons). In the summer, the average water usage was 1.17 cubic metres per day (257 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 264 L/day (based on 2.3 people/household). This consumption is 4% less than the RDN system average of 274 L/day/capita for 2015.

7.0 Maintenance Program

A weekly pump station inspection is carried out to reduce or eliminate the risk of contamination and system failure, and to ensure the consistent application of chlorine for treatment purposes. Watermains are flushed once annually in the Spring. Fire hydrants are serviced once per year (either 'A-level' or 'B-level' maintenance) in the Fall. Twenty-four hour on-call coverage is in place to respond to water system emergencies and alarms.

8.0 Water Service Area Projects

8.1 2015 Completed Studies & Projects

- Installed a pump protector and alarm;
- Installed a lockable hatch for reservoir access;
- Sent an information letter regarding conservation and saltwater intrusion;
- Achieved two Operators' Backflow Assembly Tester certification;
- Enforced the outdoor sprinkling regulations;
- Completed annual fire hydrant maintenance ('B' service this year);
- Carried out a comprehensive water conservation campaign (Team WaterSmart);
- Updated and improved the RDN website at www.rdn.bc.ca;
- Updated the Emergency Response Plan;
- Applied a rainwater harvesting incentive (rain barrels);
- Maintained a high level of water quality;
- Continued quality control through regular testing and monitoring of water system; and,
- Completed additional educational programs.

8.2 2016 Proposed Projects & Upgrades

- Update the Emergency Response Plan;
- Enforce the outdoor sprinkling regulations;
- Complete annual fire hydrant maintenance;
- Continue quality control through regular testing and monitoring of water system;
- Complete additional educational program; and
- Continue to offer rainwater harvesting (rain barrel) and other water-saving incentives.

9.0 Emergency Response Plan

The Regional District Emergency Response Plan (ERP) contains procedures and contact information to efficiently respond to water system emergencies such as contamination of water supply, loss of supply, and pump failure. The ERP was reviewed and updated in 2015, and copies are available on our website, at each RDN office, in each pumphouse, and in each Water Services vehicle. A copy of the ERP is also attached to this report in Appendix C.

10.0 Cross Connection Control

In 2012, *Regional District of Nanaimo Water Use Regulation Bylaw No. 1654* was adopted which includes enhanced cross connection control and backflow protection wording. A separate Cross Connection Control bylaw was deemed not to be required.

A database of commercial customers was set-up in order to keep track of the maintenance history of testable backflow assemblies at each site. Two RDN Operators achieved their Backflow Assembly Tester certification in 2015.

11.0 Closing

An annual report for the year 2016 will be prepared and submitted to Island Health in the Spring of 2017. Annual reports are also available on our website at www.rdn.bc.ca in the SERVICES section, under Water & Utility Services then WaterSmart Communities.

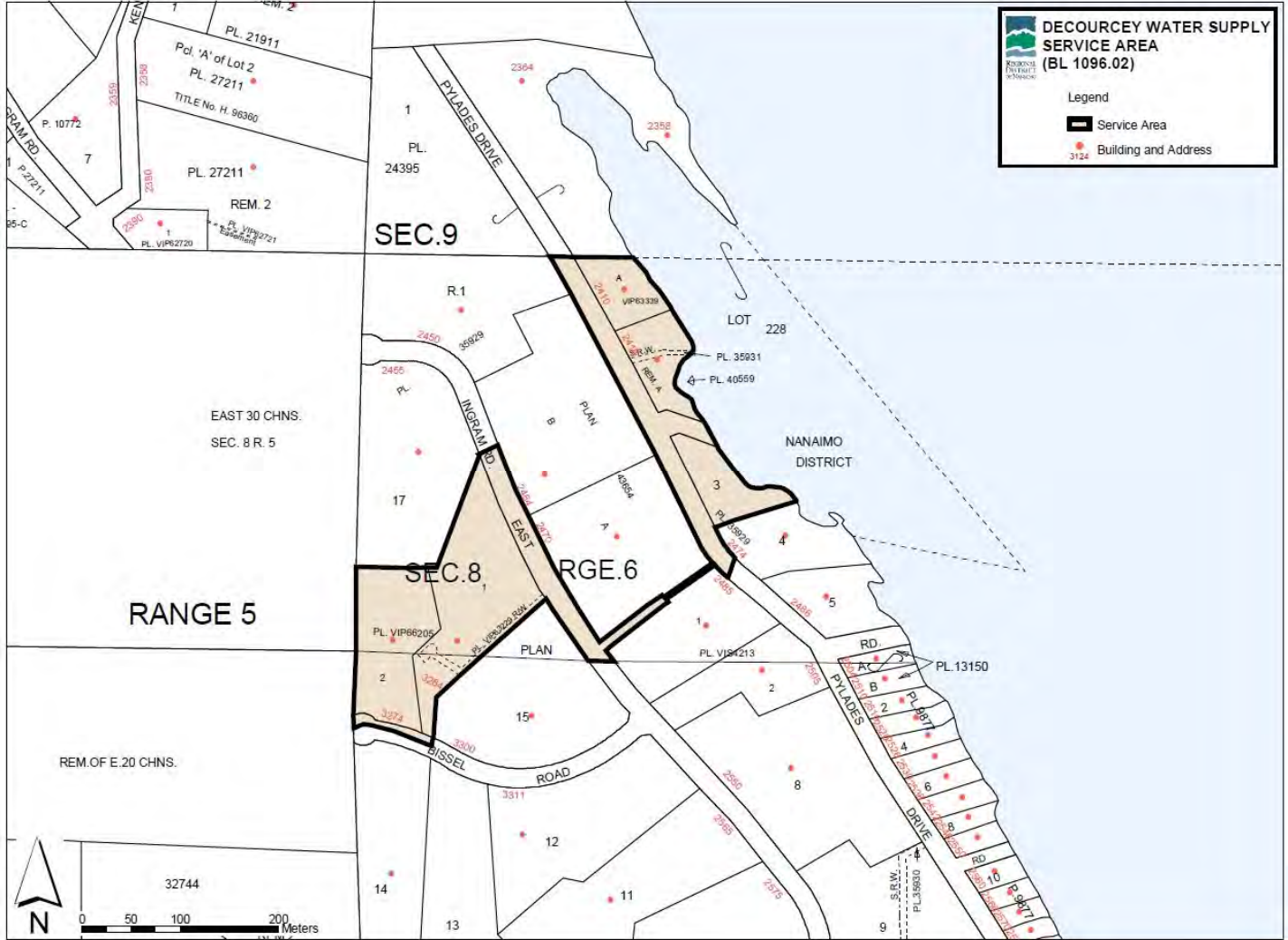


Stuart Channel, Yellow Point

APPENDIX A

**MAP OF DECOURCEY
WATER SERVICE AREA**

DECOURCEY WATER SERVICE AREA



APPENDIX B

WATER QUALITY TESTING RESULTS