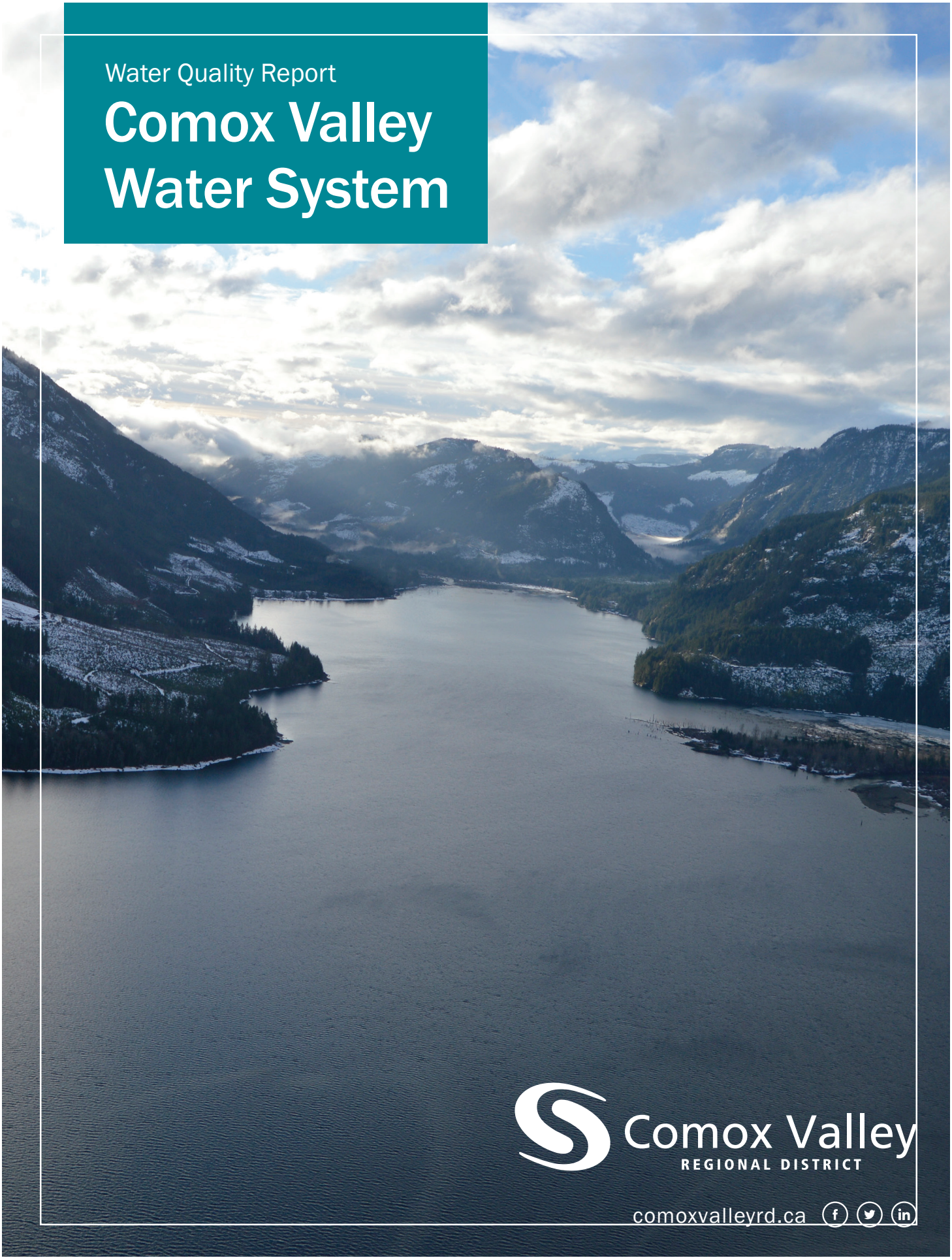
Water Quality Report

Comox Valley Water System



Comox Valley
REGIONAL DISTRICT

comoxvalleyrd.ca

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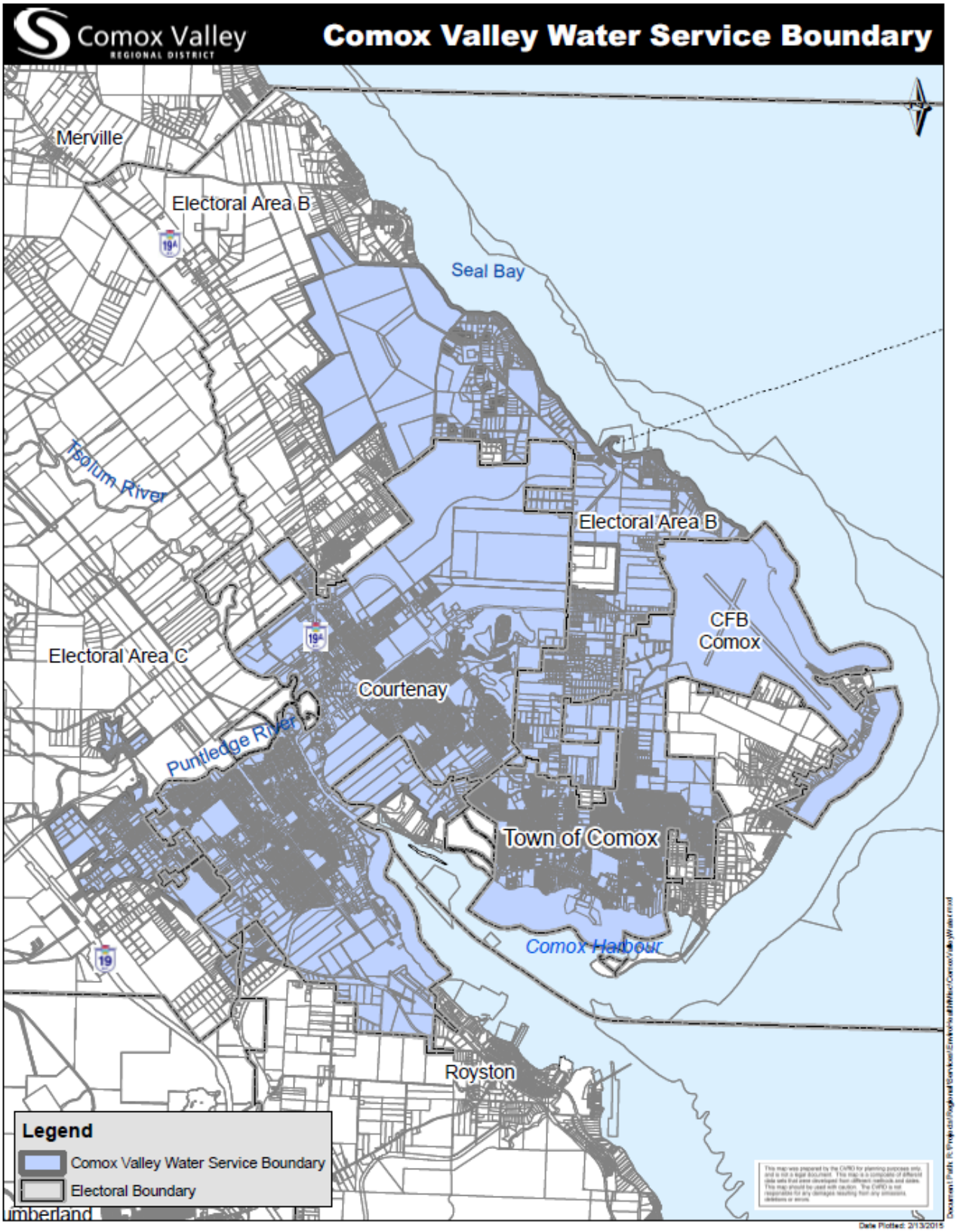
"2017 was a busy year with plans for the Comox Valley Water Treatment Project taking a critical step forward to make sure Comox Valley residents have access to safe, sustainable drinking water for decades to come."

-Mike Herschmiller, Manager of Water Services

Map of Service Area



Introduction

The Comox Valley Regional District (CVRD) strives to provide high quality drinking water to the Comox Valley Water Service Area, through responsible operation, monitoring, and management of the water system. The CVRD is regulated by Island Health as part of the Ministry of Health for its activities as a potable water supplier. Under the *Drinking Water Protection Act* (DWP Act), the CVRD is now required to report annually on the Comox Valley Water System (CVWS). This report covers the period from January 1 to December 31, 2017 and includes information on water quality, consumption, maintenance and capital projects.

The CVRD owns and operates the CVWS that provides domestic water to approximately 45,900 residents, including supplying bulk water to both the Town of Comox and the City of Courtenay. The system also provides water and system maintenance to five Water Local Service Areas (WLSA).

Water for the CVWS is sourced from Comox Lake and collected from the Puntledge River via BC Hydro's penstock. Water travels through two pipes to the CVRD's chlorination station where it is metered, sampled and chlorinated before entering the distribution system. The system utilizes 33.6km of pipe, four pump stations and six reservoirs with ability to store a combined volume of 31ML.

Operations

Goals

To provide high quality drinking water to all customers through efficient and effective disinfection and distribution operations.

Water Quality Summary

Parameter[1]	2016	2017	Target
Source Water			
Chlorine Dosing Set point (mg/L)	1.87	1.55	<2.0
Trihalomethanes (mg/L)	0.020	0.025	<0.1
Distribution System			
Chlorine residual-distribution system (mg/L)	0.79	0.82	>0.2
Total Coliforms (positive samples)	0	2	0
E.Coli (positive samples)	0	1	0
Canadian Drinking Water Quality Guidelines			
Source Water Turbidity (average NTU)	0.56	0.40	<1.0
Source Water Temperature (°C)	15.6	15.3	15.0
Source Water pH Levels	7.17	7.39	7.0-8.5

[1]More information for each parameter is available later on in the report.

The Ministry of Health regulates municipal drinking water quality through the DWP Act and the *Drinking Water Protection Regulation* (the Regulation). The DWP Act and Regulation are administered

by regional health authorities, and for the CVRD, the administering authority is Island Health. Both the DWP Act and Regulation set out certain requirements for drinking water operators and suppliers to ensure the provision of safe drinking water to their customers.

The CVRD manages the CVWS which includes supplying bulk water to the City of Courtenay and the Town of Comox as well as providing and managing water for five WLSAs, which are the Arden WLSA, Greaves Crescent WLSA, Marsden/Camco WLSA, Comox Valley WLSA and England Road WLSA. Conversion of the Sandwick WLSA to connect to the CVWS began in 2017 and will be completed in 2018. The CVRD takes weekly water quality samples at six reservoirs and within the distribution system, to ensure that water is meeting provincial objectives. Sampling for distribution by-products and an annual water chemistry report occurs quarterly. A summary of water quality and a description of sampling results can be found below.

Disinfection

The CVWS utilizes surface water that is sourced from Comox Lake. All water supply systems using surface water are governed by Island Health and are required to adhere to provincial 4-3-2-1-0 surface water treatment objectives to ensure effective elimination of disease causing viruses, bacteria and parasites. The 4-3-2-1-0 objectives are as follows:

- 4-log (99.99 per cent) removal/inactivation of viruses;
- 3-log (99.9 per cent) removal/inactivation of Giardia cysts and Cryptosporidium oocysts;
- 2 treatment processes, usually filtration and disinfection;
- 1 NTU turbidity (maximum) in finished water;
- No detectable E.Coli, fecal coliforms and total coliforms in treated water.

The CVWS utilized only chlorine to disinfect raw incoming surface water in 2017. Water from Comox Lake enters the chlorination station via the Puntledge River and is treated before being distributed throughout the system. The system currently does not filter incoming source water and is mandated by Island Health to construct a water filtration plant. A water filtration plant will remove suspended particles within the source water, ultimately eliminating boil water notices (BWNs) related to turbidity. This work was initiated in 2015 with commissioning of the water treatment plant scheduled for 2021.

Figure No.2: Installation of UV Equipment

Installation of temporary Ultraviolet Light (UV) disinfection at the existing chlorination station began in 2017 and will be completed in early 2018. This is an interim measure until the new water treatment plant is built, to help reduce the number of BWNs experienced prior to completion of the water treatment plant.

By dosing the water with chlorine at the chlorination station a free chlorine residual is established throughout the water from bacteriological regrowth and cross contamination during storage. The CVRD strives to achieve a free chlorine residual of 0.3-0.5mg/L at the end of the system. In 2017 the average residual

throughout the whole system was 0.82mg/L and at the end of the system the residual was 0.66mg/L meeting Island Health's minimum requirement of 0.2mg/L. Figure No.3 below shows the average free chlorine residual at each reservoir.

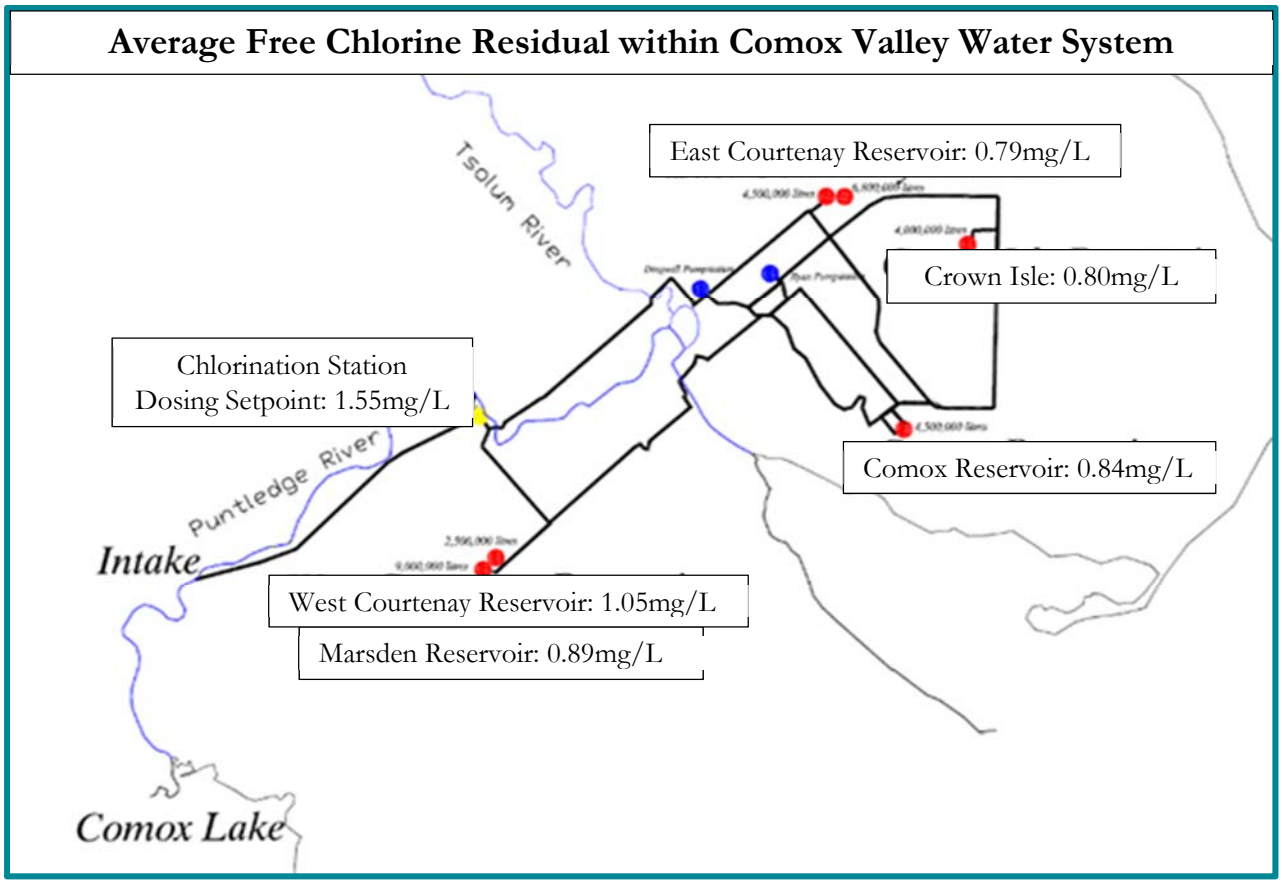


Figure No.3: Average Free Chlorine Residual within CVWS

In 2017 the CVRD began sampling quarterly instead of annually for disinfection by-products within the distribution system. Trihalomethanes (THM's) are the organic compounds that form as a by-product of chlorination, the CVRD samples for THM's at the West Courtenay reservoir. There are four types of THM's that contribute to total THM's. Chloroform is the most commonly regulated THM and is formed when natural organic matter reacts with chlorine and/or bromine in disinfected water. The guidelines require that total THM's for drinking water must be less than 0.1mg/L, Table No.1 below shows the average total THM's from the quarterly samples.

Table No.1: Total THM Concentration at the West Courtenay Reservoir

Trihalomethanes	West Courtenay Reservoir
Chloroform	0.025
Bromodichloromethane	<0.001
Dibromochlromethane	<0.001
Bromoform	<0.001
Total Trihalomethanes (mg/L)	**0.025**

Bacteria

E.Coli and total coliform bacteria are microorganisms that if present in water samples indicate possible contamination with sewage or animal wastes. Chlorination helps to remove harmful pathogens within the water supply network. Table No.2 illustrates that the CVRD's water disinfection system met the bacteriological standards for potable water.

Table No.2: Bacteriological Standards and Sampling Results

Parameter	Standard	Result
E.Coli	No detectable E.Coli per 100mL	1 exceedances per 640 samples
Total Coliform Bacteria	At least 90 per cent of samples have no detectable total coliform bacteria per 100 ml and no sample has more than 10 total coliform bacteria per 100 ml	2 exceedances per 640 samples (99.7 per cent of samples have no detectable total coliform bacteria, no sample exceeded 4 total coliform bacteria per 100ml)

Canadian Drinking Water Guidelines

Health Canada develops the *Canadian Drinking Water Guidelines*. These are guidelines for limits on microbial, chemical, physical, radiological substances in drinking water. In the guidelines, health-based limits on a substance are assigned a maximum allowable concentration. The guidelines also assign aesthetic objectives to substances that do not cause risk to human health but influence consumer acceptance of the water based on factors such as taste, odour and colour. Table No.3 shows the West Courtenay reservoir concentration averages compared to guideline concentrations. Distribution water is sampled quarterly and in 2017 the system was below all guideline concentrations.

Table No.3: Chemical and Physical Parameters at the West Courtenay Reservoir Compared to Guideline Concentrations

Parameter	West Courtenay Reservoir (mg/L)	Guideline Concentrations (mg/L)
Aluminum	0.0185	≤0.1
Arsenic	<0.0001	≤0.01
Barium	0.0003	≤1.0
Boron	0.012	≤5.0
Chloride	1.81	250
Chromium	0.00004	≤0.05
Copper	0.013	1
Fluoride	0.013	≤1.5
Iron	0.015	≤0.30
Lead	0.000024	≤0.01
Manganese	<0.001	≤0.05
Nitrate (as N)	0.020	10
Nitrite (as N)	<0.01	1
Selenium	<0.0002	≤0.05
Sodium	0.7	≤200
Zinc	0.0009	≤5

Turbidity

The guidelines also require the turbidity of the water is below 1 NTU. Turbidity is the measure of fine suspended particles that are picked up by water as it passes through rivers and streams within a watershed. In 2017, multiple large storms with lasting periods of heavy rainfall caused an increase in turbidity within Comox Lake that resulted in three separate BWNs. Figure No.4 shows turbid water entering Comox Lake. Figure No.5 shows the average source water turbidity entering the system.

Figure No.4: Turbid Water from Beech Creek Entering Comox Lake

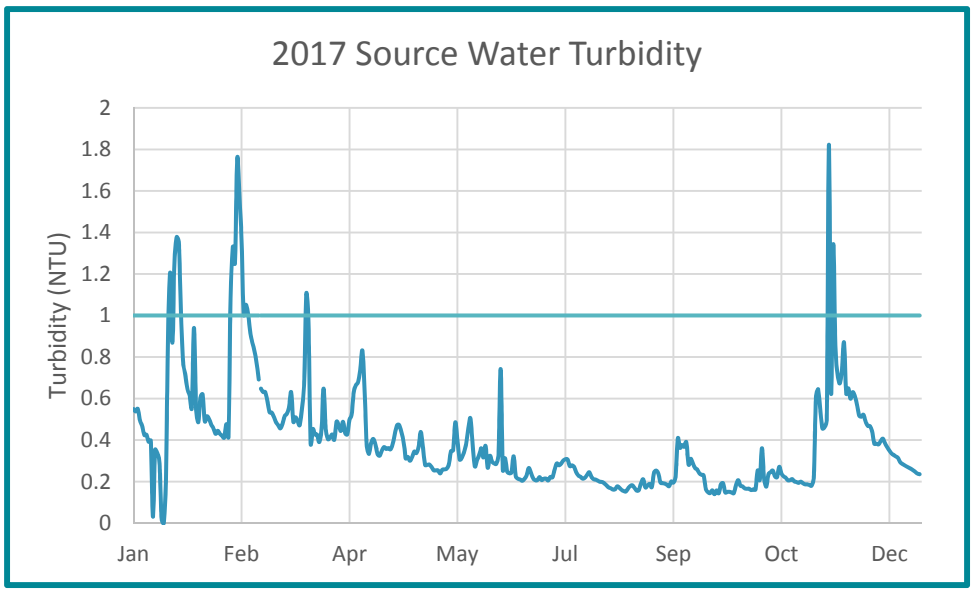


Figure No.5: Average Daily Source Water Turbidity

Temperature

Temperature is described as an aesthetic objective (a parameter that may impair the taste, smell or colour of water) and a physical characteristic of water. Gradual variations in water temperature occur throughout the seasons, however signifcant changes in water temperature can upset chlorination and chemical water treatment processess. The guidelines recommend the temperature to be less than 15˚Celsius, the average source water temperature for the CVWS was 15.3˚Celsius. Figure No.6 below shows the incoming source water daily temperautre from the BC Hydro penstock, it can be seen that the water temperature increases in the summer months and decreases in the winter months. As part of the water treatment plant project a new deep water intake will be constructed that will help ensure cooler water is drawn into the system throughout all seasons. Benefits of colder water include improved treatment and reduced microbiological growth.

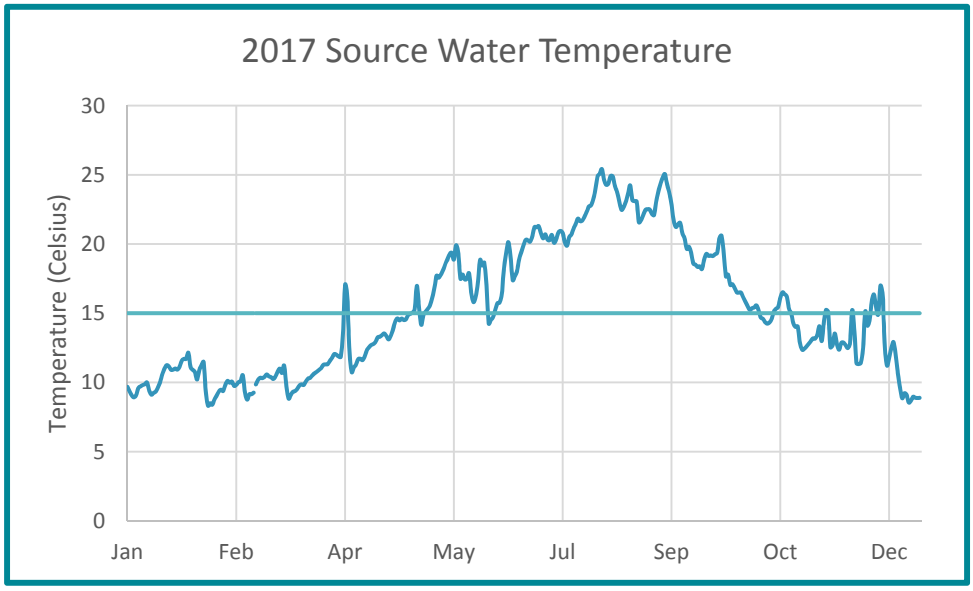


Figure No.6: Source Water Temperature

pH

The pH of water is a measure of acidity. pH has minimal impact for water consumers however it is very important for many operational water quality parameters.The *Canadian Drinking Water Guidelines* recommend the pH ranging between 7.0-8.5 (this changed in 2017 from 6.5-8.5). pH varies greatly depending on the water source and in 2016 the average pH of the source water was 7.39. Figure No.7 below shows the pH of the incoming source water.

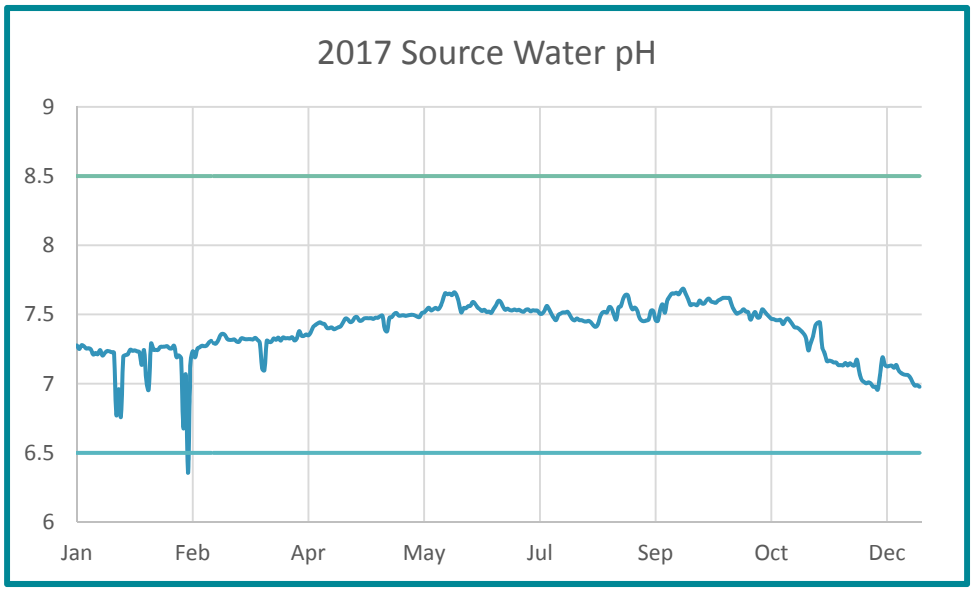


Figure No.7: Source Water pH

Water Quality Concerns

The CVRD continues to monitor water quality on Comox Lake through a series of programs. In 2009, the CVRD entered into a partnership with the water and aquatic sciences program at the University of Victoria and the Natural Sciences and Engineering Research Council of Canada to study long term climate change impacts and a water quality monitoring project for Comox Lake. The CVRD also measures Comox Lake water quality through a deep water intake.

Ensuring high-quality drinking water also requires preservation of water at its source. Continued implementation of the Watershed Protection Plan occurred in 2017. This included collaboration with the many stakeholders within the watershed, hydrodynamic modelling and continued water quality monitoring within the watershed. Turbidity and water quality is monitored at all major tributaries to the Comox Lake and all data is recorded within a watershed database to help inform and provide insight on water quality. Figure No.8 illustrates the size and extent of the Comox Lake watershed.

In 2017, the CVWS had four BWNs lasting a total of 21 days. Three BWNs were related to high turbidity events. Turbidity within Comox Lake is initially generated through high flows in the incoming rivers and creeks as a result of significant storms and heavy rains, the time it takes for the particles to settle out in the water can have little to do with the weather, either good or bad, that follows. Once the dirt, mud and clay have flowed into Comox Lake, they become individual suspended particles that result in turbid water. It can take a significant amount of time for those particles to settle and the turbidity to drop out. One BWN in May was due to a positive single count

of E.Coli sample within the distribution system. Island Health requires a BWN be issued immediately when E.Coli is detected in treated water. Over the next three days, 25 water samples were taken throughout the system and no additional positive E.Coli samples were detected allowing the CVRD the lift the BWN.

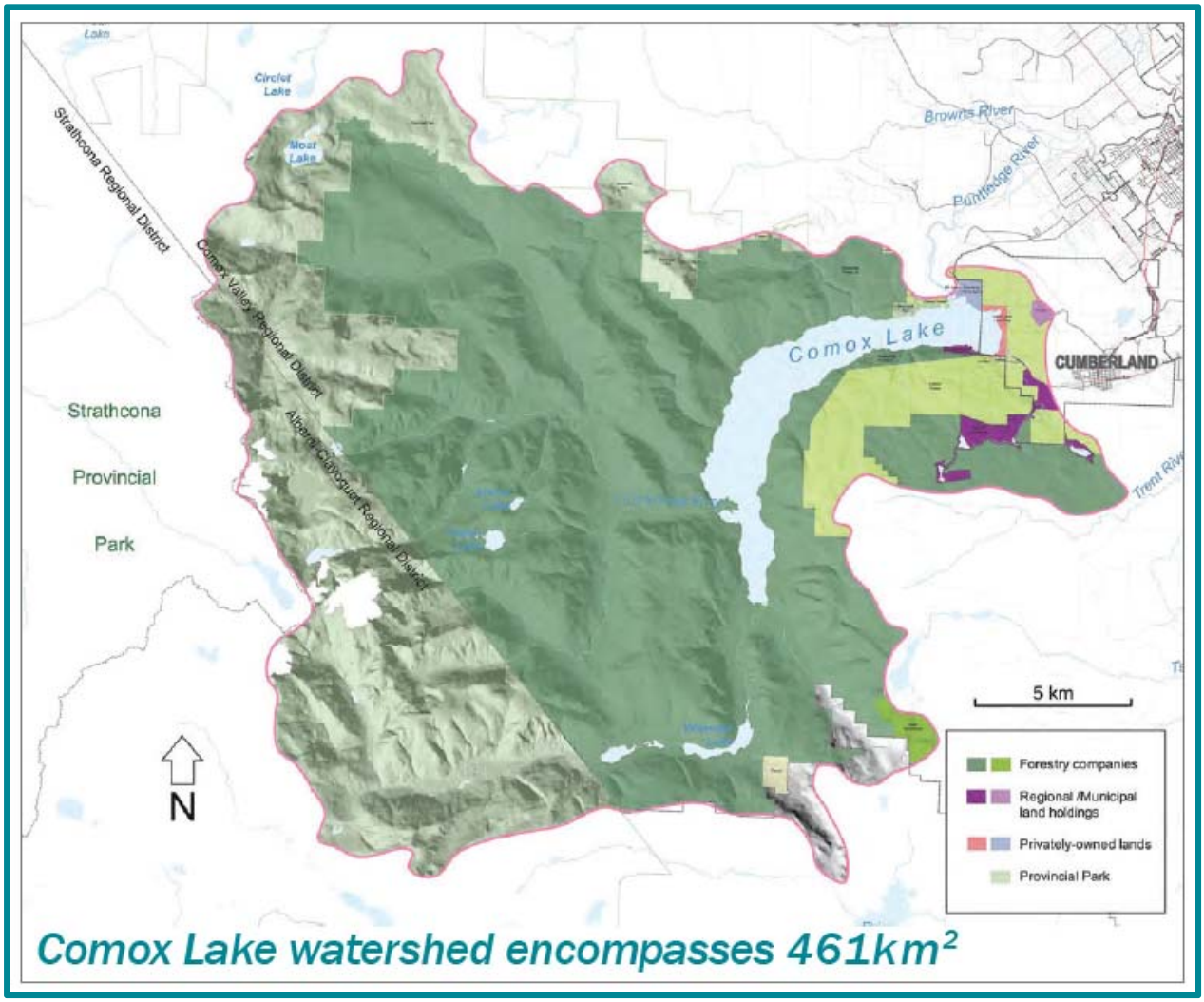


Figure No.8: Comox Lake Watershed

Planning

Goals

To ensure effective long-term planning and management programs are in place to meet the needs of all users groups while minimizing operation and infrastructure costs.

Consumption

The average daily water consumption for the system in 2017 was 23.1ML/day. To help reduce consumption the CVRD has multiple rebate programs in place encourage Comox Valley residents to be water efficient. Rebates in 2017 included low flush toilets, smart control outdoor irrigation and BC Hydro appliance rebates. 2017 was last the year for the low flush toilet rebate program with a new rebate program planned for 2018.

The CVRD closely monitors water demand and compliance to restrictions throughout the year and has noticed that during summer months water demand increases approximately two fold from normal winter demand, as shown in Figure No.9 below.

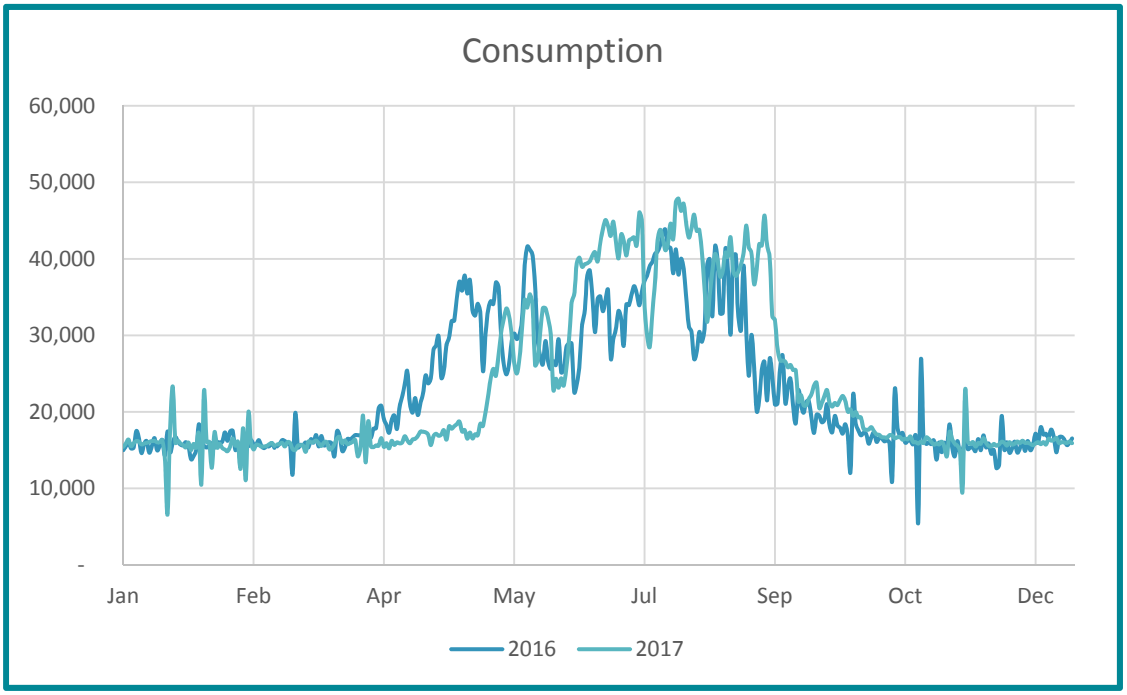


Figure No.9: CVWS Daily Consumption in 2016 and 2017

During times of scarcity the CVRD implements watering restrictions, the CVRD has a four stage system in place for managing water consumption. Stage one is the least restrictive and is in effect all year unless noted otherwise, stages two, three and four are increasingly more restrictive and are implemented for varying reasons including increasing seriousness of the water shortages, BC Hydro maintenance and peak demand management. In 2017, the CVRD revised the water conservation bylaw to improve implementation of the bylaw, these changes include adding an effective date for stage one and revising the sprinkling schedule for stage two. Stage one restrictions will begin each year on May 1, more restrictive watering restrictions will be implemented on an as needed basis.

In 2017, the CVRD did not move to stage two watering restrictions at any point in the year. A brief period of stage three restrictions was implemented from September 10 to 22 as BC Hydro completed annual maintenance and the CVRD was required to supply water from the standby pump station. The standby pump station cannot meet peak demand and maintain fire flows for the system resulting in stage three water restrictions being required.

The maximum daily demand (MDD) was 47.9ML and occurred on August 2, 2017. In comparison to 2016, the MDD increased from 43.8ML to 47.9ML. The increase in the MDD can be attributed to multiple factors, including weather and current watering restrictions.

Maintenance

The waterworks staff consists of eight operators with varying ranges of certification. Each operator is registered with the environmental operator's certification program within BC and is required to remain in good standing by taking yearly continuing education courses.

The waterworks staff carries out preventive, corrective and emergency maintenance to all parts within the CVWS. This ensures continued operation and supply of safe, clean water to all users. The chlorination facility, reservoirs and distribution system are regularly inspected and maintained.

Any inquiries within the system are investigated by the CVRD's Waterworks Operations Staff and appropriate action is taken. Operator's time is primarily dedicated to the operations and maintenance of transmission mains and the treatment system, however Figure No.10 shows the breakdowns of service requests by category.

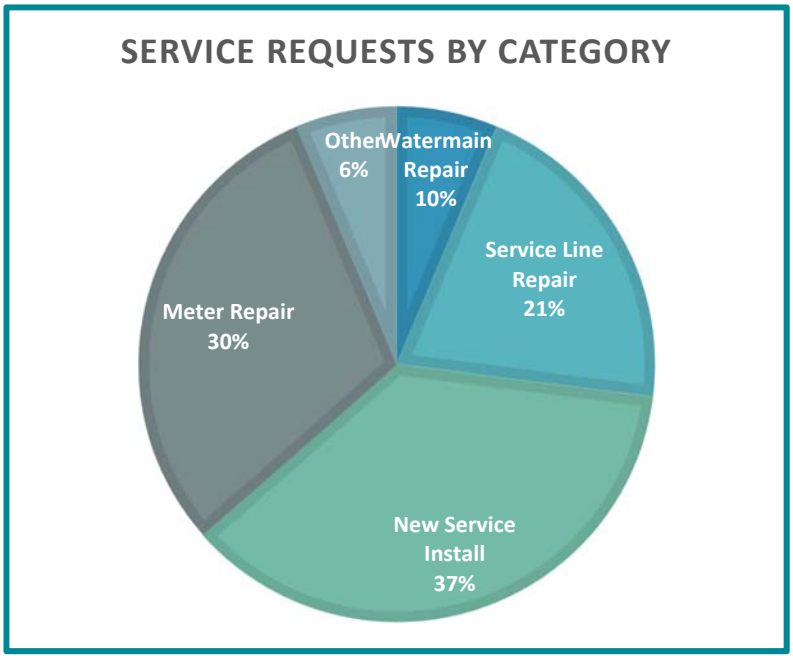


Figure No.10: 2017 Service Requests by Category

Financial

In 2017, the CVRD treated a total of 8.44 million cubic meters of water. Bulk water rates increased in 2017 from \$0.66/m^3 to \$0.71/m^3 to begin increasing the contributions to the capital works reserve in order to reduce borrowing in the future for the water treatment options project. Further increases to the bulk water rate will occur in 2018 and 2019.

The CVRD is moving forward with the Comox Valley Water Treatment Plant project to comply with the surface water treatment objectives. 2017 saw the completion of the pre-implementation phase which included completion of the indicative design to establish the project scope, budget and schedule. The updated project cost is \$110.6 million and the new system is expected to be operational by 2021.

The five major components of the new system are listed below and shown in Figure No.11.

1. Lake intake to provide water security and conserve water for fish flows down the Puntledge River.
2. Raw water pumping station near the intake.
3. Raw water pipeline from pump station to the treatment plant.
4. Water treatment plant including filtration and disinfection.
5. Treated water pipeline from the plant to the distribution system.

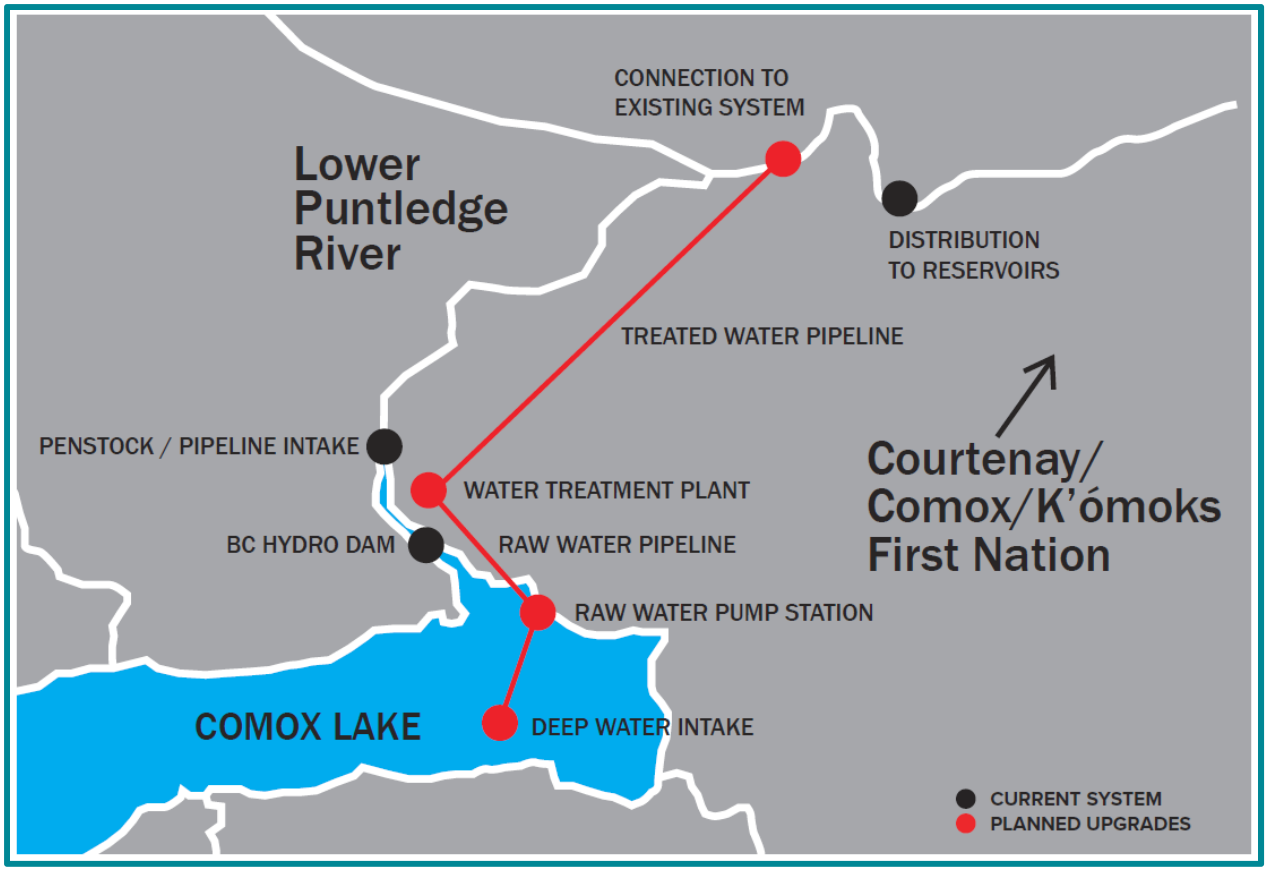


Figure No.11: The Current System and Planned Upgrades

Funding for the water treatment plant is to be through a combination of reserves, grant funding and borrowing. Phase one and two of the project being the pre-implementation and implementation phase received 83 per cent grant funding through the Clean Water and Wastewater Fund. The CVRD is actively working with the provincial and federal governments to secure grant funding to offset at least 50 per cent of the total project costs. This will require the CVRD to borrow up to $29 million. An alternate approval process to authorize borrowing of the funds will be completed in 2018.

Implementation of the Watershed Protection Plan continued in 2017. Work that was completed in 2017 includes improving water quality monitoring within the watershed, installation of continuous turbidity monitors and the development of a robust raw water quality sampling plan. Plans for 2018 include continued water quality and weather monitoring, increased education and outreach and a climate change impact assessment of Comox Lake.

Procurement of a consultant to develop a detailed asset management plan for the service was completed in 2017. The plan is expected to be complete by the end of 2018 and will include development of an asset inventory, review of the condition of current infrastructure required levels of service and long term asset replacement requirements. Water rates will be reviewed as part of this work to ensure sufficient revenue is being collected to help fund future upgrades.

The CVRD took over a new water service in 2017. Connection of the Sandwick WLSA to the CVWS will be completed in 2018.

2017 Accomplishments

- ✓ Continued implementation of the Watershed Protection Plan for Comox Lake.
- ✓ Procurement of an owner's engineer for the water treatment project.
- ✓ Completed the pre-implementation phase for the water treatment project which included:
  - ✓ Geotechnical and geophysical investigations.
  - ✓ Topographic survey of the project area.
  - ✓ Indicative design report detailing project scope, estimated costs, schedule.
  - ✓ Operation of a pilot plant and data analysis.
- ✓ Updated the water conservation bylaw.
- ✓ Commenced asset management planning work for the service.

2018 Objectives

- Continue implementing the Watershed Protection Plan for Comox Lake.
- Commission UV equipment at existing water treatment facility.
- Connect the Sandwick WLSA to the CVWS.
- Complete a detailed asset management plan.
- Complete Comox Lake climate change assessment.
- Complete the implementation phase of the Comox Valley Water Treatment Project including:
  - Public assent to borrow funds.
  - Land acquisitions.
  - Public outreach and communication.
  - Move forward with design specifications, grant applications and selection of a design-build team shortlist.

Figure No.12: East End of Comox Lake

Date	RAW WATER				DISTRIBUTION SYSTEM																																					
					Chlorine Residual (mg/L)												Total Coliform												E.Coli														
	Consumption (m3)	pH	Temperature (˚C)	Turbidity (NTU)	74 Salisbury	Arden Stn	1750 Astra	2490 Waveland	4871 Greaves Crescent	3441 Cumberland	Comox Reservoir	Crown Isle Reservoir	E. Courtenay Reservoir	Marsden Reservoir	W.Courtenay Reservoir		1750 Astra	2490 Waveland	3441 Cumberland	4871 Greaves Crescent	74 Salisbury	Arden Stn	Comox Reservoir	Crown Isle Reservoir	E. Courtenay Reservoir	Marsden Reservoir	W.Courtenay Reservoir		1750 Astra	2490 Waveland	3441 Cumberland	4871 Greaves Crescent	74 Salisbury	Arden Stn	Comox Reservoir	Crown Isle Reservoir	E. Courtenay Reservoir	Marsden Reservoir	W.Courtenay Reservoir	
01-Jan-17	15,430	7.28	9.68	0.55																																				
02-Jan-17	15,867	7.25	9.36	0.54																																				
03-Jan-17	16,385	7.28	9.05	0.55	1.02	1.05	0.67	0.71	1	0.91	0.91	0.85	0.68	1.13	1.32		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
04-Jan-17	15,522	7.27	8.93	0.49																																				
05-Jan-17	15,898	7.25	9.09	0.47																																				
06-Jan-17	16,187	7.26	9.59	0.42																																				
07-Jan-17	16,111	7.25	9.72	0.43																																				
08-Jan-17	15,750	7.21	9.81	0.39																																				
09-Jan-17	15,855	7.22	9.87	0.40	0.98	1.03	0.77	0.9	0.99	1.02	0.97	0.84	0.9	1.07	1.19		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
10-Jan-17	15,949	7.21	9.99	0.03																																				
11-Jan-17	16,093	7.24	9.41	0.35																																				
12-Jan-17	16,184	7.20	9.12	0.34																																				
13-Jan-17	16,207	7.22	9.25	0.30																																				
14-Jan-17	16,023	7.24	9.34	0.02																																				
15-Jan-17	16,036	7.23	9.64	0.00																					<1																
16-Jan-17	16,268	7.23	10.02	0.20	0.9	0.95				0.93				0.96	1.15		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
17-Jan-17	13,969	7.22	10.59	0.92																																				
18-Jan-17	6,604	6.78	10.99	1.21																																				
19-Jan-17	17,902	6.96	11.25	0.87																																				
20-Jan-17	23,311	6.76	11.16	1.27																																				
21-Jan-17	15,971	7.19	10.92	1.38																			<1	<1	<1	<1	<1								<1	<1	<1	<1	<1	<1
22-Jan-17	16,224	7.21	10.93	1.35																			<1	<1	<1	<1	<1								<1	<1	<1	<1	<1	<1
23-Jan-17	15,859	7.21	11.01	1.01		1.04								0.96	1.06		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
24-Jan-17	15,667	7.24	10.93	0.77																			<1	<1	<1	<1	<1								<1	<1	<1	<1	<1	<1
25-Jan-17	15,360	7.24	11.16	0.71																																				
26-Jan-17	15,992	7.24	11.58	0.64																																				
27-Jan-17	15,019	7.23	11.70	0.62																																				
28-Jan-17	15,816	7.23	11.71	0.56																																				
29-Jan-17	15,332	7.14	12.14	0.94																																				
30-Jan-17	17,143	7.24	11.11	0.54	0.83	0.89	0.52	0.61	0.77	0.86	0.65	0.69	0.83	0.92	0.89		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
31-Jan-17	10,558	7.01	10.91	0.49																																				
01-Feb-17	22,791	6.96	10.75	0.61																																				
02-Feb-17	16,067	7.29	10.21	0.62																																				
03-Feb-17	16,087	7.25	10.89	0.49																																				
04-Feb-17	12,702	7.24	11.24	0.51																																				
05-Feb-17	17,323	7.24	11.47	0.50																																				
06-Feb-17	15,352	7.27	9.33	0.47			0.74	0.59	0.85		0.91	0.87	0.85				<1	<1	<1	<1		<1	<1	<1	<1	<1	<1		<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1
07-Feb-17	15,835	7.27	8.33	0.46																	<1											<1								
08-Feb-17	15,280	7.27	8.49	0.43																																				
09-Feb-17	15,069	7.27	8.40	0.44																																				
10-Feb-17	14,863	7.26	8.78	0.43																																				
11-Feb-17	15,464	7.26	9.05	0.42																																				
12-Feb-17	16,513	7.27	9.35	0.41																																				
13-Feb-17	15,581	7.19	9.48	0.48																																				
14-Feb-17	16,092	7.20	9.39	0.42			0.69	0.64	0.87		0.97	0.88	0.71				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
15-Feb-17	12,564	7.18	9.84	1.12																																				
16-Feb-17	17,862	6.68	10.11	1.33																																				
17-Feb-17	11,080	7.06	9.98	1.26																																				
18-Feb-17	19,935	6.36	10.06	1.75																																				
19-Feb-17	16,001	7.15	9.75	1.59																			<1	<1	<1	<1	<1								<1	<1	<1	<1	<1	<1
20-Feb-17	15,098	7.23	9.83	1.37	1.42	1.4	0.67	0.56	1	1.51	0.9	0.77	0.86	1.4	1.31		<1	<1	<1	<1	<1	<1	<1/<1	<1/<1	<1/<1	<1/<1	<1/<1		<1	<1	<1	<1	<1	<1	<1/<1	<1/<1	<1/<1	<1/<1	<1/<1	<1/<1
21-Feb-17	15,695	7.19	10.02	1.01																			<1	<1	<1	<1	<1								<1	<1	<1	<1	<1	<1
22-Feb-17	15,655	7.25	10.10	1.05																																				
23-Feb-17	15,461	7.26	10.51	1.01																																				
24-Feb-17	15,490	7.27	9.26	0.92																																				
25-Feb-17	15,550	7.27	8.76	0.87																																				
26-Feb-17	15,774	7.28	9.14	0.83																																				
27-Feb-17	15,925	7.30	9.15	0.77	1.33	1.17	0.68	0.69		1.17	0.88	0.84	0.85	1.24	1.38		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1
28-Feb-17	15,554	7.31	9.27	0.69																<1												<1								
01-Mar-17	15,731	7.29	9.86	0.65																																				
02-Mar-17	15,819	7.29	10.18	0.63																																				
03-Mar-17	15,947	7.31	10.34	0.63																																				
04-Mar-17	15,487	7.35	10.31	0.59																																				
05-Mar-17	16,041	7.36	10.41	0.53																																				
06-Mar-17	15,954	7.35	10.57	0.53	0.98	0.98	0.64	0.61	0.88	0.99	0.81	0.75	0.74	1.05	1.1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
07-Mar-17	15,140	7.32	10.44	0.51																																				
08-Mar-17	15,029	7.32	10.38	0.49																																				
09-Mar-17	15,587	7.32	10.25	0.47																																				
10-Mar-17	15,638	7.32	10.43	0.46																																				
11-Mar-17	15,605	7.30	10.76	0.48																																				
12-Mar-17	14,789	7.30	11.00	0.52																																				
13-Mar-17	16,105	7.33	10.69	0.53													<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
14-Mar-17	16,023	7.33	11.21	0.56																																				
15-Mar-17	16,065	7.32	9.78	0.63																																				
16-Mar-17	16,254	7.32	8.85	0.49																																				
17-Mar-17	15,902	7.32	9.09	0.51																																				
18-Mar-17	15,553	7.32	9.32	0.49																																				
19-Mar-17	15,986	7.33	9.38	0.47																																				
20-Mar-17	16,054	7.32	9.53	0.55	0.86	0.91	0.62	0.58	0.78	0.86	0.83	1.09	0.81	0.96	1.15		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
21-Mar-17	15,144	7.29	9.78	0.66																																				
22-Mar-17	15,220	7.11	9.87	1.10																																				
23-Mar-17	15,780	7.10	9.82	0.98																																				
24-Mar-17	16,523	7.31	10.08	0.38																																				
25-Mar-17	16,721	7.30	10.28	0.45																																				
26-Mar-17	15,916	7.30	10.34	0.43																																				
27-Mar-17	16,262	7.33	10.53	0.43	0.85	0.95	0.73	0.95		0.93	0.88	0.84	0.74	0.95	0.97		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
28-Mar-17	15,796	7.32	10.67	0.39																																				
29-Mar-17	15,898	7.33	10.77	0.44																																				
30-Mar-17	16,091	7.31	10.91	0.65																																				
31-Mar-17	16,322	7.33	11.03	0.45																																				
01-Apr-17	14,192	7.33	11.27	0.41																																				
02-Apr-17	15,167	7.33	11.30	0.41																																				
03-Apr-17	19,521	7.33	11.32	0.43	0.66	0.74	0.51	0.61	0.7	0.75	0.7	0.71	0.65	0.95	0.98		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
04-Apr-17	13,407	7.34	11.55	0.40																																				
05-Apr-17	18,776	7.31	11.78	0.49																																				
06-Apr-17	15,516	7.33	12.05	0.47																																				
07-Apr-17	15,392	7.38	12.01	0.44																																				
08-Apr-17	15,617	7.35	11.88	0.49																																				
09-Apr-17	15,598	7.35	11.85	0.43																																				
10-Apr-17	16,568	7.36	13.43	0.43													<1	<1	<1	<1	<1	<1	<1	<1		<1	<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1		
11-Apr-17	15,428	7.35	17.05	0.50																																				
12-Apr-17	15,905	7.37	16.30	0.52																					<1															
13-Apr-17	15,238	7.41	12.29	0.63																																				
14-Apr-17	16,216	7.42	10.77	0.66																																				
15-Apr-17	15,688	7.44	11.08	0.68																																				
16-Apr-17	16,018	7.44	11.28	0.74																																				
17-Apr-17	15,886	7.43	11.68	0.83																																				
18-Apr-17	16,001	7.43	11.71	0.64	0.75	0.82				0.77				0.8	1.07		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
19-Apr-17	16,820	7.40	11.61	0.37																																				
20-Apr-17	16,262	7.40	11.88	0.33																																				
21-Apr-17	15,903	7.41	12.33	0.38																																				
22-Apr-17	16,392	7.39	12.54	0.41																																				
23-Apr-17	16,482	7.40	12.70	0.38																																				

Date	RAW WATER				DISTRIBUTION SYSTEM																																			
					Chlorine Residual (mg/L)											Total Coliform											E.Coli													
	Consumption (m3)	pH	Temperature (˚C)	Turbidity (NTU)	74 Salisbury	Arden Stn	1750 Astra	2490 Waveland	4871 Greaves Crescent	3441 Cumberland	Comox Reservoir	Crown Isle Reservoir	E. Courtenay Reservoir	Marsden Reservoir	W.Courtenay Reservoir	1750 Astra	2490 Waveland	3441 Cumberland	4871 Greaves Crescent	74 Salisbury	Arden Stn	Comox Reservoir	Crown Isle Reservoir	E. Courtenay Reservoir	Marsden Reservoir	W.Courtenay Reservoir	1750 Astra	2490 Waveland	3441 Cumberland	4871 Greaves Crescent	74 Salisbury	Arden Stn	Comox Reservoir	Crown Isle Reservoir	E. Courtenay Reservoir	Marsden Reservoir	W.Courtenay Reservoir
24-Apr-17	16,843	7.41	12.78	0.33	0.7	0.83	0.65	0.59	0.75	0.75	0.77	0.75	0.67	0.86	1.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
25-Apr-17	17,419	7.42	12.93	0.32																																		
26-Apr-17	17,401	7.44	13.26	0.35																																		
27-Apr-17	17,328	7.47	13.30	0.37																																		
28-Apr-17	17,007	7.46	13.43	0.36																																		
29-Apr-17	15,665	7.45	13.54	0.36																																		
30-Apr-17	16,819	7.45	13.35	0.36																																		
01-May-17	17,141	7.48	13.11	0.38	0.75	0.87	0.71	0.8	0.84	0.71	0.81	0.81	0.71	0.87	0.95	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
02-May-17	16,881	7.48	13.39	0.43																																		
03-May-17	17,035	7.46	13.80	0.47																																		
04-May-17	17,611	7.46	14.40	0.47																																		
05-May-17	16,372	7.47	14.62	0.44																																		
06-May-17	18,102	7.47	14.48	0.40																																		
07-May-17	17,803	7.47	14.62	0.31																																		
08-May-17	18,129	7.47	14.51	0.32			0.71	0.64	0.72		0.77	0.8	1.04			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
09-May-17	18,409	7.47	14.57	0.30																																		
10-May-17	18,727	7.48	14.89	0.32																																		
11-May-17	17,441	7.48	14.96	0.34																																		
12-May-17	17,618	7.49	15.06	0.34																																		
13-May-17	16,501	7.49	15.30	0.37																																		
14-May-17	17,298	7.39	16.98	0.44																																		
15-May-17	16,520	7.38	15.39	0.37	0.72	0.82	0.72	0.74	0.83	0.71	0.78	0.77	0.71	0.86	1.03	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
16-May-17	17,076	7.47	14.17	0.28																																		
17-May-17	16,940	7.48	14.87	0.28																																		
18-May-17	18,454	7.50	15.12	0.28																																		
19-May-17	18,168	7.51	15.30	0.27																																		
20-May-17	20,033	7.49	15.57	0.25																																		
21-May-17	22,086	7.49	16.10	0.25																																		
22-May-17	24,425	7.49	16.76	0.25																																		
23-May-17	25,630	7.49	17.70	0.24	0.83	0.97	0.73	0.89	1.18	0.87	0.94	0.85	0.79	0.98	1.12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
24-May-17	24,736	7.49	17.57	0.26																																		
25-May-17	27,508	7.50	17.79	0.26																																		
26-May-17	30,384	7.50	18.08	0.26																																		
27-May-17	32,134	7.49	18.56	0.28																																		
28-May-17	33,516	7.48	18.87	0.35																																		
29-May-17	32,615	7.48	19.26	0.35	0.78	0.82	0.67	0.81	0.99	0.77	0.82	0.76	0.83	0.92	1.06	<1	<1	<1	<1	<1	<1	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1
30-May-17	30,075	7.51	19.36	0.49																																		
31-May-17	26,361	7.51	18.88	0.40																		0												0				
01-Jun-17	25,019	7.53	19.91	0.31																					0	0											0	0
02-Jun-17	26,947	7.55	19.39	0.31																		0	0	0	0	0								0	0	0	0	0
03-Jun-17	30,955	7.53	17.51	0.34																																		
04-Jun-17	34,605	7.54	17.80	0.38																																		
05-Jun-17	33,635	7.55	17.45	0.45	0.76	0.83	0.68	0.81	1.07	0.68	0.94	0.83	0.97	0.84	0.97	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
06-Jun-17	35,366	7.54	17.50	0.50																																		
07-Jun-17	34,123	7.56	17.87	0.38																																		
08-Jun-17	26,132	7.60	16.43	0.28																																		
09-Jun-17	26,732	7.65	15.81	0.30																																		
10-Jun-17	30,553	7.65	16.19	0.33																																		
11-Jun-17	33,535	7.65	17.17	0.36																																		
12-Jun-17	33,524	7.64	18.83	0.32	0.67	0.74			1.1	0.67				0.73	0.93	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
13-Jun-17	32,173	7.66	18.45	0.37																																		
14-Jun-17	30,177	7.64	18.64	0.27																																		
15-Jun-17	22,916	7.59	16.96	0.32																																		
16-Jun-17	24,329	7.52	14.26	0.30																																		
17-Jun-17	23,155	7.55	14.52	0.29																																		
18-Jun-17	24,381	7.54	14.72	0.29																																		
19-Jun-17	23,443	7.56	15.25	0.33												<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
20-Jun-17	25,826	7.56	15.72	0.74																																		
21-Jun-17	29,088	7.59	15.78	0.26																																		
22-Jun-17	34,250	7.58	16.32	0.31																																		
23-Jun-17	35,344	7.55	18.23	0.25																																		
24-Jun-17	39,494	7.54	19.32	0.24																																		
25-Jun-17	40,156	7.53	20.14	0.24																																		
26-Jun-17	38,973	7.53	19.15	0.32	0.82	0.87	0.66	0.86	0.98	0.86	0.89	0.95	0.93	0.89	0.93	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
27-Jun-17	39,284	7.52	17.41	0.23																																		
28-Jun-17	39,413	7.52	17.67	0.21																<1											<1							
29-Jun-17	39,693	7.51	18.04	0.21																																		
30-Jun-17	40,434	7.54	18.92	0.20																																		
01-Jul-17	40,865	7.56	19.42	0.21																																		
02-Jul-17	39,653	7.60	19.92	0.23																																		
03-Jul-17	42,059	7.59	20.30	0.27																																		
04-Jul-17	43,871	7.56	20.28	0.24												<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
05-Jul-17	45,068	7.53	20.17	0.22																																		
06-Jul-17	44,263	7.54	20.54	0.21																																		
07-Jul-17	42,994	7.53	21.22	0.21																																		
08-Jul-17	44,858	7.53	21.21	0.22																																		
09-Jul-17	42,354	7.54	21.28	0.21																																		
10-Jul-17	40,054	7.53	20.78	0.21	0.74	0.89			1.05	0.68				0.89	1.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
11-Jul-17	43,157	7.53	20.42	0.21																																		
12-Jul-17	42,394	7.52	20.70	0.21																																		
13-Jul-17	40,437	7.52	20.33	0.22																																		
14-Jul-17	42,367	7.53	20.29	0.22																																		
15-Jul-17	42,577	7.54	20.66	0.26																																		
16-Jul-17	42,782	7.52	20.09	0.29																																		
17-Jul-17	41,790	7.53	20.34	0.28	0.79	0.9			1.21	0.78				0.91	1.09	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
18-Jul-17	46,061	7.53	20.83	0.29																																		
19-Jul-17	44,897	7.53	20.95	0.30																																		
20-Jul-17	33,969	7.51	20.80	0.31																																		
21-Jul-17	29,930	7.51	20.12	0.31																																		
22-Jul-17	28,502	7.53	19.89	0.28																																		
23-Jul-17	32,872	7.56	20.50	0.28																																		
24-Jul-17	37,023	7.54	20.69	0.27			0.79	0.97			0.99	0.92	0.89			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
25-Jul-17	42,486	7.50	21.12	0.25																																		
26-Jul-17	43,796	7.48	21.46	0.23																																		
27-Jul-17	42,635	7.46	21.84	0.22																																		
28-Jul-17	41,128	7.50	21.65	0.21																																		
29-Jul-17	42,027	7.51	21.70	0.22																																		
30-Jul-17	44,607	7.52	21.97	0.23																																		
31-Jul-17	42,575	7.51	22.31	0.25	0.81	0.83	0.86	0.88		0.76	1.1/1.(	0.99	0.92	0.87	1.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
01-Aug-17	47,395	7.52	22.70	0.22																																		
02-Aug-17	47,879	7.49	22.80	0.21																																		
03-Aug-17	46,269	7.47	23.21	0.21																																		
04-Aug-17	47,192	7.46	23.91	0.20																																		
05-Aug-17	44,579	7.47	24.88	0.20																																		
06-Aug-17	42,783	7.46	25.08	0.20																																		
07-Aug-17	43,974	7.46	25.41	0.19																																		
08-Aug-17	45,779	7.45	24.64	0.18	0.71	0.84	0.88	0.96	1.19	0.71	1	0.99	0.97	0.84	1.03	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
09-Aug-17	43,656	7.45	24.28	0.17																																		
10-Aug-17	43,773	7.45	24.38	0.17																																		
11-Aug-17	40,881	7.44	24.91	0.16																		0												0				
12-Aug-17	36,250	7.42	24.87	0.16																<1											<1							
13-Aug-17	31,768	7.41	24.20	0.18																																		
14-Aug-17	35,300	7.43	23.75	0.17	0.72	0.83			0.98	0.7				0.84	1.04	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Date	RAW WATER				DISTRIBUTION SYSTEM																																
					Chlorine Residual (mg/L)											Total Coliform											E.Coli										
	Consumption (m3)	pH	Temperature (˚C)	Turbidity (NTU)	74 Salsbury	Arden Stn	1750 Astra	2490 Waveland	4871 Greaves Crescent	3441 Cumberland	Comox Reservoir	Crown Isle Reservoir	E. Courtenay Reservoir	Marsden Reservoir	W.Courtenay Reservoir	1750 Astra	2490 Waveland	3441 Cumberland	4871 Greaves Crescent	74 Salsbury	Arden Stn	Comox Reservoir	Crown Isle Reservoir	E. Courtenay Reservoir	Marsden Reservoir	W.Courtenay Reservoir	1750 Astra	2490 Waveland	3441 Cumberland	4871 Greaves Crescent	74 Salsbury	Arden Stn	Comox Reservoir	Crown Isle Reservoir	E. Courtenay Reservoir	Marsden Reservoir	W.Courtenay Reservoir
15-Aug-17	38,333	7.48	23.07	0.16																																	
16-Aug-17	40,602	7.51	22.48	0.15																																	
17-Aug-17	39,782	7.52	22.67	0.15																																	
18-Aug-17	37,666	7.52	23.04	0.17																																	
19-Aug-17	38,341	7.55	23.61	0.18																																	
20-Aug-17	40,795	7.54	24.24	0.18																																	
21-Aug-17	40,291	7.50	23.19	0.17	0.79	0.89	0.87	0.61	1.22	0.84	1.14	1.06	0.98	0.85	1.07	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
22-Aug-17	42,819	7.46	23.10	0.16																																	
23-Aug-17	38,430	7.55	23.06	0.16																																	
24-Aug-17	37,767	7.56	21.58	0.19																																	
25-Aug-17	38,356	7.61	21.73	0.21																																	
26-Aug-17	39,327	7.64	22.08	0.17																																	
27-Aug-17	40,769	7.64	22.46	0.18																																	
28-Aug-17	44,344	7.57	22.52	0.19	0.83	0.92	0.95	0.8	0.98	0.81	1.11	1.06	1.17	0.94	1.06	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
29-Aug-17	41,492	7.54	22.49	0.17																																	
30-Aug-17	40,799	7.55	22.17	0.24																																	
31-Aug-17	36,704	7.53	22.10	0.25																																	
01-Sep-17	38,604	7.48	23.12	0.24																																	
02-Sep-17	41,924	7.46	23.80	0.20																																	
03-Sep-17	41,765	7.45	24.41	0.19																																	
04-Sep-17	45,661	7.46	24.80	0.19																																	
05-Sep-17	41,706	7.46	25.05	0.19												<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
06-Sep-17	40,215	7.53	24.28	0.18																																	
07-Sep-17	32,528	7.52	23.71	0.20																																	
08-Sep-17	32,045	7.46	22.84	0.20																																	
09-Sep-17	28,307	7.46	21.68	0.22																																	
10-Sep-17	26,736	7.54	21.23	0.41																																	
11-Sep-17	26,699	7.57	21.43	0.36	0.69	0.34				0.69				0.79	1.02	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
12-Sep-17	26,548	7.51	21.52	0.38					0.87										<1											<1							
13-Sep-17	25,827	7.60	20.78	0.37																																	
14-Sep-17	26,128	7.63	20.41	0.39																																	
15-Sep-17	25,464	7.65	19.66	0.28																																	
16-Sep-17	25,430	7.65	19.80	0.31																																	
17-Sep-17	21,374	7.66	19.38	0.29																																	
18-Sep-17	22,196	7.65	18.60	0.27	0.66	0.77	0.7	0.71	1.02	0.6	0.81	0.77	0.84	0.83	1.04	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
19-Sep-17	20,892	7.67	18.51	0.26																																	
20-Sep-17	20,849	7.69	18.35	0.24																																	
21-Sep-17	21,692	7.65	18.39	0.23																																	
22-Sep-17	22,282	7.61	18.20	0.23																																	
23-Sep-17	23,439	7.57	18.87	0.16																																	
24-Sep-17	23,801	7.57	19.29	0.15																																	
25-Sep-17	20,534	7.57	19.15	0.14	0.63	0.73	0.62	0.73	0.45	0.7	0.96	0.89	0.89	0.73	1.08	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
26-Sep-17	21,153	7.57	19.17	0.16																																	
27-Sep-17	22,050	7.60	19.13	0.14																																	
28-Sep-17	22,848	7.58	19.26	0.16																																	
29-Sep-17	21,127	7.58	19.38	0.14																																	
30-Sep-17	20,698	7.60	20.41	0.19																																	
01-Oct-17	21,164	7.61	20.59	0.19																																	
02-Oct-17	20,890	7.59	19.34	0.15	0.74	0.82	0.72	0.78	0.81	0.8	0.93	0.88	0.92	0.86	1.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
03-Oct-17	21,557	7.59	17.66	0.15																																	
04-Oct-17	22,077	7.58	17.79	0.15																																	
05-Oct-17	21,460	7.60	17.05	0.15																																	
06-Oct-17	20,030	7.61	17.10	0.14																																	
07-Oct-17	20,326	7.62	16.83	0.18																																	
08-Oct-17	19,479	7.62	16.51	0.21																																	
09-Oct-17	19,987	7.62	16.49	0.18			0.62	0.71			0.87	0.78	0.91																								
10-Oct-17	19,303	7.62	16.48	0.18	0.75	0.91			0.91	0.77				0.93	1.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
11-Oct-17	19,262	7.56	16.11	0.17																																	
12-Oct-17	17,794	7.53	15.85	0.17																																	
13-Oct-17	17,666	7.51	15.48	0.17																																	
14-Oct-17	17,694	7.51	15.25	0.16																																	
15-Oct-17	18,000	7.52	15.37	0.16																																	
16-Oct-17	17,487	7.54	15.42	0.16	0.77	0.91	0.67	0.75	0.95	0.85	0.95	0.78	0.78	0.92	1.11	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
17-Oct-17	17,055	7.52	15.57	0.25																																	
18-Oct-17	17,002	7.52	15.22	0.21																																	
19-Oct-17	16,704	7.46	14.70	0.36																																	
20-Oct-17	16,675	7.49	14.60	0.21																																	
21-Oct-17	16,615	7.52	14.36	0.18																																	
22-Oct-17	16,963	7.48	14.25	0.24																																	
23-Oct-17	16,921	7.48	14.34	0.25	0.69	0.8			0.92	0.78				0.88	1.32	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
24-Oct-17	16,562	7.54	14.58	0.25																																	
25-Oct-17	16,687	7.52	15.11	0.23																																	
26-Oct-17	16,713	7.50	15.32	0.22																																	
27-Oct-17	16,364	7.48	15.45	0.27																																	
28-Oct-17	16,506	7.47	16.12	0.24																																	
29-Oct-17	16,414	7.47	16.51	0.23																																	
30-Oct-17	16,796	7.46	16.37	0.22	0.58	0.67	0.47	0.41	0.67	0.71	0.62	0.55	0.63	0.73	0.88	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
31-Oct-17	16,083	7.46	16.19	0.21																																	
01-Nov-17	16,050	7.46	15.31	0.21																																	
02-Nov-17	15,859	7.43	15.00	0.21																																	
03-Nov-17	16,111	7.46	14.27	0.20																																	
04-Nov-17	15,943	7.47	14.01	0.20																																	
05-Nov-17	16,660	7.45	14.04	0.19																																	
06-Nov-17	16,479	7.43	12.85	0.20	0.6	0.73	0.25	0.12	0.65	0.69	0.48	0.41	0.42	0.71	0.9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
07-Nov-17	16,095	7.41	12.38	0.19																																	
08-Nov-17	15,719	7.41	12.42	0.19																																	
09-Nov-17	15,885	7.40	12.61	0.19																																	
10-Nov-17	15,753	7.38	12.77	0.18																																	
11-Nov-17	16,106	7.36	12.99	0.18																																	
12-Nov-17	15,461	7.33	13.18	0.22																																	
13-Nov-17	14,213	7.24	13.17	0.61																																	
14-Nov-17	17,358	7.29	13.44	0.65	0.67	0.76	0.48	0.53	0.81	0.78	0.7	0.57	0.58	0.78	0.76	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
15-Nov-17	16,450	7.34	14.06	0.55																																	
16-Nov-17	15,844	7.42	12.99	0.46																																	
17-Nov-17	15,571	7.44	14.34	0.46																																	
18-Nov-17	14,886	7.44	15.24	0.49																																	
19-Nov-17	9,641	7.26	15.08	1.82																		0	0	0	0	0/<1							0	0	0	0	0/<1
20-Nov-17	22,903	7.22	12.55	0.63	0.52	0.65	0.37	0.4	0.84	0.7	0.69	0.54	0.69	0.74	1.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
21-Nov-17	16,147	7.16	12.68	1.34																		0	0	0	0	0							0	0	0	0	0
22-Nov-17	15,810	7.17	13.53	0.85																		0	0	0	0	0							0	0	0	0	0
23-Nov-17	16,058	7.16	12.78	0.71																		0	0	0	0	0							0	0	0	0	0
24-Nov-17	15,475	7.15	12.37	0.67																		0	0	0	0	0							0	0	0	0	0
25-Nov-17	15,936	7.15	12.85	0.74																		0	0	0	0	0							0	0	0	0	0
26-Nov-17	15,844	7.13	12.88	0.87																		0	0	0	0	0							0	0	0	0	0
27-Nov-17	16,562	7.13	12.69	0.62	0.68	0.84	0.46	0.41	0.69	0.81	0.72	0.56	0.59	0.84	0.99	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
28-Nov-17	15,952	7.13	12.49	0.65																																	
29-Nov-17	15,561	7.15	12.80	0.60																																	
30-Nov-17	15,494	7.13	15.22	0.63																																	
01-Dec-17	15,810	7.15	13.80	0.61																																	
02-Dec-17	15,573	7.13	11.40	0.57																																	
03-Dec-17	15,759	7.13	11.33	0.52																																	
04-Dec-17	16,097	7.17	11.42	0.51	0.61	0.81	0.59	0.51	0.69	0.74	0.66	0.72	0.62	0.83	0.9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
05-Dec-17	15,969	7.08	12.40	0.52																																	

Date	RAW WATER				DISTRIBUTION SYSTEM																																	
					Chlorine Residual (mg/L)												Total Coliform												E.Coli									
	Consumption (m3)	pH	Temperature (˚C)	Turbidity (NTU)	74 Salisbury	Arden Stn	1750 Astra	2490 Waveland	4871 Greaves Crescent	3441 Cumberland	Comox Reservoir	Crown Isle Reservoir	E. Courtenay Reservoir	Marsden Reservoir	W.Courtenay Reservoir	1750 Astra	2490 Waveland	3441 Cumberland	4871 Greaves Crescent	74 Salisbury	Arden Stn	Comox Reservoir	Crown Isle Reservoir	E. Courtenay Reservoir	Marsden Reservoir	W.Courtenay Reservoir	1750 Astra	2490 Waveland	3441 Cumberland	4871 Greaves Crescent	74 Salisbury	Arden Stn	Comox Reservoir	Crown Isle Reservoir	E. Courtenay Reservoir	Marsden Reservoir	W.Courtenay Reservoir
06-Dec-17	15,607	7.03	15.12	0.49																																
07-Dec-17	16,037	7.01	14.11	0.47																																
08-Dec-17	15,724	7.00	14.48	0.47																																
09-Dec-17	15,844	7.01	15.83	0.44																																
10-Dec-17	16,127	7.00	16.36	0.38																																
11-Dec-17	15,919	6.98	15.43	0.38	0.67	0.7	0.57	0.58	0.47	0.78	0.79	0.68	0.63	0.72	0.91	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
12-Dec-17	16,226	6.98	14.94	0.38																																
13-Dec-17	15,948	6.96	17.00	0.40																																
14-Dec-17	15,961	7.07	16.46	0.41																																
15-Dec-17	15,816	7.19	12.57	0.38																																
16-Dec-17	15,653	7.14	11.23	0.36																																
17-Dec-17	15,873	7.13	11.78	0.35																																
18-Dec-17	16,040	7.13	12.47	0.34	0.63	0.73	0.67	0.62	0.92	0.84	0.82	0.78	0.76	0.69	1.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
19-Dec-17	15,788	7.13	12.91	0.33																																
20-Dec-17	16,049	7.12	12.00	0.32																																
21-Dec-17	15,739	7.13	10.68	0.31																																
22-Dec-17	16,487	7.09	9.63	0.29																																
23-Dec-17	16,244	7.08	8.86	0.29																																
24-Dec-17	16,339	7.07	9.22	0.28																																
25-Dec-17	16,585	7.06	9.11	0.27																																
26-Dec-17	15,912	7.06	8.56	0.27																																
27-Dec-17	16,049	7.04	8.68	0.26	0.72	0.88	0.69	0.8	0.82	**1.07**	0.79	0.79	0.73	0.85	0.93	0	0	0	0	0	0		0		0	0	0	0	0	0	0	0		0		0	0
28-Dec-17	16,000	7.01	8.96	0.25																																
29-Dec-17	15,933	6.99	8.89	0.25																																
30-Dec-17	16,124	6.99	8.87	0.24																																
31-Dec-17	15,915	6.98	8.89	0.24																																
Count	365	365	365	365	42	43	38	38	40	42	38	38	38	43	43	52	52	52	52	53	52	66	65	65	66	66	52	52	52	52	53	52	66	65	65	66	65
Average	23,116	7.39	15.25	0.40	0.78	0.86	0.66	0.68	0.89	0.82	0.84	0.8	0.79	0.89	1.05																						
*<1/<1 denotes two samples taken on the same day																																				