

Regional District of Nanaimo

**ENGLISHMAN
RIVER**

**Water Local Service Area
Annual Report**

2006

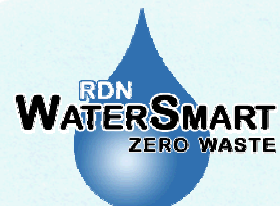


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Appendix A - Map of Englishman River Water Local Service Area

Appendix B - Water Quality Testing Results

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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 2006. 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 2007.

2. Englishman River Water System

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. The water source for the Englishman River Water Service Area comes from a series of groundwater wells located nearby. The water is chlorinated and stored in one reservoir. 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 in Englishman River is largely comprised of 100mm, 150mm and 200mm PVC 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, Fecal coliforms 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 (www.rdn.bc.ca/WaterSmart). 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 Englishman River water service area, and were typically related to water billing rates.

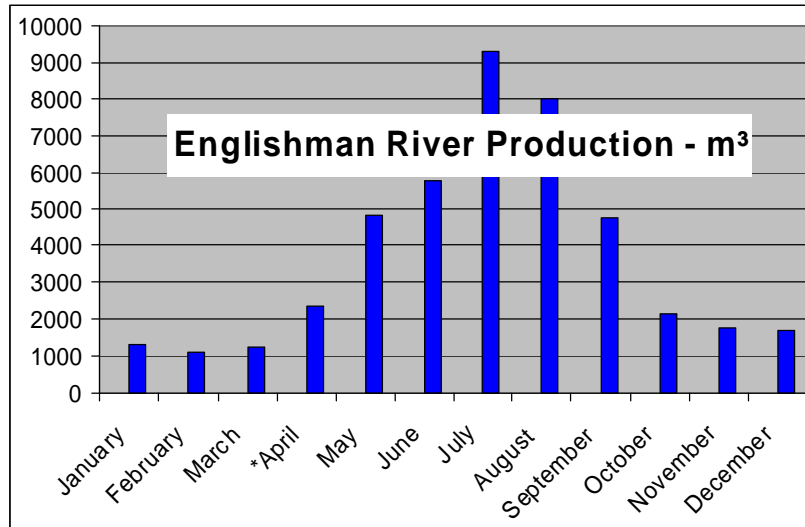
6. Groundwater Production and Average Consumption

Average monthly groundwater production (total from all wells) is shown in the table and chart below.

Monthly Production

| | | |
|------------------|----------------|----------------------|
| January | 1,302.0 | m³ |
| February | 1,105.8 | m³ |
| March | 1,234.3 | m³ |
| *April | 2,376.7 | m³ |
| May | 4,841.9 | m³ |
| June | 5,792.6 | m³ |
| July | 9,290.6 | m³ |
| August | 8,004.6 | m³ |
| September | 4,784.8 | m³ |
| October | 2,180.0 | m³ |
| November | 1,740.2 | m³ |
| December | 1,725.8 | m³ |

* indicates watermain flushing in April

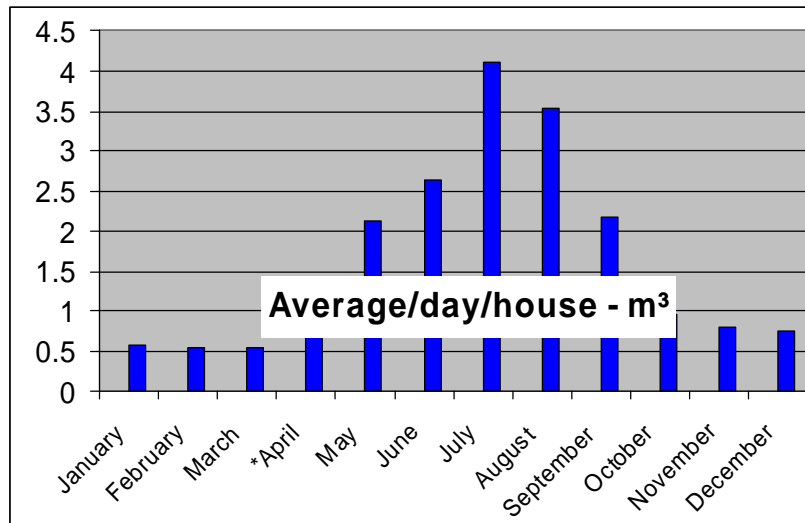


The average household water consumption per month is shown in the table and chart below.

Average / Day / House

| | | |
|------------------|--------------|----------------------|
| January | 0.575 | m³ |
| February | 0.541 | m³ |
| March | 0.545 | m³ |
| *April | 1.085 | m³ |
| May | 2.140 | m³ |
| June | 2.645 | m³ |
| July | 4.105 | m³ |
| August | 3.537 | m³ |
| September | 2.185 | m³ |
| October | 0.963 | m³ |
| November | 0.795 | m³ |
| December | 0.763 | m³ |

* indicates watermain flushing in April



Groundwater production and household water consumption both increased dramatically from June to September despite the implementation of outdoor watering restrictions.

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 2006 Completed Projects

- A chlorine analyzer was installed at the reservoir site to monitor chlorine residuals in the water leaving the reservoir.
- A comprehensive water conservation program was carried out from May to October.
- A Standard Operating Procedures Manual was created for all routine Utilities duties.
- The Emergency Response Plan was reviewed and updated.
- A security review was completed by an independent agency and a report with recommendations was provided.
- A web-based Capital Asset Management Program was completed to inventory all water system pipes, valves, wells, reservoirs, hydrants, and manholes, etc. to assist with infrastructure replacement priorities.

8.2 2007 Proposed Projects & Upgrades

- Removing the wooden fence and cedars at the well site.
- Replacing well head covers with stainless steel lids/bars.
- Improved well head protection at Well #1 and #4.
- Re-keying all locked facilities.
- Other security improvements.
- Addressing the design of a SCADA system.

8.3 2007 Proposed Studies

- Innovative water supply and Reuse.
- Well redevelopment planning.
- Water Use Bylaw/Best Practices Review.

9. Emergency Response Plan

The Emergency Response Plan (ERP) was reviewed and updated in 2006. A copy of the ERP is attached in Appendix C.

10. Cross Connection Control

A formalized Cross Connection Control Program will be initiated in 2007. Cross connection controls already in-place include check valves at each residential water meter.

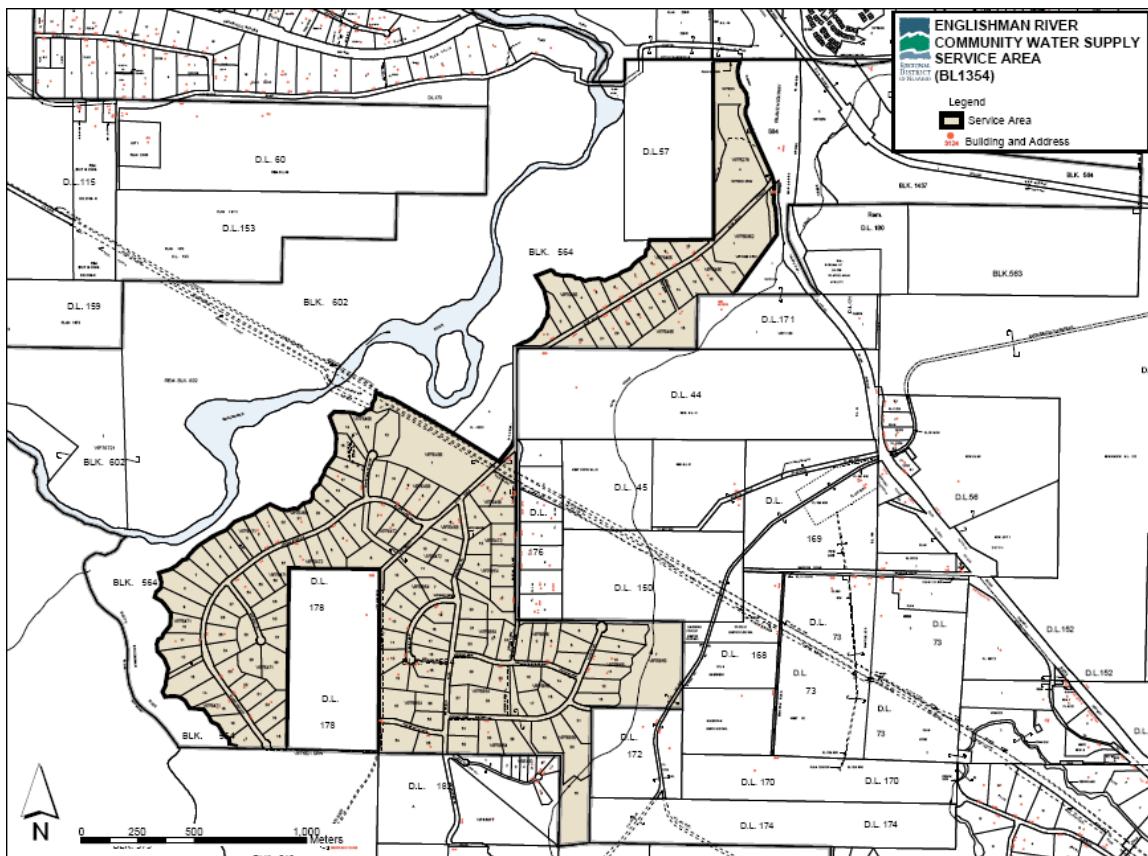
11. Closing

An annual report for the year 2007 will be prepared and submitted to the Vancouver Island Health Authority in the Spring of 2008. Annual reports are also available on our website at www.rdn.bc.ca/WaterSmart.

APPENIDX A

**MAP OF ENGLISHMAN RIVER
WATER SYSTEM**

ENGLISHMAN RIVER WATER SYSTEM



APPENDIX B

WATER QUALITY TESTING RESULTS

APPENDIX C

EMERGENCY RESPONSE PLAN