

# REGIONAL DISTRICT OF NANAIMO

## Water Service Area Annual Report 2012



## Surfside Water System

June 2013

REGIONAL DISTRICT OF NANAIMO

*Water & Utility Services Department*

6300 Hammond Bay Rd, Nanaimo, BC Canada V9T 6N2 | Ph 250-390-6560 | Fax 250-390-1542

## Table of Contents

1. Introduction.....	1
2. Surfside Water Service Area.....	1
2.1 Groundwater Wells.....	1
2.2 Reservoirs .....	1
2.3 Distribution System.....	1
3. Water Sampling and Testing Program.....	2
4. Water Quality - Source Water and Distribution System .....	2
5. Water Quality Inquiries and Complaints .....	2
6. Groundwater Production and Consumption.....	3
7. Maintenance Program.....	3
8. Water Service Area Projects.....	3
8.1 2012 Completed Studies & Projects.....	3
8.2 2013 Proposed Projects & Upgrades.....	4
9. Emergency Response Plan.....	4
10. Cross Connection Control.....	4
11. Closing .....	4

Appendix A - Map of Surfside Water Service Area

Appendix B - Water Quality Testing Results

Appendix C - Emergency Response Plan

## 1. Introduction

The following annual report describes the Surfside Water Service Area and summarizes the water quality and production data from 2012. 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 2013.

## 2. Surfside Water Service Area

The Surfside Water Service Area was established in 1986 and comprises an area northwest of Qualicum Beach on Surfside Drive and part of McFeely Drive. There are 37 water service connections in the Surfside Water Service Area. The water source comes from two groundwater wells located nearby. The water source is chlorinated (as of September 2012) and pumped into the system via two pressure tanks. A back-up generator is present at the pumphouse, should it be required. A map of the Surfside Water Service Area is provided in Appendix A for reference.

### 2.1 Groundwater Wells

Two groundwater production wells are present in the well field at 3547 West Island Highway, north of Qualicum Beach, B.C.

Well / Name	Well Depth	Wellhead Protection In Place	Treated/Untreated with Chlorine
#1	9.4 m	Yes	Treated
#2	9.8 m	Yes	Treated

### 2.2 Reservoirs

There is no reservoir in the Surfside Water Service Area. Water supply is pumped into the system via a dual pressure tank arrangement.

### 2.3 Distribution System

The water distribution system in Surfside is summarized in the table below. Flushouts are present, but there are no fire hydrants on the system.

Watermain Material	Length of mains in Surfside Water Service Area	Prevalence in Water Service Area
AC: 150mm or smaller AC: 200mm or larger	0.8 km none	72.5% n/a
PVC: 150mm or smaller PVC: 200mm or larger	0.006 km 0.3 km	0.5% 27%

*Note: 'AC' is Asbestos-Concrete, 'PVC' is poly-vinylchloride (plastic)*

### 3. 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 Free chlorine residual, Salinity, TDS Monthly- Total Iron and Manganese
Monthly (or as required)	BC Centre for Disease Control	Total coliforms, E.Coli
Monthly/Quarterly (well water only)	North Island Labs	Monthly- Chloride Quarterly- Chloride, Sodium, Conductivity, TDS
Annual Source Water Testing (every Fall)	North Island Labs	Complete potability testing of 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. 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](http://www.rdn.bc.ca) in the Environmental/Water section, under “Water Service Areas” 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.

### 5. Water Quality Inquiries and Complaints

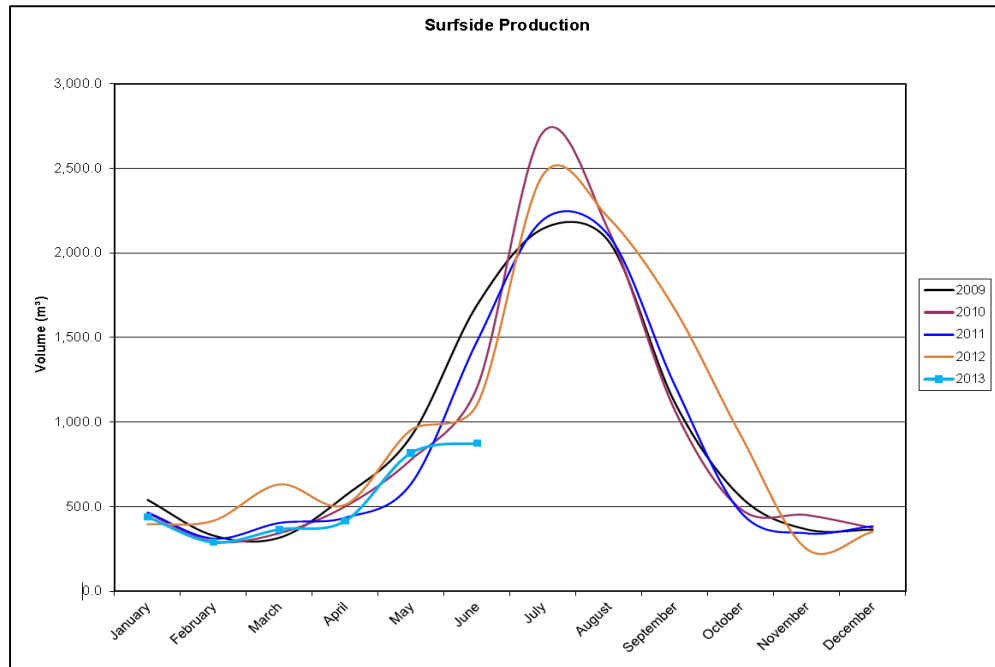
Very few complaints and inquiries were received from the Surfside water service area, and were typically related to watering restriction times.



Surfside Pump house

## 6. Groundwater Production and Consumption

The monthly groundwater production in the Surfside Water Service Area for the past 5 years is shown in the chart below. Groundwater production in 2012 was average in comparison to previous years.



### Consumption

In the Fall/Winter of 2012, the average usage per home in Surfside was 0.46 cubic metres per day (101 imperial gallons). In the summer, the average water usage was 1.5 cubic metres per day (330 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 338 L/day (based on 2.4 people/household). This consumption is 26% more than the RDN system average of 268 L/day/capita in 2012.

## 7. Maintenance Program

A weekly pump station inspection is carried out to reduce or eliminate the risk of contamination and system failure. Watermains are flushed once annually in the Spring. There are no fire hydrants in this water service area due to insufficient supply and capacity for fire flows. Twenty-four hour on-call coverage is in place to respond to water system emergencies and alarms.

## 8. Water Service Area Projects

### 8.1 2012 Completed Studies & Projects

- Completed Cross Connection Control wording in the water supply bylaw;
- Enforced the outdoor sprinkling regulations;
- Carried out a comprehensive water conservation campaign (Team WaterSmart);
- Updated and improved the RDN website at [www.rdn.bc.ca](http://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 a low-flush toilet and a rainwater harvesting (rain barrel) 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 2013 Proposed Projects & Upgrades

- Upgrade two flush-outs;
- Update the Standard Operating Procedures; and
- Continue to offer a low-flush toilet and rainwater harvesting (rain barrel) incentive.

## 9. **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 2012, 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. **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 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 2012, *Regional District of Nanaimo Water Use Regulation Bylaw No. 1654, 2012* was adopted which includes enhanced cross connection control and backflow protection wording. A separate Cross Connection Control bylaw was deemed not to be required.

## 11. **Closing**

An annual report for the year 2013 will be prepared and submitted to the Vancouver Island Health Authority in the Spring of 2014. Annual reports are also available on our website at [www.rdn.bc.ca](http://www.rdn.bc.ca) in the SERVICES section, under "Water & Utility Services" then "WaterSmart Communities".

**APPENDIX A**

**MAP OF SURFSIDE  
WATER SERVICE AREA**





## APPENDIX B

### WATER QUALITY TESTING RESULTS