



DECOURCEY

Water Service Area Annual Report 2011

Prepared by:



REGIONAL
DISTRICT
OF NANAIMO

REGIONAL DISTRICT OF NANAIMO

Water & Utility Services Department

June 2012



Table of Contents

1.0	Introduction.....	1
2.0	Decourcey Water Service Area.....	1
2.1	Groundwater Wells	1
2.2	Reservoirs.....	1
2.3	Distribution System.....	1
3.0	Water Sampling and Testing Program.....	1
4.0	Water Quality - Source Water and Distribution System	2
5.0	Water Quality Inquiries and Complaints	3
6.0	Groundwater Production and Consumption.....	3
7.0	Maintenance Program.....	3
8.0	Water Service Area Projects.....	4
8.1	2011 Completed Studies & Projects	4
8.2	2012 Proposed Projects & Upgrades	4
9.0	Emergency Response Plan.....	4
10.0	Cross Connection Control.....	5
11.0	Closing	5

Appendix A - Map of Decourcey Water Service Area

Appendix B - Water Quality Testing Results

Appendix C - Emergency Response Plan

1.0 Introduction

The following annual report describes the Decourcey Water Service Area and summarizes the water quality and production data from 2011. 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 to the Vancouver Island Health Authority by the Spring of 2012.

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 portable generator is available in the event of a power outage. 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

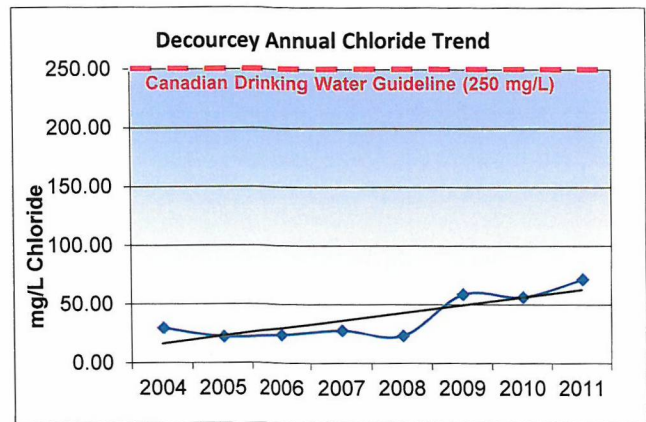
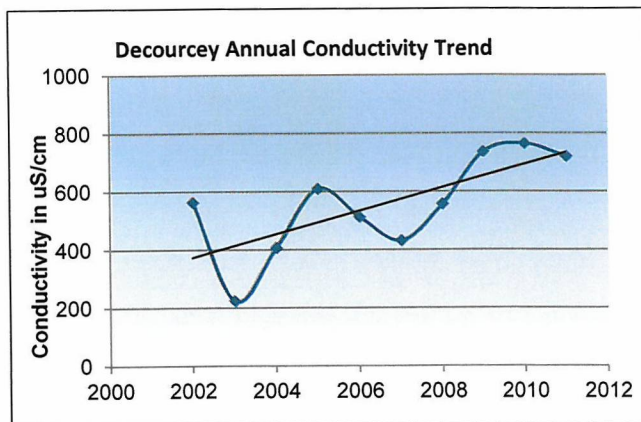
Water sampling and testing is carried out weekly in the distribution system. The following table includes a summary of all testing:

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	Total coliforms, E.Coli
Quarterly	North Island Labs	Chloride, Fluoride (well water) Trihalomethanes (treated water)
Annual Source Water Testing (every Fall)	North Island Labs	Complete potability testing of all raw well water, including T-Ammonia
Annual System Water Testing (every Spring)	North Island Labs	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 water system are generally increasing year to year. In 2010 and 2011, letters were sent to all water system users encouraging year-round water conservation in order to reduce or reverse the potential for saltwater intrusion.

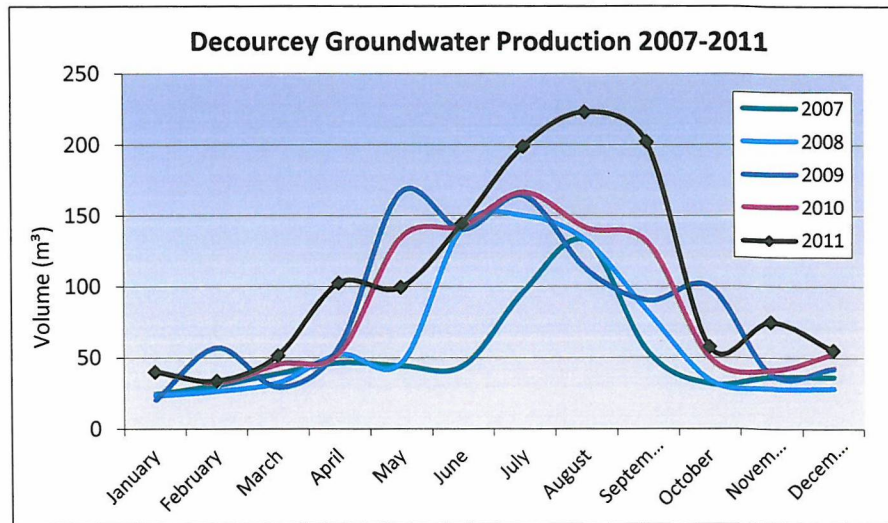


5.0 Water Quality Inquiries and Complaints

Very few complaints and inquiries were received from the Decourcey water service area, and were typically related to power outages.

6.0 Groundwater Production and Consumption

The monthly groundwater production in the Decourcey system for the past 5 years is shown in the chart below. Groundwater production in 2011 was higher than previous years. The higher water usage can be attributed to one new home being added to the water system, and extensive renovations taking place at another home in the water system.



In the Fall/Winter of 2011, the average usage per home in Decourcey was 0.33 cubic metres per day (72 imperial gallons). In the summer, the average water usage was 1.04 cubic metres per day (229 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 237 L/day (based on 2.4 people/household). This consumption is 12% less than the RDN system average of 269 L/day/capita for 2011.

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 2011 Completed Studies & Projects

- Sent an information letter to the five (5) Decourcey water system users to encourage conservation;
- Amalgamated RDN water systems' rates & regulations into one bylaw;
- Drained and cleaned the Decourcey water storage reservoir;
- Enforced the outdoor sprinkling regulations;
- Completed annual fire hydrant maintenance;
- Prepared a Draft Cross Connection Control Bylaw;
- 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;
- Utilized the Auto E-message service to notify member residents of water service disruptions and upcoming maintenance activities;
- Applied the low-flush toilet incentive;
- Maintained a high level of water quality;
- Maintained excellent customer complaint and service request response times;
- Continued quality control through regular testing and monitoring of water system; and,
- Completed additional educational programs.

8.2 2012 Proposed Projects & Upgrades

- Send another information letter to Decourcey water system users to encourage conservation;
- Complete the Cross Connection Control Bylaw, and establish a procedure for reviewing commercial and industrial properties for water system risks;
- Update Standard Operating Procedures; and
- Apply a rainwater harvesting (rain barrel) incentive.

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 2011, 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

A formalized Cross Connection Control Program was initiated in 2007. Cross connection controls in-place include dual check valves at each service connection, fire hydrant use permits, and water supply bylaws noting discontinued service if a threat to the water supply is perceived by staff.

In 2008, a review and comparison of successful Cross Connection control programs in other small Water Service Areas nearby was undertaken. A database of commercial customers in the Regional District of Nanaimo was set-up in order to keep track of the maintenance history of testable backflow prevention assemblies at each site. Three RDN Operations staff achieved Backflow Prevention Tester's certification.

In 2010, a Draft Cross Connection Control Bylaw was prepared, and is anticipated to be finalized in 2012. Additionally, the program in 2012 will include:

- A formal survey of existing and potential Cross Connections, and
- An audit of RDN-owned facilities in each water service area.

11.0 Closing

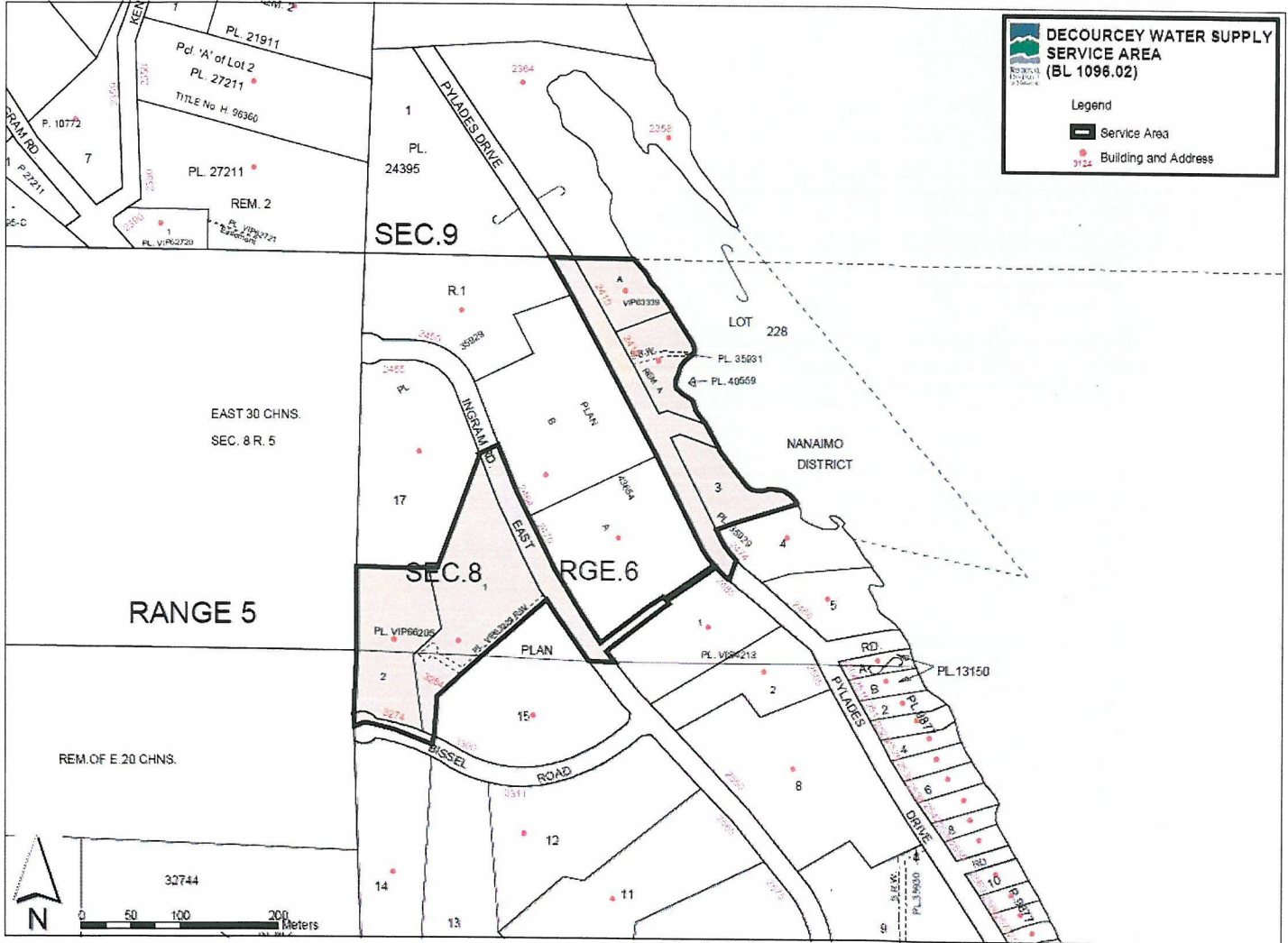
An annual report for the year 2012 will be prepared and submitted to the Vancouver Island Health Authority in the Spring of 2013. Annual reports are also available on our website at www.rdn.bc.ca in the SERVICES section, under Water & Utility Services then WaterSmart Communities.



APPENDIX A

**MAP OF DECOURCEY
WATER SERVICE AREA**

DECOURCEY WATER SERVICE AREA



APPENDIX B

WATER QUALITY TESTING RESULTS