

Regional District of Nanaimo

**SAN
PAREIL**

**Water Local Service Area
Annual Report**

2007



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Appendix A - Map of San Pareil Water Local Service Area

Appendix B - Water Quality Testing Results

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1. Introduction

The following annual report describes the San Pareil Water Local Service Area and summarizes the water quality and production data from 2007. 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 2008.

2. San Pareil Water System

The San Pareil Water Service Area was established in 1999 when the RDN acquired the existing Bubbling Springs Water Utility. This system is located to the northeast of the Englishman River bridge on the south side of the City of Parksville. The water source for the San Pareil Water Service Area comes from a series of groundwater wells located in the well field on Plummer Road. The well water is chlorinated and stored in one reservoir. A map of the San Pareil Water System is provided in Appendix A for reference.

2.1 Groundwater Wells

Three groundwater production wells are present in the well field at 1090 Plummer Road, Parksville, B.C. A fourth well was drilled in 2004 and will be put into production once source approval has been received from the Vancouver Island Health Authority.

Well / Name	Well Depth	Wellhead Protection	Treated/Untreated with Chlorine
#1	4.4 m	Yes	Treated
#2	5.5 m	Yes	Treated
#3	7.0 m	Yes	Treated

2.2 Reservoirs

One concrete service reservoir is present at 1090 Plummer Road, and has a capacity of 340 m³ (75,000 imperial gallons).

2.3 Distribution System

The water distribution system in San Pareil is largely comprised of 100mm and 150mm PVC and asbestos-concrete watermains. Fire hydrants are located throughout the system.

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 Chlorine residual, Salinity Total Dissolved Solids Iron, Manganese
Weekly (Health Dept. Requirement)	North Island Labs	Total, Fecal coliforms
Annual Source Water Testing	North Island Labs	Complete potability testing of each well
Annual System Water Testing	North Island Labs	Complete potability testing of distribution system

4. Water Quality - Source Water and Distribution System

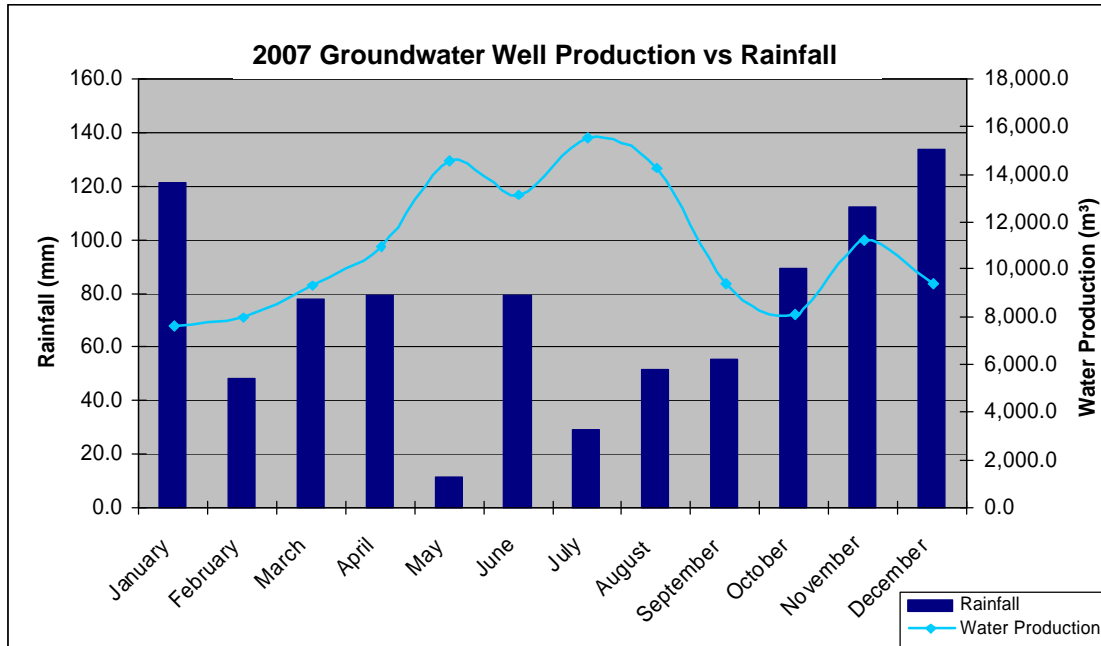
Up-to-date water quality reports and lab data are posted monthly on the RDN website at www.rdn.bc.ca in the WaterSmart section, under “Communities”. Tables of water quality testing results for both the source water and distribution system are provided at the end of this report under Appendix B.

5. Water Quality Inquiries and Complaints

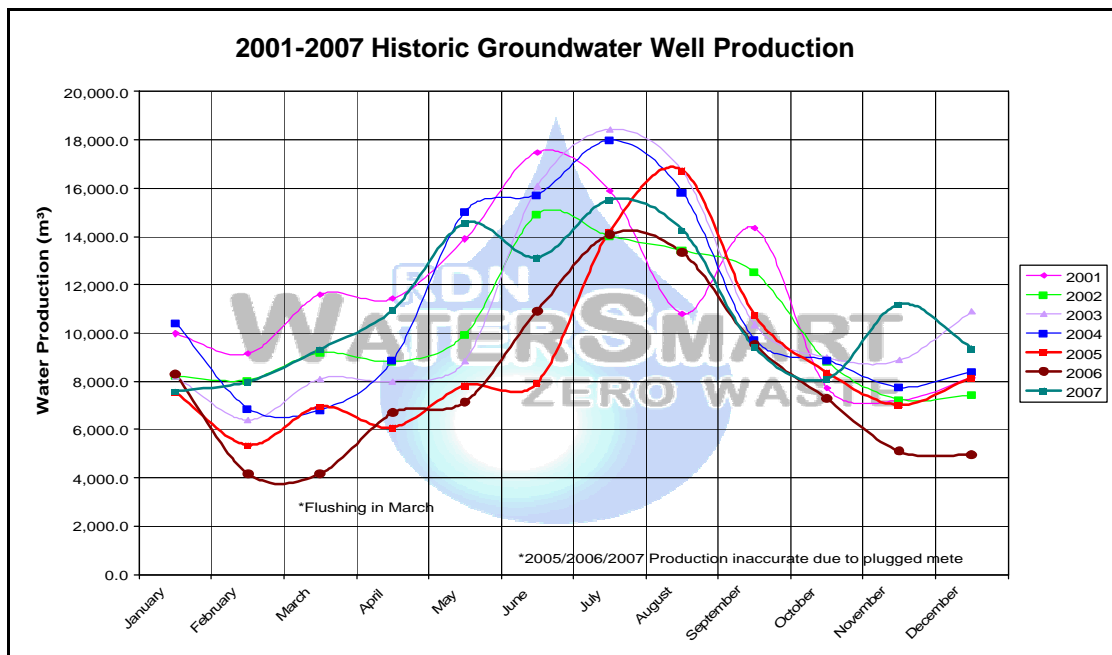
Very few complaints and inquiries were received from the San Pareil water service area, and were typically related to watering restriction times.

6. Groundwater Production and Consumption

The 2007 monthly groundwater production for San Pareil is shown in the chart below. There are 276 water service connections in San Pareil. Groundwater production has been charted against rainfall data from the City of Parksville website to show how rainfall affects the amount of groundwater pumped.



The monthly groundwater production for San Pareil for the past 7 years is shown in the chart below. Groundwater production in 2007 was typically lower than previous years.



Consumption

In the Fall/Winter of 2007, the average usage per home in San Pareil was 0.53 cubic metres per day (116 imperial gallons). In the summer, the average water usage was 1.06 cubic metres per day (233 imperial gallons).

7. Maintenance Program

Regular maintenance and inspections are completed around the wellhead areas to reduce or eliminate the risk of contamination and system failure. Watermains are flushed once annually; in the Spring. Annual fire hydrant maintenance is completed in the Fall.

8. Water System Projects

8.1 2007 Completed Studies & Projects

- A Drinking Water - Watershed Protection Action Plan was completed.
- An Innovative Water Use and Re-Use Study was completed.
- A Water Use Bylaw - Best Practices Review was completed.
- A formalized Cross Connection Control Program was initiated.
- A comprehensive water conservation program ([WaterSmart](#)) was carried out from May to October.
- The RDN [WaterSmart](#) website was updated and improved.
- The Emergency Response Plan was reviewed and updated.
- A SCADA (Supervisory Control and Data Acquisition) Study was initiated.
- The annual watermain flushing was completed.

8.2 2008 Proposed Projects & Upgrades

- Upgrades to flush-outs
- New signage for all Utilities facilities
- Re-keying all locked facilities
- Implement innovative use and re-use technology
- Stand-alone water testing stations to be installed
- Promote Cross Connection Control awareness and facility audits

8.3 2008 Proposed Studies

- Complete SCADA study and integrate into 2009 budget
- San Pareil Pump Station Design, reservoir sizing, and site piping
- San Pareil pre-design for water system improvements and expansion
- Rainwater management strategy
- Sodium hypochlorite vs. on-site chlorine generation
- Comprehensive capital plan development

9. Emergency Response Plan

The Emergency Response Plan (ERP) was reviewed and updated in 2007. A copy of the ERP is attached 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.

A consultant who specializes in municipal Cross Connection Control was hired to enhance the RDN Cross Connection Control Program in 2007/2008. The program in 2008 will include:

- A review and comparison of successful cross-connection control programs implemented by other small water systems nearby,
- A survey of existing or potential cross-connection risks for each category of RDN customer (i.e., residential, commercial, industrial, institutional, etc.),
- An audit of RDN-owned facilities in each water service area,
- The preparation of a draft bylaw to allow enforcement of the Cross Connection Control Program,
- The set up of a customer database with a maintenance history of testable backflow prevention assemblies at each facility, and
- Staff training and certification in Backflow Assembly Testing (BCWWA certified).

11. Closing

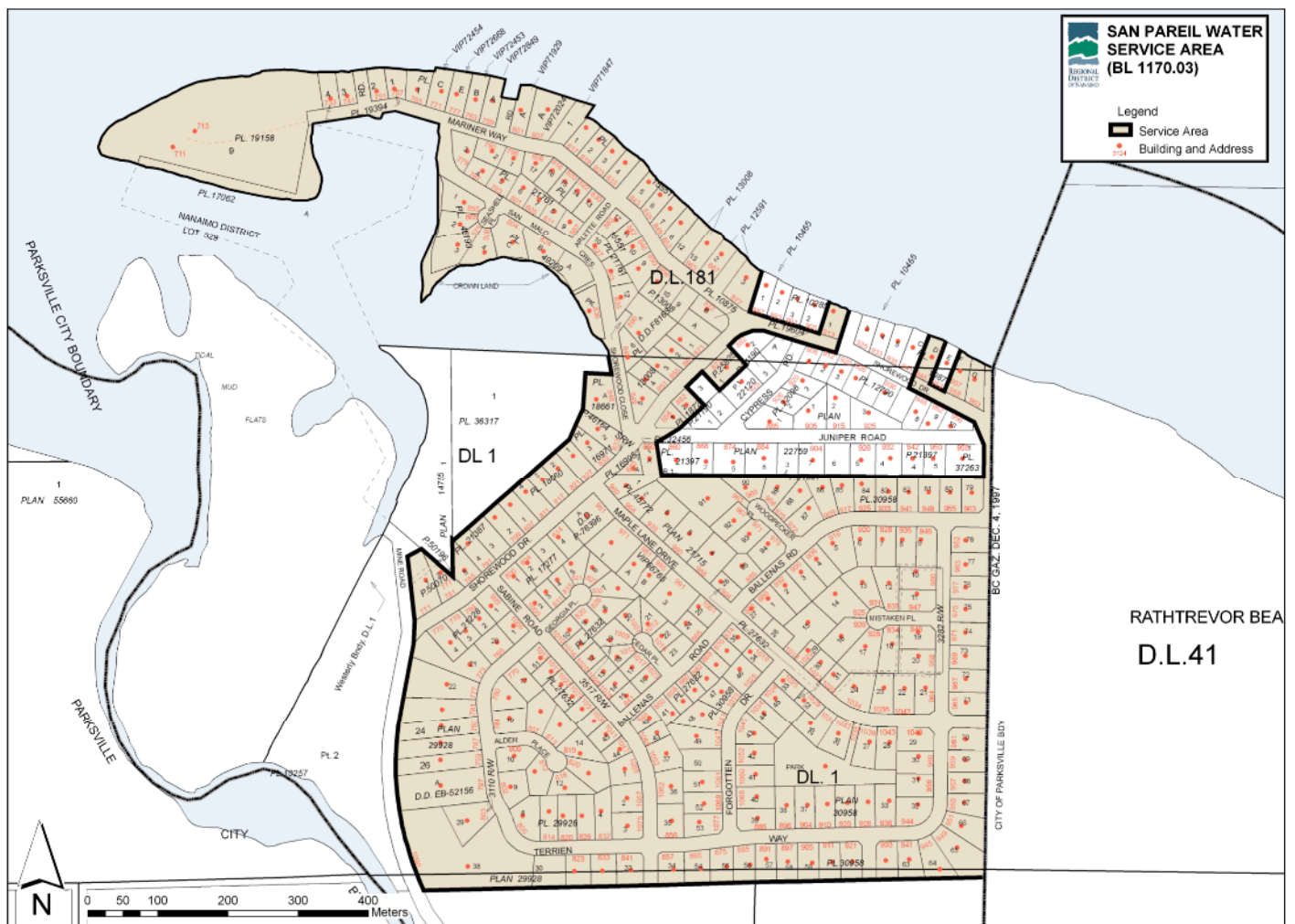
An annual report for the year 2008 will be prepared and submitted to the Vancouver Island Health Authority in the Spring of 2009. Annual reports are also available on our website at www.rdn.bc.ca in the WaterSmart section, under “Communities”.

APPENIDX A

MAP OF SAN PAREIL WATER LOCAL SERVICE AREA

SAN PAREIL

WATER LOCAL SERVICE AREA



January 17, 2006

APPENDIX B

WATER QUALITY TESTING RESULTS

APPENDIX C

EMERGENCY RESPONSE PLAN