

# Annual Drinking Water Report - 2025

## Royston Water System



 **Comox Valley**  
REGIONAL DISTRICT

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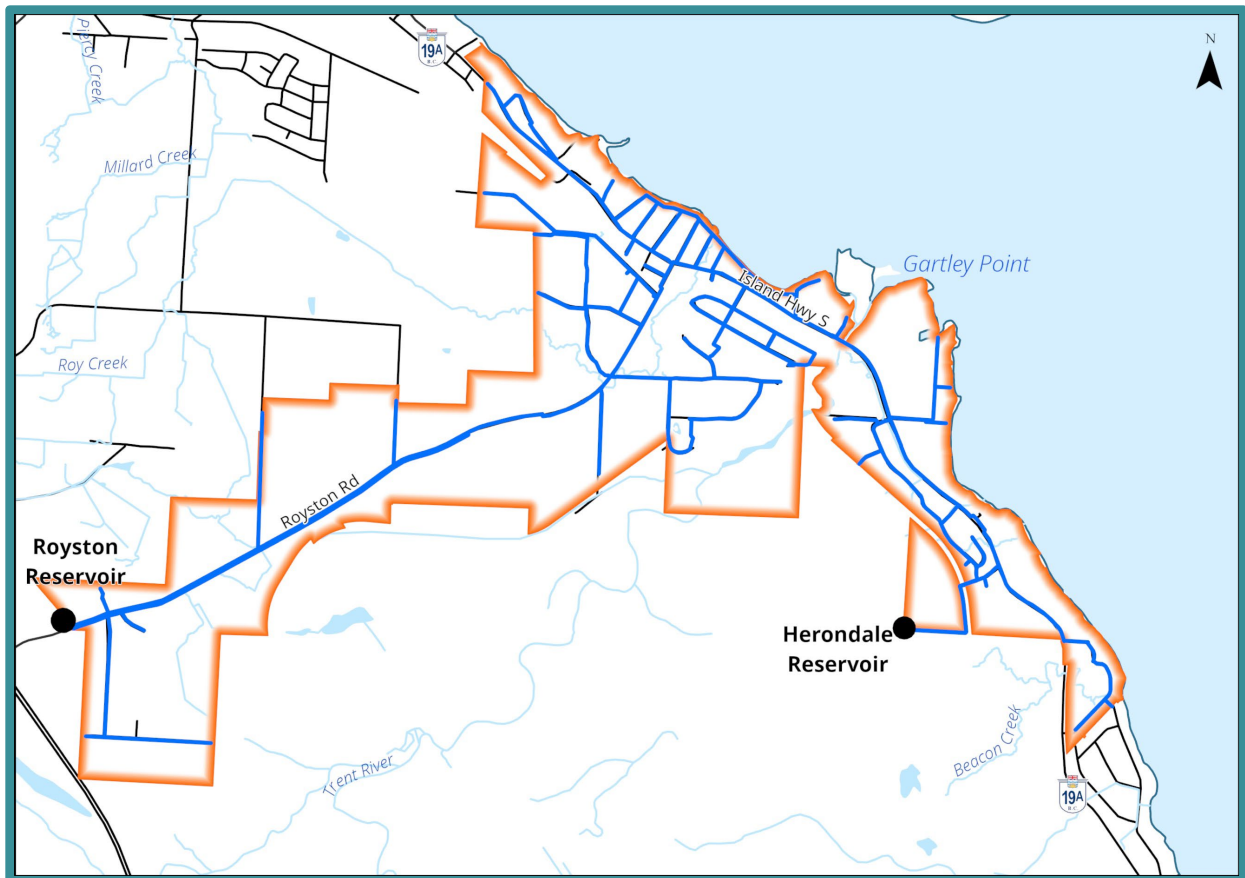
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*The Comox Valley Regional District respectfully acknowledges that the land on which it operates is the unceded territory of the K'ómoks First Nation, the traditional keepers of this land.*

## Introduction

The Comox Valley Regional District strives to provide high-quality drinking water through responsible operation and management of the water system. The CVRD is regulated by Island Health for its activities as a potable water supplier and is required under the *Drinking Water Protection Act* to report annually on the Royston Water System. This report includes information on water quality, consumption, maintenance, and capital projects.

The CVRD provides water to roughly 2300 residents in the Royston Service Area.



## Source Water

Water for the Royston Service Area is purchased from the Village of Cumberland, where it is sourced from a series of lakes including Allen Lake and a well at Coal Creek Historic Park.



*Allen Lake.*

## Water Treatment

All water supply systems using surface water are governed by Island Health and are required to adhere to provincial “4-3-2-1-0” 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 and Cryptosporidium
- 2 types of treatment processes
- 1 maximum Nephelometric Turbidity Units in treated water
- 0 detectable E. Coli, fecal coliforms and total coliforms in treated water

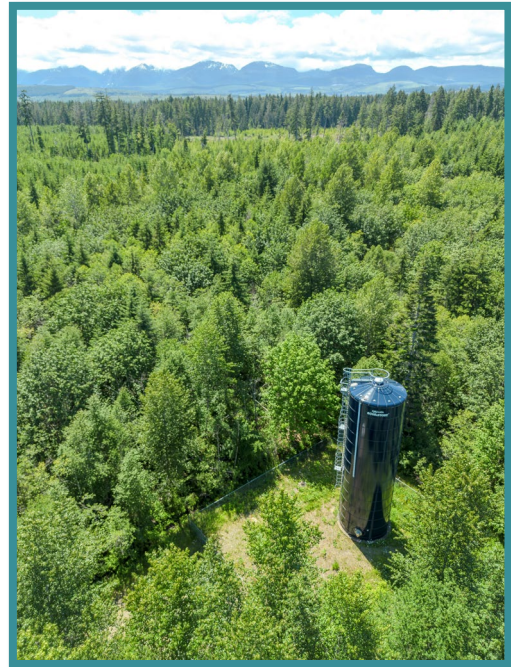
Water entering the Royston Service Area is treated and provided by the Village of Cumberland and is compliant with provincial regulations. The water is re-chlorinated at the Royston Reservoir site for both the water that flows into the Royston Reservoir and water directed to the Kentwood pressure zone.

## Water Distribution

Water leaves the Royston Reservoir and travels downhill towards the community of Royston. As pressure builds, it passes through pressure reducing valves to bring it back down into a manageable range. By the time it reaches Marine Drive, it has built back up to approximately 90psi.

The system extends from beyond Thomson Road in the north, to Kilmarnock Drive in the south at the boundary with Union Bay. There is a second reservoir on Herondale Road that provides supply for fire protection for southern Royston.

There are 134 fire hydrants and 968 service connections in the distribution system.



*Herondale Reservoir.*

## Water Quality

The Ministry of Health, through its regional body Island Health, regulates municipal drinking water quality through the *Drinking Water Protection Act* and the *Drinking Water Protection Regulation*. Both documents set out certain requirements for drinking water purveyors to ensure the provision of safe drinking water to their customers.

The *Guidelines for Canadian Drinking Water Quality* are developed by the Federal-Provincial-Territorial Committee on Drinking Water, and they provide a limit on microbial, chemical, physical, radiological substances called a “maximum acceptable 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.

The CVRD collects and analyzes weekly water quality samples at the water treatment facility, source water, Macaulay, and Kelland Reservoirs, and from various other strategic points within the distribution system to ensure that water is meeting regulatory objectives. Additionally, beyond the scope of this document, water from select locations is tested periodically throughout the year for over 200 different analytes to confirm the effectiveness of treatment processes, the quality of our source water, and the integrity of the distribution system.

### Water Quality Summary

Distribution Water	2024	2025	Target
<b>Turbidity</b> (Average, NTU)	0.31	0.54	<1
<b>Temperature</b> (Average, °C)	11.8	12.3	<15
<b>pH</b> (Average)	7.5	7.5	7-10.5
<b>Chlorine Residual</b> (Average, mg/L)	0.81	0.7	$0.4 \geq \leq 2.0$
<b>Total Coliforms</b> (Positive Samples)	1	1	0
<b>E. Coli</b> (Positive Samples)	0	0	0
<b>Trihalomethanes</b> (Average, mg/L)	0.078*	0.038	<0.1

\*No trihalomethanes sample result was higher than 0.081.

## Distribution Water – Data by Sample Site

Date	262 Spindrifft		3200 Royston		3269 Kentwood		3771 Haas		4090 Gartley Pt.		Herondale Res.	
	Cl <sup>2</sup>	NTU	Cl <sup>2</sup>	NTU	Cl <sup>2</sup>	NTU	Cl <sup>2</sup>	NTU	Cl <sup>2</sup>	NTU	Cl <sup>2</sup>	NTU
January 6							0.73	0.46				
January 13			0.98	0.49	0.52	0.67						
January 20	0.22	0.44										
January 22	0.55	1.15										
January 27									0.87	0.45		
February 3							0.89	0.50				
February 10			1.01	0.35								
February 19	0.62	0.62										
February 24									0.71	0.47		
March 3							0.74	0.64				
March 10			1.03	0.48	0.52	0.63						
March 17	0.54	0.89										
March 19											0.84	0.55
March 24									0.68	0.52		
April 7							0.71	0.64				
April 14			1.07	0.51	0.56	0.35						
April 22	0.21	0.62										
April 28									0.94	0.43		
May 5							0.85	0.59				
May 12			1.12	0.59	0.60	0.49						
May 16			1.01	0.49								
May 20	0.24	0.44	1.20	0.42								
May 26									0.80	0.55		
June 2							0.85	0.35			0.79	0.51
June 9			1.12	0.58	0.81	0.60						
June 16	0.43	0.53										
June 23									0.81	0.64		
July 7			1.10	0.53	0.65	0.89						
July 14			1.00	0.61	0.62	0.61						
July 21	0.34	0.55										
July 28									0.70	0.44		
August 5												
August 11			1.22	0.45	0.83	0.46						
August 20	0.35	0.34										
August 25									0.83	0.53		
September 2							0.69	0.44				
September 8			1.00	0.80	0.80	0.51						
September	0.27	0.53										
September	0.20	0.51										
September											0.80	0.78
October 6							0.67	0.85				
October 14			0.84	0.62	0.37	0.35						
October 21	0.28	0.36										
October 27									0.40	0.81		
November 3							0.37	0.48				
November 12			0.92	0.71	0.51	0.57						
November 17	0.19	0.45										
November 24									0.46	0.51		
December 1							0.50	0.36				
December 8			1.01	0.38	0.77	0.57						
December 22									0.46	0.40		
December 29											0.80	0.52

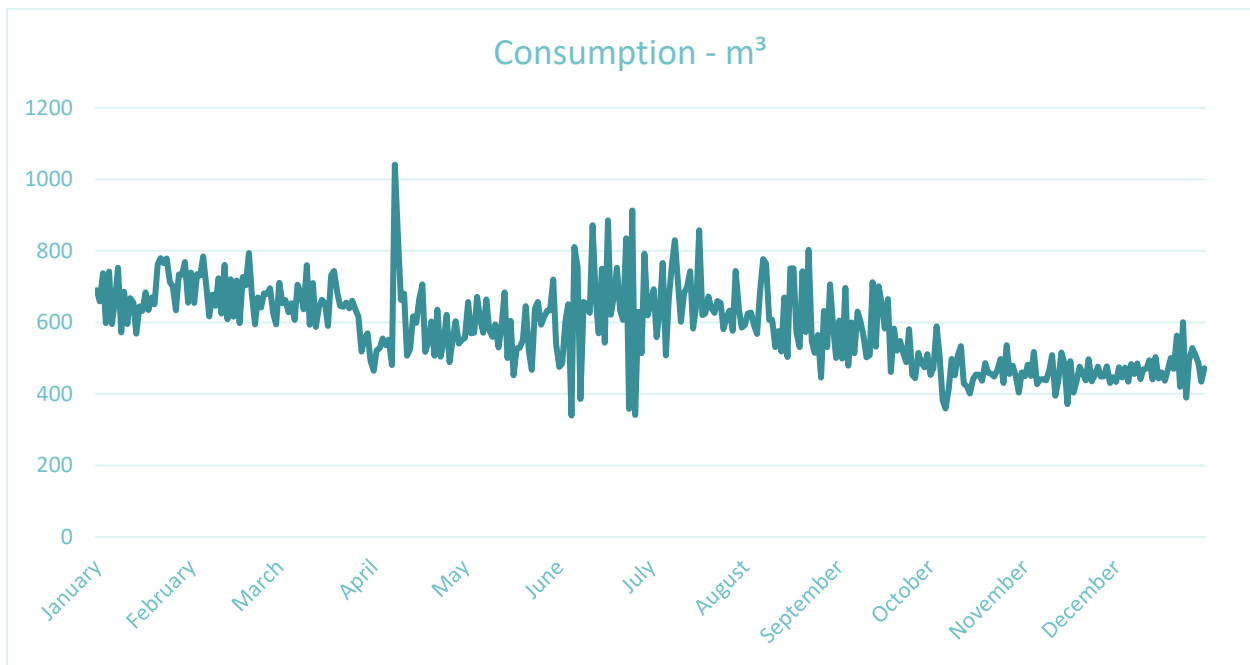
## Distribution Water – Other Analytes

Parameter	Units	DL	Q1	Q2	Q3	Q4
Total Dissolved Solids	mg/L	N/A	40	42	60	40
Nitrite (N)	mg/L	N/A	<0.0050	<0.0050	<0.0050	<0.0050
Nitrate (N)	mg/L	N/A	<0.020	<0.020	<0.020	<0.020
Conductivity	uS/cm	N/A	69	84	96	99
pH	pH		6.68	6.77	7.25	7.97
Alkalinity (PP as CaCO3)	mg/L		<1.0	<1.0	<1.0	<1.0
Alkalinity (Total as CaCO3)	mg/L	10	17	18	22	22
Bicarbonate (HCO3)	mg/L	0.005	21	22	27	27
Carbonate (CO3)	mg/L	0.02	<1.0	<1.0	<1.0	<1.0
Hydroxide (OH)	mg/L	2	<1.0	<1.0	<1.0	<1.0
Chloride (Cl)	mg/L	N/A	9.4	12	14	17
Sulphate (SO4)	mg/L	1	<1.0	<1.0	<1.0	<1.0
True Colour	Col. Unit	1	<2.0	2.4	2.6	2.4
Orthophosphate (P)	mg/L	1	<0.0030	<0.0030	<0.0030	<0.0030
Nitrate plus Nitrite (N)	mg/L	1	<0.020	<0.020	<0.020	<0.020
Dissolved Fluoride (F)	mg/L	1	<0.050	<0.050	<0.050	<0.050
Turbidity	NTU	1	0.68	0.42	0.65	0.46
Total Coliforms	CFU/100mL	1	0	0	0	0
E. coli	CFU/100mL	2	0	0	0	0
Bromide (Br)	mg/L	0.003	0.014	0.113	0.091	0.027
Total Hardness (CaCO3)	mg/L	0.02	14.9	16.6	19.1	16.1
Total Aluminum (Al)	ug/L	0.05	37	12.4	4.8	27.1
Total Antimony (Sb)	ug/L	0.1	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	N/A	<0.10	<0.10	<0.10	<0.10
Total Barium (Ba)	ug/L	N/A	<1.0	1.2	1.2	1.1
Total Beryllium (Be)	ug/L	0.01	<0.10	<0.10	<0.10	<0.10
Total Bismuth (Bi)	ug/L	0.5	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	3	<50	<50	<50	52
Total Cadmium (Cd)	ug/L	0.5	<0.010	<0.010	<0.010	<0.010
Total Chromium (Cr)	ug/L	0.1	<1.0	<1.0	<1.0	<1.0
Total Cobalt (Co)	ug/L	1	<0.20	<0.20	<0.20	<0.20
Total Copper (Cu)	ug/L	0.1	4.39	1.5	1.52	1.42
Total Iron (Fe)	ug/L	1	70.7	77.4	<b>168</b>	80.1
Total Lead (Pb)	ug/L	50	<0.20	<0.20	0.2	0.31
Total Manganese (Mn)	ug/L	0.01	4.1	6.3	17	4.4
Total Molybdenum (Mo)	ug/L	1	<1.0	<1.0	<1.0	<1.0
Total Nickel (Ni)	ug/L	0.2	<1.0	<1.0	<1.0	<1.0
Total Selenium (Se)	ug/L	0.2	<0.10	<0.10	<0.10	<0.10
Total Silicon (Si)	ug/L	5	3150	2880	2960	3310
Total Silver (Ag)	ug/L	0.2	<0.020	<0.020	<0.020	<0.020

Total Strontium (Sr)	ug/L	1	11	12.3	13.3	11.5
Total Thallium (Tl)	ug/L	1	<0.010	<0.010	<0.010	<0.010
Total Tin (Sn)	ug/L	1	<5.0	<5.0	<5.0	<5.0
Total Titanium (Ti)	ug/L	0.1	<5.0	<5.0	<5.0	<5.0
Total Uranium (U)	ug/L	100	<0.10	<0.10	<0.10	<0.10
Total Vanadium (V)	ug/L	0.02	<5.0	<5.0	<5.0	<5.0
Total Zinc (Zn)	ug/L	1	<5.0	<5.0	<5.0	<5.0
Total Zirconium (Zr)	ug/L	0.01	<0.10	<0.10	<0.10	<0.10
Total Calcium (Ca)	mg/L	5	4.37	5.04	5.89	4.65
Total Magnesium (Mg)	mg/L	5	0.98	0.971	1.06	1.08
Total Potassium (K)	mg/L	0.1	0.107	0.111	0.115	0.125
Total Sodium (Na)	mg/L	5	7.52	9.01	9.38	11.4
Total Sulphur (S)	mg/L	5	<3.0	<3.0	<3.0	<3.0
Total Mercury (Hg)	ug/L	0.1	0.002	<0.0019	<0.0019	<0.0019
Total Trihalomethanes	ug/L	0.05	81	65	81	77
Bromodichloromethane	ug/L	0.05	2.4	2.4	3.6	2.3
Bromoform	ug/L	0.05	<1.0	<1.0	<1.0	<1.0
Dibromochloromethane	ug/L	0.05	<1.0	<1.0	<1.0	<1.0
Chloroform	ug/L	3	79	63	77	75

## Consumption Metrics and Water Rates

The average daily water production in 2025 was 585m<sup>3</sup> per day. Demand is highest during the summer months - approximately twice as much as during the winter. In 2025, system demand reached its highest point on April 9<sup>th</sup> with 1040m<sup>3</sup> of water being used due to water main flushing.



		2025	2026
<b>Residential &amp; Commercial</b>	Minimum Charge	\$33.42	\$35.76
	0m <sup>3</sup> to 25m <sup>3</sup>	\$1.13/m <sup>3</sup>	\$1.21/m <sup>3</sup>
	25m <sup>3</sup> to 50m <sup>3</sup>	\$1.41/m <sup>3</sup>	\$1.51/m <sup>3</sup>
	Over 50m <sup>3</sup>	\$1.71/m <sup>3</sup>	\$1.83/m <sup>3</sup>

# Conservation

Water conservation is an increasingly important initiative and while it seems as if there is an abundance of water available, our supply is truly a limited resource, particularly during the summer months.

The CVRD has a four-stage system in place for managing water consumption. Stage one is the least restrictive and comes into effect annually on May 1<sup>st</sup> unless otherwise noted. Stage two, three, and four are more restrictive and are implemented as needed, depending on operational requirements or forecasts of water inflow provided by the Village of Cumberland.

## Royston Watering Schedule

Residential lawn and garden watering is permitted with a sprinkler during the specified days and hours as follows:

STAGE	STARTS	HOURS	Mon	Tues	Wed	Thu	Fri	Sat	Sun
1	Starting May 1	5-8 am & 7-10 pm	No Watering	Even Address	Odd Address	Even Address	Odd Address	Even Address	Odd Address
2	When Notified	6-8 am & 8-10 pm	No Watering	Even Address	Odd Address	No Watering	No Watering	Even Address	Odd Address
3	When Notified	6-8 am & 8-10 pm	HAND WATERING OR MICRO/DRIP IRRIGATION OF TREES, SHRUBS, FLOWERS AND VEGETABLES ONLY						
4	When Notified	N/A	NO WATERING						

Hand watering or micro/drip irrigation of trees, shrubs and vegetables is permitted anytime during Stage 1 and 2.

For more information visit:  
[comoxvalleyrd.ca/restrictions](http://comoxvalleyrd.ca/restrictions)  
 or call **250-334-6000**



## Operations

Water treatment facilities and distribution systems are operated by 15 qualified operators. In 2025, several ongoing and annual maintenance activities were carried out, as well as improvements to work order tracking, data collection, and map improvements.

Additionally, many non-annual projects were completed such as reservoir cleaning, and hydrant painting.

