

REGIONAL DISTRICT OF NANAIMO

Water Service Area Annual Report 2019



Nanoose Bay Peninsula Water Service Area

June 2020

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1. Introduction

The following annual report describes the Nanoose Bay Peninsula (NBP) Water Service Area and summarizes the water quality and production data from 2019. This report also includes a summary of inquiries and complaints, completed and proposed maintenance activities, Operator Certification, the Emergency Response Plan, and the Cross Connection Control Program. This report is to be submitted to Island Health by the spring of 2020.

2. Nanoose Bay Peninsula Water System

The Nanoose Bay Peninsula Water System was established in 2005 by amalgamating the 7 small water service areas located within the Nanoose Bay Peninsula. The previous service areas, if referred to in this report, are noted as neighbourhoods within the NBP service area. In 2019, the Nanoose Peninsula Water System was comprised of 2213 residential and 67 commercial water service customers.

The water supply is a combination of groundwater wells and surface water from the Englishman River. The water supply is chlorinated and stored in several reservoirs throughout Nanoose Bay.

2.1 Groundwater Wells

Thirteen groundwater production wells are located within the Nanoose Bay Peninsula. Nanoose Wells #2, #3, and #4 are on standby for use during periods of high demand (if required). Nanoose Well #5 has not been in use since 2002, due to saltwater intrusion, and has been permanently converted to a provincial monitoring well. Nanoose Well #6 hasn't been used since 2010 due to operational challenges with chlorination. Nanoose Well #7 was drilled in 2008 but has not yet been approved for community drinking water supply. West Bay #3 experienced reduced production over time and was replaced by West Bay #4, which was drilled in 2019.

A drinking water filtration plant is located at 2480 Nanoose Road, and its purpose is to filter out iron, manganese, and ammonia from Fairwinds Wells #1, 2, and 3, and West Bay Well #4. A back-up generator is available in the event of a power outage. In the case of an extended power outage, drinking water will continue to be supplied but it will only be chlorinated, not filtered.

Well / Name	Well Depth	Wellhead Protection In Place	Treated/Untreated with Chlorine
Wallbrook #1	16.9 m	Yes	Treated
Madrona #4	52.1 m	Yes	Un-treated
Madrona #8	17.1m	Yes	Treated
Nanoose #2	53.3 m	Yes	Treated
Nanoose #3	52.7 m	Yes	Treated
Nanoose #4	59.1 m	Yes	Treated
Nanoose #6	107.0 m	Yes	(Not in use)
Nanoose #7	60.6 m	Yes	(Not in use)
Fairwinds #1	69.8 m	Yes	Treated
Fairwinds #2	75.3 m	Yes	Treated
Fairwinds #3	72.2 m	Yes	Treated
West Bay #4	75.6 m	Yes	Treated
Parker Road	91.4 m	Yes	Treated

New Northwest Bay Road Pump Station (2019)



2.2 Reservoirs

Six water storage reservoirs are present in the Nanoose Bay Peninsula Water System as follows;

- Madrona (concrete) - 485 m³ (100,000 imperial gallons) capacity
- Eagle Heights (concrete) - 341 m³ (75,000 imperial gallons) capacity
- Dolphin (concrete) - 455 m³ (100,000 imperial gallons) capacity
- Fairwinds Res #1 (concrete) - 701 m³ (154,000 imperial gallons) capacity
- Fairwinds Res #2 (concrete) - 701 m³ (154,000 imperial gallons) capacity
- Arbutus Park (lined concrete, wooden roof) - 568 m³ (125,000 imp. gallons) capacity

The Beachcomber reservoir was demolished in 2015. The location of a new water storage reservoir is currently being considered.

2.3 Distribution System

The water distribution system in Nanoose Bay is summarized in the table below. Fire hydrants (287) are located throughout the water service area.

Watermain Material	Length of mains in NBP Water Service Area	Prevalence in Water Service Area
<u>Asbestos-concrete:</u>		
150mm or smaller	9.7 km	12.2%
200mm or larger	2.7 km	3.4%
<u>PVC:</u>		
150mm or smaller	23.2 km	29.1%
200mm or larger	33.5 km	42.1%
<u>Ductile Iron:</u>		
150mm or smaller	0.2 km	0.2%
200mm or larger	10.3 km	13.0%

Note: 'PVC' is poly-vinylchloride (plastic)

3. Water Sampling and Testing Program

Water sampling and testing is carried out weekly in the distribution system. Notably, the chlorine residual levels are tested weekly to ensure the absence of bacterial regrowth in the watermains. The following table includes a summary of all testing:

Timing	Location	Tests
Weekly	RDN (in-house) Laboratory	Total coliforms, E.Coli, pH, TDS, Temperature, Conductivity, Turbidity, Chlorine residual, Salinity
Monthly (Health Dept.)	BC Centre for Disease Control	Total coliforms, E.Coli
Monthly	RDN (in-house) Laboratory	Total Iron and Manganese
Annual Source Water Testing (every Fall)	Bureau Veritas (formerly Maxxam)	Complete potability testing of all raw well water, including T-Ammonia
Annual System Water Testing (every Spring)	Bureau Veritas (formerly Maxxam)	Complete potability testing of distribution system, including T-Ammonia
Filtration Plant Output Once per month	Bureau Veritas (formerly Maxxam)	True colour, Ammonia, Iron, Manganese, and Chloramines

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/nanoose-bay-peninsula. 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

Tap water quality has improved over the years with the construction of the Nanoose Bay Peninsula water filtration plant and Englishman River Water Service. Filtered groundwater from the Fairwinds and West Bay wells is mixed with filtered water from the Englishman River (as required) and stored in the same six reservoirs throughout Nanoose Bay.

Several inquiries were received from the Nanoose Bay Peninsula Water Service Area in 2019. Iron and manganese water discolouration was present intermittently in the Madrona Drive area, which was cleared up by flushing the watermains and water services in the area. Complaints regarding high water bills were addressed through the RDN’s Leak Adjustment Policy.

A few inquiries were received about subdivision in Nanoose. Due to the increased supply available from the Englishman River Water Service, additional water connections are now available. However, these connections are only designed to serve customers already located within the Nanoose Bay Peninsula Water Service (whose properties are large enough to subdivide). More information can be found at <https://rdn.bc.ca/connect-rdn-water>.

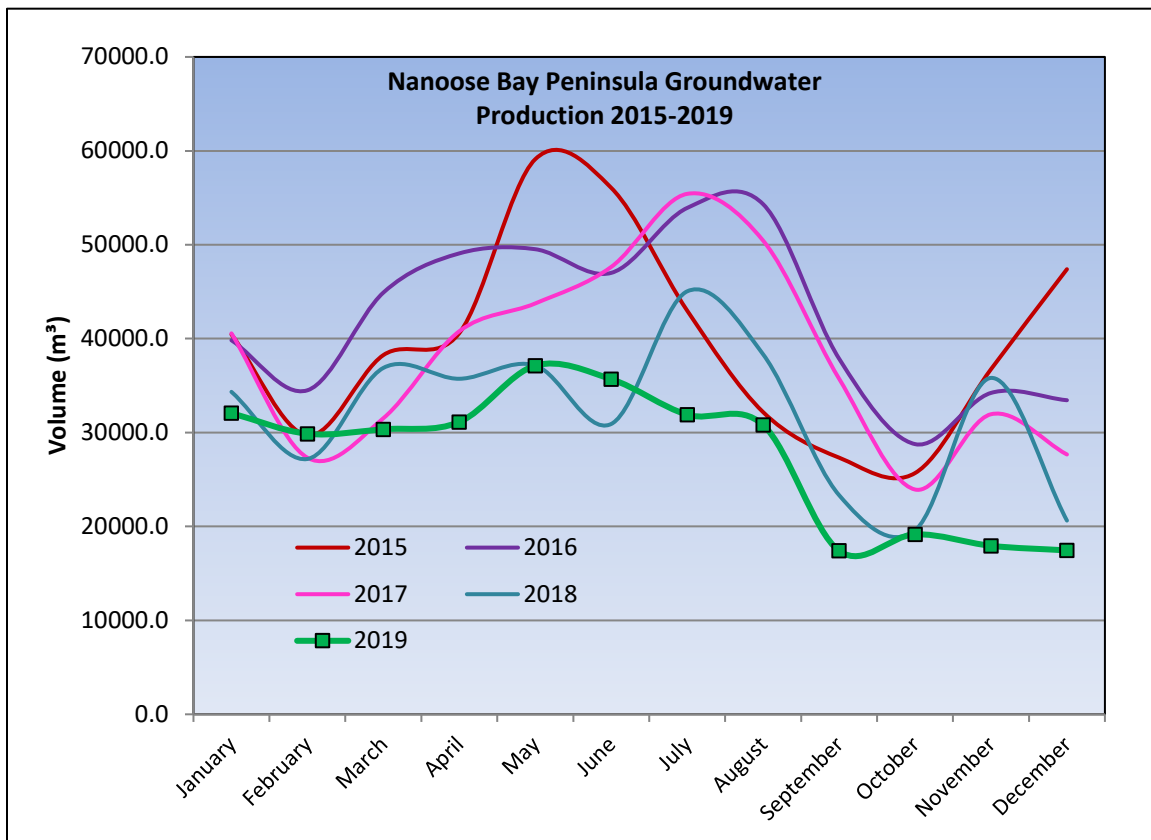
A summary of the water system incidents in 2019 is given in the table below.

Activity in 2019	Date(s)	History/Notes
Boil Water Advisories	None	None
High Turbidity Events	None	None
Equipment Malfunction	None	None
Water Main Breaks	None	Carmichael Road Dolphin Drive Huntington Place
Pump Failures	None	None

6. Groundwater Production and Consumption

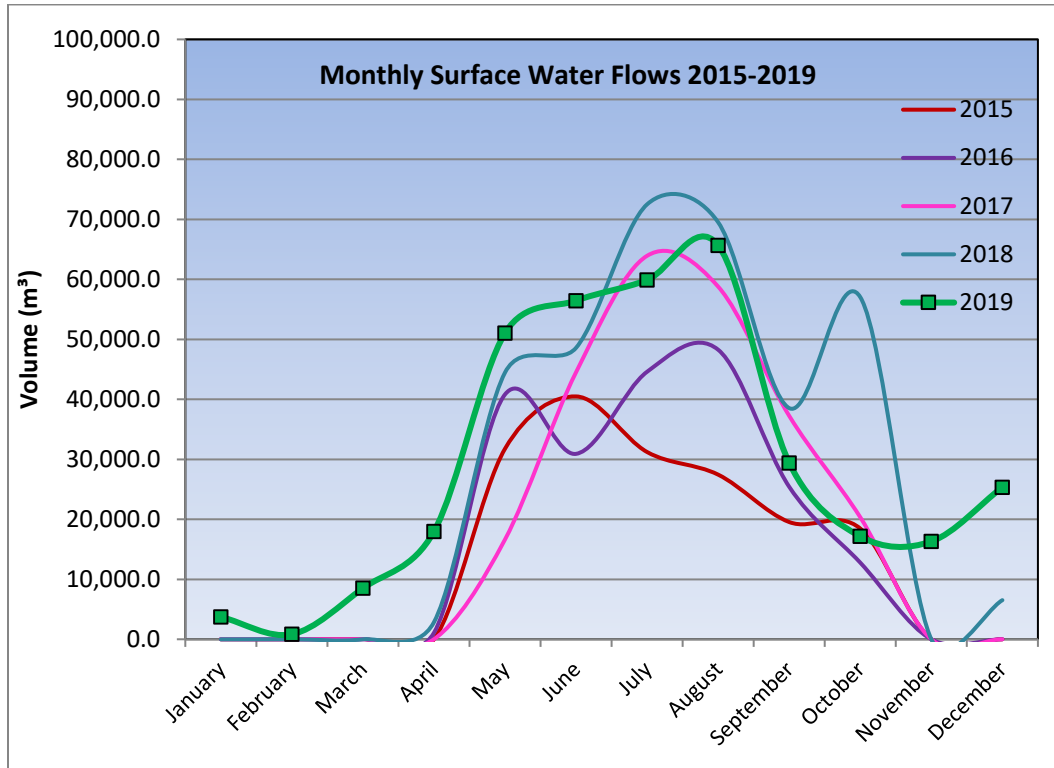
Groundwater Production

The monthly groundwater well production for the past 5 years is shown in the chart below. Groundwater production in 2019 was below average in comparison to previous years due to increased supply from the Englishman River.



Surface Water Production

Surface water is supplied to the RDN through the Englishman River Water Service, and is used to supplement the RDN’s well water throughout the year. The bulk water comes from the Englishman River and is distributed through the Nanoose Bay Water Service Area via a 16-inch (400mm) water main located along Northwest Bay Road. A comparison of the surface water supplied to the Nanoose Bay Water Service Area for the past 5 years is shown in the chart below. Overall, surface water use in 2019 was typically higher than in previous years.



Water Consumption

In the Fall/Winter of 2019, water billing records indicate that the average water usage per home in Nanoose Bay was 0.47 cubic metres per day (103.4 imperial gallons). In the summer, the average water usage was 1.21 cubic metres per day (266.2 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 300 L/day (based on 2.4 people/household). This consumption is 1% less than the RDN system average of 295 L/day/capita in 2019.

7. Maintenance Program

Weekly pump station inspections are 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). Water storage reservoirs are drained and cleaned once every 3-4 years, as required. Twenty-four hour on-call coverage is in place to respond to water system emergencies and alarms.



Fairwinds Reservoir No. 1

8. Operator Certification

The Regional District Water & Utility Services staff are comprised of one Manager, one Project Engineer, one Engineering Technologist, one Engineering Technician, one Chief Operator, and seven certified operators. The operators receive ongoing training and certification in:

- | | | |
|----------------------------|---|----------------------------|
| ✓ Water Treatment | ✓ Chlorine Handling | ✓ Confined Space Awareness |
| ✓ Water Distribution | ✓ WHMIS (Workplace Hazardous Material Information System) | ✓ Traffic Control |
| ✓ Wastewater Collection | ✓ TDG (Transportation of Dangerous Goods) | ✓ Fall Protection |
| ✓ Cross Connection Control | | ✓ First Aid |
| ✓ Asbestos Awareness | | ✓ Silica Awareness |

9. Water System Projects

9.1 2019 Completed Studies & Projects

- Replaced West Bay Well No.3 with a new drilled well nearby, namely West Bay Well # 4;
- Completed a well protection plan for West Bay Well No. 4;
- Completed construction of the Northwest Bay Road pumpstation for ERWS bulk water;
- Installed a permanent generator at the Nanoose Road water filtration plant;
- Repaired watermain breaks on Carmichael Road and Dolphin Drive;
- Completed additional weekly tests from water filtration plant for ammonia, nitrates, and organic nitrogen;
- Corresponded with residents regarding water conservation;
- Enforced outdoor sprinkling regulations;
- Completed irrigation checks for high-water users;
- Advised residents regarding water leak repairs;
- Began a Water Systems SCADA Master Plan;
- Began an overall Water System Condition Assessment;
- Considered plans to replace Fairwinds Well No. 1;

- Completed the 10-year Drinking Water Action Plan;
- Adopted a Cross Connection Control Bylaw;
- Created a Cross Connection Control webpage and educational brochure;
- Completed regular watermain flushing, reservoir cleaning, and hydrant maintenance;
- Maintained a high level of water quality; and
- Continued quality control through regular testing and monitoring of water system.

9.2 2020 Proposed Projects & Upgrades

- Replace 4 watermain flushouts (at dead-ends);
- Upgrade watermains on Outrigger Road and Dorcas Point Road;
- Replace MicroChlor cells at water filtration plant (2) and order level/temperature sensors;
- Make repairs to Dolphin Reservoir;
- Design Dorcas Point Road watermain upgrade;
- Design watermain upgrades in Madrona & Wall Beach area;
- Update pump controls in West Bay pumphouse;
- Replace Fairwinds Well No. 1;
- Prepare plans to construct an additional reservoir;
- Prepare a Capital Cost Charge bylaw for those wishing to join the NBP water system;
- Update the Development Cost Charge bylaw for those wishing to subdivide;
- Update asset database with new assets;
- Continue watermain flushing program and hydrant maintenance;
- Calibrate and service all Hach spectrophotometer lab equipment;
- Implement a Water Systems SCADA Master Plan;
- Review well protection plans;
- Complete a Water System Condition Assessment report;
- Begin the next 10-year DWWP Water Conservation Plan; and
- Continue to offer numerous water-saving incentives via rebates.



ERWS Bulk Water
Transmission Line
Construction
near Hwy 19
(2018)

10. Emergency Response Plan

The Regional District has an Emergency Response Plan (ERP) that contains procedures and contact information to efficiently respond to water system emergencies such as contamination of water supply, loss of supply, pump failure, and drought management. The ERP was reviewed and updated in 2019, 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.

A separate Emergency Response Plan has been developed exclusively for the water filtration plant at 2480 Nanoose Road. A copy of this ERP is located at the plant, at each RDN office and on the RDN website.

11. Cross Connection Control

In 2017, a more robust Cross Connection Control Plan was prepared that fully defines the CCC program, including standard operating procedures, plumbing code references, reporting procedures, survey schedules, backflow prevention standards, detailed installation schematics, blank test forms, testing reminders, and non-compliance letters. Two RDN Operators achieved their Backflow Assembly Tester re-certification in 2019. The RDN Manager of Water Services is the designated Cross Connection Control Manager.

In 2019, a stand-alone Cross Connection Control Bylaw was adopted that contains definitions, authorizations, applications, liability, rules, regulations, testing requirements, and reporting requirements. The bylaw addresses retrofits, prohibitions, special circumstances, reclaimed water use, alternate water sources, failure to comply, inspections, testing, offences, penalties and more. A webpage has been established on the Water Services website that educates RDN customers about cross connections and lists the relevant links to current standards and resources.

12. Cyber Security

The RDN uses a multi-level approach to cyber-security. Corporate network security is employed via a universal threat management gateway that implements various methods of data security, which includes daily definition updates to block known cyber threats. In addition, all RDN PC's are protected with anti-virus software. RDN water systems are connected to the corporate network via IP-Sec VPN's for remote management by information technology and equipment operators. Future infrastructure upgrades will see our water systems located on segregated networks to limit the vulnerability from cybersecurity threats.

13. Closing

An annual report for the year 2020 will be prepared and submitted to Island Health in the spring of 2021. Annual reports are also available on our website at: <https://www.rdn.bc.ca/nanoose-bay-peninsula>.



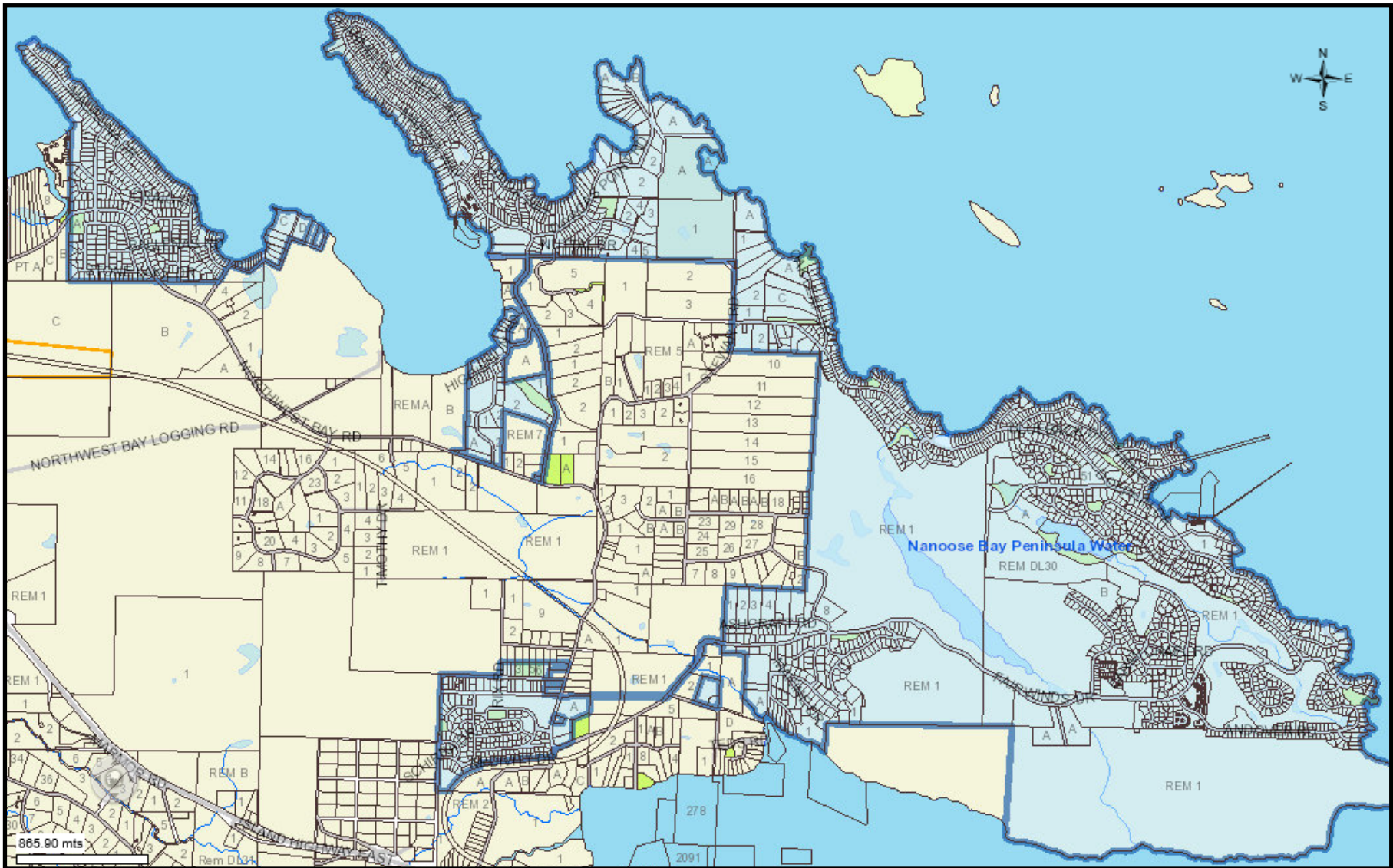
Arrowsmith Dam
April 2014

APPENDIX A

MAP OF NANOOSE BAY PENINSULA

WATER SERVICE AREA

NANOOSE BAY PENINSULA WATER SERVICE AREA



APPENDIX B

WATER QUALITY TESTING RESULTS

NANOOSE BAY PENINSULA WATER SYSTEM



Facility Location:

2330 Garry Oaks Drive
Nanoose Bay

Facility Information:

Facility Type: 301-10000 (DWT)

Facility Sampling History:

<u>Location</u>	<u>Date</u>	<u>Total Coliform</u>	<u>E. Coli</u>
1565 Stone Lake Drive	17-Dec-2019	L1	L1
1639 Marina Way, Nanoose	17-Dec-2019	L1	L1
1996 Highland Road, Nanoose	17-Dec-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	17-Dec-2019	L1	L1
3465 Cambridge Road, Nanoose Bay BC	17-Dec-2019	L1	L1
Lot 54 Evanshire Crescent, Nanoose	17-Dec-2019	L1	L1
Nanoose Bay Peninsula WWS, Lot 51, Swallow Crescent	17-Dec-2019	L1	L1
Nanoose Bay Peninsula WWS, Florence Dr. & Anchor Way	17-Dec-2019	L1	L1
1270 Seadog Road, Nanoose Bay	10-Dec-2019	L1	L1
1270 Seadog Road, Nanoose Bay	10-Dec-2019	L1	L1
1566 Arbutus Drive, Nanoose Bay BC	10-Dec-2019	L1	L1
1556 Arbutus Drive, Nanoose Bay BC	10-Dec-2019	L1	L1
2315 Ida Lane, Nanoose Bay BC	10-Dec-2019	L1	L1
2315 Ida Lane, Nanoose Bay BC	10-Dec-2019	L1	L1
2329 Chain Way, Nanoose Bay BC	10-Dec-2019	L1	L1
2329 Chain Way, Nanoose Bay BC	10-Dec-2019	L1	L1
3383 Redden Road, Nanoose Bay	10-Dec-2019	L1	L1
3383 Redden Road, Nanoose Bay	10-Dec-2019	L1	L1
3427 Tye Crescent	10-Dec-2019	L1	L1
3730 Fairwinds Drive, Parking lot @ Golf Course, Nanoose Bay BC	10-Dec-2019	L1	L1
3730 Fairwinds Drive, Parking lot @ Golf Course, Nanoose Bay BC	10-Dec-2019	L1	L1
1358 Madrona Drive, Nanoose Bay BC	3-Dec-2019	L1	L1
2339 Garry Oak Drive, Nanoose Bay	3-Dec-2019	L1	L1
2359 Higginson Road	3-Dec-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	3-Dec-2019	L1	L1

<u>Location</u>	<u>Date</u>	<u>Total Coliform</u>	<u>E. Coli</u>
3500 Fairwinds Drive, Nanoose Bay BC,	3-Dec-2019	L1	L1
3541 Shelby Lane, Nanoose Bay BC	3-Dec-2019	L1	L1
1996 Highland Road, Nanoose	27-Nov-2019	L1	L1
3465 Cambridge Road, Nanoose Bay BC	27-Nov-2019	L1	L1
Nanoose Bay Peninsula WWS, Lot 51, Swallow Crescent	27-Nov-2019	L1	L1
1565 Stone Lake Drive	20-Nov-2019	L1	L1
1639 Marina Way, Nanoose	20-Nov-2019	L1	L1
Lot 54 Evanshire Crescent, Nanoose	20-Nov-2019	L1	L1
Nanoose Bay Peninsula WWS, Florence Dr. & Anchor Way	20-Nov-2019	L1	L1
1358 Madrona Drive, Nanoose Bay BC	5-Nov-2019	L1	L1
2339 Garry Oak Drive, Nanoose Bay	5-Nov-2019	L1	L1
2359 Higginson Road	5-Nov-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	5-Nov-2019	L1	L1
3500 Fairwinds Drive, Nanoose Bay BC	5-Nov-2019	L1	L1
3541 Shelby Lane, Nanoose Bay BC	5-Nov-2019	L1	L1
1358 Madrona Drive, Nanoose Bay	23-Oct-2019	L1	L1
2329 Chain Way, Nanoose Bay BC	23-Oct-2019	L1	L1
3465 Cambridge Road, Nanoose Bay BC	23-Oct-2019	L1	L1
Nanoose Bay Peninsula WWS, Lot 51, Swallow Crescent	23-Oct-2019	L1	L1
1565 Stone Lake Drive	16-Oct-2019	L1	L1
1639 Marina Way, 1639 Marina Way, Nanoose	16-Oct-2019	L1	L1
1996 Highland Road, 1996 Highland Road, Nanoose	16-Oct-2019	L1	L1
Lot 54 Evanshire Crescent, Nanoose	16-Oct-2019	L1	L1
Nanoose Bay Peninsula WWS, Florence Dr. & Anchor Way	16-Oct-2019	L1	L1
1270 Seadog Road, Nanoose Bay, BC	9-Oct-2019	L1	L1
1556 Arbutus Drive, Nanoose Bay BC	9-Oct-2019	L1	L1
2315 Ida Lane, Nanoose Bay BC	9-Oct-2019	L1	L1
3383 Redden Road, Nanoose Bay	9-Oct-2019	L1	L1
3427 Tye Crescent	9-Oct-2019	L1	L1
3730 Fairwinds Drive, Parking lot @ Golf Course, Nanoose Bay BC	9-Oct-2019	L1	L1
2339 Garry Oak Drive, Nanoose	1-Oct-2019	L1	L1
2359 Higginson Road	1-Oct-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	1-Oct-2019	L1	L1
3500 Fairwinds Drive, Nanoose Bay BC	1-Oct-2019	L1	L1

<u>Location</u>	<u>Date</u>	<u>Total Coliform</u>	<u>E. Coli</u>
3541 Shelby Lane, Nanoose Bay BC	1-Oct-2019	L1	L1
3465 Cambridge Road, Nanoose Bay BC	23-Sep-2019	L1	L1
Nanoose Bay Peninsula WWS, Lot 51, Swallow Crescent	23-Sep-2019	L1	L1
1565 Stone Lake Drive	16-Sep-2019	L1	L1
1639 Marina Way, Nanoose	16-Sep-2019	L1	L1
1996 Highland Road, Nanoose	16-Sep-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	16-Sep-2019	L1	L1
Lot 54 Evanshire Crescent, Nanoose	16-Sep-2019	L1	L1
Nanoose Bay Peninsula WWS, Florence Dr. & Anchor Way	16-Sep-2019	L1	L1
1270 Seadog Road, Nanoose Bay, BC	11-Sep-2019	L1	L1
1556 Arbutus Drive, Nanoose Bay BC	11-Sep-2019	L1	L1
2315 Ida Lane, Nanoose Bay BC	11-Sep-2019	L1	L1
2329 Chain Way, Nanoose Bay BC	11-Sep-2019	L1	L1
3383 Redden Road, Nanoose Bay	11-Sep-2019	L1	L1
3427 Tye Crescent	11-Sep-2019	L1	L1
3730 Fairwinds Drive, Parking lot @ Golf Course, Nanoose Bay BC	11-Sep-2019	L1	L1
1358 Madrona Drive, Nanoose Bay BC	4-Sep-2019	L1	L1
2339 Garry Oak Drive, Nanoose Bay	4-Sep-2019	L1	L1
2359 Higginson Road	4-Sep-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	4-Sep-2019	L1	L1
3500 Fairwinds Drive, Nanoose Bay BC	4-Sep-2019	L1	L1
3541 Shelby Lane, Nanoose Bay BC	4-Sep-2019	L1	L1
1270 Seadog Road, Nanoose Bay	28-Aug-2019	L1	L1
3465 Cambridge Road, Nanoose Bay BC	28-Aug-2019	L1	L1
1565 Stone Lake Drive	21-Aug-2019	L1	L1
1639 Marina Way, Nanoose	21-Aug-2019	L1	L1
1996 Highland Road, Nanoose	21-Aug-2019	L1	L1
Lot 54 Evanshire Crescent, Nanoose	21-Aug-2019	L1	L1
Nanoose Bay Peninsula WWS, Florence Dr. & Anchor Way	21-Aug-2019	L1	L1
1556 Arbutus Drive, Nanoose Bay BC	14-Aug-2019	L1	L1
2315 Ida Lane, Nanoose Bay BC	14-Aug-2019	L1	L1
2329 Chain Way, Nanoose Bay BC	14-Aug-2019	L1	L1
3383 Redden Road, Nanoose Bay	14-Aug-2019	L1	L1
3427 Tye Crescent	14-Aug-2019	L1	L1
3541 Shelby Lane, Nanoose Bay BC	14-Aug-2019	L1	L1

<u>Location</u>	<u>Date</u>	<u>Total Coliform</u>	<u>E. Coli</u>
3730 Fairwinds Drive, Parking lot @ Golf Course, Nanoose Bay BC	14-Aug-2019	L1	L1
Nanoose Bay Peninsula WWS, Lot 51, Swallow Crescent	14-Aug-2019	L1	L1
1358 Madrona Drive, Nanoose Bay BC	7-Aug-2019	L1	L1
2339 Garry Oak Drive, Nanoose Bay	7-Aug-2019	L1	L1
2359 Higginson Road	7-Aug-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	7-Aug-2019	L1	L1
3500 Fairwinds Drive, Nanoose Bay BC	7-Aug-2019	L1	L1
3541 Shelby Lane, Nanoose Bay BC	7-Aug-2019	L1	L1
1270 Seadog Road, Nanoose Bay	24-Jul-2019	L1	L1
3465 Cambridge Road, Nanoose Bay BC	24-Jul-2019	L1	L1
1565 Stone Lake Drive	17-Jul-2019	L1	L1
1639 Marina Way, Nanoose	17-Jul-2019	L1	L1
1996 Highland Road, Nanoose	17-Jul-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	17-Jul-2019	L1	L1
Lot 54 Evanshire Crescent, Nanoose	17-Jul-2019	L1	L1
Nanoose Bay Peninsula WWS, Florence Dr. & Anchor Way	17-Jul-2019	L1	L1
1556 Arbutus Drive, Nanoose Bay BC	10-Jul-2019	L1	L1
2315 Ida Lane, Nanoose Bay BC	10-Jul-2019	L1	L1
2329 Chain Way, Nanoose Bay BC	10-Jul-2019	L1	L1
3383 Redden Road, Nanoose Bay	10-Jul-2019	L1	L1
3427 Tye Crescent	10-Jul-2019	L1	L1
3730 Fairwinds Drive, Parking lot @ Golf Course, Nanoose Bay BC	10-Jul-2019	L1	L1
Nanoose Bay Peninsula WWS, Lot 51, Swallow Crescent	10-Jul-2019	L1	L1
1358 Madrona Drive, Nanoose Bay BC	3-Jul-2019	L1	L1
2339 Garry Oak Drive, Nanoose Bay	3-Jul-2019	L1	L1
2359 Higginson Road	3-Jul-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	3-Jul-2019	L1	L1
3500 Fairwinds Drive, Nanoose Bay BC	3-Jul-2019	L1	L1
3541 Shelby Lane, Nanoose Bay BC	3-Jul-2019	L1	L1
2359 Higginson Road	25-Jun-2019	L1	L1
3465 Cambridge Road, Nanoose Bay BC	25-Jun-2019	L1	L1
1565 Stone Lake Drive	19-Jun-2019	L1	L1
1639 Marina Way, Nanoose	19-Jun-2019	L1	L1
1996 Highland Road, Nanoose	19-Jun-2019	L1	L1
2359 Higginson Road	19-Jun-2019	EST 330	L1

<u>Location</u>	<u>Date</u>	<u>Total Coliform</u>	<u>E. Coli</u>
Lot 54 Evanshire Crescent, Nanoose	19-Jun-2019	L1	L1
Nanoose Bay Peninsula WWS, Florence Dr. & Anchor Way	19-Jun-2019	L1	L1
1556 Arbutus Drive, Nanoose Bay BC	12-Jun-2019	L1	L1
2315 Ida Lane, Nanoose Bay BC	12-Jun-2019	L1	L1
2329 Chain Way, Nanoose Bay BC	12-Jun-2019	L1	L1
3383 Redden Road, Nanoose Bay	12-Jun-2019	L1	L1
3427 Tye Crescent	12-Jun-2019	L1	L1
3730 Fairwinds Drive, Parking lot @ Golf Course, Nanoose Bay BC	12-Jun-2019	L1	L1
Nanoose Bay Peninsula WWS, Lot 51, Swallow Crescent	12-Jun-2019	L1	L1
1270 Seadog, Nanoose Bay BC	5-Jun-2019	L1	L1
1358 Madrona Drive, Nanoose Bay BC	5-Jun-2019	L1	L1
2339 Garry Oak Drive, Nanoose Bay	5-Jun-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	5-Jun-2019	L1	L1
3500 Fairwinds Drive, Nanoose Bay BC	5-Jun-2019	L1	L1
3541 Shelby Lane, Nanoose Bay BC	5-Jun-2019	L1	L1
1565 Stone Lake Drive	22-May-2019	L1	L1
1639 Marina Way, Nanoose	22-May-2019	L1	L1
2359 Higginson Road	22-May-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	22-May-2019	L1	L1
3465 Cambridge Road, Nanoose Bay BC	22-May-2019	L1	L1
3730 Fairwinds Drive, Parking lot @ Golf Course, Nanoose Bay BC	22-May-2019	L1	L1
Nanoose Bay Peninsula WWS, Florence Dr. & Anchor Way	22-May-2019	L1	L1
1556 Arbutus Drive, Nanoose Bay BC	15-May-2019	L1	L1
2315 Ida Lane, Nanoose Bay BC	15-May-2019	L1	L1
2329 Chain Way, Nanoose Bay BC	15-May-2019	L1	L1
3383 Redden Road, Nanoose Bay	15-May-2019	L1	L1
3427 Tye Crescent	15-May-2019	L1	L1
3500 Fairwinds Drive, Nanoose Bay BC	15-May-2019	L1	L1
Nanoose Bay Peninsula WWS, Lot 51, Swallow Crescent	15-May-2019	L1	L1
1270 Seadog Road, Nanoose Bay BC	8-May-2019	L1	L1
1358 Madrona Drive, Nanoose Bay BC	8-May-2019	L1	L1
2339 Garry Oak Drive, Nanoose Bay	8-May-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	8-May-2019	L1	L1
3541 Shelby Lane, Nanoose Bay BC	8-May-2019	L1	L1

<u>Location</u>	<u>Date</u>	<u>Total Coliform</u>	<u>E. Coli</u>
Lot 54 Evanshire Crescent, Nanoose	8-May-2019	L1	L1
1556 Arbutus Drive, Nanoose Bay BC	23-Apr-2019	L1	L1
1639 Marina Way, Nanoose	23-Apr-2019	L1	L1
3383 Redden Road, Nanoose Bay	23-Apr-2019	L1	L1
Nanoose Bay Peninsula WWS, Florence Dr. & Anchor Way	23-Apr-2019	L1	L1
1565 Stone Lake Drive	17-Apr-2019	L1	L1
2315 Ida Lane, Nanoose Bay BC	17-Apr-2019	L1	L1
2329 Chain Way, Nanoose Bay BC	17-Apr-2019	L1	L1
2359 Higginson Road	17-Apr-2019	L1	L1
3465 Cambridge Road, Nanoose Bay BC	17-Apr-2019	L1	L1
3730 Fairwinds Drive, Parking lot @ Golf Course, Nanoose Bay BC	17-Apr-2019	L1	L1
1358 Madrona Drive, Nanoose Bay BC	10-Apr-2019	L1	L1
2339 Garry Oak Drive, Nanoose Bay	10-Apr-2019	L1	L1
3541 Shelby Lane, Nanoose Bay BC	10-Apr-2019	L1	L1
Lot 54 Evanshire Crescent, Nanoose	10-Apr-2019	L1	L1
Nanoose Bay Peninsula WWS, Lot 51, Swallow Crescent	10-Apr-2019	L1	L1
1270 Seadog Road, Nanoose Bay BC	3-Apr-2019	L1	L1
1565 Stone Lake Drive	3-Apr-2019	L1	L1
1996 Highland Road, Nanoose	3-Apr-2019	L1	L1
2315 Ida Lane, Nanoose Bay BC	3-Apr-2019	L1	L1
3427 Tye Crescent	3-Apr-2019	L1	L1
3500 Fairwinds Drive, Nanoose Bay BC	3-Apr-2019	L1	L1
Nanoose Bay Peninsula WWS, Florence Dr. & Anchor Way	3-Apr-2019	L1	L1
1566 Arbutus Drive, Nanoose Bay	20-Mar-2019	L1	L1
1639 Marina Way, Nanoose	20-Mar-2019	L1	L1
2315 Ida Lane, Nanoose Bay BC	20-Mar-2019	L1	L1
2329 Chain Way, Nanoose Bay BC	20-Mar-2019	L1	L1
3465 Cambridge Road, Nanoose Bay BC	20-Mar-2019	L1	L1
3541 Shelby Lane, Nanoose Bay BC	20-Mar-2019	L1	L1
3730 Fairwinds Drive, Parking lot @ Golf Course, Nanoose Bay BC	20-Mar-2019	L1	L1
1565 Stone Lake Drive	13-Mar-2019	L1	L1
2329 Chain Way, Nanoose Bay BC	13-Mar-2019	L1	L1
2359 Higginson Road	13-Mar-2019	L1	L1
3383 Redden Road, Nanoose Bay	13-Mar-2019	L1	L1
Lot 54 Evanshire Crescent, Nanoose	13-Mar-2019	L1	L1

<u>Location</u>	<u>Date</u>	<u>Total Coliform</u>	<u>E. Coli</u>
Nanoose Bay Peninsula WWS, Lot 51, Swallow Crescent	13-Mar-2019	L1	L1
Nanoose Bay Peninsula WWS, Florence Dr. & Anchor Way	13-Mar-2019	L1	L1
1270 Seadog Road, Nanoose Bay, BC	6-Mar-2019	L1	L1
1358 Madrona Drive, Nanoose Bay BC	6-Mar-2019	L1	L1
1996 Highland Road, 1996 Highland Road, Nanoose	6-Mar-2019	L1	L1
2339 Garry Oak Drive, Nanoose Bay	6-Mar-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	6-Mar-2019	L1	L1
3427 Tye Crescent	6-Mar-2019	L1	L1
3500 Fairwinds Drive, Nanoose Bay BC	6-Mar-2019	L1	L1
3541 Shelby Lane, Nanoose Bay BC	27-Feb-2019	L1	L1
1358 Madrona Drive, Nanoose Bay BC	20-Feb-2019	L1	L1
1639 Marina Way, Nanoose	20-Feb-2019	L1	L1
2329 Chain Way, Nanoose Bay BC	20-Feb-2019	L1	L1
2359 Higginson Road	20-Feb-2019	L1	L1
3383 Redden Road, Nanoose Bay	20-Feb-2019	L1	L1
3730 Fairwinds Drive, Parking lot @ Golf Course, Nanoose Bay BC	20-Feb-2019	L1	L1
1270 Seadog Road, Nanoose Bay	13-Feb-2019	L1	L1
1566 Arbutus Drive, Nanoose Bay BC	13-Feb-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	13-Feb-2019	L1	L1
3465 Cambridge Road, Nanoose Bay, BC	13-Feb-2019	L1	L1
Lot 54 Evanshire Crescent, Nanoose	13-Feb-2019	L1	L1
Nanoose Bay Peninsula WWS, Lot 51, Swallow Crescent	13-Feb-2019	L1	L1
Nanoose Bay Peninsula WWS, Florence Dr. & Anchor Way	13-Feb-2019	L1	L1
1565 Stone Lake Drive	6-Feb-2019	L1	L1
1996 Highland Road, Nanoose	6-Feb-2019	L1	L1
2315 Ida Lane, Nanoose Bay BC	6-Feb-2019	L1	L1
2339 Garry Oak Drive, Nanoose Bay	6-Feb-2019	L1	L1
3427 Tye Crescent	6-Feb-2019	L1	L1
3500 Fairwinds Drive, Nanoose Bay BC	6-Feb-2019	L1	L1
Lot 54 Evanshire Crescent, Nanoose	30-Jan-2019	L1	L1
1358 Madrona Drive, Nanoose Bay BC	23-Jan-2019	L1	L1
2359 Higginson Road	23-Jan-2019	L1	L1
3383 Redden Road, Nanoose Bay	23-Jan-2019	L1	L1

<u>Location</u>	<u>Date</u>	<u>Total Coliform</u>	<u>E. Coli</u>
3730 Fairwinds Drive, Parking lot @ Golf Course, Nanoose Bay BC	23-Jan-2019	L1	L1
Nanoose Bay Peninsula WWS, Lot 51, Swallow Crescent	23-Jan-2019	L1	L1
Nanoose Bay Peninsula WWS, Florence Dr. & Anchor Way	23-Jan-2019	L1	L1
1556 Arbutus Drive, Nanoose Bay BC	16-Jan-2019	L1	L1
1639 Marina Way, Nanoose	16-Jan-2019	L1	L1
2329 Chain Way, Nanoose Bay BC	16-Jan-2019	L1	L1
2454 Armstrong Crescent, Beside (right)	16-Jan-2019	L1	L1
3465 Cambridge Road, Nanoose Bay BC	16-Jan-2019	L1	L1
3541 Shelby Lane, Nanoose Bay BC	16-Jan-2019	L1	L1
1270 Seadog Road, Nanoose Bay, BC	9-Jan-2019	L1	L1
1565 Stone Lake Drive	9-Jan-2019	L1	L1
1996 Highland Road, Nanoose	9-Jan-2019	L1	L1
2315 Ida Lane, Nanoose Bay BC	9-Jan-2019	L1	L1
2339 Garry Oak Drive, Nanoose Bay	9-Jan-2019	L1	L1
3427 Tyee Crescent, 3427 Tyee Crescent	9-Jan-2019	L1	L1
3500 Fairwinds Drive, Nanoose Bay BC	9-Jan-2019	L1	L1

Interpreting Sample Reports

In VIHA, the results of drinking water sampling are reported using the following coding system:

L1 Less than 1 (no detectable bacteria) - Meaning: No bacteria present

OG Overgrown - Meaning: Too many background bacteria to give an accurate count

EST Estimated Count

A Sample not tested; Too long in transit

C Sample leaked/broken in transit

D Sample not tested; No collection date given

T Sample submitted unsatisfactory. Exceeded 30 hours holding time, please resample.

NS No sample received with requisition