

REGIONAL DISTRICT OF NANAIMO

Water Service Area Annual Report 2015



Englishman River Water Service Area

June 2016

REGIONAL DISTRICT OF NANAIMO

Water & Utility Services Department

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1. Introduction

The following annual report describes the Englishman River Community Water Supply 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 to Island Health by the Spring of 2016.

2. Englishman River Water Service Area

The Englishman River Water Service Area was established in 2003 and comprises an area near the southern boundary of the City of Parksville between the Island Highway and the Englishman River. There are 143 water service connections in the Englishman River Water Service Area. The water source comes from a series of groundwater wells located nearby. The water is chlorinated and stored in one reservoir. A generator is available for emergency power outages. A map of the Englishman River Water Service Area is provided in Appendix A for reference.

2.1 Groundwater Wells

Groundwater production wells PW #2 and PW #3 are located in the well field at 2231 Rascal Lane, Parksville, B.C. Test well PW #1 is located on Peterson Road, and Test Well PW #4 is located on Rivers Edge Drive.

Well / Name	Well Depth	In Use	Wellhead Protection	Treated/Untreated with Chlorine
PW #1	52.4 m	No	Yes	n/a
PW #2	29.3 m	Yes	Yes	Treated
PW #3	32.6 m	Yes	Yes	Treated
PW #4	29.6 m	No	Yes	n/a

2.2 Reservoirs

One dual-chambered concrete service reservoir is present at 890 Stonefly Close, and has a capacity of 795 m³ (175,000 imperial gallons).

2.3 Distribution System

The water distribution system is summarized in the table below. Fire hydrants (24) are located throughout the system.

Watermain Material	Length of mains in service area	Prevalence in Water Service Area
Asbestos-concrete	none	n/a
<u>PVC</u> : 150mm or smaller	3.6 km	28.8%
200mm or larger	8.9 km	71.2%

Note: '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, Chlorine residual, Salinity, TDS, Monthly- Iron and Manganese
Semi-Monthly	BC Centre for Disease Control	Total coliforms, E.Coli
Annual Source Water Testing (every Fall)	Maxxam Labs	Complete potability testing of raw well water (including T-Ammonia in 2012)
Annual Water System Testing (every Spring)	Maxxam Labs	Complete potability testing of distribution system (including T-Ammonia in 2012)

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 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.

5. Water Quality Inquiries and Complaints

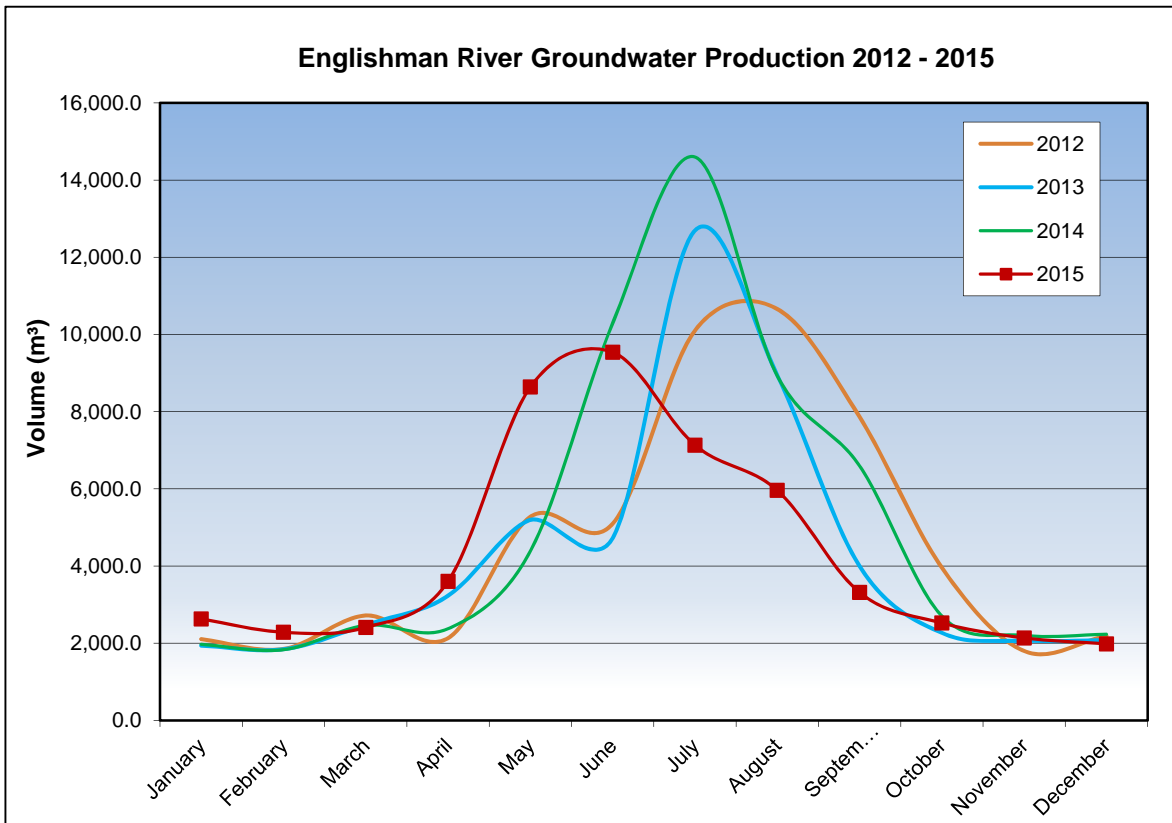
A few complaints and inquiries were received from the Englishman River Water Service Area in 2015, and were typically related to irrigation leaks and high water bills.



Watering Sampling Station on Rascal Lane

6. Groundwater Production and Consumption

Monthly groundwater production in the Englishman River Water Service Area for the past 4 years is shown in the chart below. Groundwater production in 2015 was characterized by higher than normal use in April and May, followed by a period of lower than normal use from June through October. This unusual production pattern may be attributed to unseasonably warm spring temperatures and less than average precipitation, which resulted in an early start to the watering season, followed by the implementation of heightened watering restrictions in early July.



Consumption

In the Fall/Winter of 2015, the average usage per home in the Englishman River Water Service Area was 0.65 cubic metres per day (143 imperial gallons). In the summer, the average water usage was 1.56 cubic metres per day (343 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 381 L/day (based on 2.4 people per household). This consumption is 42% higher than the RDN system average of 276 L/day/capita for 2015.

7. 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). The water storage reservoir is drained and cleaned as required, every 4-5 years. Twenty-four hour on-call coverage is in place to respond to water system emergencies and alarms.

8. Water Service Area Projects

8.1 2015 Completed Studies & Projects

- Installed back-up generators at the well site and reservoir site;
- Achieved two Operators' Backflow Assembly Tester certification;
- Offered irrigation audits to high water users;
- Authorized several water bill rebates under the RDN's Leak Policy;
- Updated the Water Services asset database;
- Updated Standard Operating Procedures;
- Enforced the outdoor sprinkling regulations;
- Completed annual fire hydrant maintenance;
- Completed the annual uni-directional watermain flushing program;
- 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 a rainwater harvesting incentive (rain barrels);
- 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 2016 Proposed Projects & Upgrades

- Offer more irrigation audits to high water users;
- 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 programs;
- Continue to offer rainwater harvesting (rain barrel) and other water-saving incentives;
- Utilize the Auto E-message service to notify member residents of water service disruptions and upcoming maintenance activities; and
- Maintain excellent customer complaint and service request response times.

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 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. 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 prevention assemblies at each site. Two RDN Operators achieved their Backflow Prevention Tester re-certification in 2015.

11. 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”.



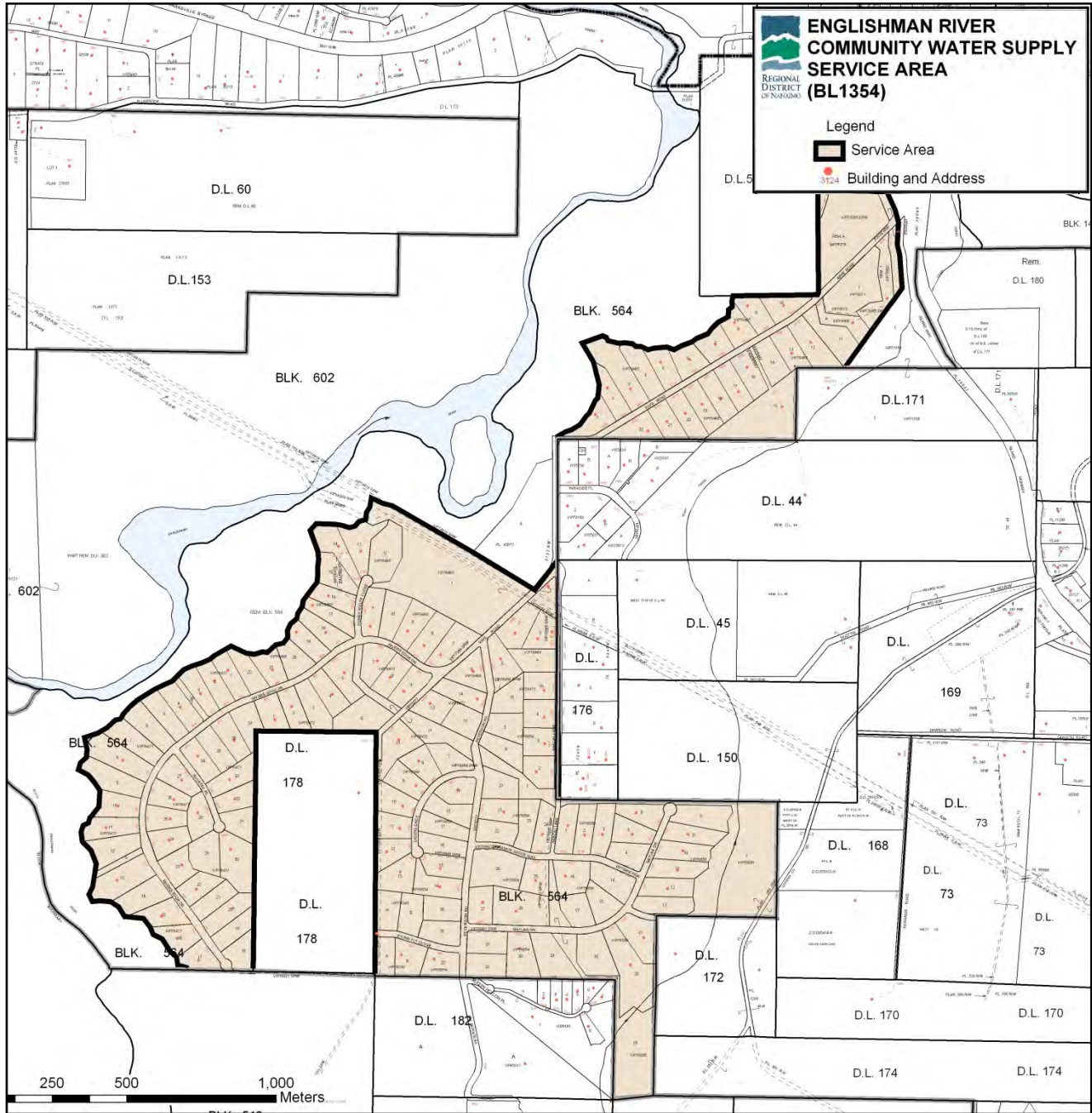
Kaye Road at entrance to River's Edge Subdivision

APPENDIX A

MAP OF ENGLISHMAN RIVER

WATER SERVICE AREA

ENGLISHMAN RIVER WATER SERVICE AREA



APPENDIX B

WATER QUALITY TESTING RESULTS