An aerial photograph of a large, winding lake surrounded by a dense forest of evergreen trees. In the background, there are mountains with patches of snow under a clear blue sky. The lake's water is a deep blue, reflecting the surrounding greenery.

Annual Drinking Water Report - 2025 Graham Lake Water System

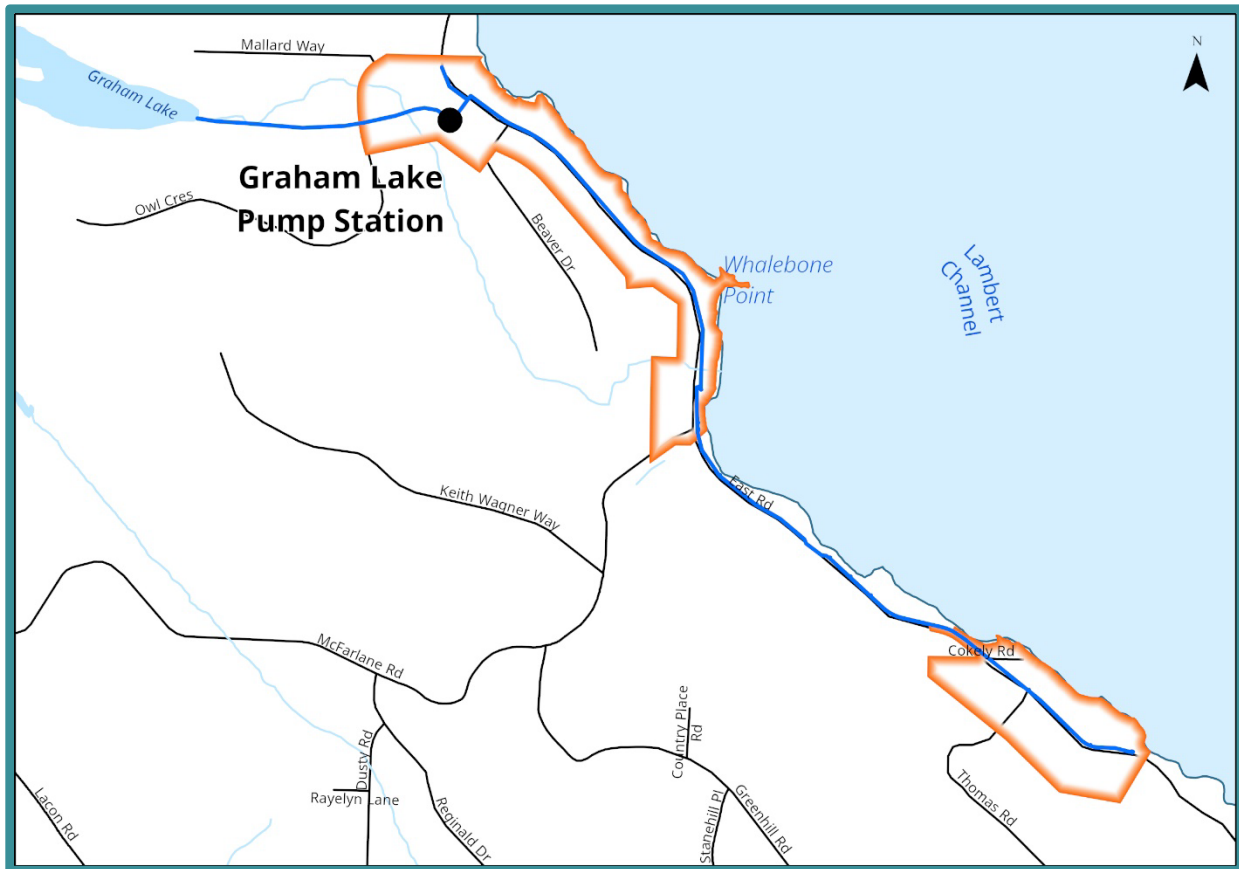
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Introduction

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 Graham Lake Water System. This report includes information on water quality, consumption, maintenance, and capital projects.

The CVRD provides water to roughly 174 residents in the Graham Lake Service Area.



Source Water

Water for the Graham Lake Service Area is sourced from Graham Lake, a 1.3km long body of water surrounded by forest and adjacent to the Lindsay Dickson Nature Reserve.

The reservoir holds approximately 200 megaliters, and ranges in capacity depending on the season.



Graham 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 being filtration)
- 1 maximum Nephelometric Turbidity Units in treated water
- 0 detectable E. Coli, fecal coliforms and total coliforms in treated water

The journey from source to tap begins above the bed of Graham Lake where water enters the screened intake and flows 750m to the water treatment facility. When it arrives, it flows through two parallel sand filters which strain out smaller particulate and ultra violet reactors which deactivate bacteria. Then the water is injected with sodium hypochlorite before entering a stainless-steel tank. After adequate contact time, it enters the distribution system. The current treatment technology does not meet the ‘Drinking Water Treatment Objectives for Surface Water In BC’ and the CVRD is currently evaluating technologies and working towards an acceptable solution.

Water Distribution

Water leaves the treatment facility and travels southward along East Road servicing 88 homes and 5 fire hydrants.

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 uses in-line analyzers to monitor raw water from Graham Lake, treated water leaving the facility, and at points throughout the treatment process. Weekly water quality samples from various strategic points within the distribution system are also collected to ensure that water is meeting regulatory objectives.

Additionally, water from select locations is tested periodically throughout the year for many 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	2025	2025	Target
Turbidity (Average, NTU)	0.46	0.49	<1
pH (Average)	7.2	7.3	7-10.5
Chlorine Residual (Average, mg/L)	0.62	1.32	0.4 \geq \leq 2.0
Total Coliforms (Positive Samples)	0	0	0
E. Coli (Positive Samples)	0	0	0
Trihalomethanes (Average, mg/L)	0.1	0.1	<0.1

Distribution Water – Data by Sample Site

Date	4356 East Road		5326 East Road	
	Total Coliform	E. Coli	Total Coliform	E. Coli
01-06	LT1	LT1	LT1	LT1
01-13	LT1	LT1	LT1	LT1
01-20	LT1	LT1	LT1	LT1
01-27	LT1	LT1	LT1	LT1
02-03	LT1	LT1	LT1	LT1
02-10	LT1	LT1	LT1	LT1
02-18	LT1	LT1	LT1	LT1
02-24	LT1	LT1	LT1	LT1
03-03	LT1	LT1	LT1	LT1
03-10	LT1	LT1	LT1	LT1
03-17	LT1	LT1	LT1	LT1
03-24	LT1	LT1	LT1	LT1
03-31	LT1	LT1	LT1	LT1
04-08	LT1	LT1	LT1	LT1
04-14	LT1	LT1	LT1	LT1
04-22	LT1	LT1	LT1	LT1
04-28	LT1	LT1	LT1	LT1
05-05	LT1	LT1	LT1	LT1
05-12	LT1	LT1	LT1	LT1
05-20	LT1	LT1	LT1	LT1
05-26	LT1	LT1	LT1	LT1
06-02	LT1	LT1	LT1	LT1
06-09	LT1	LT1	LT1	LT1
06-16	LT1	LT1	LT1	LT1
06-23	LT1	LT1	LT1	LT1
06-30	LT1	LT1	LT1	LT1
07-07	LT1	LT1	LT1	LT1
07-15	LT1	LT1	LT1	LT1
07-21	LT1	LT1	LT1	LT1
07-28	LT1	LT1	LT1	LT1
08-05	LT1	LT1	LT1	LT1
08-11	LT1	LT1	LT1	LT1
08-18	LT1	LT1	LT1	LT1
08-25	LT1	LT1	LT1	LT1
09-02	LT1	LT1	LT1	LT1
09-08	LT1	LT1	LT1	LT1
09-15	LT1	LT1	LT1	LT1
09-22	LT1	LT1	LT1	LT1
10-01	LT1	LT1	LT1	LT1
10-06	LT1	LT1	LT1	LT1
10-14	LT1	LT1	LT1	LT1
10-20	LT1	LT1	LT1	LT1
10-27	LT1	LT1	LT1	LT1
11-03	LT1	LT1	LT1	LT1
11-12	LT1	LT1	LT1	LT1
11-17	LT1	LT1	LT1	LT1
11-24	LT1	LT1	LT1	LT1
12-01	LT1	LT1	LT1	LT1
12-08	LT1	LT1	LT1	LT1
12-15	LT1	LT1	LT1	LT1
12-22	LT1	LT1	LT1	LT1
12-29	LT1	LT1	LT1	LT1