Capital Regional District

625 Fisgard St.,
Victoria, BC V8W 1R7

Notice of Meeting and Meeting Agenda
Regional Water Supply Commission

Wednesday, May 20, 2026 | **1:30 PM** | **6th Floor Boardroom, 625 Fisgard St., Victoria, BC V8W 1R7**

G. Baird (Chair), M. Wagner, (Vice Chair), J. Caradonna, N. Chambers, C. Coleman, Z. de Vries, S. Duncan, C. Graham, S. Gray, C. Green, K. Guiry, S. Hammond, K. Harper, K. Jordison, S. Kim, T. Morrison, K. Pearson, T. Phelps Bondaroff, J. Rogers, C. Stock, M. Westhaver, A. Wickheim

The Capital Regional District strives to be a place where inclusion is paramount and all people are treated with dignity. We pledge to make our meetings a place where all feel welcome and respected.

1. TERRITORIAL ACKNOWLEDGEMENT

2. APPROVAL OF THE AGENDA

3. ADOPTION OF MINUTES

3.1. 26-0582 Minutes of the Regional Water Supply Commission Meeting of April 15, 2026

Recommendation: That the minutes of Regional Water Supply Commission meeting of April 15, 2026 be adopted as circulated.

Attachments: Minutes: April 15, 2026

4. CHAIR'S REMARKS

5. PRESENTATIONS/DELEGATIONS

The public are welcome to attend CRD meetings in-person.

Delegations will have the option to participate electronically. Please complete the online application at www.crd.ca/address no later than 4:30 pm two days before the meeting and staff will respond with details.

Alternatively, you may email your comments on an agenda item to the Commission at legserv@crd.bc.ca.

6. CONSENT AGENDA

6.1. 26-0567 Summary of Recommendations from Other Water Commissions

Recommendation: There is no recommendation. This report is for information only.

Attachments: Summary: JWDC - May 5, 2026

6.2. 26-0564 Water Watch Report - May

Recommendation: There is no recommendation. This report is for information only.

Attachments: Water Watch Report - May 11, 2026

6.3. 26-0575 Monthly Drinking Water Quality Dashboard - April

Recommendation: There is no recommendation. This report is for information only.

Attachments: Monthly Drinking Water Quality Dashboard - April 2026

7. COMMISSION BUSINESS

7.1. 26-0581 General Manager's Verbal Update - May

Recommendation: There is no recommendation. This verbal update is for information only.

7.2. 26-0530 2027 Service Delivery - Staffing Requirements

Recommendation: There is no recommendation. This report is for information only.

Attachments: Staff Report: 2027 Service Delivery - Staffing Requirements
Appendix A: Summary of Initiatives Planned for Future Years

7.3. 26-0406 Bylaw Nos. 4753, 4769, and 4770: First Nations' Access to the Greater Victoria Water Supply Area

Recommendation: That the Regional Water Supply Commission recommend to the Capital Regional District Board:
1. That Bylaw No. 4753, "Capital Regional District Water Supply Area Regulations Bylaw No. 1, 2000, Amendment Bylaw No. 3, 2026" be introduced and read a first, second and third time;
(WP - ALL except SGI and SSI, 2/3 on adoption)
2. That Bylaw No. 4753 be adopted;
(WP - ALL except SGI and SSI, 2/3 on adoption)
3. That Bylaw No. 4769, "Capital Regional District Ticket Information Authorization Bylaw, 1990, Amendment Bylaw No. 90, 2026" be introduced and read a first, second and third time;
(NWA)
4. That Bylaw No. 4769 be adopted;
(NWA)
5. That Bylaw No. 4770, "Bylaw Notice Enforcement Bylaw No. 1, 2025, Amendment Bylaw No. 4, 2026" be introduced and read a first, second and third time; and
(NWA)
6. That Bylaw No. 4770 be adopted.
(NWA)

Attachments:
- Staff Report: First Nations' Access to the GVWSA
- Appendix A: Bylaw No. 2804 (redlined consolidated version)
- Appendix B: Water Supply Area Access and Special Use Procedure
- Appendix C: Bylaw No. 4753
- Appendix D: Bylaw No. 4769
- Appendix E: Bylaw No. 4770

7.4. 26-0498 2026-2035 Water Conservation Plan for Greater Victoria

Recommendation: That the Regional Water Supply Commission:
1. Approve the 2026-2035 Greater Victoria Water Conservation Plan and direct staff to move forward with the actions identified; and
2. Direct staff to forward the 2026-2035 Greater Victoria Water Conservation Plan to the Capital Regional District Board for information.
(NWA)

Attachments:
- Staff Report: 2026-2035 Water Conservation Plan for Greater Victoria
- Appendix A: 2026-2035 Water Cons. Plan for Greater Victoria (April 2026)
- Appendix B: 2026-2035 Water Cons. Plan Goals, Targets and Actions

7.5. 26-0522 Greater Victoria Water Supply Area 2025 Wildfire Management Update

Recommendation: There is no recommendation. This report is for information only.

Attachments:
- Staff Report: GVWSA 2025 Wildfire Management Update
- Appendix A: 2025 Wildfire Management Map

8. NOTICE(S) OF MOTION

9. NEW BUSINESS

10. ADJOURNMENT

The next meeting is June 17, 2026.

Votinq Key:
NWA - Non-weighted vote of all Directors
NWP - Non-weighted vote of participants (as listed)
WA - Weighted vote of all Directors
WP - Weighted vote of participants (as listed)

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625 Fisgard St.,
Victoria, BC V8W 1R7

Capital Regional District

Meeting Minutes

Regional Water Supply Commission

Wednesday, April 15, 2026 **1:30 PM** **6th Floor Boardroom**
625 Fisgard St.
Victoria, BC V8W 1R7

PRESENT:
G. Baird (Chair), M. Wagner, (Vice Chair), J. Caradonna (1:31 pm), N. Chambers, C. Coleman, Z. de Vries (1:31 pm), S. Duncan (EP), C. Graham (EP), S. Gray (EP), C. Green, K. Guiry, M. Dell (for S. Hammond) (EP) (1:33 pm), K. Harper, K. Jordison, S. Kim, T. Morrison (EP), T. Phelps Bondaroff (EP), J. Rogers, A. Wickheim (EP)

STAFF: A. Fraser, General Manager, Infrastructure and Water Services; K. Morley, Corporate Officer/General Manager, Corporate Services; V. Somosan, Acting General Manager, Finance and Technology; A. Constabel, Senior Manager, Watershed Protection; G. Harris, Senior Manager, Environmental Protection; S. Irg, Senior Manager, Water Infrastructure Operations; J. Marr, Senior Manager, Infrastructure Planning and Engineering; S. May, Senior Manager, Corporate Capital Project Delivery Services; C. Whipp, Manager, Structures and Systems; C. Cholette, Senior Project Engineer; M. Despins, Senior Financial Advisor; M. Miklea, Deputy Corporate Officer/Manager, Legislative Services; M. MacDonald, Legislative Services Coordinator (Recorder)

EP - Electronic Participation

Regrets: S. Hammond, K. Pearson, C. Stock, M. Westhaver

The meeting was called to order at 1:30 pm.

1. TERRITORIAL ACKNOWLEDGEMENT

Chair Baird provided a Territorial Acknowledgement.

2. APPROVAL OF THE AGENDA

MOVED by Commissioner Harper, SECONDED by Commissioner Wagner,
That the agenda for the Regional Water Supply Commission meeting of April 15, 2026 be approved.
CARRIED

3. ADOPTION OF MINUTES

3.1. 26-0429 Minutes of the Regional Water Supply Commission Meeting of March 18, 2026

MOVED by Commissioner Guiry, SECONDED by Commissioner Harper,
That the minutes of the Regional Water Supply Commission meeting of March 18, 2026 be adopted as circulated.
CARRIED

4. CHAIR'S REMARKS

There were no Chair's remarks

5. PRESENTATIONS/DELEGATIONS

There were no presentations or delegations.

6. CONSENT AGENDA

MOVED by Commissioner Harper, SECONDED by Commissioner Green,
That consent agenda Items 6.1. - 6.3. be approved.
CARRIED

6.1. 26-0432 Summary of Recommendations from Other Water Commissions

There is no recommendation. This report is for information only.

6.2. 26-0431 Water Watch Report - April

There is no recommendation. This report is for information only.

6.3. 26-0426 Monthly Drinking Water Quality Dashboard - March

There is no recommendation. This report is for information only.

7. COMMISSION BUSINESS

7.1. 26-0383 General Manager's Verbal Update - April

A. Fraser spoke to Item 7.1. and advised:
- the Water Watch Report shows that Sooke Lake Reservoir is still near-full
- Stage 1 water restrictions will be in effect as of May 1
- flexibility in watering times introduced to manage peak water demands
- success of Fix a Leak Week campaign which ran from March 16-22
- public engagement and education campaigns are ongoing
- watershed tours are now open

Discussion ensued regarding:
- recommended minimum age for watershed tour participants
- local water main flushing programs can lead to temporary turbidity

7.2. 26-0278 2027 Service and Financial Planning Guidelines

V. Somosan presented Item 7.2. for information.

Discussion ensued regarding contracts in place not impacted by current world events and economic pressures; however, operating costs are increasing.

7.3. 26-0407 Field Operations Centre Project Capital Plan Amendment and Contract Change Order

S. May spoke to Item 7.3.

Discussion ensued regarding the location of the Field Operations Centre building and office space planning.

MOVED by Commissioner Green, SECONDED by Commissioner Rogers,
The Regional Water Supply Commission recommends to the Capital Regional District Board:
1. That the project budget for the New Field Operations Centre Building (16-06), as included in the 2026 Regional Water Supply Capital Plan, be increased by $995,000, funded through a grant from the City of Langford;
2. That the 2026 Regional Water Supply Capital Budget be amended to reallocate $2,000,000 from the Land and Site Works (23-31) to the New Field Operations Centre Building (16-06); and
3. That a change order be authorized under the existing Design-Build contract with Kinetic Design-Build Ltd. for the construction of a sanitary line extension in the amount of $1,242,612 (excluding GST).
CARRIED

7.4. 26-0403 Capital Regional District Cross Connection Control Program Update

G. Harris presented Item 7.4. for information.

Discussion ensued regarding:
- risk based approach to inspections in alignment with BC Building Code
- team to focus on cross connections that pose a risk to drinking water systems

8. NOTICE(S) OF MOTION

There were no notices of motion.

9. NEW BUSINESS

There was no new business.

10. ADJOURNMENT

MOVED by Commissioner Green, SECONDED by Commissioner Wagner,
That the Regional Water Supply Commission meeting of April 15, 2026 be adjourned at 2:08 pm.
CARRIED

The next meeting is May 20, 2026.

_____
Chair

_____
Recorder

HOTSHEET AND ACTION LIST

Juan De Fuca Water Distribution Commission

The following is a quick snapshot of the FINAL decisions made at the meeting. The minutes will represent the official record of the meeting. A name has been identified beside each item for further action and follow-up.

Tuesday, May 5, 2026 **1:30 PM** **Goldstream Conference Room**
479 Island Hwy
Victoria BC V9B 1H7

6. Consent Agenda

6.1. **26-0478** Summary of Recommendations from Other Water Commission A. Fraser

Recommendation: There is no recommendation. This report is for information only.

6.2. **26-0477** Water Watch Report A. Fraser

Recommendation: There is no recommendation. This report is for information only.

7. Commission Business

7.1. **26-0474** General Manager's Verbal Update - May A. Fraser

Recommendation: There is no recommendation. This verbal update is for information only.

7.2. **26-0278** 2027 Service and Financial Planning Guidelines A. Fraser/ V. Somosan

Recommendation: [At the April 8, 2026 Capital Regional District Board meeting, the staff report recommendation was carried.]
There is no recommendation. This report is for information only.

7.3. **26-0471** Juan de Fuca Water Distribution Asset Management Plan Overview

Recommendation: There is no recommendation. This report is for information only. K. Konicek

7.4. **26-0470** 2027 Service Delivery - Staffing Requirements A. Fraser

Recommendation: There is no recommendation. This report is for information only.

Motion Arising:
The Juan de Fuca Water Distribution Commission recommends to the Capital Regional District Board: That staff be directed to include the proposed Utility Operator and Reliability Engineer positions in the Juan de Fuca Water Distribution service budget for 2027 and 2028, respectively.

7.5. **26-0469** Monthly Drinking Water Quality Dashboard A. Fraser

Recommendation: There is no recommendation. This report is for information only.

File No. 902-03

CAPITAL REGIONAL DISTRICT - INFRASTRUCTURE & WATER SERVICES

Water Watch

Issued May 11, 2026

Water Supply System Summary:

1. Useable Volume in Storage:

Reservoir	May 31 5 Year Ave		May 31/25		May 10/26		% Existing Full Storage
	ML	MIG	ML	MIG	ML	MIG	
Sooke	87,927	19,344	86,400	19,008	89,376	19,663	96.4%
Goldstream	9,430	2,075	9,382	2,064	9,842	2,165	99.3%
Total	97,356	21,418	95,782	21,072	99,218	21,828	96.7%

2. Average Daily Demand:

For the month of May	165.0 MLD	36.3 MIGD
For week ending May 10, 2026	167.1 MLD	36.8 MIGD
Max. day May 2026, to date:	174.9 MLD	38.5 MIGD

3. Average 5 Year Daily Demand for May

Average (2021 - 2025)	152.1 MLD [1]	33.5 MIGD [2]

[1]MLD = Million Litres Per Day [2]MIGD = Million Imperial Gallons Per Day

4. Rainfall May:

Average (1914 - 2025):	47.2 mm
Actual Rainfall to Date	0.0 mm (0% of monthly average)

5. Rainfall: Sep 1- May 10

Average (1914 - 2025):	1,515.6 mm
2025/2026	1,583.4 mm (104% of average)

6. Water Conservation Required Action:

Did you know that the 2024 change to the Water Conservation Bylaw recommends that landowners and residents switch timing of residential irrigation systems from 4:00 am to an expanded window anytime between 12:01 am to 10:00 am on established watering days? Please go to Water Conservation Bylaw Changes | Capital Regional District to get informed and do your part to help protect our regional water supply system.
https://www.crd.ca/news/water-conservation-bylaw-changes

For general information regarding water conservation, visit the CRD webpage linked below:
https://www.crd.ca/environment/water-conservation

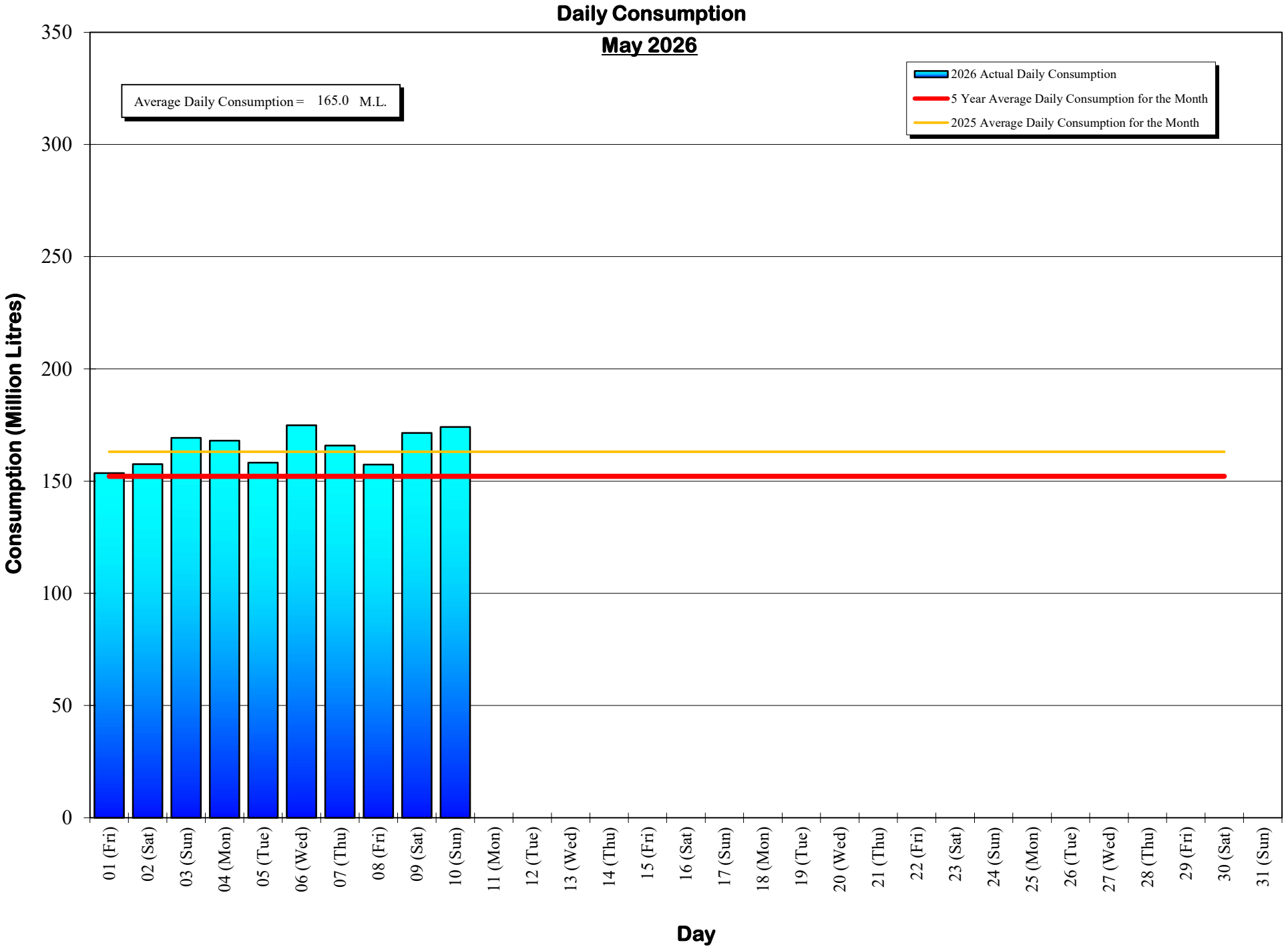
7. Get to Know Your H2O Tours

Register for a free tour of the water supply area this May or June.
For more information, please visit wegpage linked below:
https://www.crd.ca/watertours

If you require further information, please contact:

Alicia Fraser, P. Eng.
General Manager, CRD - Infrastructure and Water Services
or
Glenn Harris, Ph D., RPBio
Senior Manager - Environmental Protection

CRD Infrastructure & Water Services
479 Island Highway
Victoria, BC V9B 1H7
(250) 474-9600


Daily Consumption
May 2026
Average Daily Consumption = 165.0 M.L.
2026 Actual Daily Consumption
5 Year Average Daily Consumption for the Month
2025 Average Daily Consumption for the Month
Consumption (Million Litres)
350
300
250
200
150
100
50
0
01 (Fri)
02 (Sat)
03 (Sun)
04 (Mon)
05 (Tue)
06 (Wed)
07 (Thu)
08 (Fri)
09 (Sat)
10 (Sun)
11 (Mon)
12 (Tue)
13 (Wed)
14 (Thu)
15 (Fri)
16 (Sat)
17 (Sun)
18 (Mon)
19 (Tue)
20 (Wed)
21 (Thu)
22 (Fri)
23 (Sat)
24 (Sun)
25 (Mon)
26 (Tue)
27 (Wed)
28 (Thu)
29 (Fri)
30 (Sat)
31 (Sun)
Day

Daily Consumptions: - May 2026

Date	Total Consumption (ML) [1]		Total Consumption (MIG) [2]	Air Temperature @ Japan Gulch High (°C)	Air Temperature @ Japan Gulch Low (°C)	Weather Conditions	Precipitation @ Sooke Res.: 12:00am to 12:00am Rainfall (mm)	Precipitation @ Sooke Res.: 12:00am to 12:00am Snowfall [2] (mm)	Precipitation @ Sooke Res.: 12:00am to 12:00am Total Precip.
01 (Fri)	153.6	<=Min	33.8	23	9	Cloudy / P. Sunny	0.0	0.0	0.0
02 (Sat)	157.6		34.7	25	10	Cloudy / P. Sunny	0.0	0.0	0.0
03 (Sun)	169.3		37.3	28	10	Sunny	0.0	0.0	0.0
04 (Mon)	168.0		37.0	28	11	Cloudy / P. Sunny	0.0	0.0	0.0
05 (Tue)	158.2		34.8	23	11	Sunny	0.0	0.0	0.0
06 (Wed)	174.9	<=Max	38.5	18	9	Cloudy / P. Sunny	0.0	0.0	0.0
07 (Thu)	165.8		36.5	17	10	Cloudy / P. Sunny	0.0	0.0	0.0
08 (Fri)	157.4		34.6	16	9	Cloudy / P. Sunny	0.0	0.0	0.0
09 (Sat)	171.5		37.7	20	9	Cloudy / P. Sunny	0.0	0.0	0.0
10 (Sun)	174.1		38.3	20	9	Cloudy / P. Sunny	0.0	0.0	0.0
11 (Mon)									
12 (Tue)									
13 (Wed)									
14 (Thu)									
15 (Fri)									
16 (Sat)									
17 (Sun)									
18 (Mon)									
19 (Tue)									
20 (Wed)									
21 (Thu)									
22 (Fri)									
23 (Sat)									
24 (Sun)									
25 (Mon)									
26 (Tue)									
27 (Wed)									
28 (Thu)									
29 (Fri)									
30 (Sat)									
31 (Sun)									
TOTAL	1650.4	ML	363.09 MIG				0.0	0	0.0
MAX	174.9		38.48	28	11		0.0	0	0.0
AVG	**165.0**		36.31	21.7	9.8		0.0	0	0.0
MIN	153.6		33.80	16	9		0.0	0	0.0

1. ML = Million Litres

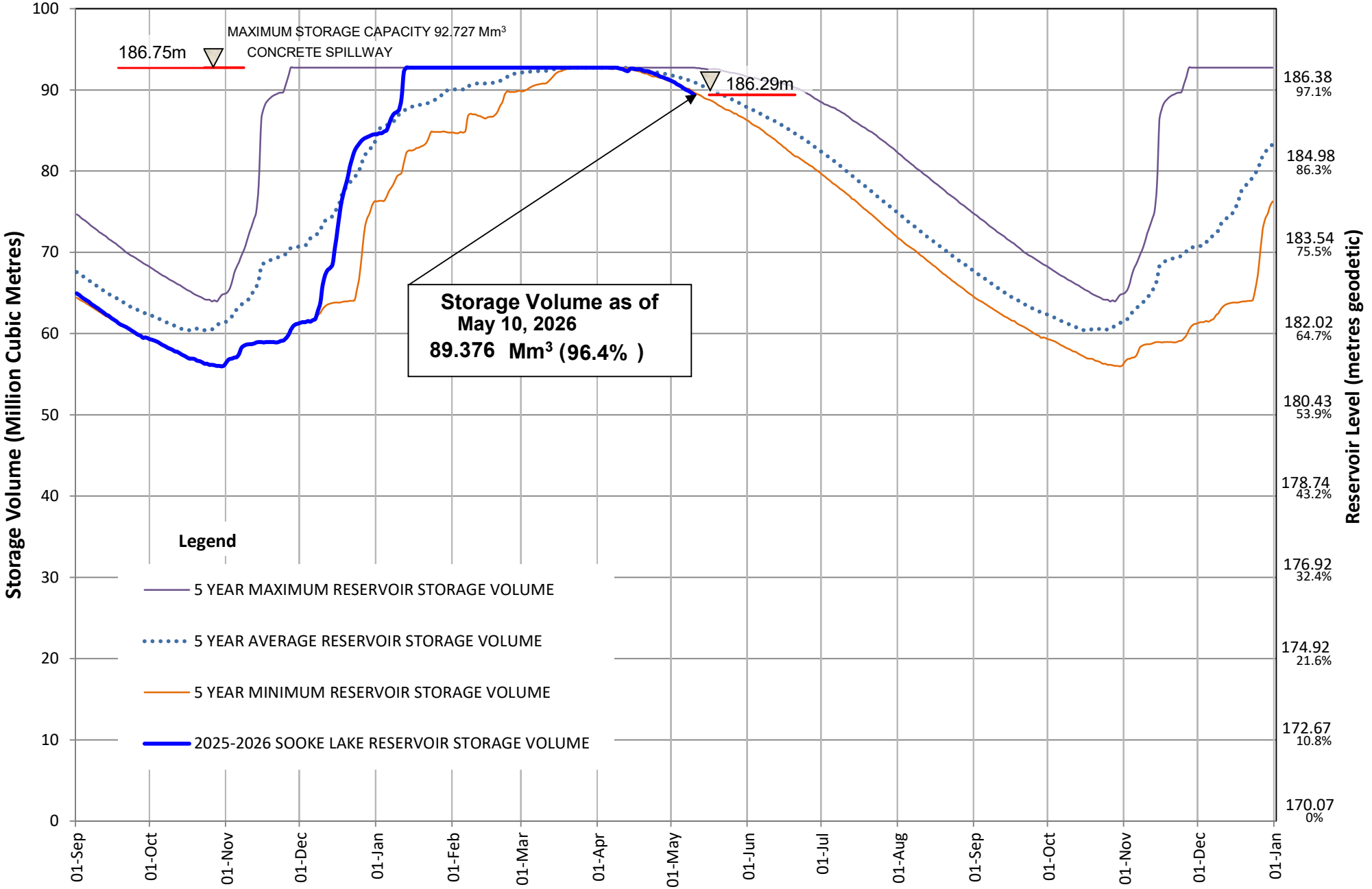
2. 10% of snow depth applied to rainfall figures for snow to water equivalent.

Average Rainfall for May (1914-2025)	47.2	mm
Actual Rainfall: May	0.0	mm
% of Average	0%	
Average Rainfall (1914-2025): Sept 01 - May 10	1,515.6	mm
Actual Rainfall (2025/26): Sept 01 - May 10	1,583.4	mm
% of Average	104%	

Number days with precip. 0.2 or more
0

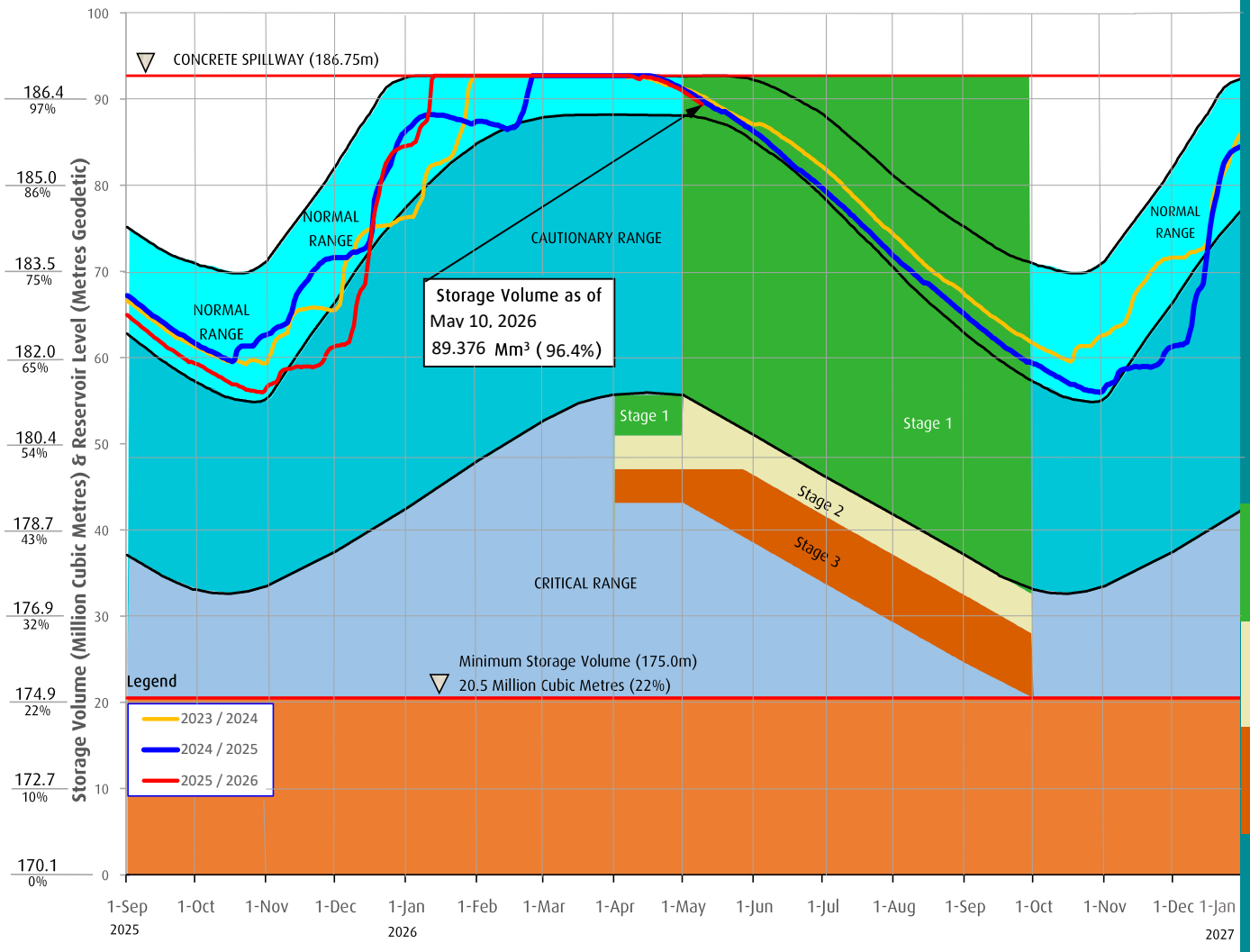
Water spilled at Sooke Reservoir to date (since Sept. 1) = 4.26 Billion Imperial Gallons
19.40 Billion Litres

SOOKE LAKE RESERVOIR STORAGE SUMMARY
2025 / 2026



Sooke Lake Reservoir Storage Level

Water Supply Management Plan



FAQs

How are water restriction stages determined?

Several factors are considered when determining water use restriction stages, including,

1. Time of year and typical seasonal water demand trends;
2. Precipitation and temperature conditions and forecasts;
3. Storage levels and storage volumes of water reservoirs (Sooke Lake Reservoir and the Goldstream Reservoirs) and draw down rates;
4. Stream flows and inflows into Sooke Lake Reservoir;
5. Water usage, recent consumption and trends; and customer compliance with restriction;
6. Water supply system performance.

The Regional Water Supply Commission will consider the above factors in making a determination to implement stage 2 or 3 restrictions, under the Water Conservation Bylaw.

At any time of the year and regardless of the water use restriction storage, customers are encouraged to limit discretionary water use in order to maximize the amount of water in the Regional Water Supply System Reservoirs available for nondiscretionary potable water use.

Stage 1 is normally initiated every year from May 1 to September 30 to manage outdoor use during the summer months. During this time, lawn watering is permitted twice a week at different times for even and odd numbered addresses.

Stage 2 Is initiated when it is determined that there is an acute water supply shortage. During this time, lawn water is permitted once a week at different times for even and odd numbered addresses.

Stage 3 Is initiated when it is determined that there is a severe water supply shortage. During this time, lawn watering is not permitted. Other outdoor water use activities are restricted as well.

For more information, visit www.crd.bc.ca/drinkingwater

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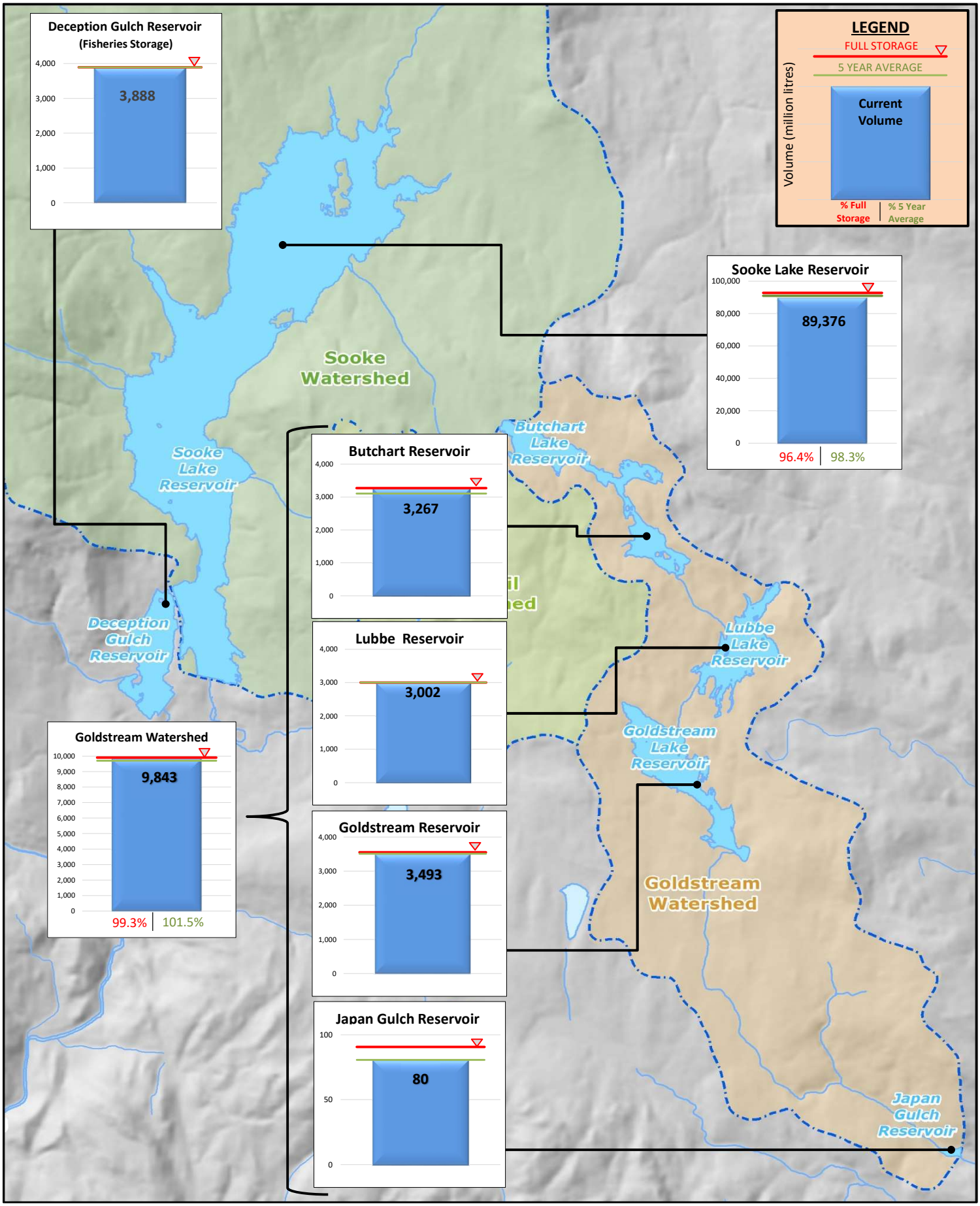
Useable Reservoir Volumes in Storage for May 10, 2026



Monthly Drinking Water Quality Dashboard

Making a difference...together

Water Quality Operations

Capital Regional District | April 2026

1. **Treated Water** | Monthly Compliance

The following table summarizes the main regulatory parameters across the various transmission and distribution systems in the Greater Victoria Drinking Water System (GVDWS). Drinking water systems in British Columbia are required to comply with the *BC Drinking Water Protection Regulation* and are expected to operate in accordance with recognized industry standards.

Monthly Water Quality Compliance Results by Municipality								
Municipality	**Required Samples**	**Actual Samples Collected**	**Percent Total Coliform Samples >1 CFU/100 ml**	**Total Coliform Samples >10 CFU/100 ml**	**E.coli Samples >1 CFU/ 100 mL**	**Turbidity Samples >1 NTU**	**Chlorine Residual Median mg/L**	**Water Temp. Median ºC**
Central Saanich	17	23	0	0	0	0	1.55	10.3
Saanich	94	107	0	0	0	0	1.48	10.0
North Saanich	13	18	0	0	0	0	1.37	9.8
Victoria / Esquimalt	93	107	0	0	0	0	1.57	11.3
Oak Bay	20	23	0	0	0	0	1.50	11.2
Sidney	14	16	0	0	0	0	1.54	10.3
Sooke / East Sooke	17	33	0	0	0	0	1.45	10.4
Westshore	82	109	0	0	0	0	1.45	10.0
Transmission Mains	n/a	71	0	0	0	0	1.90	8.6
Transmission Reservoirs	n/a	20	0	0	0	0	1.52	9.3
Total	**350**	527	0	0	0	0	1.53	10.1

GREEN – Compliance with industry and/or health standards

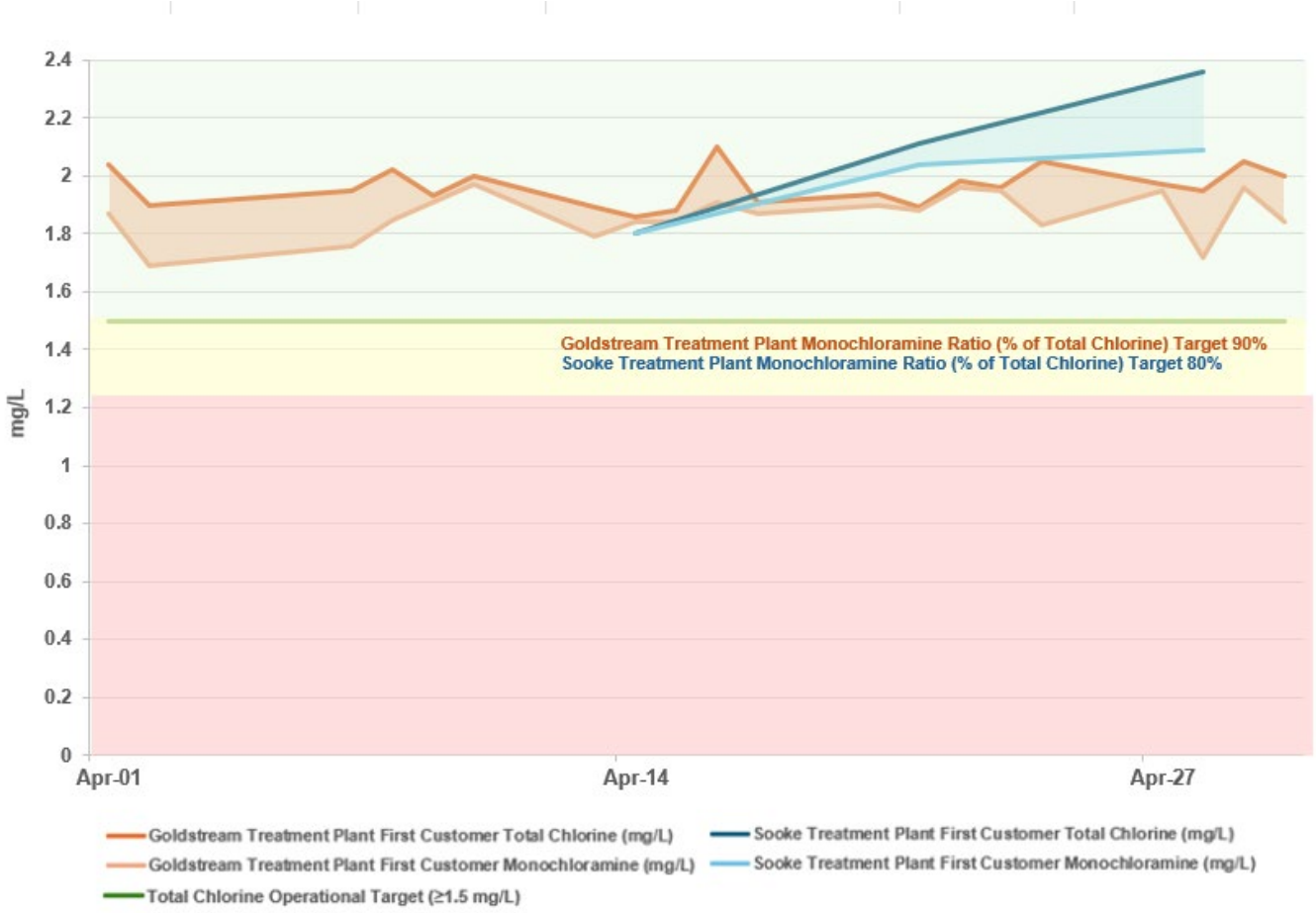
YELLOW – Exceedance of operational and/or asthetic objectives

RED – Exceedance of industry and/or health standards

In April 2026, all GVDWS systems met provincial requirements and industry standards for drinking water quality. All main parameters were within target or the optimal target range.

2. **Treated Water** | Goldstream Treatment Plant First Customer and Sooke Treatment Plant First Customer, Total Chlorine and Monochloramine

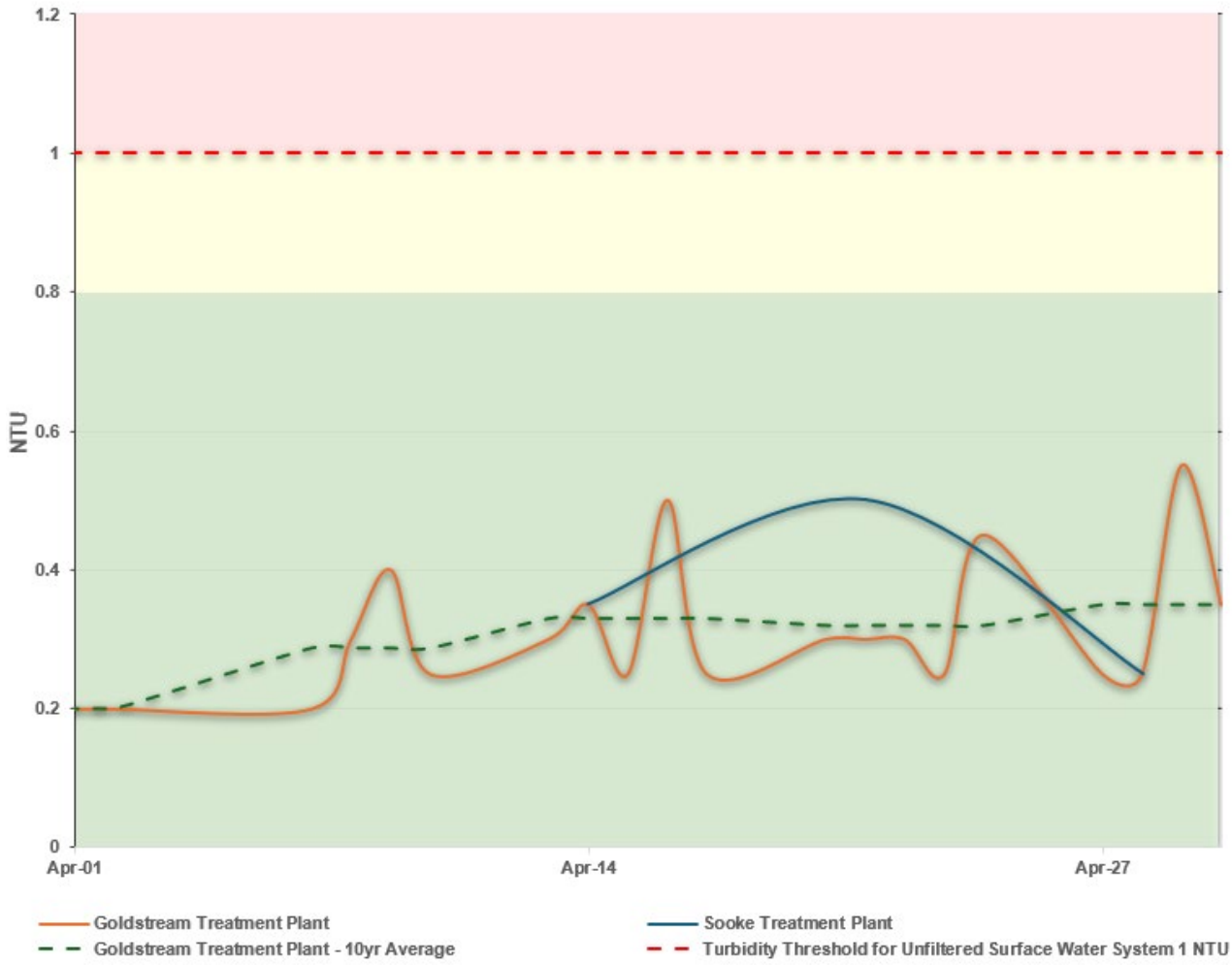
The following graph shows the daily measured total chlorine and monochloramine concentrations at the first treated water sampling stations downstream of the two CRD water treatment plants.



In April 2026, both plants consistently met the target total chlorine concentration of 1.5 mg/L and their respective monochloramine ratio targets. The total chlorine target ensures adequate primary disinfection at the treatment plants, while the monochloramine targets help sustain effective secondary disinfection throughout the distribution systems.

3. **Raw Water Turbidity |** Goldstream Treatment Plant and Sooke Treatment Plant

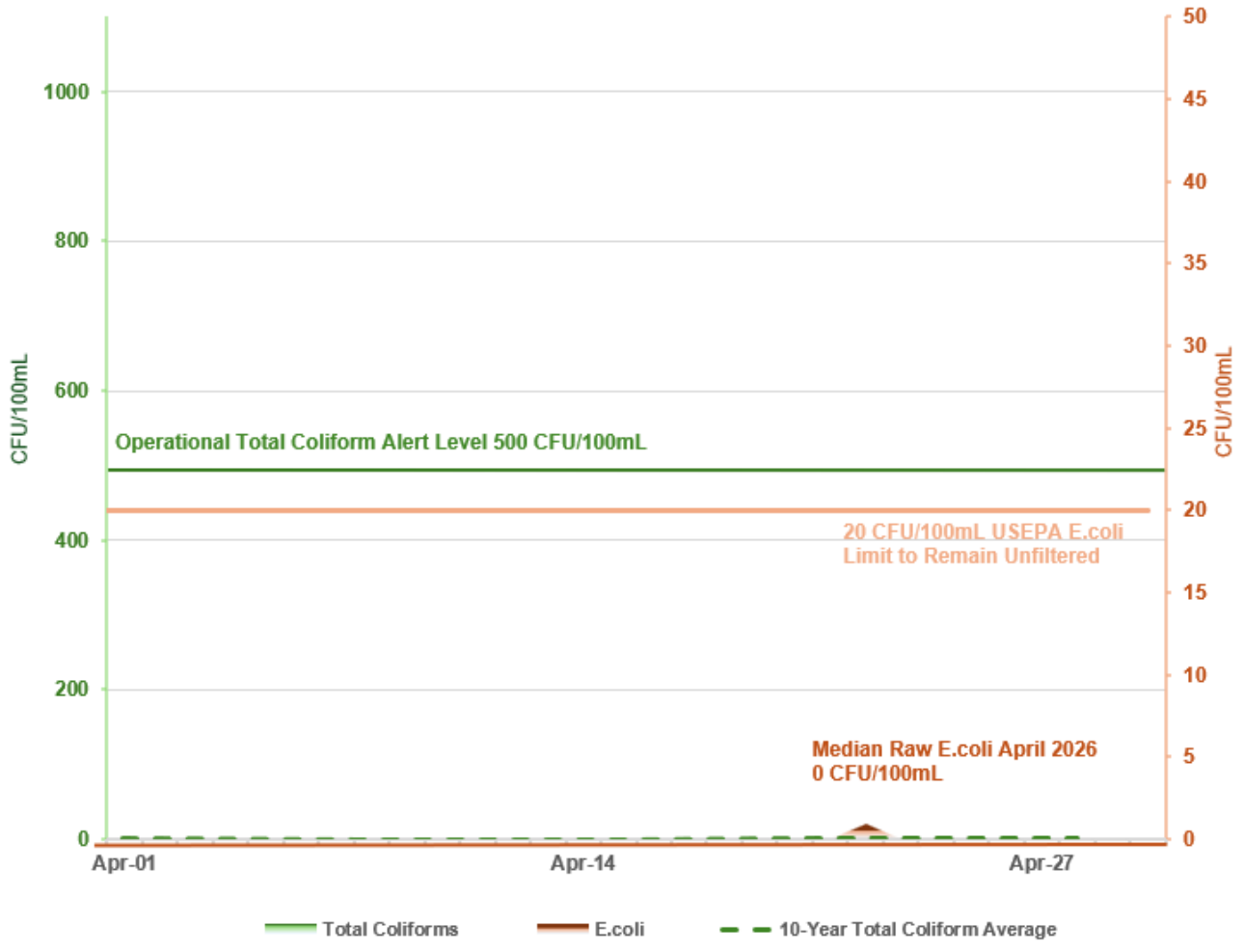
The following graph shows the raw water turbidity measured at both water treatment plants.



The GVDWS, an unfiltered surface water system, must consistently achieve turbidity levels under 1 NTU to meet regulatory standards. The turbidity levels at both plants were consistently low and within compliance.

4. Raw Water Biological Parameters | Total Coliforms and E. coli at Goldstream Treatment Plant

The following depicts the concentrations of key bacteria in the raw water.



As typical during spring, the concentrations of total coliform and E.coli bacteria in the raw water were low and remained below the USEPA limit for unfiltered surface water systems.

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REPORT TO REGIONAL WATER SUPPLY COMMISSION
MEETING OF MAY 20, 2026

SUBJECT **2027 Service Delivery – Staffing Requirements**

ISSUE SUMMARY

To report back on the 2027 service plans and projected staffing requirements for meeting the commitments outlined in the 2025 Regional Water Supply Strategic Plan.

BACKGROUND

At the April 8, 2026, Capital Regional District (CRD) Board meeting, the Chief Administrative Officer (CAO) informed the Board that staff had been directed to limit requests for staffing resources and other budget requests to initiatives that have been: a) explicitly directed to advance by the CRD Board to support Board priorities, new service establishment or major project delivery, or b) critical programs where deferral would result in significant service disruptions or negative impacts (e.g., legal, safety or risk impacts). This was to maintain a proactive focus on fiscal discipline and to pave the way for a period of transition in late 2026 when a new Board will set its priorities for the next term. It was also noted that programs and associated resources that have been prioritized and recommended by a Commission or Standing Committee could also be incorporated in the 2027 financial planning process for the Board's consideration.

As part of the annual service planning process, the CRD Board receives information in the fall about proposed new initiatives that have resource and staffing implications for the subsequent year and considers the provisional Five-Year Financial Plan.

At the December 17, 2025, Regional Water Supply Commission (Commission) meeting, the Commission approved the 2025 Regional Water Supply Strategic Plan (Strategic Plan). The Strategic Plan outlines 11 priorities and proposes short-, medium- and long-term actions to be implemented in the next five to eight years to advance the commitments identified. The actions span all aspects of service delivery, including operations and capital delivery, demand management, asset management, public engagement, First Nations engagement and watershed protection. Though many of these identified actions will be supported by existing resources, the full extent of the effort required goes beyond existing capacity in certain areas.

In preparation for 2027, Infrastructure & Water Services (IWS) staff have reviewed the potential impacts of system growth and aging infrastructure on service delivery, in combination with Strategic Priorities outlined in the 2025 Strategic Plan. This report outlines the staffing needs required to mitigate service level risks in 2027 while progressing the key strategic priorities related to the implementation of the 2022 Regional Water Supply Master Plan (Master Plan). The following sections outline proposed initiatives that have impacts on the Regional Water Supply budget. This includes 2.5 new positions (2.5 Full-Time Equivalent (FTE)) proposed for 2027 which was highlighted as a forecast in last year's planning cycle. Staff are also forecasting an additional 5.5 FTE positions in 2028. Forecasted positions will be brought forward for consideration in a future planning cycle. Summaries of each initiative are included below and in Table 1.

Initiatives Planned for 2027

The following provides further details on the key programs that have staffing implications in 2027. The impact of deferring the staffing plans associated with these programs in 2026 is highlighted in the Service Delivery Implications section of this report.

2a-2.3 Master Plan Program: The Master Plan Program outlines the staffing requirements to advance the planning and implementation of 21 major projects recommended by the 2022 Master Plan. These projects are critical to improving the resiliency of the Regional Water Supply system and providing sufficient drinking water to support the growing region and climate change adaptation. In 2026, four new FTEs were approved to support the implementation and are listed below for information as a reminder:

2026 (4 FTEs)	***Senior Manager (filled)*** *(Infrastructure Planning and Engineering)*
	Operations Supervisor (filled) *(Water Operations)*
	First Nations Liaison (recruitment underway) *(First Nations Relations, Corporate Services)*
	Paralegal (recruitment underway) *(Legal Services & Risk Management, Corporate Services)*

For 2027, an additional 1.0 FTE is proposed, while another 1.0 FTE is forecasted for 2028:

2027 (1 FTEs)	***Project Engineer*** *(Infrastructure Planning and Engineering)* – Required to support the planning required for the Master Plan projects – i.e. Filtration Siting study, Environment Assessment, Archaeological Assessment, First Nations engagement.
2028 (1 FTEs)	***Senior Project Manager*** *(Infrastructure Planning and Engineering)* – Required to lead growing program of projects related to the Master Plan.

2b-1.1 Dam Safety Program: The Dam Safety Program was started in 2024 to create a dedicated Dam Safety section within the Infrastructure Planning and Engineering division to manage dam safety risks proactively. The program will address the challenges of maintaining 23 water supply dams, ensuring compliance with the Dam Safety Regulation, and improving the resiliency of these critical assets. In order to address the growing list of dam-related deficiencies and undertake the ongoing operational activities, the CRD needs to continue to build the necessary in-house expertise and capacity. This capacity development is being proposed through additional staffing in 2028. Staffing adjustments were approved between 2024 and 2026 and the roles, which have been filled, are listed below are a reminder:

2024 (2 FTEs)	***Manager, Dam Safety*** *(Infrastructure Planning and Engineering)*
	Team Lead *(Water Infrastructure Operations)*
2025 (3 FTEs)	***Project Engineer – Dam Safety Regulatory Compliance*** *(Infrastructure Planning and Engineering)*
	Project Engineer - Dam Surveillance and Hydrology *(Infrastructure Planning and Engineering)*
	Dam Operator (*Water Infrastructure Operations)*
2026 (2 FTEs)	***Project Engineer*** *(Corporate Capital Delivery Services)* ***Technologist*** ~~***Project Engineer***~~ *(Infrastructure Planning and Engineering)*

In last year's report to the Commission, staff indicated their intent to propose an additional 1.0 FTE Technologist position in 2027. In response to ongoing financial pressures facing CRD services, staff have elected to advance this position by reallocating one of the two Project Engineer positions approved for 2026 and deferring the recruitment of the Project Engineer role to 2028. Staff are confident that this adjustment can be accommodated without compromising progress towards full regulatory compliance.

2028 (1 FTE)	***Project Engineer*** ~~***Technologist***~~ *(Infrastructure Planning and Engineering)*

Ongoing management of CRD dams is critical to meeting the commitments outlined in the Strategic Plan, particularly the actions outlined in Commitment 3 “to provide efficient, effective and innovative operations of our water system infrastructure”.

11b-3.2 Staff and O&M Funding to Support Broadened Facilities Management Portfolio: The CRD’s Facilities Management team, which is part of the Real Estate & Facilities Management division, is an in-house, full-service team responsible for the management, operation and maintenance of the CRD headquarters in downtown Victoria, as well as several other satellite buildings. The team ensures that facilities within the corporate portfolio are safely maintained, operate efficiently, and remain serviceable assets that support critical operations and occupant safety.

Starting in 2023, the Facilities Management team expanded its scope of service to provide increased building operations support at 17 water treatment facilities across the region. In 2025, the team also assumed full-service facility management responsibilities for the building at 479 Island Highway, which primarily houses Infrastructure & Water Services (IWS) operations. This facility presented significant challenges, as many building systems are at or near end of their effective service life and require enhanced maintenance support to remain functional. These service expansions were accommodated without additional staffing through workload redistribution.

Construction of IWS’ new 13,100 square-foot Field Operation Centre (FOC) is scheduled for completion in mid-2027, with system commissioning, development of maintenance manuals and schedules and other preparations for occupancy beginning in early 2027. This major capital project will support IWS’ field and technical operations for decades. To ensure this facility is properly managed and maintained, additional operating and maintenance funding will be required. Given the cumulative service increases, additional staffing is also needed to ensure Facilities Management can deliver services at a sustainable level.

This initiative proposes the creation of two new regular, ongoing positions (1.5 FTE) within Facilities Management. These roles will provide the essentials functions including office moves support, general facility clean-up, pest control and coordination of janitorial and other contracted services. They will also ensure that the building systems are maintained in accordance with manufacturer specifications and warranty requirements, including the structure, building envelope, roofing, HVAC, elevator, electrical, grounds, and fire safety systems.

The initiative also proposes an incremental increase to the operating budget to support the ongoing operations and maintenances of the FOC. The proposed funding increase is based on industry-standard guidelines for managed-care performance levels and on the operating costs of similarly sized facilities within the existing portfolio.

If the initiative does not proceed, Facilities Management will be unable to provide adequate support to its growing portfolio of facilities. This could result in maintenance delays, deferred maintenance, reduced asset lifespan, invalidation of building and/or system warranties and increased emergency repairs and capital costs over the long term.

Initiatives Planned for Future Years (2028-2029)

In addition to the initiatives listed above that have staffing implications in 2027, the following six initiatives have staffing implications in 2028 or beyond:

2028 (4.5 FTE)	2a-5.2 Equipment/Watershed Operator (1 FTE, Watershed Protection)
	2a-5.3 Seasonal Watershed Protection (2.25 FTE, Watershed Protection)
	2b-2.7 Contract Support Service (0.25, FTE shared with other services)
	2b-2.5 Utility Operator (1 FTE, Water Operations)
2029 (1 FTE)	2a-5.4 Forest Management Plan Implementation (1 FTE, Watershed Protection)

Given the current operational context, priorities and fiscal pressures, the following phasing adjustments have been made since last year:

- The Equipment/Watershed Operator, Seasonal Watershed Protection and Contract Support Service positions have been deferred from 2027 to 2028
- The Forest Management Plan Implementation position has been deferred from 2028 to 2029

Descriptions for these initiatives have been included in Appendix A.

Projected Future Initiatives

This report summarizes the staffing requirements to achieve the commitments of the 2025 Strategic Plan, based on the information currently available. Within the 2025 Strategic Plan, there are longer-term initiatives that have not yet been fully scoped, and additional information will be required to determine if existing resources can be optimized to undertake these initiatives or if additional skills or resources will be required.

NEXT STEPS

The 2027 Service Planning process began in February 2026. Following Board approval of the 2027 Service and Financial Planning Guideline, staff evaluated initiatives with staffing implications and reviewed potential downstream service implications. These initiatives were phased over a three-year period (2027-2029) and costed, in alignment with the Commission's interest in understanding the implementation path for the 2025 Strategic Plan and 2022 Master Plan. The proposed initiatives were subsequently reviewed by both the IWS leadership and the Executive Leadership Team. If the Commission wishes to proceed with any initiatives requiring staffing in 2027, a motion should be recommended for consideration by the Board. The provisional budget will be presented to the Board in September 2026.

IMPLICATIONS

Financial Implications

The proposed staffing additions in support of the 2025 Strategic Plan reflect an estimated incremental cost increase of $180,000 in 2027, based on approved initiative business cases. This cost represents only new FTEs proposed for 2027 and are apportioned between operating and capital budgets. Due to the upcoming general election, the provisional CRD budgets are required to be presented earlier than in a typical year. This has resulted in a compressed service and financial planning timeline. To make effective use of the time and organizational capacity available, projected initiatives for 2028 and 2029, including their funding requirements and associated staffing needs, have been documented for planning purposes but will not be included in the provisional budget for Regional Water Supply this year.

A high-level estimate of projected salaries and associated costs for 2027 is presented in Table 1.

Table 1:

Cost Distribution by IBC	2027
2026 IBC: 2a-2.3 Master Plan Program (1 FTE)	180,000
Total Cost Increase	**$ 180,000**

These costs will be integrated into both capital and operating budgets. The operating portion represents a 0.2% increase in total ongoing operating expenditure compared to 2026. The capital portion amounts to approximately 0.2% of the 2026 capital budget. Funding will be sourced through a combination of water sales revenue and Municipal Finance Authority (MFA) debt financing, with the intent to support rate stability and long-term financial sustainability.

A breakdown of projected funding sources is summarized in Table 2.

Table 2:

Funding Breakdown	2027
Operating Budget (Water sales revenue)	36,000
Capital Budget (Water sales revenue & debt)	144,000
Total Funding	**$ 180,000**

In addition to the costs above, the RWSC would also support $177,000 in additional labour allocation to support Facilities Services expanded facilities management portfolio and $120,000 in other operating costs related to utilities, equipment and contracted services so support the new Field Operations Center. The labour costs will be charged to Regional Water based on a fee-for-service model.

Environmental & Climate Action

Advancing the actions identified in the 2025 Strategic Plan, which include moving forward with the implementation of the 2022 Master Plan, directly supports the CRD's Climate Action Strategy by embedding climate resilience and environmental stewardship into the long-term planning and operation of the region's water system. The 2025 Strategic Plan emphasizes the need to protect and adapt the watershed and critical water infrastructure in response to increasing climate variability, including more extreme weather events, prolonged droughts, and wildfire risks. By

prioritizing risk-based infrastructure investment, these plans align with and operationalize the CRD's broader climate mitigation and adaptation goals.
Key projects, such as the addition of water filtration and a second deep intake in the Sooke Lake Reservoir, are proactive climate adaptation measures. Filtration will strengthen the system's ability to maintain water quality in the face of increased turbidity events tied to severe storms, wildfire runoff, and ecological shifts, events that are projected to become more frequent and severe with climate change. Similarly, a second deep intake improves system redundancy and operational flexibility, enabling a more stable supply under changing seasonal patterns and potential water quality disruptions. Together, these investments are not just technical upgrades—they are foundational climate adaptation tools that reinforce the CRD's commitment to delivering safe, reliable drinking water in an increasingly uncertain environmental future.

First Nations Reconciliation

The 2025 Strategic Plan directly supports the CRD Board's 2023–2026 Priority of "strong relationships with First Nations based on trust and mutual respect, partnerships, and working together on shared goals" by advancing tangible, ongoing actions that build stronger relationships with First Nations and reflect the region's commitment to shared stewardship. The Plan recognizes that the lands and waters within the Regional Water Supply Area lie within the traditional territories of numerous First Nations, and commits to working collaboratively with them to protect, manage and access these critical areas. This approach is in alignment with the Board's objective to "foster strong relationships with First Nations" and to "invite, respect and incorporate Indigenous leadership and traditional knowledge to enhance initiatives and strategies".

Service Delivery Implications

The service delivery implications of deferring the implementation of the 2027 initiatives are outlined below.

2a-2.3 Master Plan Program: The infrastructure investments outlined in the 2022 Master Plan ensure IWS continues to meet the commitments made in the 2025 Strategic Plan while adapting to the needs of the growing population, climate adaptation and improved seismic resiliency. If the Project Engineer position does not proceed, this will ultimately impact the planning efforts required to move forward with the implementation of the 2022 Master Plan and will delay realizing the goal of improving the overall resiliency of the Regional Water Supply system.

The following planning projects would be impacted by a removal or deferral of the position:

1. Filtration Plant Planning and Preliminary Design – includes initial studies such as:
   - Project definition study outlining the project's purpose, scope and objectives, including integration with other system components and review of current and future technologies.

2. Deep Northern Intake and Sooke Lake Pump Station Planning and Conceptual Design – includes initial studies such as:
   - Project definition study outlining the project's purpose, scope and objectives, including integration with other system components and review of current and future technologies (including floating intake versus fixed, tunneled versus overland etc.).

CONCLUSION

This report outlines the five-year staffing requirements needed to support the implementation of the 2025 Regional Water Supply Strategic Plan and provides information on the potential implications of deferring these staffing additions. The proposed positions address anticipated gaps in capacity related to project planning and delivery, dam safety and operations support.

Delaying or removing the addition of the 2.5 Full-Time Equivalents proposed for 2027 may impact timelines for initiating major capital projects identified in the 2022 Regional Water Supply Master Plan. These implications have been identified based on current service needs, resourcing levels and the projected scope of work.

This phased staffing plan is intended to align with strategic priorities and provide the internal capacity needed to support ongoing service delivery, infrastructure planning and regulatory compliance over the next five years.

RECOMMENDATION

There is no recommendation. This report is for information only.

Submitted by:	Alicia Fraser, P. Eng., General Manager, Infrastructure and Water Services
Concurrence:	Nelson Chan, MBA, FCPA, FCMA, Chief Financial Officer & General Manager, Finance & Technology
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENT(S)

Appendix A: Summary of Initiatives Planned for Future Years

APPENDIX A

Infrastructure & Water Services

Summary of Initiatives Planned for Future Years

2a-5.2 Equipment / Watershed Operator (1 FTE, Watershed Protection)

This initiative was originally planned for 2027 and has been deferred by staff to 2028. The Greater Victoria Water Supply Area (GVWSA) has expanded in recent years with the addition of the Leech Water Supply Area, Kapoor lands, and other minor land parcels. This has significantly increased the land base and road network requiring maintenance. At the same time, operational demands have grown due to limited and costly contractor availability, more frequent severe weather and storm events, and higher expectations for resilience, response and readiness. Despite these growing demands, the number of dedicated equipment operators has decreased to just one.

To address this gap, this initiative proposes to create a new ongoing regular Heavy Equipment/Watershed Operator position in 2028. This role will support climate adaptation and ensure adequate service delivery for the Regional Water Supply. Responsibilities will include, among other things, deactivating, rehabilitating, and constructing roads in the Leech area, as well as maintaining and upgrading infrastructure (roads, bridges, culverts, ditches and weirs). Funding will be covered through capital projects (40%) and water rates (60%).

2a-5.3 Seasonal Watershed Protection (2.25 FTE, Watershed Protection)

This initiative was originally planned for 2027 and has been deferred by staff to 2028. The Watershed Protection division is responsible for maintaining the GVWSA and performing annual watershed management activities related to wildfire prevention and suppression, security, road access maintenance, vegetation and invasive species management, fuel management, and wildlife management. Due to climate change, the GVWSA has experienced a growing number of high and extreme fire rating days, rising from an average of under 60 days in 1999 to 80 days in 2024. The 2024 Old Man Lake Wildfire clearly demonstrated how challenging, time-consuming, and expensive it is to extinguish a wildfire once it has taken hold. The event underscored the critical importance of proactive watershed management and wildfire response.

To meet the requirements of the CRD's GVWSA Wildfire Preparedness Plan, the division has gradually increased staffing through auxiliary resources and overtime. However, this approach is not sustainable in the long term. This initiative proposes to create regular, ongoing seasonal positions to supplement the fulltime workforce and reduce reliance on auxiliaries and overtime. This initiative proposes to create a total of 2.25 FTE in 2028. Funding will be covered through water rates.

2b-2.7 Contract Support Service (0.25, FTE shared with other services)

This initiative was originally planned for 2027 and has been deferred by staff to 2028. The Corporate capital Delivery Services (CCPDS) division was established in 2025 through the CRD Evolves 2024-2025 initiative. Its purpose is to centralize project management for CRD capital projects that exceed a defined threshold, consolidating most capital project delivery resources into a single division. As an early step towards improving service delivery, the team has identified a need to enhance the efficiency of financial tasks related to contract management. This is in response to the growing complexity and volume of capital projects.

To support this new division, this initiative will propose to create a new regular ongoing position in 2028 responsible for the efficient processing, monitoring and compliance of the financial components of capital projects. This includes creating purchase orders, processing invoices, administering holdbacks and standing offers, and tracking and reporting for insurance purposes. The role will help ensure the timely, accurate, and compliant financial operations within the CCPDS division. The portion of the role allocated for Regional Water Supply work is estimated at 0.25 FTE. The cost of this initiative will be recovered through capital projects shared across several services.

2a-5.4 Forest Management Plan Implementation (1 FTE, Watershed Protection)

This initiative was planned for 2028 and has been deferred to 2029. The forested ecosystems within the GVWSA were significantly altered by past timber harvest activities from the 1920s and 1990s, and more recently in the Leech Water Supply Area. Although these areas have since regenerated, either through planting or natural processes, climate change is now threatening their long-term health and resilience. To ensure the sustainability of these ecosystems, a more proactive and hands-on approach to forest stewardship is required.

This initiative will propose to create a new regular ongoing position to support the implementation of a new Forest Management Plan for the GWSA. While the work on the plan will begin in 2026-2027, the new role will be instrumental in guiding the plan through its final development stages and into implementation. Currently, forest management treatments are limited to 5-50 hectares annually out of a total forested area in the GVWSA of approximately 21,000 hectares. Activities resulting from the new plan may include juvenile tree spacing and thinning, prescribed burning, and planting of climate appropriate tree species. Funding will be covered through water rates.

2b-2.5 Utility Operator (1 FTE, Water Operations) (multi-year initiative started in 2026, JDF/RWS)

The Utility Operator Program seeks to address rising operational risks and inefficiencies due to staffing shortages related to aging meter replacement and failures, transmission operations and system growth. The increasing complexity of the Regional Water Supply transmission system is causing increased emergency repairs, customer complaints, and revenue loss. A proactive response is required to ensure continued reliable service delivery.

This multi-year initiative started in 2026 with the creation of 2 FTE Utility Operator positions for the Juan de Fuca Water Distribution System in 2026 and 2027.

In 2028, staff will propose to create a 1 FTE Utility Operator position for the Regional Water Supply with a focus on strengthening the reliability of the transmission system, reducing the risk of operational downtime, and improving support for regional supply continuity. Furthermore, this additional staffing capacity will enhance operational coverage and response capability, support preventative maintenance of critical mains, valves, and control structures, and ensure resiliency during peak demand and emergency events.

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REPORT TO REGIONAL WATER SUPPLY COMMISSION
MEETING OF MAY 20, 2026

SUBJECT **Bylaw Nos. 4753, 4769, and 4770: First Nations' Access to the Greater Victoria Water Supply Area**

ISSUE SUMMARY

Local First Nations are requesting access to the Greater Victoria Water Supply Area (GVWSA) for traditional practices and cultural use. To facilitate this type of access, the Water Supply Area Regulations Bylaw requires amendment, which also provides an opportunity to streamline and update the bylaw and accompanying fines schedules.

BACKGROUND

Capital Regional District (CRD) Bylaw No. 2804, "Capital Regional District Water Supply Area Regulations Bylaw No. 1, 2000" (Appendix A), regulates access and use of the Greater Victoria Water Supply Area (GVWSA). Access to the GVWSA is restricted to authorized personnel and those holding a valid access permit, granted by the General Manager, Infrastructure and Water Services, and/or the Regional Water Supply Commission (Commission) in accordance with the CRD *Water Supply Area Access and Special Use Request and Approval and Procedure* (Appendix B).

Currently, Bylaw No. 2804 permits First Nations' access and use of the Leech Water Supply Area portion of the GVWSA under the terms of a written agreement between a First Nation and the CRD. There is currently one First Nation with a traditional use access agreement for the Leech Water Supply Area. This agreement allows for hunting, trapping, fishing, gathering, ceremonial fire, firewood collection, tree cutting and general access, with detailed terms and conditions.

Through consultation and discussions with First Nations related to the Regional Water Supply Strategic Plan, several Nations have requested access to the GVWSA for traditional and cultural purposes, particularly for hunting; however, Bylaw No. 2804 currently permits First Nations' traditional uses only within the Leech Water Supply Area and does not extend these permissions to the Goldstream or Sooke Water Supply Areas, where the traditional territories of several Nations are located.

The proposed bylaw amendments aim to expand First Nations' access for traditional and cultural use in the GVWSA, enabled through written agreements between the CRD and a First Nation (Appendix C). Staff recommend that the specific details of access and use, including type, location, timing and nature of activities, be managed through individual agreements rather than through prescriptive bylaw provisions. Each agreement for access and use would be submitted to the Commission and CRD Board for consideration.

Staff support facilitating First Nations' access to GVWSA lands which pose lower risk to water supply (e.g., "Kapoor" lands, Leech and Goldstream water supply areas) and maintaining limited access to the Sooke Water Supply Area, due to its criticality to current unfiltered water supply.

While now part of the GVWSA, the newly acquired "Kapoor" lands are not yet included under the scope of Bylaw No. 2804 as management of these lands has not been finalized. The "Kapoor" lands are therefore available for First Nations' traditional practices and cultural uses without bylaw amendment.

Additional amendments to Bylaw No. 2804, Bylaw No. 1857, "Capital Regional District Ticket Information Authorization Bylaw, 1990" (Appendix D), and Bylaw No. 4683, "Bylaw Notice Enforcement Bylaw No. 1, 2025" (Appendix E) are proposed in order to:

- update definitions and references.
- strengthen enforcement language consistent with Bylaw No. 4225, "CRD Parks Regulation Bylaw".
- streamline and clarify access permit authorization and General Manager written approvals.
- revise the area depicted as the 'Greater Victoria Water Supply Area' in Schedule "A".
- update fines for Bylaw No. 2804 violations.

ALTERNATIVES

Alternative 1

That the Regional Water Supply Commission recommend to the Capital Regional District Board:

1. That Bylaw No. 4753, "Capital Regional District Water Supply Area Regulations Bylaw No. 1, 2000, Amendment Bylaw No. 3, 2026" be introduced and read a first, second and third time;
2. That Bylaw No. 4753 be adopted;
3. That Bylaw No. 4769, "Capital Regional District Ticket Information Authorization Bylaw, 1990, Amendment Bylaw No. 90, 2026" be introduced and read a first, second and third time;
4. That Bylaw No. 4769 be adopted;
5. That Bylaw No. 4770, "Bylaw Notice Enforcement Bylaw No. 1, 2025, Amendment Bylaw No. 4, 2026" be introduced and read a first, second and third time; and
6. That Bylaw No. 4770 be adopted.

Alternative 2

That the proposed bylaws be referred back to staff for further information.

IMPLICATIONS

Alignment with Board & Corporate Priorities and Alignment with Existing Plans & Strategies

The CRD Board & Corporate Priorities, draft CRD Reconciliation Action Plan, and Regional Water Supply Strategic Plan all support finding ways to provide greater access and use of GVWSA lands to First Nations for traditional practices and cultural use that are consistent with land and watershed management for drinking water supply.

Service Delivery Implications

There is potential that First Nations' traditional practices and cultural use could have impacts on the service of drinking water for the region. The order of WSA priority for First Nations' access and use, along with details contained in written agreements, would seek to ensure no or limited impact on Regional Water Supply service delivery.

It is not yet known how much administrative coordination of access may be required and if the CRD will need to play a role if multiple First Nations are on site at the same time. The level of coordination will depend on the number of First Nations' access agreements, as well as the subsequent uptake from First Nations once in place. At this time, it is expected that coordination can be accommodated with existing resources, but this will need to be reassessed once the access agreements are implemented.

First Nations Implications

The implication for First Nations may be transformational. Access to areas of First Nations' traditional territories that were not accessible since the early 1900s could greatly expand access to forested areas for traditional practices when access to natural areas is otherwise diminishing, especially in territories located in expanding urban and rural areas.

Social Implications

Public awareness of the opportunity of First Nations to access future, backup and off-catchment water supply areas for Greater Victoria for traditional uses is expected to be positive. Interaction with the public on water tours show support for working with First Nations to help repair and reconcile the injustices of the past and incorporating First Nations' knowledge and needs in management of the GVWSA.

CONCLUSION

Local First Nations have requested access to the Greater Victoria Water Supply Area (GVWSA) for traditional practice and cultural use. Given the goals and priorities of both the Capital Regional District and local First Nations, it is reasonable and appropriate to provide access and use of the GVWSA for traditional uses, where this access and use does not impact drinking water supply and drinking water quality, and where operational protocols are established and followed to mitigate risks.

The Capital Regional District Water Supply Area Regulations Bylaw No. 2804 must be amended to allow for access and use of the GVWSA where CRD has a written agreement with a First Nation on the terms of access and use. While the bylaw is being amended, it is beneficial to incorporate other housekeeping updates and the accompanying fines schedules in the appropriate ticketing bylaws.

RECOMMENDATION

That the Regional Water Supply Commission recommend to the Capital Regional District Board:

1. That Bylaw No. 4753, "Capital Regional District Water Supply Area Regulations Bylaw No. 1, 2000, Amendment Bylaw No. 3, 2026" be introduced and read a first, second and third time;
2. That Bylaw No. 4753 be adopted;
3. That Bylaw No. 4769, "Capital Regional District Ticket Information Authorization Bylaw, 1990, Amendment Bylaw No. 90, 2026" be introduced and read a first, second and third time;
4. That Bylaw No. 4769 be adopted;
5. That Bylaw No. 4770, "Bylaw Notice Enforcement Bylaw No. 1, 2025, Amendment Bylaw No. 4, 2026" be introduced and read a first, second and third time; and
6. That Bylaw No. 4770 be adopted.

Submitted by:	Annette Constabel, M.Sc., RPF., Senior Manager, Watershed Protection
Concurrence:	Alicia Fraser, P. Eng., General Manager, Infrastructure and Water Services
Concurrence:	Steve Carey, Acting General Manager, Corporate Services & Corporate Officer
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENT(S)

Appendix A: Redlined Consolidated Bylaw No. 2804, "Capital Regional District Water Supply Area Regulations Bylaw No. 1, 2000"
Appendix B: Water Supply Area Access and Special Use Request and Approval Procedure
Appendix C: Bylaw No. 4753, "Capital Regional District Water Supply Area Regulations Bylaw No. 1, 2000, Amendment Bylaw No. 3, 2026"
Appendix D: Bylaw No. 4769, "Capital Regional District Ticket Information Authorization Bylaw, 1990, Amendment Bylaw No. 90, 2026"
Appendix E: Bylaw No. 4770, "Bylaw Notice Enforcement Bylaw No. 1, 2025, Amendment Bylaw No. 4, 2026"

APPENDIX A

Making a difference...together

BYLAW NO. 2804

CAPITAL REGIONAL DISTRICT WATER SUPPLY AREA REGULATIONS BYLAW NO. 1, 2000

Consolidated for Public Convenience
(This bylaw is for reference purposes only)

ORIGINALLY ADOPTED JULY 12, 2000
(Consolidated with Amending Bylaws 4050,4509, & 4753)

For reference to original bylaws or further details, please contact the Capital Regional District,
Legislative Services Department, 625 Fisgard St., PO Box 1000, Victoria BC V8W 2S6
T: (250) 360-3127, F: (250) 360-3130, Email: legserv@crd.bc.ca, Web: www.crd.bc.ca

CAPITAL REGIONAL DISTRICT
BYLAW NO. 2804

****

GREATER VICTORIA WATER SUPPLY AREA PROTECTION BYLAW

****

WHEREAS the Capital Regional District has established a water supply service and has the authority to regulate in relation to the service;

(*Bylaw 4050*)

1. DEFINITIONS IN THIS BYLAW

“aircraft” means any vehicle capable of deriving support in the atmosphere from reactions of the air, and includes helicopters, gliders, ultralights, rockets and unmanned aerial vehicles;

(*Bylaw 4050*)

“alien species” means a species designated as a controlled alien species pursuant to the Controlled Alien Species Regulation;

(*Bylaw 4050*)

“animal” means an organism other than a human;

“authorized designate” means an employee or an officer of the CRD provided with the written authority to act on another person’s behalf;

(*Bylaw 4050*)

"authorized personnel" includes, peace officer, conservation officer, or person appointed or employed by the CRD as a park officer, animal control officer, bylaw enforcement officer, watershed security officer, or other authorized CRD employee;

"Board" means the Board of Directors of the Capital Regional District;

"business" means carrying on a commercial or industrial undertaking of any kind or nature or the providing of professional, personal or other services for the purpose of gain or profit;

"CRD" means the Capital Regional District;

"cycle" means a device having any number of wheels that is propelled by human power and on which a person may ride;

"emergency personnel" includes any person, group or organization responding to emergency situations in the water supply area;

(*Bylaw 4050*)

“First Nation” has the same definition as in the *Community Charter*, SBC 2003, c 26;

(Bylaw 4753)

"General Manager" means the General Manager of the CRD Infrastructure & Water Services Department appointed by the Board and also any person lawfully acting in that capacity;
(*Bylaw 4050, 4753*)

“hunt” means to trap, chase, pursue, worry, follow after or on the trail of, search for, shoot at, stalk, lie in wait for, or to attempt, in any manner, to capture, kill or injure any wildlife whether or not the wildlife is captured, killed or injured;
(*Bylaw 4050*)

“Leech Water Supply Area” means the area identified as the Leech Water Supply Area on the map attached as Schedule “A” to this bylaw;
(*Bylaw 4050*)

"liquor" has the same meaning as in the *Liquor Control and Licensing Act*;

"motor vehicle" means a vehicle, not run on rails, that is designed to be self propelled;

"natural feature" means any native or non-native tree, shrub, flower, grass or plant of any kind; soil, sand, gravel, rock, mineral, wood, fallen timber or other living or dead natural material;

"permit" means a water supply area lands access permit issued under this bylaw;

“recreational purpose” means access for the primary purpose of recreation (leisure and sport) by an organized club or association, not including traditional or cultural use access;
(*Bylaw 4509*)

"Regional Water Supply Commission” or “RWSC” means the standing committee appointed by the Board for regional water supply service purposes;
(Bylaw 4753)

"special use" means an activity not included in the operations of the CRD, that is carried on in the water supply area by persons who are not employees or contractors of the CRD;
(*Bylaw 4050*)

"traffic control device" means a sign, signal, line, meter, marking, space, barrier or device, not inconsistent with the *Motor Vehicle Act*, placed or erected by authority of the Board or the General Manager or a person authorized by either of them to exercise that authority;

"vehicle" means a device in, on or by which a person or thing is or may be transported or drawn on a highway, except a device designed to be moved by human power or used exclusively on stationary rails or tracks;

"vessel" means any ship or boat or any other description of vessel propelled by machinery, except a seaplane, used or designed to be used in navigation;

“water supply area” or “GVWSA” means any water catchment and non-catchment lands, including the water bodies within the boundaries, owned and managed by the Capital Regional District, as shown on the maps attached as Schedule “A”, and includes the Leech Water Supply Area, but does not include the area marked ‘Sooke Hills Wilderness Trail’ shown on Schedule “A”;
(*Bylaw 4509, 4753*)

"watercraft" means any vessel that is not being propelled by machinery;

“weed species” means a species designated as a noxious weed pursuant to the *Weed Control Regulation*;

(*Bylaw 4050*)

"wildlife" means any native or non-native mammal, bird, insect, reptile, fish or other indigenous creature.

“written authorization” means an approval in writing, with conditions as set out from time to time under this bylaw, which permits identified activities or actions within the water supply area or a portion of it, which would otherwise run contrary to this bylaw, and includes a written agreement with a First Nation.

(Bylaw 4753)

ENFORCEMENT POWERS

2. All authorized personnel may enforce this bylaw in the course of their duties.

3. (1) When authorized personnel find, on reasonable grounds, that a person in the water supply area is contravening this Bylaw, a permit, or any other licence, written authorization, or written agreement respecting use of the water supply area, they may require that person to do one or more of the following:

(a) provide, immediately upon request, that person’s correct name, address, and information about their destination, and proposed or actual activities in the water supply area;

(b) provide within a reasonable time identification verifying that person’s correct name and address;

(c) provide evidence, where applicable, that the person possesses a current valid license, authorization, permit, or written agreement for the activity or permitting the activity;

(d) stop contravening the Bylaw, the permit, licence, authorization, or written agreement immediately; or

(e) leave immediately and not re-enter the water supply area.

(Bylaw 4753)

(2) A person who fails to comply with a requirement of authorized personnel under this Bylaw commits an offence.

(Bylaw 4753)

4. The prohibitions in this bylaw do not apply to authorized personnel or agents of the CRD acting in the course of their authorized duties or employment.

(*Bylaw 4050*)

FINES

5. A person who contravenes this bylaw commits an offence and is liable on conviction to a fine of not less than $1,000.00 and not more than the maximum prescribed by the *Offence Act*.

(*Bylaw 4050, 4753*)

6. If a contravention of this bylaw is committed or continued on more than one day, it constitutes a separate offence for each day on which it is committed or continued.

(*Bylaw 4050*)

8. The penalty imposed under section 5 shall be in addition to and not in substitution for any other penalty or remedy imposed by this bylaw or any other statute, law or regulation.

(*Bylaw 4050*)

NO ENTRY

9. No person, except emergency or authorized personnel or persons with the authorization of the General Manager, shall enter the water supply area.

(*Bylaw 4050, 4753*)

PUBLIC CONDUCT

10. No person shall obstruct or interfere with any person or traffic lawfully using the water supply area.

(*Bylaw 4050*)

11. A person must not obstruct authorized personnel who are performing their duties.

(Bylaw 4753)

12. No person shall behave in a disorderly, dangerous or abusive manner in the water supply area.

(*Bylaw 4050*)

LIQUOR

13. No person shall consume or possess liquor in the water supply area except in compliance with a license issued under the *Liquor Control and Licensing Act* and authorized by permit.

(*Bylaw 4050*)

SIGNS

14. The General Manager or designate may cause to be erected signs or other devices specifying one or more areas in the water supply area where specific activities are permitted, prohibited or restricted under the authority of this bylaw.

(*Bylaw 4050, 4753*)

15. Every person in the water supply area must observe and obey every prohibition and restriction announced by a sign or other device erected under section 14. Failure to do so is an offence.

(*Bylaw 4050, 4753*)

DAMAGE

16. No person shall remove, destroy, or damage any natural feature, either organic or inorganic, or other CRD property of any kind, in the water supply area except as authorized by permit or with written permission of the General Manager.

(*Bylaw 4050*)

17. No person shall in any way foul or pollute any land, body of water, wetland, or watercourse in the water supply area.

(*Bylaw 4050*)

18. No person shall remove, destroy, or damage any signs, notices, rules or regulations posted in the water supply area by and under the authority of the Regional Water Supply Commission or the General Manager.

(*Bylaw 4050*)

19. No person shall molest, disturb, frighten, injure, kill, catch, trap, or snare any animal in the water supply area except as permitted by provincial or federal authorities and with written permission of the General Manager.

(*Bylaw 4050, 4753*)

20. No person shall deposit any garbage, refuse, or other waste material upon the water supply area.

(*Bylaw 4050*)

21. No person shall introduce or cause to be introduced to the water supply area any alien species or weed species.

(*Bylaw 4050, 4753*)

22. No person shall introduce any living or non-living organic material into the water supply area except as authorized by permit or with the written permission of the General Manager.

(*Bylaw 4050*)

FIRE

23. No person shall light or keep lit any fire in the water supply area except authorized personnel, other persons authorized by permit or with the written permission of the General Manager.

(*Bylaw 4050, 4753*)

24. No person shall throw or place upon the ground in the water supply area any lighted match, cigar, cigarette or other burning substance.

(*Bylaw 4050*)

TREES

25. No person shall cut, deface, damage, or cut down any tree or carry out any logging operation or facilitate such operation in the water supply area except as authorized by permit or written permission of the General Manager.

(*Bylaw 4050, 4753*)

CYCLES

26. No person shall bring or ride any cycle in the water supply area except authorized personnel.

(*Bylaw 4050*)

CAMPING

27. No person shall camp or sleep overnight in the water supply area with or without a shelter of any kind, including, but not restricted to, a motor vehicle, recreational vehicle, tent, lean to, or other natural shelter, except as authorized by permit, with the written permission of the General Manager.

(*Bylaw 4050, 4753*)

STORAGE

28. No person, including an owner of property adjacent to the water supply area, shall use the water supply area for storage of any kind, except as authorized by permit or with the written permission of the General Manager.

(*Bylaw 4050*)

ANIMALS IN THE WATER SUPPLY AREA

(*Bylaw 4050*)

29. No person shall bring in, allow animals in their custody to enter or have custody of animals in the water supply area except emergency personnel or authorized personnel acting in the course of their duties.

(*Bylaw 4050*)

FIREARMS AND HUNTING

30. No person shall hunt, carry or discharge any firearm, bow or crossbow in the water supply area except authorized personnel acting in the course of their duties or where authorized by permit or with the written permission of the General Manager.

(*Bylaw 4050, 4753*)

VESSELS, WATERCRAFT, AND AIRCRAFT

(*Bylaw 4050*)

31. No person shall land an aircraft within the water supply area except emergency or authorized personnel, as authorized by permit or with written permission of the General Manager.

(*Bylaw 4050*)

32. No person shall operate a vessel or watercraft on or within the water supply area except emergency or authorized personnel, by written permission of the General Manager.

(*Bylaw 4050, 4753*)

FISHING

(*Bylaw 4050*)

33. No person shall fish or take fish or attempt to take fish by any method in the water supply area, except by written permission of the General Manager.

(*Bylaw 4050, 4753*)

VEHICLES

34. (1) No person shall drive or propel any type of motor vehicle in the water supply area except on roadways intended and maintained for the passage of vehicles or parking lots.

(*Bylaw 4050*)

(2) Emergency personnel, authorized personnel, and persons with the authority of the General Manager are exempt from this section.

(3) Vehicles parked in areas signed as “No Parking” or "No Parking Area Tow Away Zone" may be towed away immediately at the owner’s expense by order of authorized personnel. Vehicles left unattended for more than 48 hours may be towed away at the owner's expense by order of authorized personnel.

35. (1) The General Manager may limit the maximum driving speed on any road within the water supply area by posting speed limits.

(*Bylaw 4050*)

(2) No person shall operate a vehicle in the water supply area in excess of the posted speed limit.

(*Bylaw 4050*)

(3) No person shall operate a vehicle in the water supply area in a dangerous, unsafe, or irresponsible manner.

(Bylaw 4753)

36. (1) The General Manager or authorized personnel acting on their behalf may cause signs or other traffic control devices to be placed in the water supply area for the purposes of sections 14, 35, 45 and 46.

(*Bylaw 4050, 4753*)

(2) No person shall operate a vehicle in the water supply area contrary to posted signs or traffic control devices.

(*Bylaw 4050*)

COMMERCIAL SERVICES, ACTIVITIES OR DEMONSTRATIONS

37. No person shall post, paint, or distribute any advertisement, sign, placard or handbill of any kind in the water supply area.

(*Bylaw 4050*)

38. Unless a person has the written authorization of the General Manager or a valid permit allowing the activity, they must not:

(a) sell, barter, or display for sale any goods, services, or materials in the water supply area;

(b) conduct any business or commercial activity, whether paid for in advance of, during, or after the activity;

(c) encourage any person to use the water supply area for any activity related to a business or commercial enterprise, whether or not the business or commercial aspect of the activity is carried out within the water supply area;

(d) operate or station in the water supply area any commercial vehicle or any motor vehicle displaying advertising or equipped with a public address system or the purpose of advertising, promoting, demonstrating, or attracting attention.

(*Bylaw 4753*)

39. Subsection 38(d) does not apply to a motor vehicle, vessel, or watercraft which corporate advertisement is displayed where the motor vehicle, vessel, or watercraft is used for transportation of persons within the water supply area or for services to the CRD, and not for the primary purpose of advertising.

(*Bylaw 4753*)

CONSTRUCTION

40. No person shall build, or place any temporary structure or facilities in the water supply area except where authorized by permit or with the written permission of the General Manager.

(*Bylaw 4050*)

41. No person shall build, or place any permanent structure or facilities in the water supply area except where authorized by permit.

(*Bylaw 4050*)

WATER SUPPLY AREA ACCESS

(*Bylaw 4050*)

42. (1) No person shall conduct or carry on any special use or enter into or remain within the water supply area except where authorized by permit or written authorization.

(*Bylaw 4753*)

(2) In determining approval of access and special use in 42(1) for permit purposes, the RWSC will consider whether the access and special use poses acceptable risk to water quality, water supply infrastructure, watershed management, and secondary natural land value (e.g., biodiversity, wildlife habitat).

(*Bylaw 4753*)

(3) The RWSC may set categories of permits considered routine, with conditions set from time to time by the General Manager under section 48, which are pre-approved by RWSC, and which may be issued by the General Manager.

(*Bylaw 4509, 4753*)

43. Persons who have the right under an enactment to enter into or remain within the water supply area are not excepted from the requirement in section 42 to obtain a permit or written authorization.

(*Bylaw 4050, 4753*)

44. Persons who have the right under an existing written agreement to carry on any special use or enter into or remain within the water supply area are excepted from the requirement in section 42 to obtain a permit unless the terms of the written agreement require the person to obtain a permit from the General Manager pursuant to this bylaw.

(*Bylaw 4050, 4753*)

45. The General Manager may close a road or roads, or a portion or all of the water supply area for reasons of safety, weather, operational concerns, road conditions and fire danger conditions by posting notices at water supply area entrances.

(*Bylaw 4050*)

46. The General Manager may restrict specific activities of permit holders or those persons possessing written authorizations for reasons of safety, weather, operational concerns, road conditions and fire danger conditions by posting notices at water supply area entrances.

(*Bylaw 4050, 4753*)

47. The General Manager or authorized designate may issue a written authorization if conditions imposed under section 48 are met by the applicant, and may issue a permit approved by RWSC by resolution or within the category of pre-approved permit types under section 42(3).

(*Bylaw 4050, 4753*)

48. In the issuance of a written authorization or permit, the General Manager or RWSC may impose any condition they deem necessary, including one or more of the following conditions:

(a) a requirement that the permit or authorization holder provide security in an amount and form acceptable to the CRD to cover estimated cleanup or remediation costs following the event, activity, or thing;

(b) requiring the holder of the permit or written authorization to defend, indemnify, and hold harmless the Capital Regional District, its directors, officers, employees, volunteers, contractors, and agents, in relation to any loss, damage, or expenses arising from the issuance of the permit or written authorization to the holder, including for third party personal injury or property damage which occurs to third parties, the holder, its invitees, or anyone it is responsible for at law;

(c) public liability insurance, including wildfire and pollution endorsements, in an amount and form acceptable to the CRD's Risk Management division;

(d) that the event, activity, or thing is limited to one or more specified locations within the water supply area;

(e) limiting the duration of the written authorization or permit, including setting curfew hours for water supply area access;

(f) limiting the number of individuals who may access the water supply area, or, if an event, limited the number of participants (including staff and volunteers);

(g) requiring the holder of the written authorization or permit to provide traffic control for the event, activity, or thing;

(h) requiring that the holder of the written authorization or permit remove all waste, remediation ground conditions, or take such steps as may be directed by the General Manager to restore the lands and area to the state it was prior to the access;

(i) requiring the written authorization or permit holder to provide specific facilities for special use purposes, including without limitation waste collection facilities;

(j) requiring production of a research report prepared by or on behalf of the permit or written authorization holder;

(k) requiring specific signage;

(l) restricting the manner and application of any restricted method which the General Manager is permitting or approving by way of written authorization that would otherwise be prohibited under this bylaw;

(m) any such other matter or condition restricting or limiting use, access, and behaviour within the water supply area in the interests of the Regional District.

(*Bylaw 4753*)

49. (1) Neither the RWSC nor the General Manager are obligated to issue any written authorization or permit, and, without in any way limiting the generality of the foregoing, may:

(Bylaw 4050, 4753)

(a) refuse to issue a permit or written authorization to any person or group who has previously contravened this Bylaw; and

(Bylaw 4050, 4753)

(b) revoke a permit or written authorization if the special use is conducted in a manner which contravenes this Bylaw.

(*Bylaw 4050, 4753*)

(2) Neither the CRD nor any of its elected or appointed officers, employees, servants, agents, contractors, licensees or representatives accepts or assumes any responsibility or liability for any claims, demands, proceedings, actions, suits, costs, expenses, fines, losses or damages in respect of death, injury, loss or damage to persons or property, however caused, arising out of or in connection with the issuance of a permit or written authorization or activities contemplated thereunder.

(*Bylaw 4753*)

FEES

(*Bylaw 4509*)

50. (1) Where an applicant applies for a permit for access to the water supply area, the applicant must pay a refundable security deposit of $500.00 which will be repaid upon return of keys and other equipment owned by the Capital Regional District issued as a condition of access.

(2) Where an applicant applies for a permit for access to the Leech Water Supply Area for recreational purpose, the applicant must pay a non-refundable administration fee of $500.00.

(*Bylaw 4509*)

AGREEMENTS WITH FIRST NATIONS

51. (1) The RWSC may approve one or more agreements with a First Nation for access to the water supply area or a portion of it. Such agreements may act in place of a permit or written authorization to permit an activity under this bylaw which otherwise would require a permit or written authorization and shall impose or establish conditions for entry that are substantially similar to those set out in section 42(2) and section 48.

(2) Where a written agreement with First Nation remains valid, in so far as its terms are complied with, those individuals acting in accordance with its terms, under the authority and with approval of the First Nation, are exempt from the requirement in this bylaw to obtain a permit or written authorization to the extent set out in the written agreement.

(*Bylaw 4753*)

CITATION

52. This bylaw may be cited as "Capital Regional District Water Supply Area Regulations Bylaw No. 1, 2000.

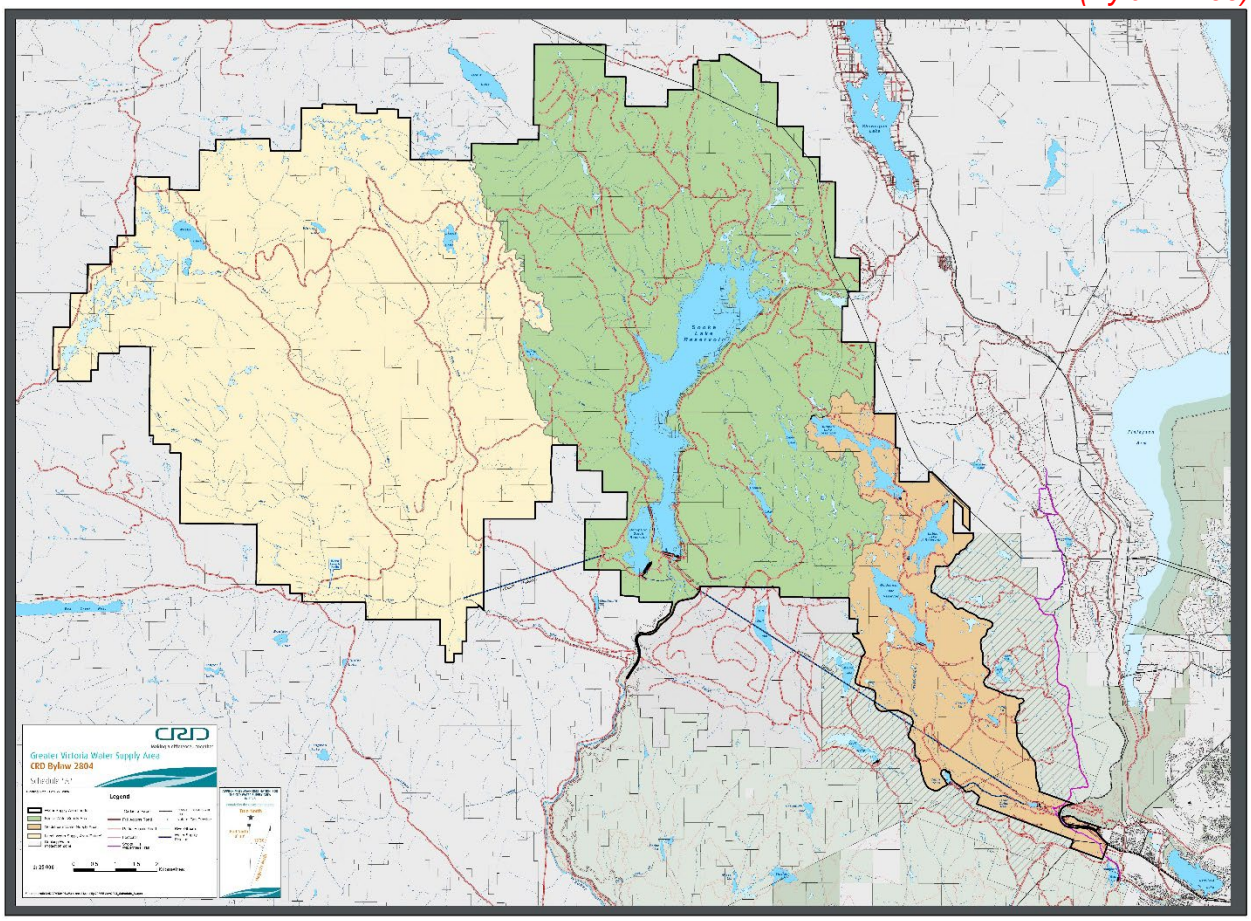
Read a first time this	28th	day of	June	, 2000.
Read a second time this	28th	day of	June	, 2000.
Read a third time this	28th	day of	June	, 2000.
ADOPTED this	12th	day of	July	, 2000.

CHAIR

SECRETARY

SCHEDULE A

(Bylaw 4753)



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CAPITAL REGIONAL DISTRICT

DEPARTMENT PROCEDURE

Section	Regional Water Supply	
Subsection	Integrated Water Services - Procedure	
Title	WATER SUPPLY AREA ACCESS AND SPECIAL USE REQUEST AND APPROVAL PROCEDURE	

PURPOSE:
The purpose of this procedure is to set out the procedure for a group or individual to request access and undertake a special use in the Greater Victoria Water Supply Area. This procedure also sets out the general situations and considerations that CRD Integrated Water Services staff will use in evaluating a request for access and special use and in making a recommendation to the Regional Water Supply Commission respecting approval of a permit. The Regional Water Supply Commission will approve or not approve a request for access and special use unless under the prescribed situations set out below. A permit for access and special use will be issued by the General Manager once the Commission has approved a request. This procedure is to be used in conjunction with the Greater Victoria Water Supply Area Protection Bylaw and the CRD Integrated Water Services, Regional Water Supply Policy - Water Supply Area Access and Special Use Request and Approval.

1. The General Manager, Integrated Water Services, has the authority to approve routine access and special use requests based on the following prescribed situations:
   a. CRD staff specifically required to conduct activities included in the operations of the CRD as part of their duties;
   b. BC Hydro and Fortis Gas staff and contractors for utility work to be undertaken in the water supply areas;
   c. Representatives of senior governments or regulatory agencies who, as part of their duties, are required to gain access to the water supply areas;
   d. Staff and contractors of agencies or organizations who hold licences, leases or other agreements with the CRD who are required to gain access to the water supply areas to access, operate and maintain equipment such as communications equipment, occupying water supply area sites or who are required to transit CRD lands to access private lands;
   e. Organizations or individuals touring the water supply areas with CRD staff escorts;
   f. Organizations or individuals conducting research projects authorized by the CRD, and being supported by an accredited academic institution or government agency;
   g. Contractors or tradespeople required to perform work as requested by CRD;
   h. Directors of the CRD Board, members of the Regional Water Supply Commission and other CRD Commissions and Committees, municipal council members, and health authority officials;
   i. Accredited media representatives with CRD staff escorts; and
   j. Special purpose day/visitation access with CRD staff escorts.
   k. Mining access requests in the Leech Water Supply Area where the CRD is required to provide access under the *Mineral Tenure Act*, and the claim holder agrees to CRD's terms and conditions of access.
2. All other requests for water supply area access and special use will be approved by the Regional Water Supply Commission in accordance with the *Regional Water Supply Policy – Water Supply Area Access and Special Use Request and Approval.*

PROCEDURE:
1. Groups or individuals requesting water supply area access or special use permission are to complete the CRD Integrated Water Services form *External Applicant Access and Special Use Request – Greater Victoria Water Supply Area.*

2. CRD Integrated Water Services staff will evaluate the request based on the information provided in the form and any other information provided by the applicant.
3. CRD Integrated Water Services Staff will provide a staff report to the Regional Water Supply Commission outlining the nature of the request and special use, the implications of the request, and a staff recommendation for the Commission's consideration.
4. The Commission will approve or not approve the request and may set certain conditions with an approval.
5. With the Commission's approval, the General Manager, Integrated Water Services will issue an access and special use permit and set out the conditions, requirements of the permit and the responsibilities of the permit holder.

Approval Date:	May 13, 2016	Approved By:	Regional Water Supply Commission
1. Amendment Date:	June 15, 2022	Approved By:	Regional Water Supply Commission General Manager, IWS
2. Amendment Date:		Approved By:	
3. Amendment Date:		Approved By:	
Next Review Date:		Reviewed By:	
Supersedes:			

Related Policy, Procedure or Guideline:

1. *CRD Integrated Water Services, Water Supply Area Access and Special Use Request and Approval Policy*
2. *Greater Victoria Water Supply Area Protection Bylaw*

CAPITAL REGIONAL DISTRICT
BYLAW NO. 4753

****

A BYLAW TO AMEND THE CAPITAL REGIONAL DISTRICT WATER SUPPLY AREA REGULATIONS BYLAW (BYLAW NO. 2804)

****

WHEREAS:

A. Under Bylaw No. 2804, "Capital Regional District Water Supply Area Regulations Bylaw No. 1, 2000", the Regional Board set out regulations and fees applicable to the regional service's water supply area, including prohibiting general public access;

B. The Regional Board wishes to facilitate First Nations' access to the CRD Water Supply Area for traditional practices and cultural use; and,

C. The Board wishes to amend Bylaw No. 2804 to update definitions and revise the Water Supply Area access permitting process;

NOW THEREFORE, the Capital Regional District Board in open meeting assembled hereby enacts as follows:

1. Bylaw No. 2804, "Capital Regional District Water Supply Area Regulations Bylaw No. 1, 2000" is hereby amended as follows:

    (a) In section 1, 'Definitions in this Bylaw', by inserting the definition of "First Nation" as follows:

    "First Nation" has the same definition as in the *Community Charter,* SBC 2003, c 26.

    (b) In section 1, 'Definitions in this Bylaw', by replacing the definition of "General Manager" with the following:

    "General Manager" means the General Manager of the CRD Infrastructure & Water Services Department appointed by the Board and also any person lawfully acting in that capacity.

    (c) In section 1, 'Definitions in this Bylaw', by inserting 'or "RWSC"' to the term being defined, immediately before 'means the standing committee appointed by the Board for regional water supply service purposes'.

    (d) In section 1, 'Definitions in this Bylaw', by replacing the definition of "water supply area", with the following:

    "water supply area" or "GVWSA" means any water catchment and non-catchment lands, including the bodies within the boundaries, owned and managed by the Capital Regional District, as shown on the maps attached as Schedule "A", and

includes the Leech Water Supply Area, but does not include the area marked 'Sooke Hills Wilderness Trail' shown on Schedule "A".

(e) In Section 1, 'Definitions in this Bylaw', by inserting the definition of "written authorization" as follows:

"written authorization" means an approval in writing, with conditions as set out from time to time under this bylaw, which permits identified activities or actions within the water supply area or a portion of it, which would otherwise run contrary to this bylaw, and includes a written agreement with a First Nation.

(f) By replacing section 3 in its entirety with:

3.

(1) When authorized personnel find, on reasonable grounds, that a person in the water supply area is contravening this Bylaw, a permit, or any other license, written authorization, or written agreement respecting use of the water supply area, they may require that person to do one or more of the following:

(a) provide, immediately upon request, that person's correct name, address, and information about their destination, and proposed or actual activities in the water supply area;

(b) provide within a reasonable time identification verifying that person's correct name and address;

(c) provide evidence, where applicable, that the person possesses a current valid license, authorization, permit, or written agreement for the activity or permitting the activity;

(d) stop contravening the Bylaw, the permit, licence, authorization, or written agreement immediately; or

(e) leave immediately and not re-enter the water supply area.

(2) A person who fails to comply with a requirement of authorized personnel under this Bylaw commits an offence.

(g) In section 5, 'Fines', by replacing '$100.00' with '$1,000.00'.

(h) In section 9, 'No Entry', by replacing the word 'authority' with 'authorization'.

(i) By inserting the following as section 11, and renumbering the remaining sections:

11. A person must not obstruct authorized personnel who are performing their duties.

(j) In section 14, 'Signs', by inserting the words 'or designate' after 'General Manager'.

(k) In section 15, 'Signs', by replacing reference to section '13' with '14', and by inserting 'Failure to do so is an offence' immediately thereafter.

(l) In sections 19, 25, 27, 32, and 33, by deleting the words ‘or in the Leech Water Supply Area where authorized by the terms of a written agreement between a First Nation and the CRD’.

(m) In section 21, ‘Damage’, by inserting the word ‘supply’ after the word ‘water’.

(n) In section 23, ‘Fire’, by deleting the words ‘or persons authorized by the terms of a written agreement between a First Nation and the CRD’.

(o) In section 30, ‘Firearms and Hunting’, by replacing the words ‘or in the Leech Water Supply Area where authorized by the terms of a written agreement between a First Nation and the CRD’ with ‘or where authorized by permit or with the written permission of the General Manager.

(p) By inserting the following as section 35(3), and renumbering the remaining sections:

35.

(3) No person shall operate a vehicle in the water supply area in a dangerous, unsafe, or irresponsible manner.

(q) In section 36(1), by replacing the word ‘his’ with ‘their’ and updating section references to "14, 35, 45 and 46".

(r) By deleting section 38 in its entirety, and renumbering the remaining sections.

(s) By inserting the following as section 38, and renumbering the remaining sections:

38. Unless a person has the written authorization of the General Manager or a valid permit allowing the activity, they must not:

(a) sell, barter, or display for sale any goods, services, or materials in the water supply area;

(b) conduct any business or commercial activity, whether paid for in advance of, during, or after the activity;

(c) encourage any person to use the water supply area for any activity related to a business or commercial enterprise, whether or not the business or commercial aspect of the activity is carried out within the water supply area;

(d) operate or station in the water supply area any commercial vehicle or any motor vehicle displaying advertising or equipped with a public address system or the purpose of advertising, promoting, demonstrating, or attracting attention.

(t) By inserting the following as section 39, and renumbering the remaining sections:

39. Subsection 38(d) does not apply to a motor vehicle, vessel, or watercraft which corporate advertisement is displayed where the motor vehicle, vessel, or watercraft is used for transportation of persons within the water supply

area or for services to the CRD, and not for the primary purpose of advertising.

(u) In section 42, 'Water Supply Area Access Permits', by replacing subsection (1) with the following:

42.
(1) No person shall conduct or carry on any special use or enter into or remain within the water supply area except where authorized by permit or written authorization.

(v) In section 42(2), by replacing reference to section '40(1)' with '42(1)', and by inserting the words 'for permit purposes,' immediately thereafter.

(w) By inserting the following as section 42(3), and renumbering the remaining sections:

42.
(3) The RWSC may set categories of permits considered routine, with conditions set from time to time by the General Manager under section 48, which are pre-approved by RWSC, and which may be issued by the General Manager.

(x) In section 43, by replacing reference to section '40' with '42', and by inserting 'or written authorization' after the word 'permit'.

(y) In section 44, by replacing reference to section '40' with '42'.

(z) In section 46, by inserting the words 'or those persons possessing written authorization' after the words 'permit holders'.

(aa) By replacing section 47 in its entirety with the following:

47. The General Manager or authorized designate may issue a written authorization if conditions imposed under section 48 are met by the applicant and may issue a permit approved by RWSC by resolution or within the category of pre-approved permit types under section 42(3).

(bb) By inserting the following as section 48, and renumbering the remaining sections:

48. In the issuance of a written authorization or permit, the General Manager or RWSC may impose any condition they deem necessary, including one or more of the following conditions:

(a) a requirement that the permit or authorization holder provide security in an amount and form acceptable to the CRD to cover estimated cleanup or remediation costs following the event, activity, or thing;

(b) requiring the holder of the permit or written authorization to defend, indemnify, and hold harmless the Capital Regional District, its

directors, officers, employees, volunteers, contractors, and agents, in relation to any loss, damage, or expenses arising from the issuance of the permit or written authorization to the holder, including for third party personal injury or property damage which occurs to third parties, the holder, its invitees, or anyone it is responsible for at law;

(c) public liability insurance, including wildfire and pollution endorsements, in an amount and form acceptable to the CRD's Risk Management division;

(d) that the event, activity, or thing is limited to one or more specified locations within the water supply area;

(e) limiting the duration of the written authorization or permit, including setting curfew hours for water supply area access;

(f) limiting the number of individuals who may access the water supply area, or, if an event, limited the number of participants (including staff and volunteers);

(g) requiring the holder of the written authorization or permit to provide traffic control for the event, activity, or thing;

(h) requiring that the holder of the written authorization or permit remove all waste, remediation ground conditions, or take such steps as may be directed by the General Manager to restore the lands and area to the state it was prior to the access;

(i) requiring the written authorization or permit holder to provide specific facilities for special use purposes, including without limitation waste collection facilities;

(j) requiring production of a research report prepared by or on behalf of the permit or written authorization holder;

(k) requiring specific signage;

(l) restricting the manner and application of any restricted method which the General Manager is permitting or approving by way of written authorization that would otherwise be prohibited under this bylaw;

(m) any such other matter or condition restricting or limiting use, access, and behaviour within the water supply area in the interests of the Regional District.

(cc) By replacing section 49 in its entirety with the following:

49.

(1) Neither the RWSC nor the General Manager are obligated to issue any written authorization or permit, and, without in any way limiting the generality of the foregoing, may:

(a) refuse to issue a permit or written authorization to any person or group who has previously contravened this Bylaw; and

(b) revoke a permit or written authorization if the special use is conducted in a manner which contravenes this Bylaw.

(2) Neither the CRD nor any of its elected or appointed officers, employees, servants, agents, contractors, licensees or representatives accepts or assumes any responsibility or liability for any claims, demands, proceedings, actions, suits, costs, expenses, fines, losses or damages in respect to death, injury, loss or damage to persons or property, however caused, arising out of or in connection with the issuance of a permit or written authorization or activities contemplated thereunder.

(m) By inserting the following as section 51, 'Agreements with First Nations', and renumbering the remaining sections:

51.

(1) The RWSC may approve one or more agreements with a First Nation for access to the water supply area or a portion of it. Such agreements may act in place of a permit or written authorization to permit an activity under this bylaw which otherwise would require a permit or written authorization and shall impose or establish conditions for entry that are substantially similar to those set out in section 42(2) and section 48.

(2) Where a written agreement with First Nation remains valid, in so far as its terms are complied with, those individuals acting in accordance with its terms, under the authority and with approval of the First Nation, are exempt from the requirement in this bylaw to obtain a permit or written authorization to the extent set out in the written agreement.

(ee) By deleting Schedule "A" in its entirety and replacing it with Schedule "A" attached to this bylaw.

2. This bylaw may be cited for all purposes as "Capital Regional District Water Supply Area Regulations Bylaw No. 1, 2000, Amendment Bylaw No. 3, 2026".

READ A FIRST TIME THIS th day of 20__

READ A SECOND TIME THIS th day of 20__

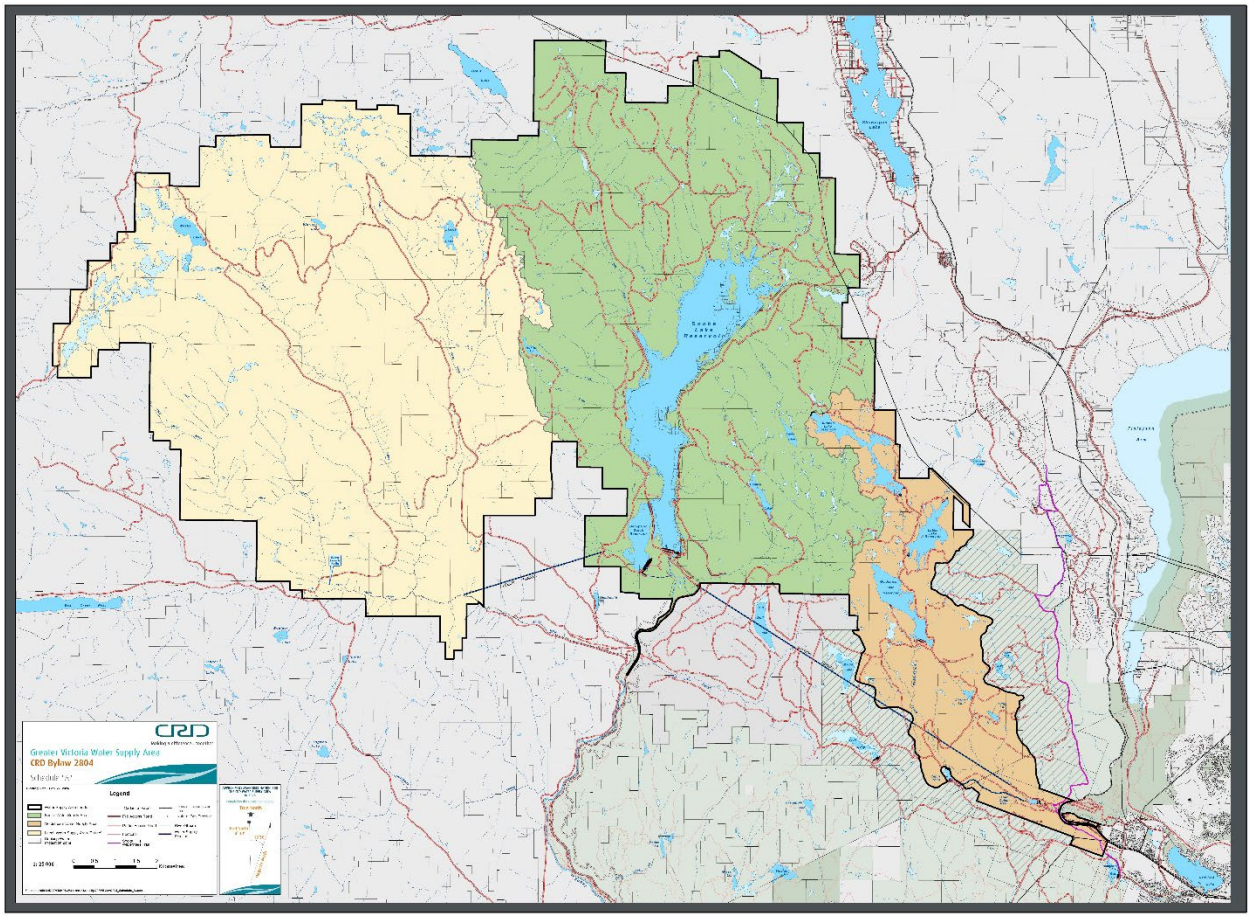
READ A THIRD TIME THIS th day of 20__

ADOPTED THIS th day of 20__

CHAIR

CORPORATE OFFICER

SCHEDULE "A"


CRD
Greater Victoria Water Supply Area
CRD Bylaw 2804
Legend

CAPITAL REGIONAL DISTRICT
BYLAW NO. 4769

****

A BYLAW TO AMEND CAPITAL REGIONAL DISTRICT TICKET INFORMATION AUTHORIZATION BYLAW, 1990 (BYLAW NO. 1857)

****

WHEREAS:

A. The Regional Board amended Bylaw No. 2804, "Capital Regional District Water Supply Area Regulations Bylaw No. 1, 2000", to grant First Nations access to the Greater Victoria Water Supply Area for traditional and cultural use*;*

B. The Board wishes to amend Bylaw No. 1857, "Capital Regional District Ticket Information Authorization Bylaw, 1990", to increase the fine rates for certain bylaw contraventions that are enforceable by means of a ticket in the form prescribed for the purpose of Division 3 of Part 8 of the *Community Charter*;

NOW THEREFORE, the Capital Regional District Board, in open meeting assembled hereby enacts as follows:

1. Bylaw No. 1857, "Capital Regional District Ticket Information Authorization Bylaw, 1990" is amended as follows:

   (a) By replacing Schedule 27 in its entirety with Appendix "A" attached to this bylaw.

2. This bylaw may be cited for all purposes as "Capital Regional District Ticket Information Authorization Bylaw, 1990, Amendment Bylaw No. 90, 2026".

READ A FIRST TIME THIS	day of	2026
READ A SECOND TIME THIS	day of	2026
READ A THIRD TIME THIS	day of	2026
ADOPTED THIS	day of	2026

CHAIR

CORPORATE OFFICER

APPENDIX A

SCHEDULE 27 TO BYLAW NO. 1857

(Bylaws 2806, 4051, 4703, 4769)

CAPITAL REGIONAL DISTRICT WATER SUPPLY AREA REGULATIONS BYLAW NO. 1, 2000

WORDS OR EXPRESSIONS DESIGNATING OFFENCE	SECTION	FINE AMOUNT
Unauthorized entry on water supply area lands	9	$500.00
Obstruct persons or traffic	10	$500.00
Obstruct authorized personnel	11	$500.00
Disorderly behavior	12	$300.00
Possession or Consumption of liquor	13	$250.00
Fail to obey sign or posted notice	15	$250.00
Damage to property/natural feature in water supply area	16	$300.00
Foul water supply area lands/water bodies	17	$500.00
Remove posted notices	18	$250.00
Interfere with wildlife	19	$300.00
Deposit garbage	20	$250.00
Introduce alien or weed species	21	$250.00
Introduce organic material without authorization	22	$250.00
Unlawful fire	23	$500.00
Deposit burning substance	24	$500.00
Damage tree	25	$300.00
Cut down tree	25	$500.00
Unauthorized cycling	26	$250.00

SCHEDULE 27 TO BYLAW NO. 1857

(Bylaws 2806, 4051, 4703, 4769)

CAPITAL REGIONAL DISTRICT WATER SUPPLY AREA REGULATIONS BYLAW NO. 1, 2000

WORDS OR EXPRESSIONS DESIGNATING OFFENCE	SECTION	FINE AMOUNT
Unauthorized camping	27	$250.00
Prohibited storage	28	$250.00
Prohibited animal	29	$250.00
Unauthorized hunting, carry or discharge of firearm, crossbow or bow	30	$500.00
Unauthorized operation of aircraft	31	$500.00
Unauthorized operation of vessel or watercraft	32	$500.00
Unauthorized fishing	33	$500.00
Driving off road	34(1)	$500.00
Driving contrary to posted signs or traffic control devices	35(2)	$300.00
Unsafe operation	35(3)	$300.00
Unlawful sign	37	$250.00
Unlawful commercial activity	38	$250.00
Prohibited temporary structure	40	$300.00
Prohibited permanent structure	41	$500.00
Special use without permit or authorization	42	$500.00
Entry into closed area	45	$500.00
Prohibited activity	46	$500.00

CAPITAL REGIONAL DISTRICT
BYLAW NO. 4770

****

A BYLAW TO AMEND CAPITAL REGIONAL DISTRICT BYLAW NOTICE ENFORCEMENT BYLAW NO. 1, 2025 (BYLAW NO. 4683)

****

WHEREAS:

A. The Regional Board amended Bylaw No. 2804, "Capital Regional District Water Supply Area Regulations Bylaw No. 1, 2000", to grant First Nations access to the Greater Victoria Water Supply Area for traditional and cultural use*;*

B. The Board wishes to amend Bylaw No. 4683, "Bylaw Notice Enforcement Bylaw No. 1, 2025", to increase the fine rates for certain bylaw contraventions that are enforceable by means of a bylaw notice in accordance with section 4 and 6 of the *Local Government Bylaw Notice Enforcement Act*;

NOW THEREFORE, the Capital Regional District Board, in open meeting assembled hereby enacts as follows:

1. Bylaw No. 4683, "Bylaw Notice Enforcement Bylaw No. 1, 2025", is amended as follows:

   (a) By replacing Appendix 27 in its entirety with Appendix "A" attached to this bylaw.

2. This bylaw may be cited for all purposes as *Bylaw Notice Enforcement Bylaw No. 1, 2025, Amendment Bylaw No. 4, 2026*.

READ A FIRST TIME THIS	day of	2026
READ A SECOND TIME THIS	day of	2026
READ A THIRD TIME THIS	day of	2026
ADOPTED THIS	day of	2026

CHAIR

CORPORATE OFFICER

APPENDIX A

APPENDIX 27 TO BYLAW NO. 4683

(Bylaws 4770)

CAPITAL REGIONAL DISTRICT WATER SUPPLY AREA REGULATIONS BYLAW NO. 1, 2000

WORDS OR EXPRESSIONS DESIGNATING OFFENCE	SECTION	FINE AMOUNT	EARLY PAYMENT (if paid within 14 days)	LATE PAYMENT (paid after 28 days)	COMPLIANCE AGREEMENT AVAILABLE
Unauthorized entry on water supply area lands	9	$500.00	$400.00	$500.00	No
Obstruct persons or traffic	10	$500.00	$400.00	$500.00	No
Obstruct authorized personnel	11	$500.00	$400.00	$500.00	No
Disorderly behavior	12	$300.00	$240.00	$360.00	No
Possession or Consumption of liquor	13	$250.00	$200.00	$300.00	No
Fail to obey sign or posted notice	15	$250.00	$200.00	$300.00	No
Damage to property/natural feature in water supply area	16	$300.00	$240.00	$360.00	No
Foul water supply area lands/water bodies	17	$500.00	$400.00	$500.00	No
Remove posted notices	18	$250.00	$200.00	$300.00	No
Interfere with wildlife	19	$300.00	$240.00	$360.00	No
Deposit garbage	20	$250.00	$200.00	$300.00	No
Introduce alien or weed species	21	$250.00	$200.00	$300.00	No
Introduce organic material without authorization	22	$250.00	$200.00	$300.00	No
Unlawful fire	23	$500.00	$400.00	$500.00	No
Deposit burning substance	24	$500.00	$400.00	$500.00	No
Damage tree	25	$300.00	$240.00	$360.00	No

APPENDIX 27 TO BYLAW NO. 4683

(Bylaws 4770)

CAPITAL REGIONAL DISTRICT WATER SUPPLY AREA REGULATIONS BYLAW NO. 1, 2000

WORDS OR EXPRESSIONS DESIGNATING OFFENCE	SECTION	FINE AMOUNT	EARLY PAYMENT (if paid within 14 days)	LATE PAYMENT (paid after 28 days)	COMPLIANCE AGREEMENT AVAILABLE
Cut down tree	25	$500.00	$400.00	$500.00	No
Unauthorized cycling	26	$250.00	$200.00	$300.00	No
Unauthorized camping	27	$250.00	$200.00	$300.00	No
Prohibited storage	28	$250.00	$200.00	$300.00	No
Prohibited animal	29	$250.00	$200.00	$300.00	No
Unauthorized hunting, carry or discharge of firearm, crossbow or bow	30	$500.00	$400.00	$500.00	No
Unauthorized operation of aircraft	31	$500.00	$400.00	$500.00	No
Unauthorized operation of vessel or watercraft	32	$500.00	$400.00	$500.00	No
Unauthorized fishing	33	$500.00	$400.00	$500.00	No
Driving off road	34(1)	$500.00	$400.00	$500.00	No
Driving contrary to posted signs or traffic control devices	35(2)	$300.00	$240.00	$360.00	No
Unsafe operation	35(3)	$300.00	$240.00	$360.00	No
Unlawful sign	37	$250.00	$200.00	$300.00	No
Unlawful commercial activity	38	$250.00	$200.00	$300.00	No
Prohibited temporary structure	40	$300.00	$240.00	$360.00	No
Prohibited permanent structure	41	$500.00	$400.00	$500.00	No
Special use without permit or authorization	42	$500.00	$400.00	$500.00	No
Entry into closed area	45	$500.00	$400.00	$500.00	No
Prohibited activity	46	$500.00	$400.00	$500.00	No

Making a difference...together

EEP 26-27

REPORT TO REGIONAL WATER SUPPLY COMMISSION
MEETING OF WEDNESDAY, MAY 20, 2026

SUBJECT **2026-2035 Water Conservation Plan for Greater Victoria**

ISSUE SUMMARY

This report presents the 2026-2035 Water Conservation Plan for Greater Victoria (the Plan) to the Regional Water Supply Commission (RWSC) for review and approval. The Plan establishes the goals, targets, and priority actions that will guide regional water conservation and demand management over the next decade in support of the Regional Drinking Water system. The Commission is asked to consider the Plan, provide strategic direction to staff on its implementation, and endorse forwarding the Plan to the Capital Regional District Board for information and public distribution.

BACKGROUND

The provision of a safe, reliable, and sustainable regional drinking water supply is a core service mandate of the Capital Regional District (CRD), as set out in the CRD Corporate Plan. The Regional Drinking Water Strategic Plan identifies water conservation as a critical demand side strategy to manage long-term demand, reduce peak system pressures, and strengthen resilience to climate change and population growth. A comprehensive Water Conservation Plan is therefore required to translate this strategic direction into coordinated, measurable actions that support effective system planning and service sustainability.

In late 2024, the CRD retained consultants, Econics and Kerr Wood Leidal, to support development of the 10-year Water Conservation Plan for the Greater Victoria Drinking Water Service (Appendix A). Clear goals, targets and an action plan (Appendix B) will ensure accountability and a clear roadmap for staff. The Plan builds on existing conservation initiatives and refocuses program delivery to improve water use efficiency among residents, businesses, and institutions, with an increased emphasis on peak demand reduction, outdoor water use, collaboration with municipal and First Nations retail water suppliers, and improved data to support accountability and decision-making.

The draft plan was presented for discussion and comments at the November 25, 2025 meeting of the Water Advisory Committee. Staff then presented and received feedback on the draft plan at a subsequent workshop with local government staff on Dec. 12, 2025. Finally, there was an internal workshop with key managers and leaders in the regional drinking water service at a workshop on February 24, 2026. The current draft plan (Appendix A) incorporated comments from this consultation process.

ALTERNATIVES

Alternative 1
That the Regional Water Supply Commission:

1. Approve the 2026-2035 Greater Victoria Water Conservation Plan and direct staff to move forward with the actions identified; and
2. Direct staff to forward the 2026-2035 Greater Victoria Water Conservation Plan to the Capital Regional District Board for information.

Alternative 2
That this report be referred back to staff for additional information.

IMPLICATIONS

Environmental and Climate Implications

Implementation of the Plan will reduce overall water demand and peak system pressures, improving the sustainability and resilience of the regional drinking water system. Reductions in outdoor water use and peak demand support adaptation to warmer temperatures, extended dry periods, and seasonal demand variability, while also reducing stress on watershed resources and optimizing use of existing infrastructure.

Service Delivery Implications

The Plan provides a framework to support service delivery in alignment with the Regional Drinking Water Strategic Plan and the Regional Drinking Water Master Plan. The Plan translates strategic objectives into measurable actions and targets, which can be integrated into operational planning and performance management. Implementation results will inform regular operational reviews and five-year updates to the Regional Drinking Water Master Plan. Through ongoing performance reporting and periodic review, staff will assess effectiveness, identify emerging risks or opportunities, and recommend adjustments to conservation programs and service priorities, ensuring alignment with RWSC direction, Board oversight, and long-term service sustainability.

Social Implications

The Plan emphasizes education, outreach, and community stewardship to encourage efficient water use across residential, business, and institutional sectors. A renewed focus on targeted, community-based social marketing approaches is intended to support lasting behaviour change while maintaining public trust and understanding of the regional drinking water service. Past experience indicates a high level of public awareness and support for water conservation in the region, and Plan implementation builds on this foundation by providing clear expectations and practical tools for water users.

First Nations and Intergovernmental Implications

Regional water conservation requires participation and engagement with local governments and First Nations. Key aspects of demand management take place at the water distribution system level and depend on the collaborative efforts of local government, First Nations, and retail water suppliers across the region. These efforts include management of non-revenue water, rate setting, land use development, planning and various other activities. All retail water suppliers benefit from reduced consumption and improved management of non-revenue water through lower capital and operational costs, and fewer service interruptions and unscheduled emergency callouts. Better consumption data also helps optimize local infrastructure and development planning.

The Plan focuses efforts on establishing a regional community of practice in collaboration with retail water suppliers to promote innovative non-revenue water management and improved understanding of community water use through research and monitoring. This will include sharing expertise, improved data quality, data accuracy and data sharing, and utilizing best practices. A renewed emphasis on collaboration will foster regular dialogue through workshops, technical exchanges, and joint pilot projects focused on leak detection, meter accuracy and system auditing.

Financial Implications

The Plan will provide information and strategies for residents, businesses, and institutions to conserve water, reduce water bills and contribute to the long-term sustainability of this public service.

The 2026 budget for demand management is $882,534. With current budget allocation, staff can deliver existing programs as well as complete priority projects identified for immediate implementation in the Plan. Longer-term actions will follow an adaptive management framework; building on knowledge gained from pilot projects and surveys and allowing actions to be adjusted based on new data, progress reviews, community feedback, and cost-benefit analyses. This framework aims to ensure the plan remains responsive, resilient, and effective in advancing long-term water sustainability.

This Plan will also be used by the CRD and our partners to fulfill eligibility conditions for water conservation planning in provincial and federal water infrastructure grants and funding applications.

CONCLUSION

The Capital Regional District has a mature regional drinking water system that uses a multi-barrier approach to produce a sustainable, safe supply of drinking water for our growing region. The 2026–2035 Greater Victoria Water Conservation Plan (the Plan) provides a clear, long-term framework to guide regional water conservation and demand management in support of a sustainable and resilient drinking water system. The Plan translates strategic direction into measurable targets and actions that will inform service delivery, system planning, and performance monitoring over the next decade. Approval of the Plan enables the Regional Water Supply Commission to provide strategic direction to staff and ensure alignment with Board priorities and long-term planning objectives. Moving forward, implementation of the Plan, supported by regular reporting and review, will help manage future demand pressures, support and inform capital planning, and strengthen the region's ability to respond to climate change and population growth.

RECOMMENDATION

That the Regional Water Supply Commission:
1. Approve the 2026-2035 Greater Victoria Water Conservation Plan and direct staff to move forward with the actions identified; and
2. Direct staff to forward the 2026-2035 Greater Victoria Water Conservation Plan to the Capital Regional District Board for information.

Submitted by:	Glenn Harris, Ph.D., R.P. Bio., Senior Manager, Environmental Protection
Concurrence:	Alicia Fraser, P. Eng., General Manager, Infrastructure and Water Services
Concurrence:	Luisa Jones, MBA, General Manager, Parks, Recreation & Environmental Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENTS

Appendix A: 2026-2035 Water Conservation Plan for Greater Victoria (April 2026)
Appendix B: Summary of 2026-2035 Water Conservation Plan Goals, Targets and Actions

Greater Victoria
Water Conservation Plan - 2026-2035

April 2026

Prepared for

Making a difference...together

Prepared by

econics

With

KERR WOOD LEIDAL
consulting engineers

w: econics.com e: info@econics.com t: +1 250 588 6851

Table of Content

2 April 2025

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Table of Acronyms

Acronym	Definition
ADD	Average Day Demand
AMI	Advanced Metering Infrastructure
CRD	Capital Regional District
ICI	Industrial, Commercial & Institutional
JdF	Juan de Fuca Water System
GL	Gigalitre (1,000,000,000 litres; 1,000,000 m^3)
GL/year	Gigalitres/year
KWL	Kerr Wood Leidal
L	Litre
LCD	Litres per capita per day
MDD	Maximum Day Demand
ML	Megalitre (1,000,000 litres)
ML/day	Megalitres per day
ML/yr	Megalitres per year
MURB	Multi-Unit Residential Building
NRW	Non-revenue Water
PCIC	Pacific Climate Impacts Consortium

Executive Summary

Over many years, Capital Regional District (CRD) has successfully fostered efficient use of water in the Greater Victoria community through education, promoting water saving technologies, policy measures, and research. This Water Conservation Plan sets out a refreshed direction for 2026 to 2035. It provides a renewed program and suite of actions, establishes data-based targets, and outlines implementation strategies and schedules.

This plan applies to the Regional Water Supply Service that serves Greater Victoria, including 13 municipalities, eight First Nations, and parts of the Juan de Fuca Electoral Area.

Program Impact

Effective implementation of this plan will deliver many benefits for the Capital Region. Demand management is a cost-effective approach to improving water systems reliability and reduces the likelihood of exceeding capacity. This includes the regional water supply, treatment, and transmission systems, regional wastewater conveyance and treatment systems, and local water distribution and wastewater collection infrastructure.

Demand management complements the capital projects and operation and maintenance strategies already in place that are necessary to maintain system reliability and sustainability. It also encourages customers to actively participate in stewardship of water resources and aquatic ecosystems.

Water Conservation Plan Objectives

The CRD's water efficiency objectives are driven by a variety of corporate policies and goals set out in strategic documents such as the Water Supply Master Plan (2022) and the Regional Growth Strategy (2018). Most recently, the Regional Water Supply Strategic Plan (Draft February 2025) sets new demand management goals that include developing a water conservation plan and defining demand baseline and define targets.

Guided by this strategic direction, the following supporting objectives pertain specifically to this plan:

- continue to reduce per capita water production and consumption,
- manage seasonal peak demand, particularly during early morning periods,
- improve water use accounting and management of non-revenue water,
- ensure that water conservation program delivery is data driven and that impacts are measured and tracked,
- improve resiliency and encourage wise water use for the Capital Region as it adapts to climate change, enhances local food security, and prepares for the risk of disasters that might affect water infrastructure,
- ensure a reliable and resilient water supply for the region,
- help residents and businesses understand why they should conserve water and the ways that they can do so, ideally while also enhancing quality of life.

2026 to 2035 Water Conservation Program

The new program builds on the many past successes of the CRD water conservation program. The plan for the next decade emphasises helping residents become more efficient, working with businesses and institutions, and partnering with municipal and First Nation water suppliers. In many cases, the actions are enhancements of approaches already in place. In other cases, new programs will be developed and implemented subject to budget availability.

The following table provides a summary of the Water Conservation Plan goals and actions.

2026 to 2035 Water Conservation Plan Program Summary

Goal 1: Lead and support collaborative conservation best practices in water distribution systems	
1.1	Establish a regional non-revenue water management community of practice
1.2	Investigate the potential impact of conservation-oriented water services pricing in the Juan de Fuca Water System
1.3	Investigate advanced metering infrastructure in the Juan de Fuca Water System
1.4	Collaborate with local water suppliers to promote additional water efficiency best practices
Goal 2: Reduce outdoor water use and instantaneous peak demand	
2.1	Review the effectiveness of the Water Conservation Bylaw; based on results, implement new best practices appropriate for the Capital Region
2.2	Review Water Conservation Bylaw compliance and enforcement regime
2.3	Enhance outdoor irrigation outreach including campaigns aimed at Water Conservation Bylaw compliance and at reducing peak instantaneous demand
2.4	Develop “Healthy Landscapes” outreach pilot project
2.5	Continue native plant gardening workshops
Goal 3: Foster community water stewardship and encourage efficient use	
3.1	Continue print and online education campaigns and share learning resources
3.2	Attend community events to directly engage with residents
3.3	Promote the annual “Fix a Leak Week” campaign
3.4	Continue to deliver ‘Every Drop Counts’ school programs
3.5	Implement a multi-unit residential building water efficiency pilot project
3.6	Enhance the industrial, commercial, and institutional Water Use Assessment Program
3.7	Phase out once-through cooling systems; promote best practices in other cooling technology
Goal 4: Improve understanding of community water use through research and monitoring	
4.1	Participate in the Residential End Uses of Water Study
4.2	Update the CRD Residential Water Survey
4.3	Continue annual updates to the Regional Retail Water Use Database
4.4	Refine plan implementation through an adaptive management approach

Plan Targets & Implementation

The CRD will pursue realistic targets to measure progress toward achieving plan objectives.

Target 1: Total Water Production

- Reduce per capita water production from treatment facilities by 0.9% year-over-year to achieve a target of 300 litres per capita per day (LCD) by 2035

Target 2: Residential Consumption

- Reduce residential per capita consumption by 1.2% year-over-year to achieve a target of 200 LCD by 2035

Target 3: Instantaneous Peak Demand

- Reduce the maximum change in instantaneous flow rate at 4:00am from 46% to 20%

Target 4: Peak Season Demand

- Maintain Maximum Day Demand at 300 megalitres per day (ML/day) through 2035

Implementation of the measures in this plan is expected to reduce total annual water production in the Greater Victoria Drinking Water Service by 3% to 6% by 2035 compared with the status quo. It will also reduce maximum day demand (MDD) by 5% to 9% over the same period compared to status quo. Results will also be augmented by broader community trends including ongoing natural replacement of inefficient fixtures and appliances in homes and businesses, land use densification, and changing water use habits.

Priority Projects

The following actions are high priority for early implementation. Some of these measures are already underway. They are priorities because they are likely to provide large volumes of water savings relative to cost. They are also important because of other factors such as the urgency of reducing instantaneous peak demand associated with outdoor irrigation and the pending once-through cooling system regulatory ban.

Priority Projects for the Water Conservation Plan

#	Action
1.1	Establish a regional non-revenue water management community of practice
2.1	Review the effectiveness of the Water Conservation Bylaw; based on results, implement new best practices as appropriate for the Capital Region
2.3	Enhance outdoor irrigation outreach including campaigns aimed at Water Conservation Bylaw compliance and at reducing peak instantaneous demand
3.6	Enhance the industrial, commercial, and institutional Water Use Assessment Program
3.7	Phase out once-through cooling systems; promote best practices in other cooling technology
4.2	Update the CRD Residential Water Survey

Implementation will follow an adaptive management framework. This means learning from experience and responding as needed to fine-tune delivery.

Water demand management reduces operational strain and strengthens system reliability by lowering peak loads on regional water infrastructure. For the CRD and local water suppliers, the most meaningful efficiencies come from reduced peak demand management effort and reduced operating costs from actions like advanced metering and improved non-revenue water control.

By continuing to encourage efficient use, this plan will play an integral role in making the Capital Region more water sustainable. It will help residents and businesses control their water costs and may help extend the life of our current infrastructure in both our regional transmission and local distribution systems. It will also provide a range of other social, ecological and financial benefits.

1.0 Introduction

Over many years, Capital Regional District (CRD) has successfully fostered efficient use of water in the Greater Victoria community through education, promoting water saving technologies, policy measures, and research. The region has a proud history of advancing water conservation, dating back well over a century. In 1888, Victoria was among the first communities in North America to implement customer metering (Honey-Roses, Gill and Pareja, 2016). In 1992, CRD was an early adopter of outdoor watering schedules, starting first in the Western Communities then spreading throughout the region (CRD, 2021). During the 2000s, CRD pioneered development of industrial, commercial, and institutional water auditing and incentives for non-residential customers, becoming a national leader in this space. Through these and many related initiatives, CRD and its municipal partners continually demonstrate commitment to protecting regional water supplies.

Building on this historical success, this Water Conservation Plan sets out a refreshed program direction for 2026 to 2035. It sets out a suite of actions, establishes data-based targets, and outlines implementation strategies and schedules. The geographic scope includes the Greater Victoria Drinking Water System that serves 13 area municipalities, eight First Nations, and parts of the Juan de Fuca Electoral Area.

The plan is organized as follows:

- Section 2 is an overview of the CRD service area and profiles water use trends,
- Section 3 outlines CRD's objectives for water conservation and alignment with other corporate plans,
- Section 4 is a brief inventory of current programs,
- Section 5 outlines the 2026 to 2035 water conservation program under four goals,
- Section 6 describes the anticipated impact of the program,
- Section 7 provides a high-level implementation plan including targets, a schedule, early priorities, and a monitoring and evaluation framework.

How This Plan Was Developed

Creation of this updated plan commenced in late 2024. The first step involved a review of CRD's current conservation program including strengths, challenges and opportunities (see Appendix 2). Subsequent steps included quantitative analysis of water production and consumption trends, and demand forecasting. Work was facilitated by a series of workshops with CRD staff engaged in utility management and conservation program administration. These workshops looked at program objectives, targets, and measure selection. Plan development was guided by direction in the Province's Water Conservation Guide (Province of BC et. al., 2013, see Figure 1) as well as North American industry best practices as set out in AWWA (2006), AWWA (2013), Maddaus (2014), and Vickers (2001).

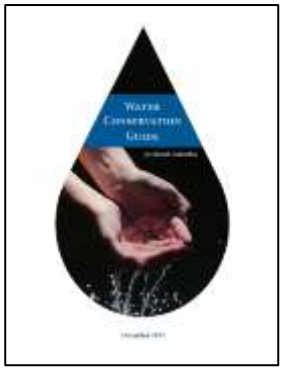

Figure 1: BC Water Conservation Guide

2.0 Service Area Overview and Water Use Profile

This section provides an overview of the CRD water supply and service areas and a water use profile.

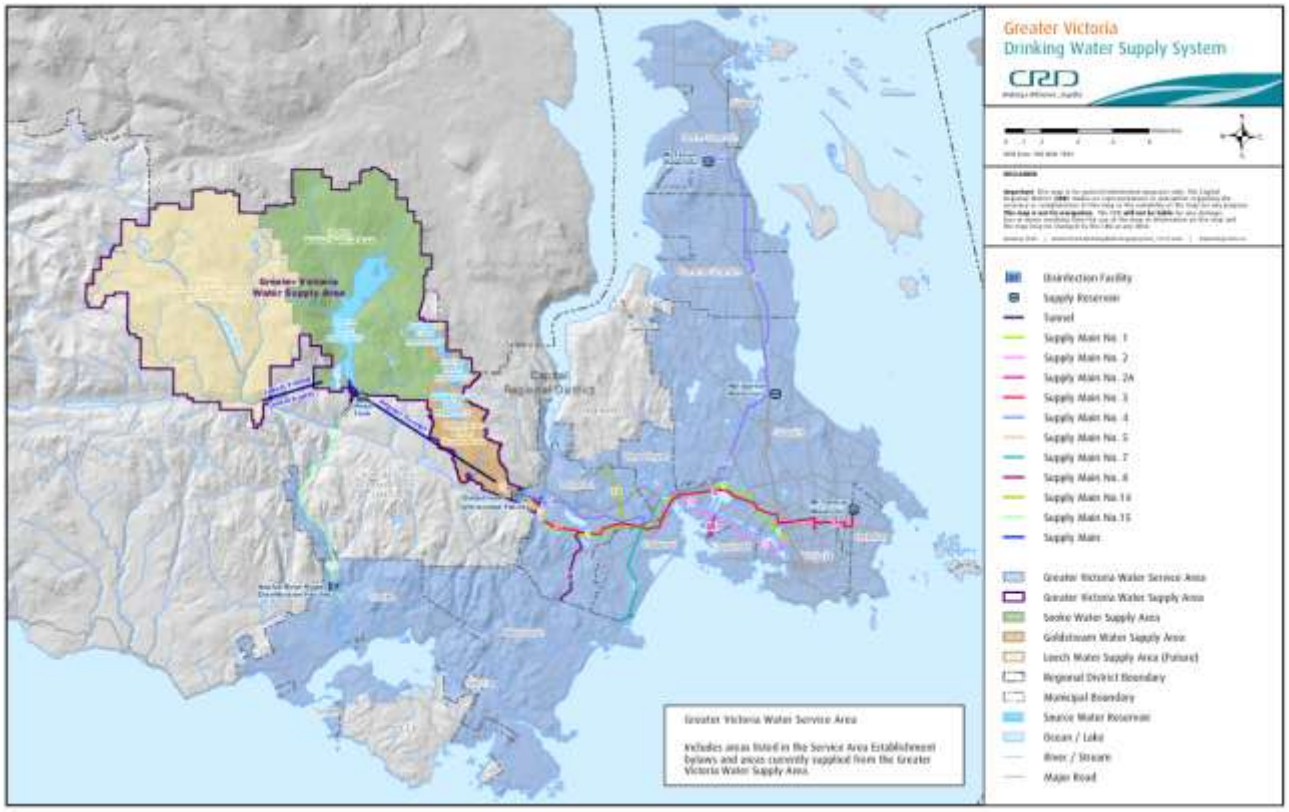

Figure 2: Greater Victoria Drinking Water Service System
Source: CRD, 2025

CRD provides wholesale water to the core area and peninsula in the Greater Victoria area. In addition to providing wholesale water, CRD is also the retail water supplier to six communities (View Royal, Highlands, Colwood, Langford, Metchosin, and Sooke) as well as parts of the Juan de Fuca Electoral Area (parts of East Sooke). [1]

Source water comes from two watersheds: Sooke and Goldstream. Sooke is the primary source with Goldstream as the secondary one. The Leech Watershed is planned for future use. The three watersheds are shown in Figure 2 above.

Source water is routed to CRD's two disinfection facilities. The Goldstream Water Treatment Plant (previously referred to as Japan Gulch) disinfects all the water supplied to the Goldstream Service Area which includes all of Greater Victoria except for Sooke and East

[1] The term "retail water supplier" is used in this report to refer to provision of local services such as maintaining distribution systems and customer billing. In most cases, municipalities and First Nations provide this to their residents. However, through the Juan de Fuca Water Distribution Service, CRD itself fills this role for local municipalities in the Western Communities. As well, City of Victoria provides retail water services to Township of Esquimalt residents.

Sooke. The Sooke River Road Disinfection Facility disinfects water for the Sooke Service Area, consisting of the communities of Sooke and parts of East Sooke.[2]

2.1 Water Use Profile

This sub-section provides an overview of recent water use trends in the Capital Region. This analysis was completed to guide design of updated conservation programs and to help understand the likely impact of further investment in this area. Additional analysis and the methodology can be found in Appendix 1.

Population

Change in total water demand is in part a function of population growth. Figure 3 outlines regional population over the last ten years. The growth rate was about 2% per year.[3]

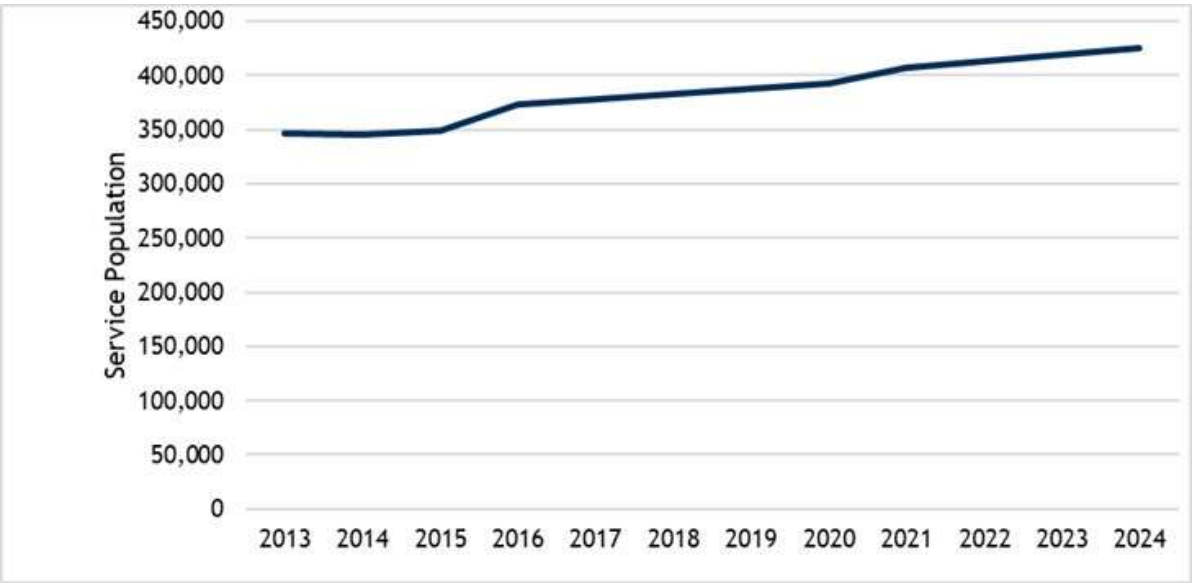

Figure 3: CRD Water Service Population Per Year (2013 – 2024)

Water Production

Historical daily water production from the Goldstream and Sooke treatment facilities was provided by CRD staff. Figure 4 shows the total water production per capita, measured in litres per person per day (LCD) over the past decade. Results are quite stable though generally trending downward. The average for this period also aligns closely with findings in the Water Supply Master Plan (Stantec, 2022).

Additional information on water production from treatment facilities, including total production (i.e., not expressed on a per capita basis), can be found in Appendix 1.

[2] Additional information on water sources can be found at: www.crd.ca/programs-services/water/greater-victorias-water-supply

[3] CRD's planning department projects a future growth rate of 1.66% per year.

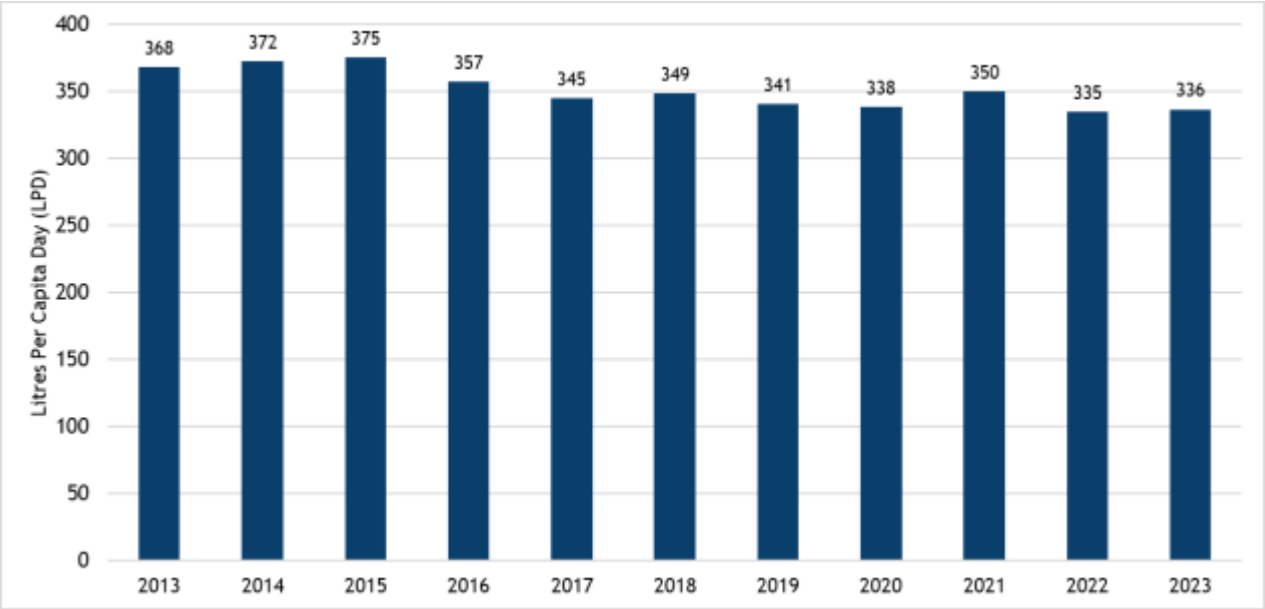

Figure 4: Total Water Production Per Capita (LCD)

Production data was reviewed to develop baseline and seasonal flow estimates. We assume that seasonal water usage occurs from April to October inclusive. Figure 5 splits annual water usage into base and seasonal. Baseline flows are slightly increasing in recent years after many years of steep decline.

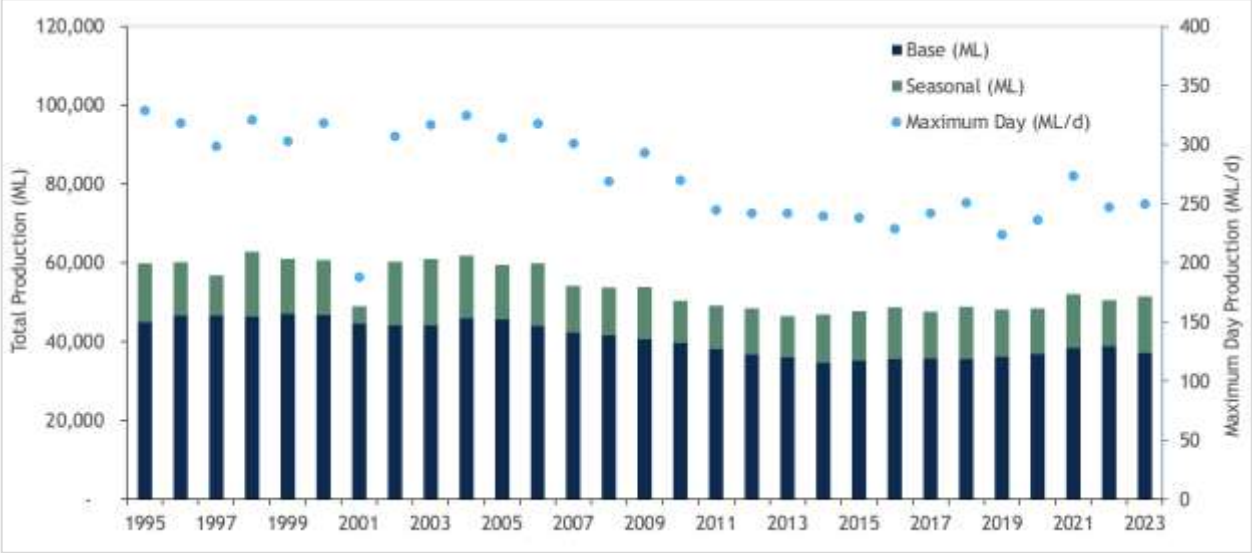

Figure 5: Annual Base, Seasonal & Maximum Day Water Production

The figures below show water consumption trends on a regional basis, established by analysing data from customer water meters. This data is provided to CRD by retail water suppliers each year. Trends for specific communities are shown in Appendix 1.

Regional consumption on a per capita basis is relatively stable, with a slight decrease of 5% between 2013 (334 LCD) and 2023 (316 LCD) as seen in Figure 6. Figure 5 shows increasing

total water consumption (i.e., the sum of all meter readings) of 11% from 2013 (46,469 ML) to 2023 (51,428 ML). This increase is expected, and it indicates that some but not all of the 21% population increase over this period has been offset through decreasing per capita retail consumption.

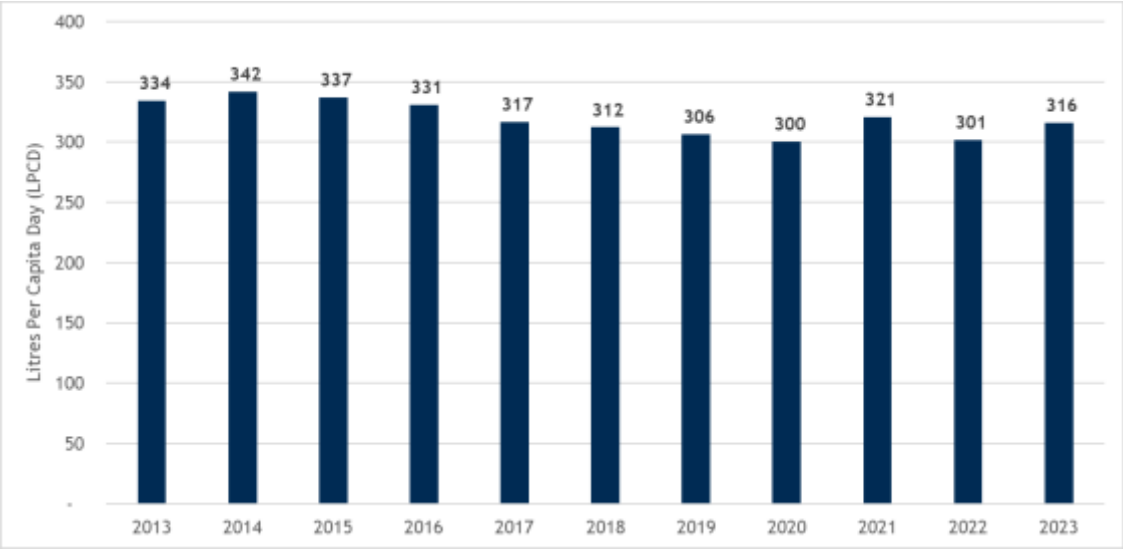

Figure 6: Regional Retail Water Consumption Per Capita (2013 to 2023), LCD

The following two figures disaggregate residential, agriculture, and industrial/commercial/ institutional demand between 2019 and 2023 on a regional level. Figure 7 illustrates that residential usage increased in 2020 and non-residential decreased correspondingly because of pandemic impacts, a trend seen across North America during this time. Both Figure 7 and Figure 8 indicate that residential use is the highest water using sector by a wide margin.

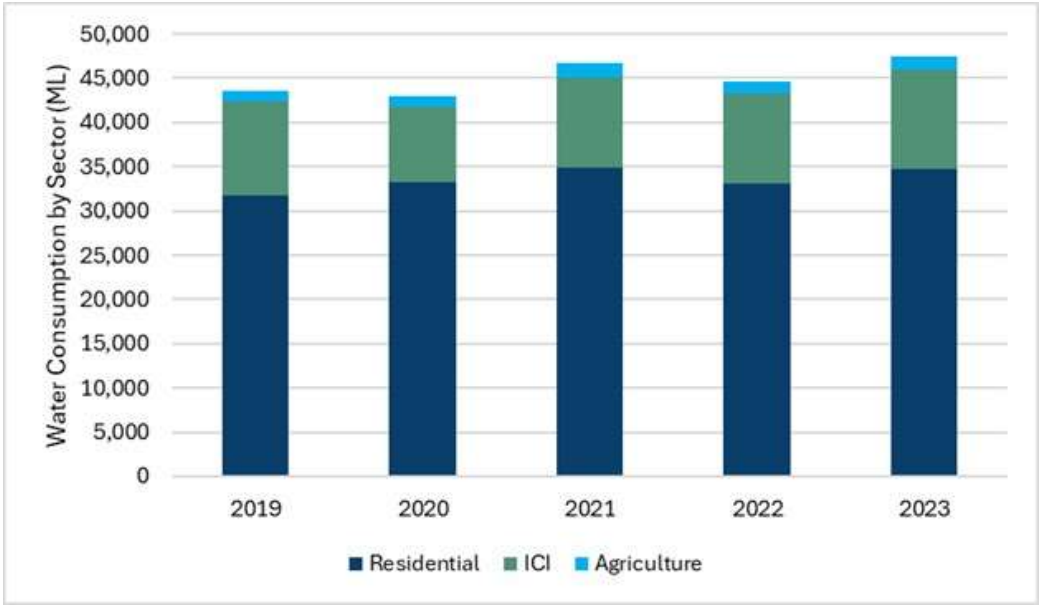

Figure 7: Water Retail Consumption by Sector

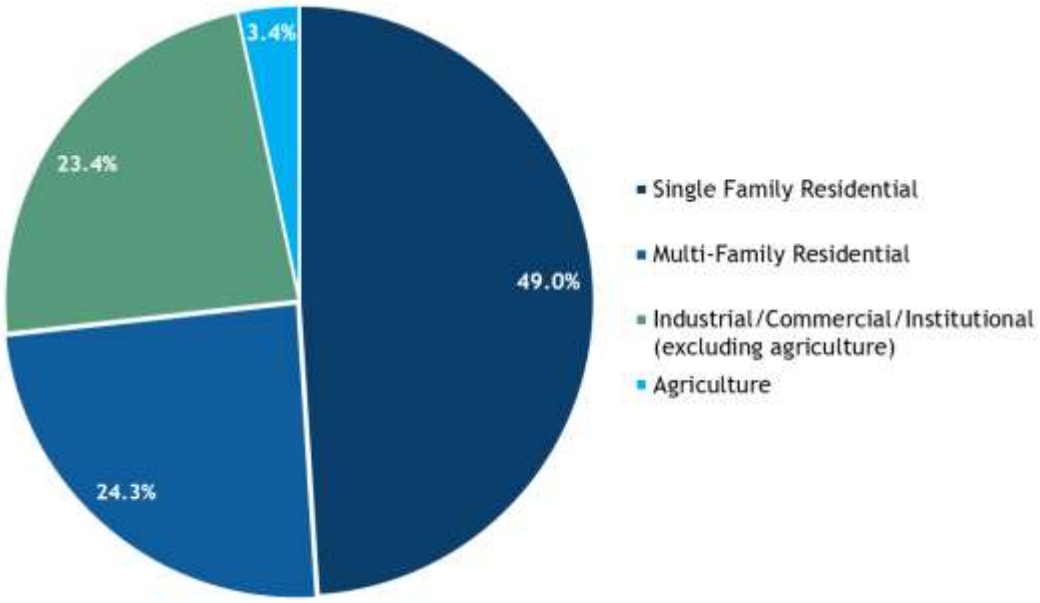

Figure 8: Regional Retail Usage Breakdown (2023)

Figure 9 shows historical retail consumption by sector. This indicates a 10% overall growth since 2019, 53% growth in multi-family residential since 2011, and 27% growth in institutional demands since 2011. Note that in the early 2010s there is a significant portion of water use that was coded as "unknown" (i.e., no billing code assigned). It is likely that some of this use should be attributed elsewhere such as to multi-family homes, explaining in part the significant increase in that sector.

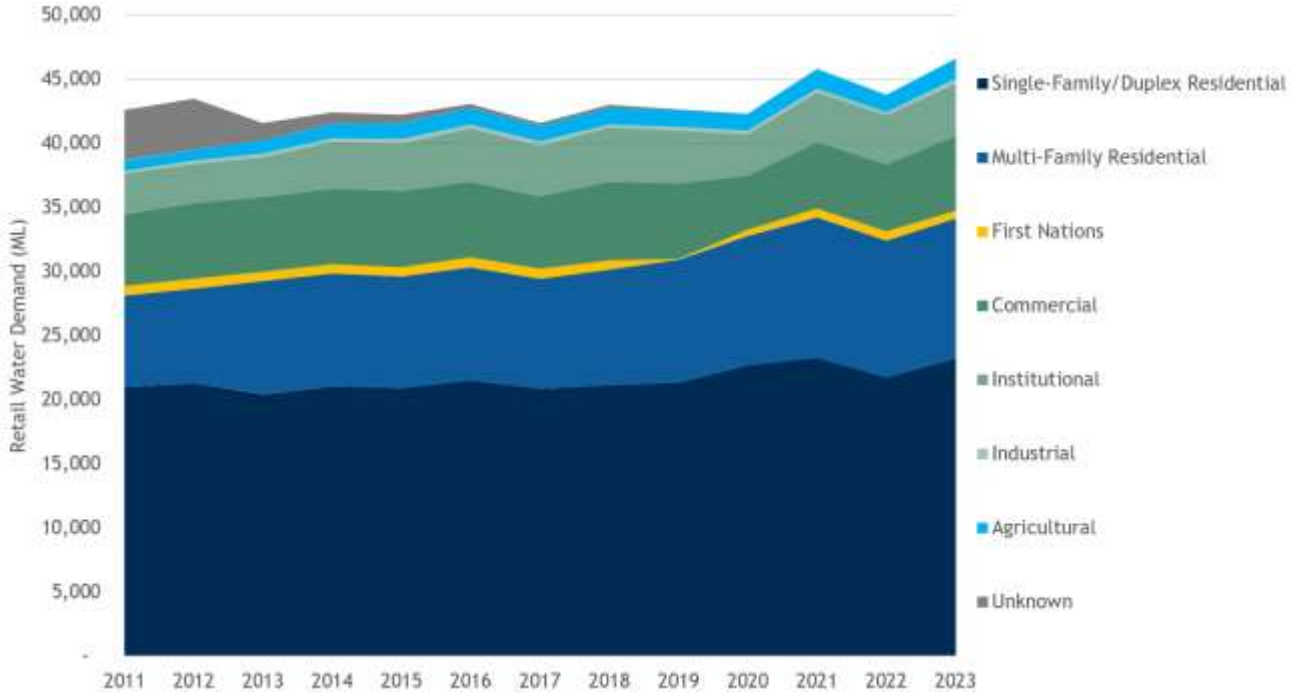

Figure 9: Retail Consumption by Sector (2011 to 2023)

Figure 10 shows retail water consumption by local water supplier. As expected, total consumption generally follows population levels.

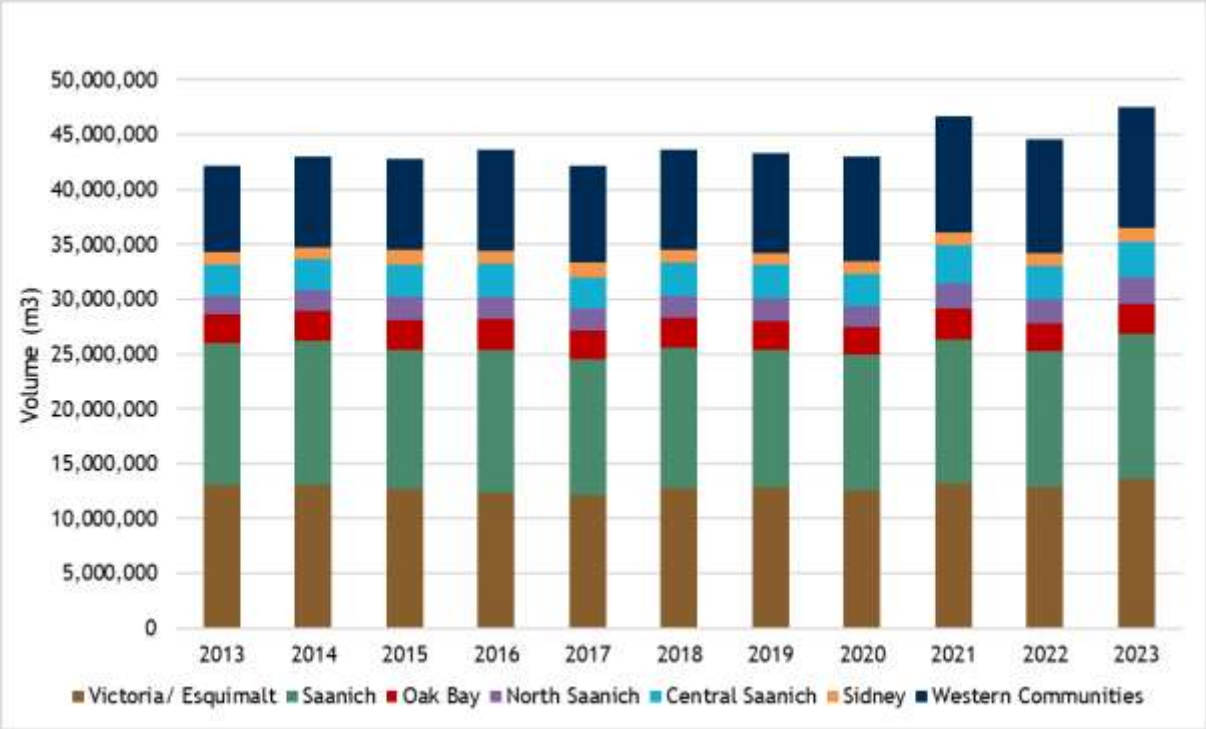

Figure 10: Retail Consumption by Municipality (m^3)

Non-Revenue Water

Non-revenue water results for CRD are shown in Figure 11, including both the distribution and transmission systems. This is water that has been "lost" before it reaches the customer. It is the difference between the amount of water that is produced by a water utility and the amount of water that is billed to customers. Non-revenue water has three components:

- “unbilled authorized consumption” which includes water used in distribution system flushing, fire fighting, and similar types of demand,
- “apparent losses” due to water theft, metering inaccuracies and the like, and
- “real losses” principally made up of leakage in transmission mains, storage facilities, distribution mains, or service connections.

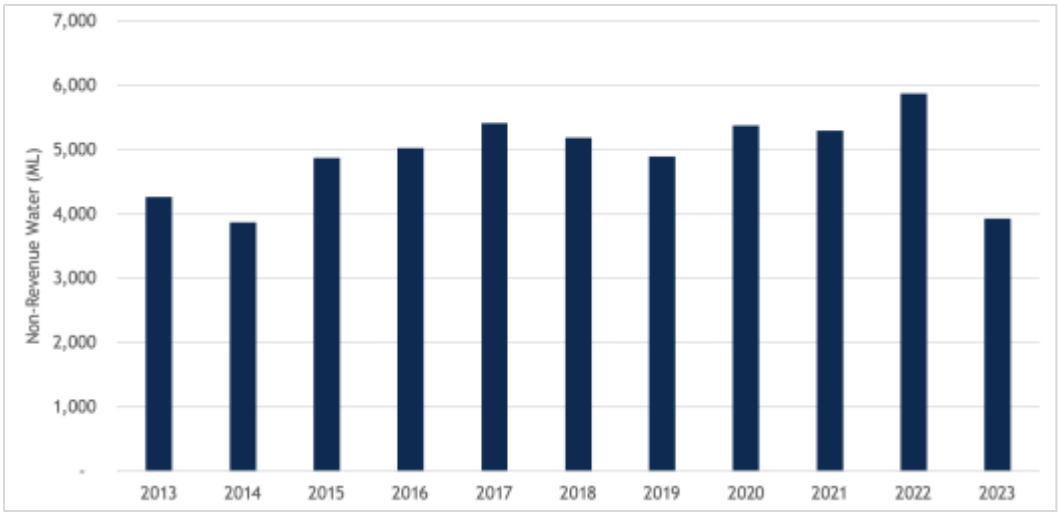

Figure 11: Non-Revenue Water

Analysis & Summary

The foregoing review identified several observations and conclusions:

- Residential water demand is the largest water user and makes up 73% to 77% of water usage based on the past five years of water data.
- The impacts of the COVID-19 pandemic on water use can be seen in that residential demand increased during 2020 and industrial, commercial, and institutional decreased correspondingly; it is not yet clear whether this trend will stabilize or diminish.
- Victoria/Esquimalt and Saanich are the largest water users, which is expected as these areas correspond with the greatest population.
- Per capita consumption among the region has remained relatively stable; however, since 2020 overall water usage has gone up with increased population.
- Non-revenue water is approximately 8% to 12% including both the distribution and transmission systems. This in line with trends we see in similar North American jurisdictions.
- Since about 2020 (i.e., since the pandemic), seasonal water usage from April to October inclusive has generally increased. Again, it is not yet clear whether this trend will stabilize or diminish.

3.0 Water Conservation Plan Strategic Alignment and Objectives

CRD's efficiency objectives are driven by a variety of corporate policies and goals. This section summarizes guiding direction found in key strategic documents.

CRD 2023-2026 Board Priorities (2023)

The CRD Board Priorities confirm the organization's vision, mission, and mandate. It sets the long-term strategic direction to respond to community needs. The following priority supports continued effort in water demand management:

Priority 3: Climate Action & Environment

Initiative 3c: Increase resilience, community and adaptation planning to address climate related risks and disasters

Initiative 3d: Support energy efficient and low carbon buildings across the region

CRD Regional Water Supply Strategic Plan (2025)

The CRD Regional Water Supply Strategic Plan (February 2025 Draft) defines how CRD will allocate resources to manage, maintain, and safeguard the water supply, transmission system, and catchment lands. Conservation is a key component of this strategy as seen in the following:

Commitment 2: Provide an adequate, reliable, long-term supply of drinkable water

Priority 3: Optimize our available water supply through water conservation

Near-Term Actions

- Define the "by sector" demand baseline and define long term targets.
- Develop a water conservation plan.

Medium-Term Actions

- Assess baseline data to define targets and develop a multi-year demand management strategy.
- Develop policy and bylaws to support effective water conservation and maximizing water supply.
- Investigate opportunities for creating shared and consistent data sets with municipalities to facilitate analysis and trend monitoring.

Longer-Term Actions

- Continuously refine policy and practices to adjust demand management to optimize water supply.
- Identify and study existing and future stressors on water demands to refine water use trends.

CRD Regional Water Supply Master Plan (2022)

CRD's Water Supply Master Plan recommends 21 major projects to implement over the next 30 years to meet future water supply and treatment needs. The Plan recognizes that reducing demand will extend the life of the existing water sources and key infrastructure (Stantec, 2022, p. 234).

Recommendation 8: [CRD] should continue with demand management programs to enable [the Regional Water Supply] to optimize the use of their available sources. Continued public education, [industrial, commercial, and institutional] programs and lawn irrigation management will extend the life of…water sources.

CRD Regional Growth Strategy (2018)

The CRD Regional Growth Strategy was developed in partnership by municipalities and the Regional District. This framework identifies social, economic and environmental objectives. The following priority area supports water conservation:

Priority Area 2: Environment and Infrastructure **Objective 2.2:** Manage regional infrastructure services sustainably

CRD Climate Action Strategy (2021)

The Climate Action Strategy articulates CRD's climate action vision that, through collective action, will eliminate emissions and foster healthy and resilient communities and natural areas now and in the future. Relevant goals include the following:

Goal 2: Sustainable Land Use, Planning and Preparedness Support the region on its pathway to livable, affordable and low-carbon communities that are prepared for climate change. **Goal 4:** Low-Carbon and Resilient Buildings and Infrastructure Accelerate energy efficiency, emission reductions and enhanced resilience in CRD buildings and infrastructure. Support and encourage the same for all buildings and infrastructure across the region.

Setting Our Table: CRD Food & Agriculture Strategy (2016)

The CRD Food and Agriculture Strategy provides recommendations to support the development and future success of food and agriculture in a way that is collaborative, strategic, systemic, and economically viable. Relevant actions are listed below:

Recommendation 6: Maintain affordability and improve access to irrigation water for food and agricultural operations

Associated Actions

- Continue to provide access to irrigation water and affordable agricultural water rates.
- Encourage innovation in water-conservation techniques, facilitate access to funds for investment in infrastructure (retention ponds, drip irrigation), and encourage conservation activities.
- Encourage increased investment and innovation by producers in water conservation technologies and techniques resulting in lower water use.

3.1 Objectives for the 2026-2035 Water Conservation Plan

Driven by the direction in these strategic documents, the following supporting objectives drive this Water Conservation Plan:

- continue to reduce per capita water production and consumption,
- manage seasonal peak demand, particularly during early morning periods on watering days,
- improve water use accounting and management of non-revenue water,
- ensure that water conservation program delivery is data driven and that impacts are measured and tracked,
- improve resiliency and encourage wise water use for the Capital Region as it adapts to climate change, enhances local food security, and prepares for the risk of disasters that might affect water infrastructure,
- ensure a reliable and resilient water supply for the region, and
- help residents and businesses understand why they should conserve water and the ways that they can do so, ideally while also enhancing quality of life.

4.0 Brief Overview of Current Conservation Programs

The actions recommended in this plan build on decades of work by CRD and its municipal partners to help residents manage their water use. This section provides a very brief inventory of current actions, many of which will continue under the updated program. Readers wanting more information can consult Appendix 2 (Existing Program Review).

CRD offers a range of programs targeted specifically at residential customers, who account for the lion's share of water consumption in the region. Relevant examples include:

- **Outreach and education**: dissemination of education resources through mass media, print, and online channels.
- **Community events**: staff tend booths at seasonal events such as farmers markets, community fairs, and other regional festivities; in 2024, staff supported 34 such events.
- **Native plant gardening workshops:** in-person, three-hour introductory workshops in the spring and fall, delivered in collaboration with Swan Lake Nature Sanctuary,
- **School programs:** in-person programming for grades two or five and provision of "Every Drop Counts" learning resource kits to grade two teachers.
- **"Fix a Leak Week" kits:** Each March, staff distribute home water conservation kits at no cost through venues such as municipal halls as part of an annual national campaign.
- **Giveaways and rebates:** CRD offers various low-cost giveaway items to residential customers including rain gauges, toilet dye tabs, shut off hangers, tap aerators, and shower timers. Historically, it has also offered rebates for water saving products.

CRD also offers several long running and successful programs targeted specifically at industrial, commercial and institutional customers. These include the following examples:

- **Water Use Assessment Program:** free sector-specific audits for non-residential customers to help them understand where water is used in their facilities and cost-benefit analysis of conservation measures.
- **Once-through cooling system programs:** the CRD Board approved an amendment to the Water Conservation Bylaw to prohibit the use of water for once-through cooling effective July 2028; to support this, CRD provides resources and case studies, and offers a rebate program to customers who replace inefficient systems.
- **Water saving product giveaways:** staff provide non-residential customers with tap aerator, pre-rinse spray valves, and other products at no cost.
- **Industrial, commercial, and institutional outreach and education:** in conjunction with the residential program, CRD disseminates information through print and online channels to help non-residential customers understand and reduce their water use. Recent efforts have focused on peak demand and once-through cooling.

Finally, CRD implements the following measures to benefit all types of customers:

- **Water Conservation Bylaw:** CRD implements seasonal lawn watering restrictions each year. To encourage compliance CRD also starts a "seasonal priming" communications campaign in spring to remind people that restrictions will come back in force. In in 2024 CRD modified the bylaw to address increases in instantaneous peak demand in early morning hours.
- **Water efficiency research:** CRD supports various research projects including, for example, participation in the Water Research Foundation's Residential End Uses of Water update and ongoing annual updates to the Retail Water Use Database.

The region's municipalities and retail water suppliers (including CRD itself) also have responsibilities for some key aspects of demand management. Notably, they oversee retail water and wastewater service pricing, metering and customer data collection, and managing non-revenue water.

5.0 2026 to 2035 Water Conservation Program

This section sets out the new and continuing actions that CRD and its partners will implement over the next decade to attain the objectives set out in Section 3.1. The next phase of the program places strong emphasis on helping residents become more efficient, working with businesses and institutions, and partnering with retail water suppliers. In many cases, the actions are enhancements of approaches already in use. In other cases, new programs will be developed.

The goals and actions put forward were selected through a series of project team workshops in late 2024 and 2025. These included CRD staff engaged in utility management and conservation program administration. Work was facilitated with Econics' Measures Assessment Tool. This inventories 165 water conservation measures that have been compiled based on examination of programs across North America, as well as reviews of leading best practices manuals and guidelines. This tool was used to assess CRD's current demand management programs, evaluate potential future measures, and inform the design of updated water conservation strategies.

Measures were compared qualitatively based on the following:

- financial efficiency (cost to water savings ratio),
- implementation ease,
- measurability,
- target community acceptability,
- participation rate,
- energy conservation and green house gas abatement,
- stormwater retention,
- reduced wastewater discharge,
- contribution to organizational profile,
- implementation control, and
- peaking factor reduction.

In addition, the following factors specific to CRD's situation were considered:

- program continuity (generally, it is usually more cost effective to continue an existing program that has the potential to deliver sustained future water savings rather than launching a brand-new program due to the up-front costs and risks),
- the current program budget,
- opportunities to target historically underexploited sectors or program areas (for example, the multi-unit residential sector or areas led by retail water suppliers),
- diversity of measure types (educational, incentives, regulatory, etc.) and sectors (residential, non-residential, non-revenue water),
- best practices in other North American jurisdictions.

Some options were eliminated from in-depth consideration. Notably, source substitution options, including broad scale greywater reuse and rainwater harvesting, do not form a core part of this plan. This is due to factors such as the high costs associated with installation, treatment, and maintenance. Additionally, the Greater Victoria climate poses challenges. The

region experiences long dry summers, meaning harvested rainwater is often unavailable when it is most needed.

Going forward, rainwater harvesting remains an important option outside the Greater Victoria Drinking Water Service System, particularly in supply constrained parts of the Southern Gulf Islands. For this reason, CRD continues to fund rebates for this technology in this part of the region through Transition Salt Spring. CRD will also continue to support innovative source substitution projects on a case-by-case basis, for example through its industrial/commercial/institutional programs and at discrete development areas.

Finally, the project team completed quantitative analysis to forecast program impact. This considered the baseline usage analysis as summarized in section 2.1 and the anticipated cumulative impact of the programs outlined below. This analysis informed the program targets set out in section 7.1 below.

The resulting actions are organized around the following four goals:

> **Goal 1:** Lead and support collaborative conservation best practices in water distribution systems
>
> **Goal 2:** Reduce outdoor water use and instantaneous peak demand
>
> **Goal 3:** Foster community water stewardship and encourage efficient use
>
> **Goal 4:** Improve understanding of community water use through research and monitoring

Elaboration on these goals is provided in the following pages.

Goal 1: Lead and support collaborative conservation best practices in water distribution systems

Some key aspects of demand management take place at the water distribution system level. In the Juan de Fuca Water Distribution Service, CRD itself acts as retail water supplier for all or part of six municipalities. Elsewhere in the Greater Victoria area, CRD depends on the effort of partner municipal and First Nation retail water suppliers, which are responsible for various activities that can have significant implications for demand management including management of non-revenue water, rate setting, land use development planning, and more. This presents opportunities that are typically underutilized as means to conserve water compared to the education and regulatory-based measures that CRD has focused on in recent years.

Like CRD, retail water suppliers benefit from reduced consumption. They may enjoy lower capital and operational costs for service provision. Improved non-revenue water management may lead to fewer service interruptions and unscheduled emergency callouts. Better information about consumption can also help them optimize local infrastructure and development planning.

CRD can support local demand management and data gathering efforts in various ways, for example by sharing best practices, facilitating technical communities of practice, or through more formal arrangements such as service agreements. It can also "lead by example" in the Juan de Fuca System.

Actions

Action 1.1: Establish a regional non-revenue water management community of practice

CRD will canvas interest among retail water suppliers in establishing a regional community of practice to promote more innovative non-revenue water management. For example, this may include active leak detection or pressure management. This working-level forum will share expertise, data, and best practices. It will foster regular dialogue among utility staff through workshops, technical exchanges, and joint pilot projects focused on subjects such as leak detection, meter accuracy, and system auditing. By creating a structured platform for peer learning and coordinated action, CRD will aim to build regional capacity, reduce water losses, and support consistent implementation of non-revenue water strategies across jurisdictions.

Non-Revenue Water Management: What is Best Practice?

Industry associations such as the American Water Works Association and the Alliance for Water Efficiency distribute extensive guidance, technical guidance, and training on water distribution retail best practices. This includes non-revenue water management (see, for example, AWWA, 2025), water and wastewater rate setting (see AWWA, 2017), and advanced metering infrastructure (see Alliance for Water Efficiency, 2023).

CRD can also follow the lead of other jurisdictions that have adopted innovative technology. In Canada, this includes, for example, City of Halifax's long-running and highly successful water loss control program (see Mosley, 2022) or the recently launched advanced metering infrastructure pilot project in City of Vancouver.

Action 1.2: Investigate the potential impact of conservation-oriented water services pricing in the Juan de Fuca Water System

As part of its pending retail rate review, CRD will investigate the potential impact of conservation-oriented water services pricing in the Juan de Fuca Water System. This will entail conducting a comprehensive analysis of how different rate structures may influence customer behavior, affordability for households and businesses, and long-term revenue stability. This evaluation will include reviewing consumption trends, modeling alternative pricing scenarios, and assessing equity impacts across different user groups.

CRD staff will engage with the six member municipalities in this service area and the Juan de Fuca Water Distribution Commission to ensure that any proposed changes align with other regional goals while maintaining financial resilience and service accessibility.

Action 1.3: Investigate advanced metering infrastructure in the Juan de Fuca Water System under the planned meter replacement program

CRD will investigate advanced metering infrastructure options in the Juan de Fuca Water System in the near term as part of its planned meter replacement program, aimed at

exploring the business case for modernizing service delivery over the long term. Benefits of this technology enable real-time data collection, allowing for more accurate billing, early leak detection, and improved water conservation through detailed consumption insights. By replacing aging meters with smart devices where practical, CRD will enhance operational efficiency, reduce non-revenue water losses, and empower customers with timely information to manage their usage.

Action 1.4: Collaborate with local water suppliers to promote additional water efficiency best practices

As noted above, beyond managing non-revenue water, local water suppliers are responsible for various activities that can have significant implications for demand management. This includes:

- setting rates for water services (most customers in the region are charged based on the volume they use, so will respond to rate changes by conserving to save money),
- transitioning to automated metering infrastructure,
- collecting meter data to measure water use,
- enforcing building and plumbing codes,
- most land use decisions,
- implementing efficiency practices in municipal facilities and green spaces, and
- supporting water source substitution (greywater reuse and rainwater harvesting) at the development scale.

CRD will canvas interest among the region's local water suppliers in advancing efficiency efforts across some or all these topics. Depending on the feedback received, CRD may expand the scope of the non-revenue water community of practice described under Action 1.1 or develop parallel communities of practice if more appropriate. It may also develop regional guidance or best practices, facilitate data sharing, or support innovative pilot projects on behalf of constituent municipalities and First Nations.

CRD can also share learnings from best practices implemented in the Juan de Fuca water system, including from the activities described under Action 1.2 and Action 1.3 towards building region-wide efforts in these areas.

More information on how CRD will collaborate with local water suppliers to enhance data management and water use accounting can be found below under Goal 4 in the next section.

Goal 2: Reduce outdoor water use and instantaneous peak demand

CRD was an early adopter of outdoor watering regulations and has promoted irrigation efficiency for many years through a combination of regulation and education (see Appendix 2: Existing Program Review for details). Active enforcement of the Water Conservation Bylaw is

currently limited, but residents are reminded of requirements each spring through a "seasonal priming" advertising campaign, and reported awareness of requirements is relatively high.[4] As demonstrated in Appendix 1, water use in the region goes up sharply in the summer, primarily driven by lawn and garden watering in response to low rainfall. This will only be exacerbated by climate change. As well, prevalence of outdoor irrigation systems is very high in the Capital Region. In 2017 market research, 37% of CRD residents that have a lawn or garden reported owning an in-ground irrigation system (Metroline and Econics, 2017). This is nearly double the rate under comparable national statistics - in 2015, 19% of Canadians reported having a "sprinkler system" (Statistics Canada, 2015).

The growing popularity of automatic irrigation contributes to sharp midweek spikes in demand on the hour in the early morning (particularly at 4am and 5am). This places significant pressure on disinfection effectiveness, transmission, and distribution infrastructure (e.g., transient pressures). Reducing this is a high priority. In recent years, CRD has delivered this message through the annual "Make the Switch" campaign, which encourages residents who have automatic irrigation systems to water at different times overnight.

Irrigation Bylaws: What is Best Practice?

Emerging best practice with watering bylaws in Canada is shifting towards reducing the number of days a week and times of day that people can irrigate. Notably, Metro Vancouver recently moved to "weekend morning only" watering (Metro Vancouver, 2025). Similarly, Region of Waterloo in Ontario only allows watering one day per week based on the last digit of a customer's address (Region of Waterloo, 2025). These systems are consistent with recent academic studies, which find that reducing the time windows that people can irrigate substantially boosts water savings relative to more traditional "evens and odds" systems like the one currently used by CRD (see, for example, Finley and Basu, 2020; Morkel and Nemati, 2024).

Actions

Action 2.1: Review the effectiveness of the Water Conservation Bylaw; based on results, implement new best practices appropriate for the Capital Region

CRD will continue to implement the Water Conservation Bylaw and educate customers to encourage compliance.

Quantitative analysis will be completed to estimate the impact of further enhancements to the Water Conservation Bylaw. Options to investigate include:

- reducing the number of days per week residents can water (for example, limiting to one day per week based on the last digit of house numbers);
- extending the annual schedule to start restrictions earlier in the year (e.g., at start of April) and end later (e.g., at end of October); and/or,
- new requirements tailored specifically for automatic systems (e.g., specifying different start times or different days for these systems).

[4] In 2017 market research, 78% of residents said they are aware of the CRD Water Conservation Bylaw. This is quite high given that not all residents have a garden (e.g., apartment dwellers) and that only 45% of residents that have a lawn reported watering it at all (see Metroline and Econics, 2017).

Based on the results of this investigation, CRD will determine if updates to the Bylaw are merited and implement accordingly. Updates may take inspiration from emerging national best practice (see the "Irrigation Bylaws: What is Best Practice?" text box, above) but will also ensure that potential new measures are appropriate to the unique climate, demographics, and water use culture in the Capital Region. The goals are to both reduce overall demand from irrigation and to reduce instantaneous peak demand in the early morning.

Action 2.2: Review Water Conservation Bylaw compliance and enforcement regime

In collaboration with bylaw staff, water conservation program staff will review the present approach to enforcement to determine if more active effort is required to improve compliance. This will be informed by results of updated market research (see Action 4.2, below), which will indicate current levels of community awareness and adherence to requirements. Ensuring compliance with watering hours to reduce instantaneous peak demand will be a priority. The review will also be informed by decisions about enhancements to the current bylaw system under Action 2.1.

Action 2.3: Enhance outdoor irrigation outreach including campaigns aimed at Water Conservation Bylaw compliance and at reducing peak instantaneous demand

CRD will develop new education tactics to teach residents how they can have healthy and attractive landscapes that use less water, focusing particularly on customers that have automatic irrigation systems.

This includes the annual "seasonal priming" outreach campaign that promotes compliance with the Water Conservation Bylaw. It also includes the "Make the Switch" campaign, focused on reducing instantaneous peak demands.

Planned enhancements will employ proven community-based social marketing methods. This involves understanding what prevents people from conserving water through market research, piloting targeted programs, and scaling successful initiatives across communities to promote lasting lifestyle shifts (see McKenzie-Mohr, 2011). More information on community-based social marketing and how CRD will deploy this in the future can be found under Goal 3 (Foster community water stewardship and encourage efficient use), below.

Action 2.4: Develop "Healthy Landscapes" outreach pilot project

Starting with a pilot project, CRD will develop an "healthy landscapes" education program to promote water wise gardening best practices (e.g., hydroscaping, xeroscaping, use of native plants, etc.). Depending on results, region-wide implementation may follow.

The new program will be developed with inspiration from best practices in leading North American jurisdictions, such as the long standing Healthy Landscapes Program delivered by City of Guelph or Region of Peel's Fusion Landscaping® training in Southern Ontario.

Action 2.5: Continue native plant gardening workshops

CRD will continue to provide popular and well-received native plant gardening workshops in collaboration with Swan Lake Nature Sanctuary. This program will continue at the same level of effort as in recent years, with about ten seminars offered in the spring and fall.

Goal 3: Foster community water stewardship and encourage efficient use

Balancing conservation efforts across both residential and non-residential sectors is essential to achieving sustainable water use. To be effective, this requires a coordinated approach that leverages a diverse set of policy tools—including public education campaigns, financial incentives, and regulatory measures—to influence behavior and improve efficiency. As we implement demand management programs, it is equally important to foster a broader ethic of water stewardship within the community, encouraging individuals and organizations to view water not just as a utility, but as a shared resource that demands collective responsibility and long-term care.

Residential customers continue to account for the great majority of water consumption in the region. Given the importance of this group, CRD will continue to innovate and refresh its residential education and outreach programs. Long running and successful community initiatives will continue under this Water Conservation Plan with various enhancements.

Research suggests that there are untapped water conservation opportunities in multi-unit residential developments such as apartment buildings and townhouse complexes. This sector is historically underserviced by demand management programs. Initially aiming programs at low-income households, including social housing complexes, supports both water conservation and service affordability goals.

The non-residential sector – industrial, commercial and institutional customers - accounts for over a quarter of the region's water consumption. Both local and national evidence suggests that there are economical opportunities for many of these customers to both improve water use efficiency and reduce their operating costs.

Activity under this goal will primarily focus on efficiency in the indoor setting but will also complement projects under Goal 2 (Reduce outdoor water use and instantaneous peak demand).

Actions

Action 3.1: Continue print and online education campaigns and share learning resources

CRD will continue to distribute water conservation content through a robust mix of print and digital resources including fact sheets, manuals, giveaways, and targeted materials for both residential and non-residential audiences. Content will remain accessible via the CRD website (https://www.crd.ca/environment/water-conservation). Staff will also continue to use social media to share information.

For a complete discussion of CRD's current outreach efforts, see the Existing Program Review in Appendix 2.

CRD outreach staff have noted that traditional mass media channels are not always ideal for isolating specific water using market segments, like homes with automatic irrigation systems. Future efforts will focus on more precisely defining and targeting demand management outreach to specific groups. Updated programs will employ more sophisticated outreach methods based on community-based social marketing principles (see the "Water Conservation Education: What is Best Practice?" text box, below).

Action 3.2: Attend community events to directly engage with residents

CRD staff will continue to staff booths seasonally at events such as farmers markets, community fairs, and other regional festivities. Events are designed to be interactive and include giveaways and games for children. Information on programs such as watering restrictions and leak detection is offered on request.

Going forward, event outreach will be modified to focus on attaining of more specific and measurable objectives. For example, this may include prioritising identifying booth visitors that have automatic irrigation systems, providing them with information on how to optimize irrigation scheduling, then measuring the follow up rate after the event. To do this will require enhanced training for seasonal staff and designing new survey instruments for table visitors.

Action 3.3: Promote the annual "Fix a Leak Week" campaign

Each March, CRD will continue to participate in the yearly "Fix a Leak Week" national campaign to educate homeowners and businesses about leak detection and repair. Staff will continue to distribute home conservation kits through venues such as municipal halls. This effort will continue to be supported with print and digital ads and a social media burst.

Water Conservation Education: What is Best Practice?

Community-based social marketing is a methodology for fostering sustainable behaviour change in the community. It has been adopted by leading demand management programs across Canada. This a practical approach that emphasizes personal engagement, removing barriers, and proven tools for change. This approach starts with understanding what prevents people from conserving water, then systematically addressing barriers to promote lasting lifestyle shifts. Specifically, it entails:

- market research: outreach is informed by the best available information on why residents continue to engage in specific water use behaviours, and particularly the barriers that prevent change.
- pilot projects: prior to launching large new education projects, smaller, precisely designed pilot projects are conducted to test methods; results are quantitatively measured, and the program is refined based on results.
- tools of change: emphasis is placed on employing tools proven to result in behaviour change including social norming, commitments, and prompts.

CRD can also lean on best practice guidance from industry associations. Notably, the Alliance for Water Efficiency offers various resources to share emerging best practice. For example, it shares articles, webinars, and curriculum material from some of the preeminent school-based water conservation education programs across North America.

Action 3.4: Continue to deliver "Every Drop Counts" school programs

CRD will continue to deliver school programs to promote water conservation and other sustainable behavior. The CRD Education Coordinator provides "Every Drop Counts" kits for grade two teachers, in-person sessions for grades two and five, and outreach on topics like waste management, watershed health, and climate action. Schools can also borrow a drinking water and wastewater model for classroom use and outreach events.

More detail on planned outreach program enhancements can be found in Appendix 4.

Action 3.5: Implement a multi-unit residential building water efficiency pilot project

Starting with small scale water use audit pilot projects at a small number of accounts, CRD will develop a program to encourage efficiency in multi-unit buildings.

The approach will be templated on the existing industrial/commercial/institutional Water Use Assessment Program but will also include educational elements for homeowners and tenants developed by CRD's Environmental Stewardship and Initiatives team.

Depending on audit results, target end uses may include communal irrigation systems, shared laundry facilities, leak repair, or toilet replacement in individual dwellings.

The program will initially be done through collaboration with Capital Region Housing Corporation and impact on water use will be carefully measured. Depending on results, region-wide implementation may follow. Findings will be used to guide the development of future campaigns directed at residents living in these buildings.

Action 3.6: Enhance the industrial, commercial, and institutional Water Use Assessment Program

CRD has a long running and successful suite of programs targeted at the industrial, commercial, and institutional sector. These are anchored by the Water Use Assessment Program, wherein customers receive free inspections of facilities, followed by a report that outlines cost effective ways to conserve (see Appendix 2: Existing Program Review for details).

In recent years, staff have noted several challenges with the audit program. Specifically, customers are often slow to implement recommendations. This is attributed to a variety of internal administrative and financial factors within these organizations including staff turnover, low engagement by senior leaders and financial managers, and that audit recommendations can be initially costly and complex. See Appendix 4 (Industrial, Commercial & Institutional Program Direction) for further evaluation of these challenges.

CRD will continue to provide free water use and efficiency audits to businesses and institutions but will enhance this program to improve post-audit implementation and customer satisfaction. Planned improvements include the following:

- enhance the recruitment phase before audits to better screen and qualify candidate organizations prior to program entry,
- engage a broader cohort within organizations during recruitment, including senior managers and financial administrators, to gain broader buy-in,
- trial different approaches to secure customer commitment to implementing recommendations after audit are complete,
- pilot emerging flow monitoring technologies to better understand water use and detect leaks, and
- integrate audit recommendations with participants' asset renewal plans, financial payback expectations, and sustainability drivers, potentially requiring multi-year implementation cycles and ongoing contact with participants.

More detail on planned program enhancements can be found in Appendix 4.

Action 3.7: Phase out once-through cooling systems; promote best practices in other cooling technology

Once-through cooling systems in facilities like restaurants, supermarkets, care homes, and other commercial settings use drinking water for equipment like ice machines, walk-in coolers, and wok stoves, then discharge that water directly into the sewer. While simple to install, these systems waste large volumes of water and can be very costly to operate, making them less efficient than modern alternatives like air-cooled or recirculating systems. Effective July 2028, CRD's Water Conservation Bylaw (CRD Bylaw No. 4099) will prohibit the use of water for once-through cooling. To prepare for this transition, CRD must develop a compliance and enforcement plan, improve the incentive program currently available to replace once-through cooling, and create an inventory of remaining systems across the region.

CRD will implement a series of actions to prepare for the pending once-through cooling system ban in 2028. Planned tasks include the following:

- determine the prevalence of once-through cooling systems through research, fieldwork, and engaging with refrigeration contractors; develop an accurate inventory of establishments that continue to use once-through cooling equipment;
- developing metrics and a methodology to better report water savings from replacement of once-through cooling systems;
- adjust the existing Once-Through Cooling Equipment Replacement Rebate Program to improve uptake; and,
- in collaboration with CRD Bylaw staff, develop a compliance and enforcement strategy ahead of the regulatory ban.

After work on the phase out of once-through cooling systems is approaching completion, focus can shift to related technologies such as evaporative cooling towers—another significant end use with potential for efficiency gains. These systems, common in commercial and industrial settings, offer opportunities for water savings through improved maintenance practices, system upgrades, and operational changes. By drawing on successful programs implemented in other jurisdictions and leveraging technical guidance and resources from organizations such as the Alliance for Water Efficiency (see the text box below), facility managers can reduce water use while maintaining performance.

Industrial, Commercial, and Institutional Programs: What is Best Practice?

Industrial, commercial, and institutional audit programs like CRD's remain a mainstay of most of the foremost water conservation programs across North America. In Canada, these include City of Guelph, Region of Waterloo, Region of Peel, and York Region. There are many more examples across the USA. Some leaders also offer similar audit and incentive programs to their multi-unit residential customers, including, for example, Waterloo and Guelph. CRD staff will continue learn about successful practices for these sectors through ongoing membership in forums such as the Canadian Water and Wastewater Association's Water Efficiency Committee and the Alliance for Water Efficiency.

CRD's plan to phase out once-through cooling is in step with a similar move by City of Vancouver, effective in 2020. Staff continue to engage with each other about development of their respective compliance and enforcement efforts.

Looking further ahead, the Alliance for Water Efficiency has developed tools to support efforts to promote conservation in evaporative cooling towers including Cooling Tower Estimating Model and a Cooling Tower Audit Tool. As well, a number of US jurisdictions including Los Angeles Department of Water and Power, San Francisco Public Utilities Commission, and the Chicago Metropolitan Water Reclamation District have promoted cooling tower efficiency through rebate programs, technical guidance, and water audits.

Goal 4: Improve understanding of community water use through research and monitoring

CRD conducts or supports research projects to improve water conservation program delivery and infrastructure planning broadly. This research provides insights into community consumption patterns, enables development of efficient demand management programs, and helps predict future water needs.

Actions

Action 4.1: Participate in the Residential End Uses of Water Study

CRD will continue to participate in the Water Research Foundation's Residential End Uses of Water Study update. Kicked off in 2024, this will update research completed in 1999 and 2016. The methodology for this multi-year, continent-wide project entails disaggregating information from high-frequency data loggers into end uses (toilet flushing, showering, etc.). In this round, it will study both single-family and multi-family homes.

Action 4.2: Update the CRD Residential Water Survey

Market research helps us understand how residents use water and enables more targeted outreach. This can inform decisions about how much effort to invest in initiatives such as Water Conservation Bylaw compliance and enforcement or the various other programs detailed in this plan.

CRD last completed its residential water survey in 2017. This will be updated with particular focus on outdoor water use habits. For example, the research will determine automatic

irrigation systems ownership rates including by municipality/geographic area and by key demographics (age, income, and household size). It will also improve understanding of how automatic irrigation systems are typically programmed (e.g., the schedule, who programs them, how often the program is modified, etc.).

The updated market research will also revise increasingly dated regional statistics on indoor water use behaviour and technology, attitudes towards conservation, and awareness of CRD programs.

Action 4.3: Continue annual updates to the Regional Retail Water Use Database

Local water suppliers are responsible for customer billing including collecting meter data. As such, effective water use accounting in the region requires working in partnership. This means establishing clear data specifications, protecting privacy and personal information, and ensuring data quality control and accuracy.

CRD program staff will continue to assemble and analyse meter data from retail water suppliers around the region to understand consumption trends. Planned enhancements include the following:

- collaborate with all retail water suppliers and billing software vendors to improve quality of water consumption data,
- explore opportunities to employ the use of advanced metering infrastructure and meter data logging devices (see Action 1.3, above),
- establish common "master" water use datasets and tools for operations, engineering, finance and demand management uses, and
- clarify personal data requirements to ensure protection of customer information.

More detail on these planned enhancements can be found in Appendix 5.

Action 4.4: Refine Plan Implementation Through an Adaptive Management Approach

Implementation of the CRD's 2026–2035 Water Conservation Plan will be guided by an adaptive management framework that emphasizes continuous learning and refinement. This means that program delivery will not be static; instead, actions will be adjusted as new information, monitoring results, and community feedback become available. By embedding flexibility into the plan, the CRD can ensure that conservation initiatives remain effective under changing conditions such as climate variability, population growth, and evolving infrastructure needs.

To keep the plan accountable and results-driven, progress will be reviewed at least every five years using improved quantitative performance management tools. These reviews will measure outcomes against the plan's established performance targets for water production, residential consumption, peak demand, and seasonal use. The findings will inform decisions about scaling up successful initiatives, modifying underperforming measures, or introducing new approaches. In this way, the adaptive management framework ensures that the plan remains both responsive and resilient, steadily advancing the region toward long-term water sustainability.

5.1 Water Conservation Plan Summary

Table 1, below, provides a summary of the Water Conservation Plan goals and actions.

Table 1: 2026 to 2035 Water Conservation Plan Program Summary

Goal 1: Lead and support collaborative conservation best practices in water distribution systems	
1.1	Establish a regional non-revenue water management community of practice
1.2	Investigate the potential impact of conservation-oriented water services pricing in the Juan de Fuca Water System
1.3	Investigate advanced metering infrastructure in the Juan de Fuca Water System
1.4	Collaborate with local water suppliers to promote additional water efficiency best practices
Goal 2: Reduce outdoor water use and instantaneous peak demand	
2.1	Review the effectiveness of the Water Conservation Bylaw; based on results, implement new best practices appropriate for the Capital Region
2.2	Review Water Conservation Bylaw compliance and enforcement regime
2.3	Enhance outdoor irrigation outreach including campaigns aimed at Water Conservation Bylaw compliance and at reducing peak instantaneous demand
2.4	Develop “Healthy Landscapes” outreach pilot project
2.5	Continue native plant gardening workshops
Goal 3: Foster community water stewardship and encourage efficient use	
3.1	Continue print and online education campaigns and share learning resources
3.2	Attend community events to directly engage with residents
3.3	Promote the annual “Fix a Leak Week” campaign
3.4	Continue to deliver ‘Every Drop Counts’ school programs
3.5	Implement a multi-unit residential building water efficiency pilot project
3.6	Enhance the industrial, commercial, and institutional Water Use Assessment Program
3.7	Phase out once-through cooling systems; promote best practices in other cooling technology
Goal 4: Improve understanding of community water use through research and monitoring	
4.1	Participate in the Residential End Uses of Water Study
4.2	Update the CRD Residential Water Survey
4.3	Continue annual updates to the Regional Retail Water Use Database
4.4	Refine plan implementation through an adaptive management approach

6.0 Benefits of Plan Implementation

Benefits of conservation vary from community to community depending on capital expansion plans, operating costs, energy use, the current demand profile, the water loss rate, and environmental drivers, among other factors. However, some typical environmental, financial, and community benefits CRD residents might gain from implementation of this plan include the items listed in Table 2, below.

Table 2: Benefits of Water Conservation

Community Benefits	**Financial Benefits**
• Greater resilience to prolonged drought and a changing climate • More water in reservoirs for firefighting and other emergency needs • Potential improvements to drinking water quality, especially during times of shortages • Greater equity and fairness as those who use more water pay more than those who conserve • Stronger culture of water stewardship in the community • Opportunities for individuals to reduce their ecological footprints	• Supports the Water Master Plan by offering a toolkit to help limit increases in water rates and bills • Lower operations and maintenance costs • Lower energy costs for both CRD and water customers due to reduced water pumping and heating • Reduced peak demand (the point at which water use is greatest, usually hot summer days) provides the opportunity to downsize new pipes, pumps, treatment plants and reservoirs, resulting in significant cost savings • Extended asset life due to lower wear on pumps, pipes, and treatment infrastructure • Operational efficiencies from advanced metering infrastructure, including reduced meter-reading and billing effort
Environmental Benefits	**Policy & Legislative Linkages**
• Reduced chemical use in water and wastewater treatment • Less sewage disposal to the environment • Lower energy use and greenhouse gas emissions due to reductions in water treatment and pumping • Better absorption during heavy rainfall events (for example, improved soils in water efficient gardens hold water longer) • Maintained environmental flows for streams, fish, and aquatic ecosystems	• Supports CRD priorities as set out in strategic documents including the CRD Board Priorities (2023), the Regional Growth Strategy (2018), the Regional Water Supply Strategic Plan (2025), and the Water Supply Master Plan (2022) (see Section 3) • Required for eligibility for many Provincial and Federal Government infrastructure grant programs • Contributes to meeting regulatory obligations under the BC *Water Sustainability Act*, the *Drinking Water Protection Act* and the *Environmental Management Act*

In general, water demand management strengthens operational resilience by reducing peak stresses on treatment plants, distribution networks, and storage systems. It lowers operating costs by cutting energy use, chemical consumption, and wear on infrastructure, extending asset life. It also improves service reliability, giving providers more flexibility to maintain systems, respond to emergencies, and manage supplies during drought or growth pressures.

For CRD specifically, there are potentially significant savings in staff effort currently allocated to manage impacts on supply and distribution systems during peak times and due to instantaneous peak demand. There will also be material operational savings associated with specific actions in this plan. For example, both CRD and local water suppliers will enjoy reduced effort around meter reading and billing if advanced metering infrastructure is widely implemented.

Effective implementation of this plan will deliver many benefits for the Capital Region. Demand management is a cost-effective approach to improving water systems reliability and reduces the likelihood of exceeding capacity. This includes the regional water supply, treatment, and transmission systems, regional wastewater conveyance and treatment systems, and local water distribution and wastewater collection infrastructure.

To yield such tangible benefits, water conservation measures must achieve durable and measurable reductions in demand relative to “business as usual”. For infrastructure planning purposes, CRD must continue to rely on demonstrated, actual water use trends. This points to the need for effective implementation, which is discussed in the next section.

7.0 Implementation

This section describes how the Water Conservation Plan will be implemented. It also provides a framework for monitoring, evaluation, and continuous improvement.

7.1 Water Conservation Plan Targets

CRD will pursue realistic water production and consumption targets. Four key performance targets are set out below. Additional information on how these were established can be found in Appendix 6.

Target 1: Total Water Production

Reducing the amount of water produced at CRD's water treatment facilities, measured on a per capita basis, is a key goal of this Plan.

Reduce per capita water production from treatment facilities by 1% per year to achieve a target of 300 LCD by 2035 (see Figure 12)

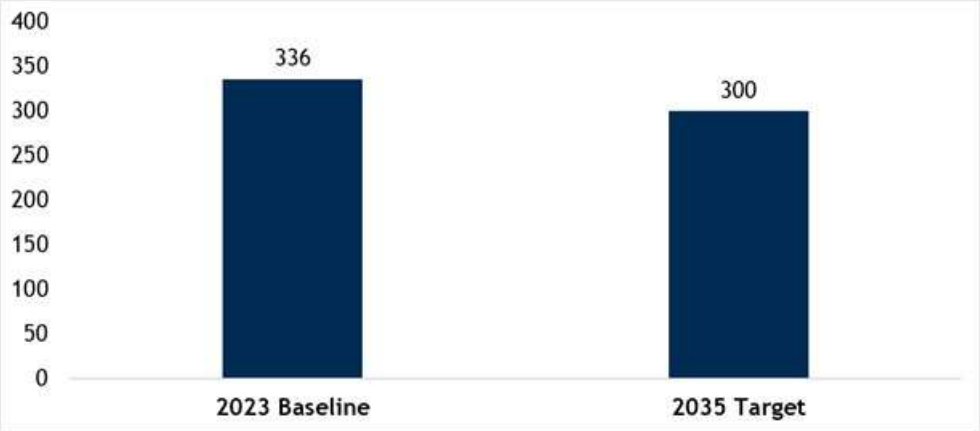

Figure 12: CRD Per Capita Water Production Target (LCD)

Target 2: Residential Consumption

Residential per capita consumption is a widely accepted standard benchmark for measuring of water efficiency program impact.

Reduce residential per capita consumption by 1.2% year-over-year to achieve a target of 200 LCD by 2035 (see Figure 13)

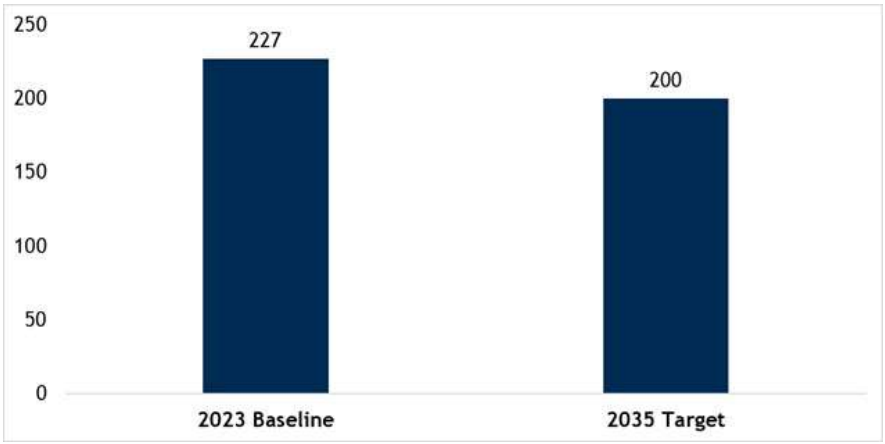

Figure 13: CRD Residential Per Capita Water Consumption Target (LCD)

Target 3: Instantaneous Peak Demand

Reducing instantaneous peak demand in the early hours of the morning, much of which is attributable to automatic irrigation systems, is a key goal of this plan.

Reduce the maximum change in instantaneous flow rate at 4:00am from 46% to 20% (see Figure 14)

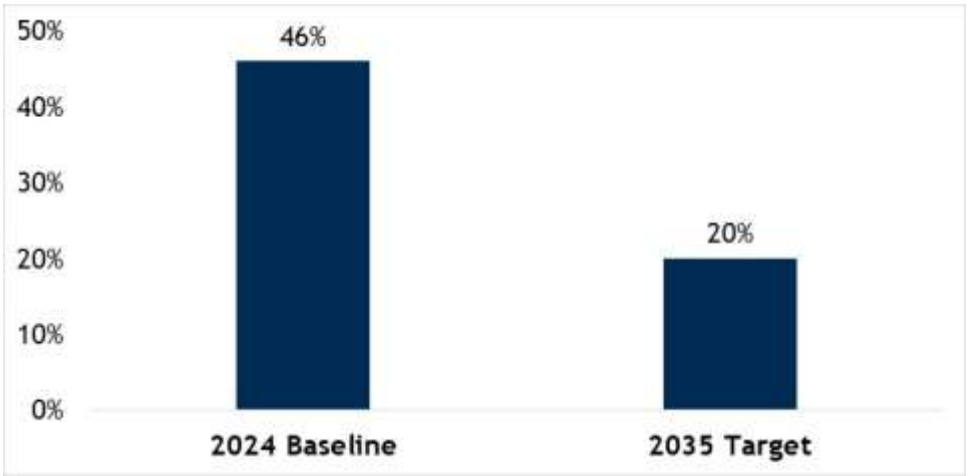

Figure 14: CRD Instantaneous Peak Demand Target at 4:00 am

Target 3 is measured as the difference from 4:00am to 4:05am and is equivalent to a reduction in the maximum rate of change in instantaneous flow in the transmission system from 9% per minute to 4% per minute. Note that this does not imply that the goal is to simply shift the peak flow from 4:00am to 4:05am but rather to reduce the peak demand generally and to spread the flow increase over a longer period (for example, by encouraging those who continue to irrigate with automatic systems to set timers to different times).

Target 4: Peak Season Demand

Controlling peak season demand, measured by change in the Maximum Day Demand (the day in a year with the highest total daily water production) is an important goal for most communities. This is particularly important locally given the Capital Region's hot, dry summers and relatively high seasonal demand.

Maintain Maximum Day Demand at 300 megalitres per day (ML/day)

7.2 Monitoring and Evaluation

Indicators from the targets set out above are summarized in Table 3. Several additional activity measures are also listed, as these have been tracked historically by staff over many years. Continuing to do so will provide additional insight into long-term program success.

Table 3: Program Indicators & Metrics

Key Performance Indicators	
Total Water Production	Per capita water production (LCD)
Residential Consumption	Residential per capita water consumption (LCD)
Instantaneous Peak Demand	Change in instantaneous peak flow
Peak Season Demand	Maximum Day Demand (MDD) in ML/day
Additional Activity Measures	
Community Events	Number of community events per year
ICI Facility Audits	• Number of facilities audited • Estimated & actual annual water savings (m^3/year)
School Outreach	Number of class presentations delivered per year

Additional diagnostic indicators for specific initiatives may be developed during program planning and implementation. For example, these may include:

- base and seasonal components for total production and residential consumption in addition to annual per capita average,
- change in residential and industrial/commercial/institutional sub-category annual retail demands,
- non-revenue water and infrastructure leakage indices in each retail water distribution system including CRD's Juan de Fuca Water System.

7.3 Implementation Schedule

A schedule for implementation is set out in Table 4 below. This may be modified as requirements are more clearly defined.

Table 4: Water Conservation Plan Implementation Schedule

		2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Goal 1: Lead and support collaborative conservation best practices in water distribution systems											
1.1	Non-revenue water community of practice*	■									
1.2	Conservation-oriented pricing study for JdF		■								
1.3	AMI investigation in JdF		■								
1.4	Additional local water supplier best practices			■							
Goal 2: Reduce outdoor water use and instantaneous peak demand											
2.1	Water Conservation Bylaw review*	■									
2.2	Water Conservation Bylaw C&E review		■								
2.3	Enhance outdoor irrigation outreach*	■									
2.4	"Healthy Landscapes" pilot project		■								
2.5	Native plant gardening workshops										
Goal 3: Foster community water stewardship and encourage efficient use											
3.1	Print and online education campaigns										
3.2	Community events										
3.3	Annual "Fix a Leak Week"										
3.4	'Every Drop Counts' school programs										
3.5	Multi-unit residential pilot project			■							
3.6	Enhance Water Use Assessment Program*	■	■								
3.7	Cooling system efficiency*										
Goal 4: Improve understanding of community water use through research and monitoring											
4.1	Residential End Uses of Water Study										
4.2	CRD Residential Water Survey*	■					■				
4.3	Regional Retail Water Use Database										
4.4	Adaptive management framework										

* Note that, by design, most actions will be initiated in the earlier years (2026 to 2028). Activities in years beyond 2028 will be directed based on results from early implementation under the adaptive management framework discussed under Action 4.4.

Legend

■	Action Initiation
	Ongoing implementation
*	Early priority

AMI: Advanced Metering Infrastructure
JdF: Juan de Fuca Water System
ICI: industrial/commercial/institutional

7.4 Priority Projects

The actions listed in Table 5 are high priority for early implementation, some of which are already underway. This is because they are likely to provide high water savings relative to cost. It is also driven by other factors such as the urgency of reducing instantaneous peak demand associated with outdoor irrigation and the pending once-through cooling system regulatory ban.

Table 5: Priority Projects for Water Conservation Plan Early Implementation

#	Action
1.1	Establish a regional non-revenue water management community of practice
2.1	Review the effectiveness of the Water Conservation Bylaw; based on results, implement new best practices appropriate for the Capital Region
2.3	Enhance outdoor irrigation outreach including campaigns aimed at Water Conservation Bylaw compliance and at reducing peak instantaneous demand
3.6	Enhance the industrial, commercial, and institutional Water Use Assessment Program
3.7	Phase out once-through cooling systems; promote best practices in other cooling technology
4.2	Update the CRD Residential Water Survey[5]

Several other actions, listed in Table 6, may also be expedited for early implementation, but this must be coordinated with operational planning in the Juan de Fuca Water System. These initiatives will deliver water savings only within that system initially but may lead to significant region-wide savings if they are also ultimately adopted by other local water suppliers.

Table 6: Priority Projects for the Juan de Fuca Water System

#	Action
1.2	Investigate the potential impact of conservation-oriented water services pricing in the Juan de Fuca Water System
1.3	Investigate advanced metering infrastructure in the Juan de Fuca Water System

7.5 Estimated Water Savings

Implementation of this water conservation plan is expected to reduce total annual water production in the Greater Victoria Drinking Water Service by 3% to 6% by 2035 compared with the status quo. It will also reduce maximum day demand (MDD) by 5% to 9% over the same period compared to status quo.

To derive these estimates, key quantified measures include:

- the non-revenue water community of practice to tighten audits and bulk metering (estimated region-wide non-revenue water reductions of 5–10%, equivalent to roughly 0.5–1.0% of annual supply and 0.3–0.6% of MDD);
- the Water Conservation Bylaw review and update, along with supporting education and compliance and enforcement activity (Actions 2.1, 2.2, 2.3), will reduce wasteful

[5] Statistically reliable information from the residential water survey about irrigation system ownership rates and barriers to behavior change is essential for designing effective outreach under Action 2.3, hence Action 4.2 appears as a priority action here.

irrigation practices (estimated to cut annual demand 1–2% and MDD 3–6%, phased in 2028–2031);
- expanded industrial, commercial and institutional and multi-unit residential water use assessments (covering ~21% of water production), adding ~5 ML/year improvements that amount to ~0.1% of annual demand by 2035);
- a regulated phase-out of once-through cooling (roughly 100 units, eliminating 70–90% of ~300 ML/year use, equal to ~0.2–0.3% of annual demand and ~0.2% of MDD, realized between 2026 and 2029).
- an ongoing education and outreach social-marketing effort (Actions 2.4, 2.5, 3.1, 3.2, 3.3, 3.4) is estimated to deliver an additional 1–2% reduction by reducing residential leakage and prompting behaviour change and fixture upgrades; attaining this result is predicated on transitioning to a community based social marketing approach as described in Appendix 3, improved performance monitoring, and increased investment in communications; half of some program savings from education measures are assumed durable (i.e., due to fixture replacements) while other savings may decay without sustained follow-up.

Research, data-collection, and monitoring actions (Actions 4.1, 4.2, 4.3) do not directly contribute to water savings, but are essential to target, measure, and sustain reductions. Similarly, this plan identifies several projects that will initially be delivered on a small scale or specifically in the Juan de Fuca system (Actions 1.2, 1.3, 1.4. 3.5). Water savings from these projects will initially be relatively small, so are not included in modelling. However, over time these could grow to significantly reduce total water production should be prove successful and scale up to region-wide delivery.

These measures, if maintained, will produce durable, long-term reductions in system losses, seasonal peaks, and overall demand.

Furter detail on how these estimates were derived can be found in Appendix 7.

7.6 Program Resourcing

With current budget allocation, staff can continue to deliver existing programs as well as complete the priority projects identified for immediate implementation in Table 5, above. Resourcing of longer-term actions will follow an adaptive management framework, building on knowledge gained from pilot projects and research, allowing actions to be adjusted based on new data, progress reviews, community feedback, and cost-benefit analyses. This framework aims to ensure the plan remains responsive, resilient, and effective in advancing long-term water sustainability.

Education efforts described throughout this plan (Actions 2.3, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4) will require transitioning from the current information-intensive approach that heavily utilizes mass media to a community-based social marketing approach involving more targeted outreach and improved performance measurement (see Appendix 3 for details). This will likely require increased resourcing and increased support from CRD's Corporate Communications & Engagement Division.

7.7 Responsibilities & Governance

Implementation of this plan will be led by CRD. Retail water suppliers will be responsible for matters within their jurisdiction, notably water service pricing, customer metering, and managing non-revenue water (including system loss) within their respective distribution networks. Success will depend on the organizations working together collaboratively to implement key actions.

With respect to the organizational structure used to deliver this plan, responsibility for water demand management is currently diffused across CRD departments. Responsible areas include Corporate Communications and Engagement, Environmental Protection, and Infrastructure and Water Services. CRD will review this current structure to ensure that there is clear accountability for program outcomes and efficiency. This review will look to ensure that coordination of efforts such as outreach/education, data collection, impact measurement, and allocation or resources is optimized.

As described under Action 4.4, implementation will follow an adaptive management framework. This means learning from experience and responding as needed to fine-tune delivery. Progress towards targets set out in Section 7.1 will guide this.

Regular progress reports will be provided to the Regional Water Supply Commission. Staff may also periodically seek advice from residents and other stakeholders as appropriate, including through the Water Advisory Committee.

Improving water use data and information as recommended in this plan (see Goal 4) will enable accurate measurement of performance targets. Based on this, the Water Conservation Plan will be reviewed and updated on a 5-year cycle.

8.0 Conclusion

The CRD has a well-established regional drinking water system using a multi-barrier approach to produce a sustainable, safe supply of drinking water for our growing region. Water conservation is an integral component of using this resource wisely and responsibly.

Water demand management improves system resilience and reduces operational strain by lowering peak loads on treatment, transmission, and distribution infrastructure. For the CRD, there are potential meaningful efficiencies from reduced costs associated with peak demand management and operational gains tied to actions such as advanced metering and improved non-revenue water control. Effective implementation of the plan will strengthen reliability of both water and wastewater systems.

Given our unique bio-geoclimatic zone, the CRD had developed a Water Conservation Plan to set targets and actions and support a long-term sustainable drinking water supply. It will facilitate adaptation to future pressures from climate change and provide a range of other social, ecological and financial benefits.

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Appendix 1

Water Use Profile Methodology & Additional Analysis

Appendix 1: Water Use Profile Methodology & Additional Analysis

This appendix provides the methodology used for the water use profile analysis provided in Section 2 of the Water Conservation Plan. It also provides more detailed analysis of some aspects of water production and consumption, including some local results for Greater Victoria municipalities.

Water Use Analysis Methodology

This sub-section provides an overview of the methodology used to review the water demand and supply data received from CRD.

Data

The following data was provided to the project team by CRD:

- service population for 2016 to 2040 (recorded and projected data),
- daily production data from Japan Gulch and Charter's Creek (assumed to be Goldstream and Sooke respectively), and
- total Annual Billed Water Consumption by service area and category (2019 to 2023).

The Regional Water Supply Master Plan (Stantec, 2022), Climate Projections for the Capital Region (PCIC and CRD, 2024), and previous work by KWL on CRD demand forecasting and water use accounting were also referenced.[1]

Assumptions & Limitations

The reader should be aware of the following assumptions and limitations:

- The water profile review is based on the data provided and is intended to provide a snapshot of the water demand and supply. It is not a detailed water use accounting or forecast.
- It is assumed that the data provided is reliable. Only basic data cleansing and quality control has been completed.
- Historical water production was provided from Goldstream Treatment Plant, which services Greater Victoria, and the Sooke Treatment Plant, which services Sooke and parts of the Juan de Fuca Electoral Area.

Analysis Methodology

The following summarizes the methodology used to review the water profile of the CRD:

1. reviewed population growth for the region and municipalities,
2. reviewed billed water consumption by service area and categories in various forms (e.g. litre per capita per day (LCD), annual demand per community etc.) to identify patterns and correlate trends to possible events,
3. reviewed and calculated non-revenue water on a regional scale,
4. analyzed baseline and seasonal flows, and

[1] For full bibliographic references and web links, see Section 9 of the main report.

5. developed a simple business case analysis methodology for enhanced demand management based on potential for deferral of CRD Water Supply Master Plan (2022) projects that are triggered by capacity limitations of the existing regional water supply system (see Section 6 of the Water Conservation Plan).

Bulk Water Sales to Select Municipalities

This sub-section provides information on historical bulk water sales from the CRD to Greater Victoria municipalities. In the cases of Colwood, Landford, Highlands, Metchosin, Sooke and View Royal retail sales are used as a proxy because bulk sales information was not readily available.

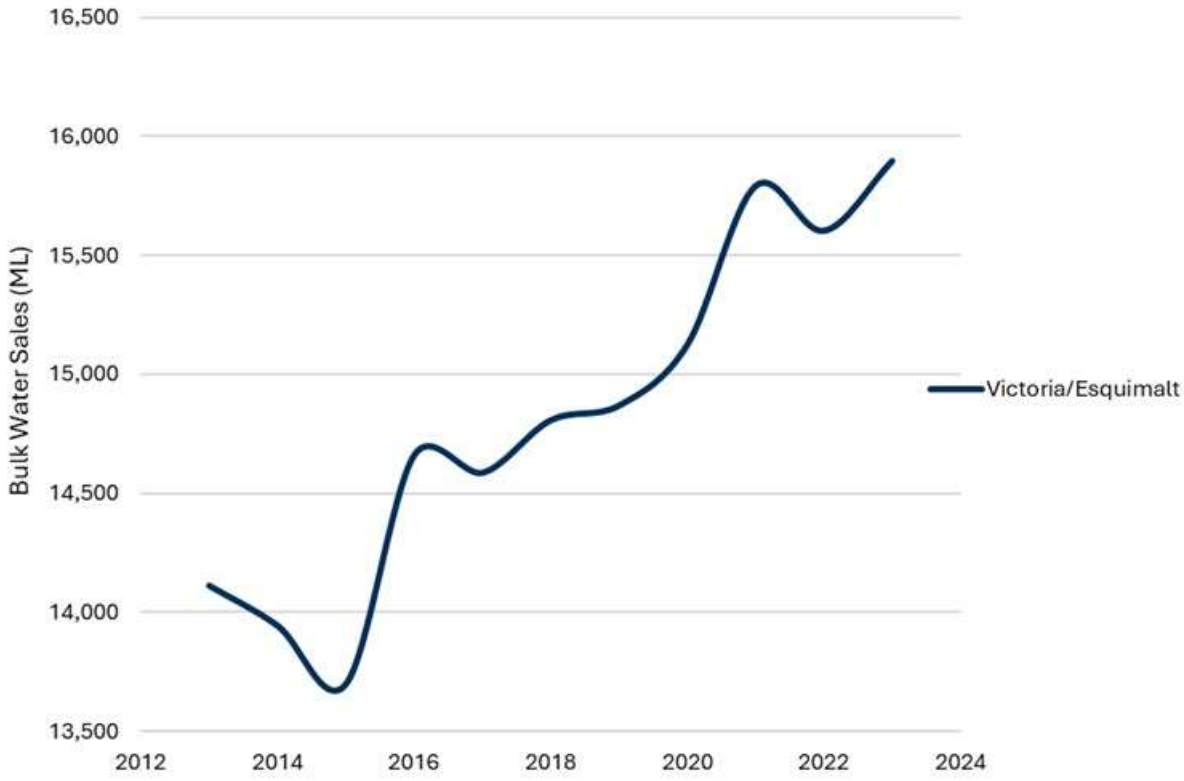

Figure A1-1: City of Victoria & Township of Esquimalt Historical Bulk Water Sales (ML/year)

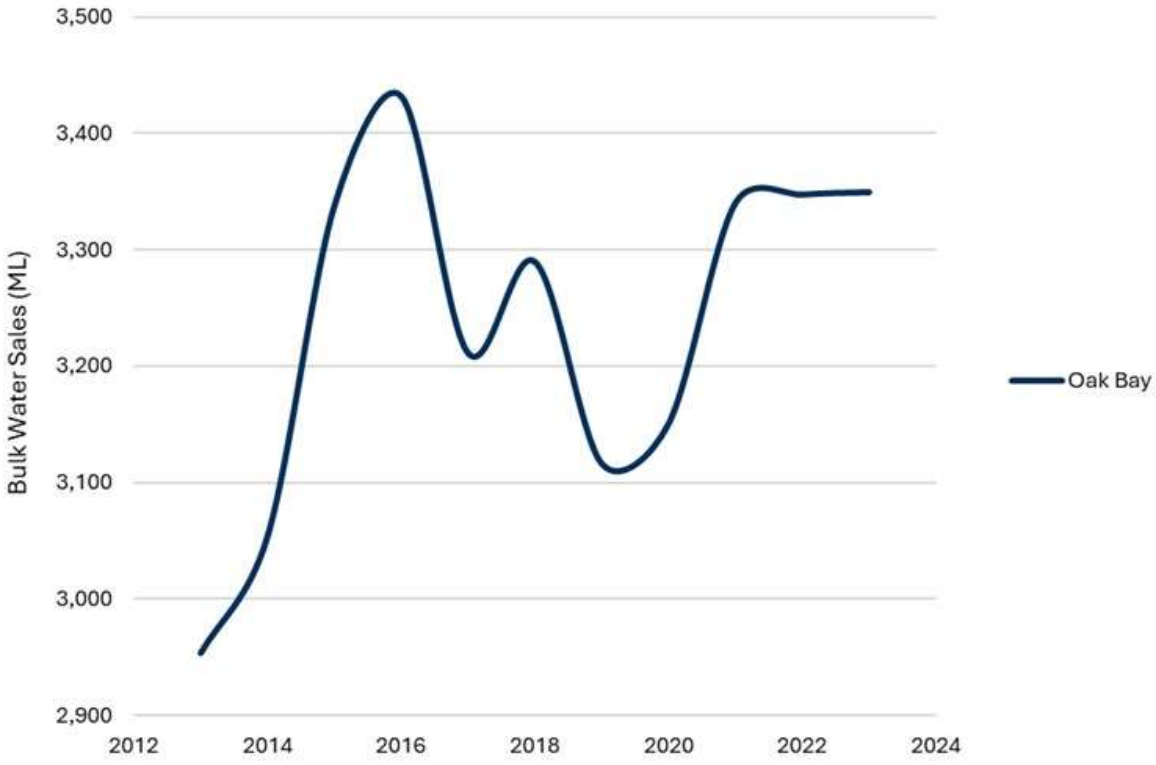

Figure A1-2: City of Oak Bay Historical Bulk Water Sales - 2013 to 2023 (ML/year)

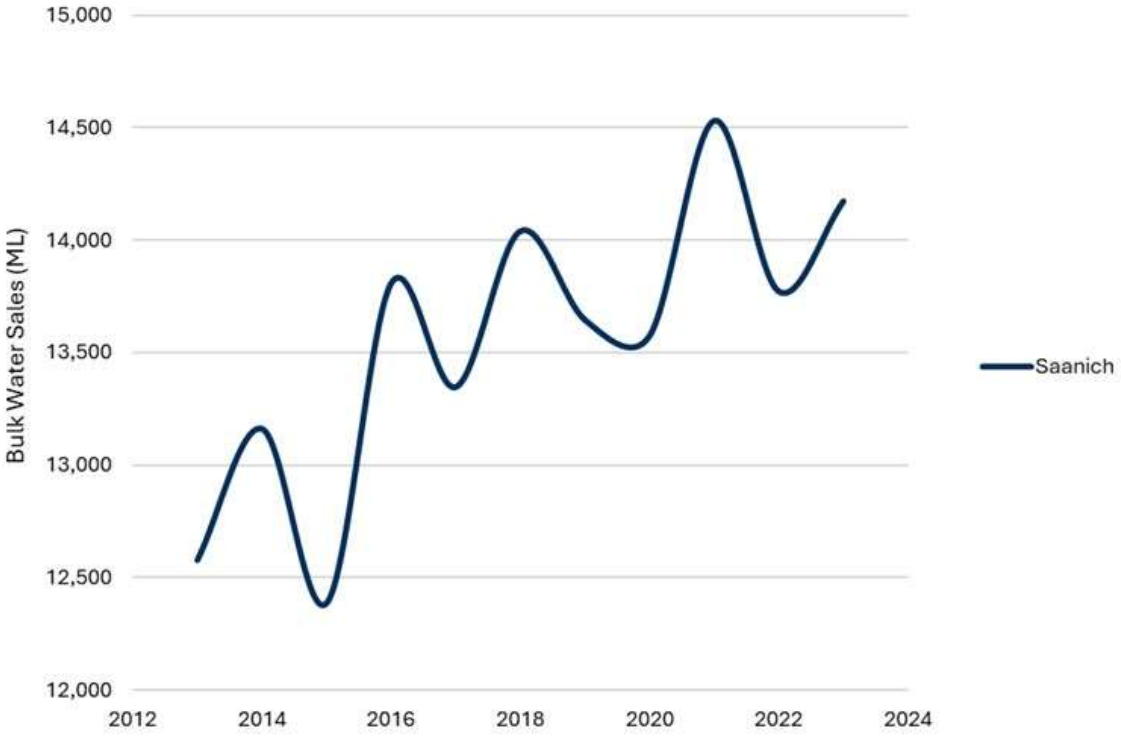

Figure A1-3: District of Saanich Historical Bulk Water Sales - 2013 to 2023 (ML/year)

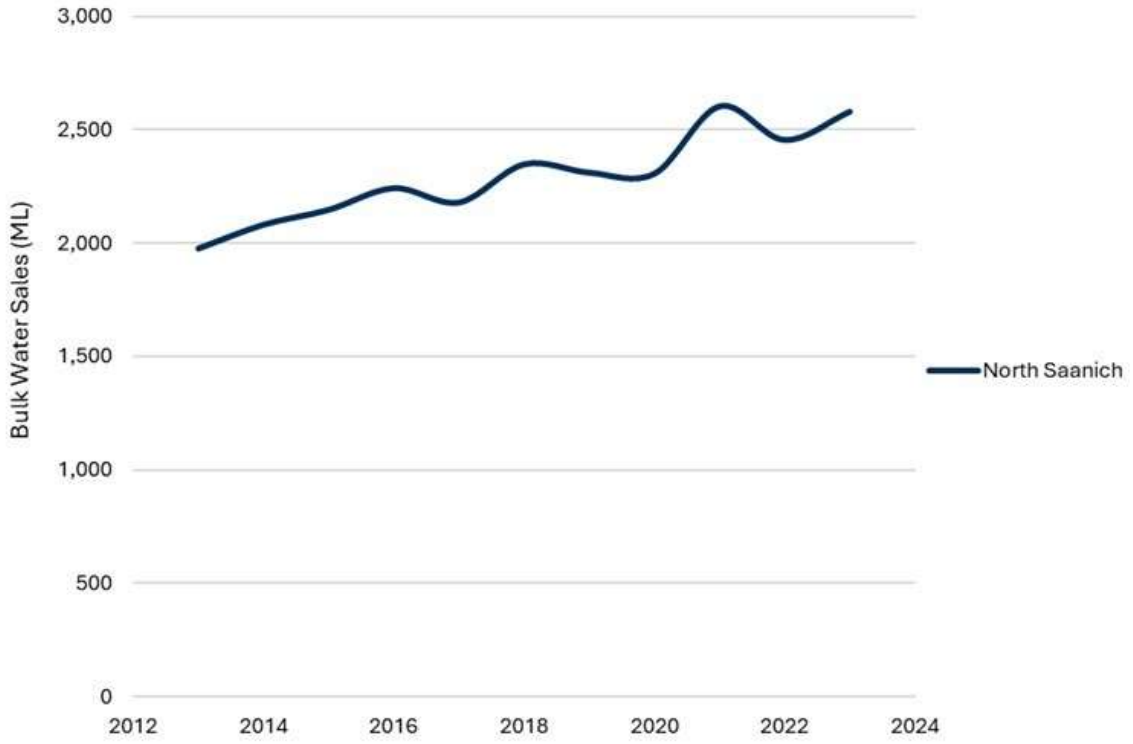

Figure A1-4: District of North Saanich Historical Bulk Water Sales - 2013 to 2023 (ML/year)

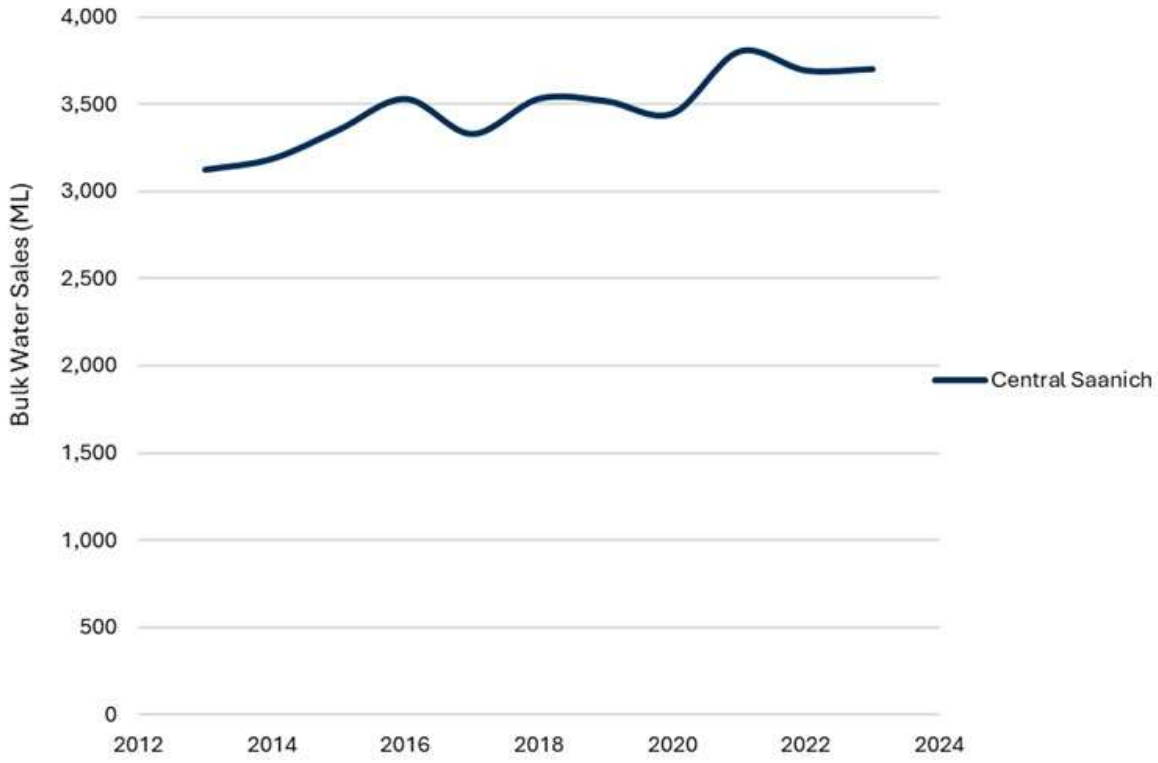

Figure A1-5: District of Central Saanich Historical Bulk Water Sales - 2013 to 2023 (ML/year)

Figure A1-6: City of Sidney Historical Bulk Water Sales - 2013 to 2023 (ML/year)

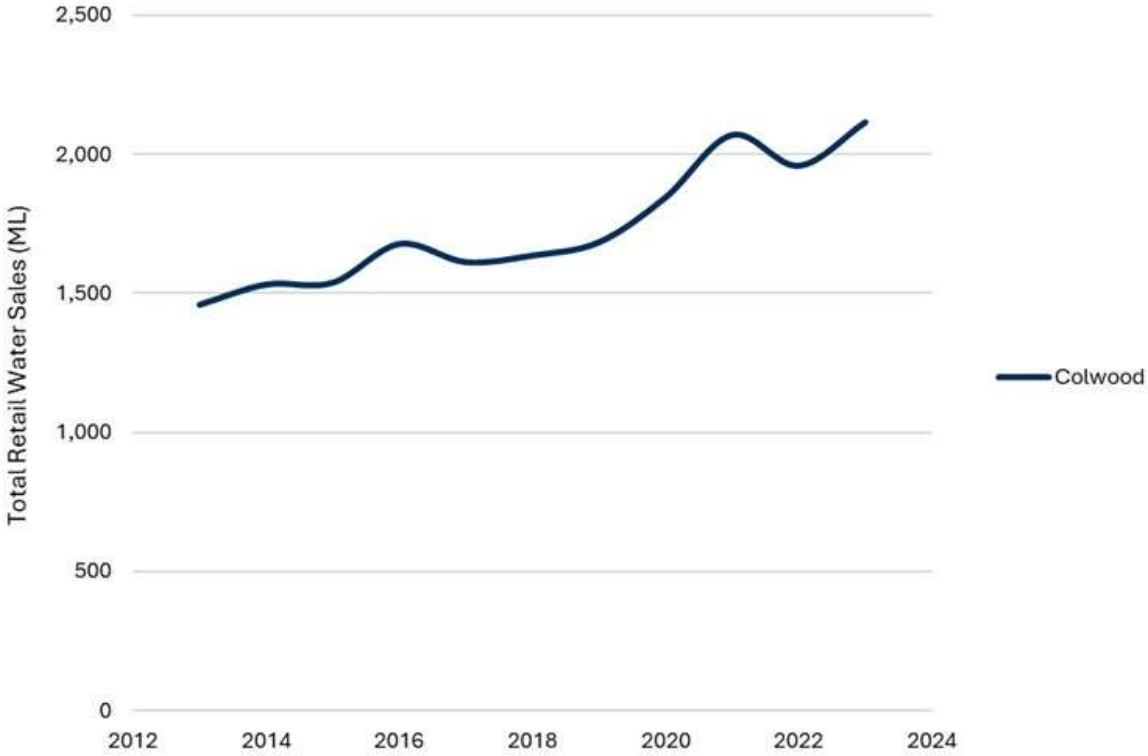

Figure A1-7: City of Colwood Historical Total Retail Water Sales – 2013 to 2023 (ML/year)

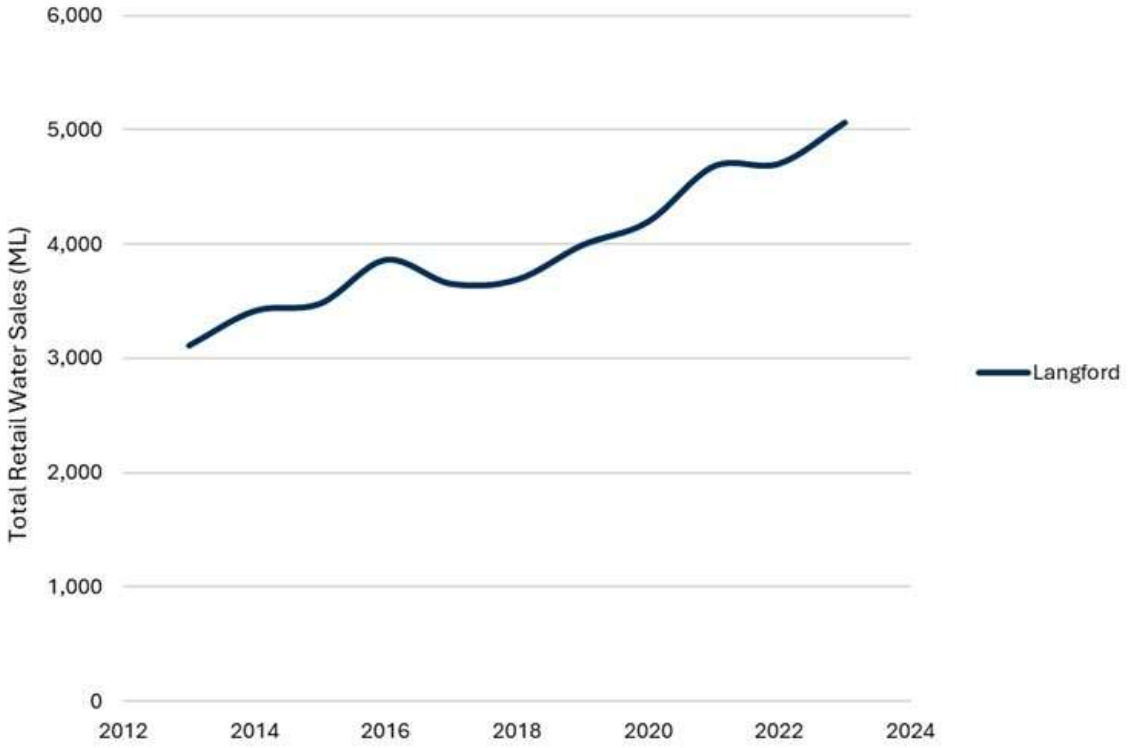

Figure A1-8: City of Langford Historical Total Retail Water Sales – 2013 to 2023 (ML/year)

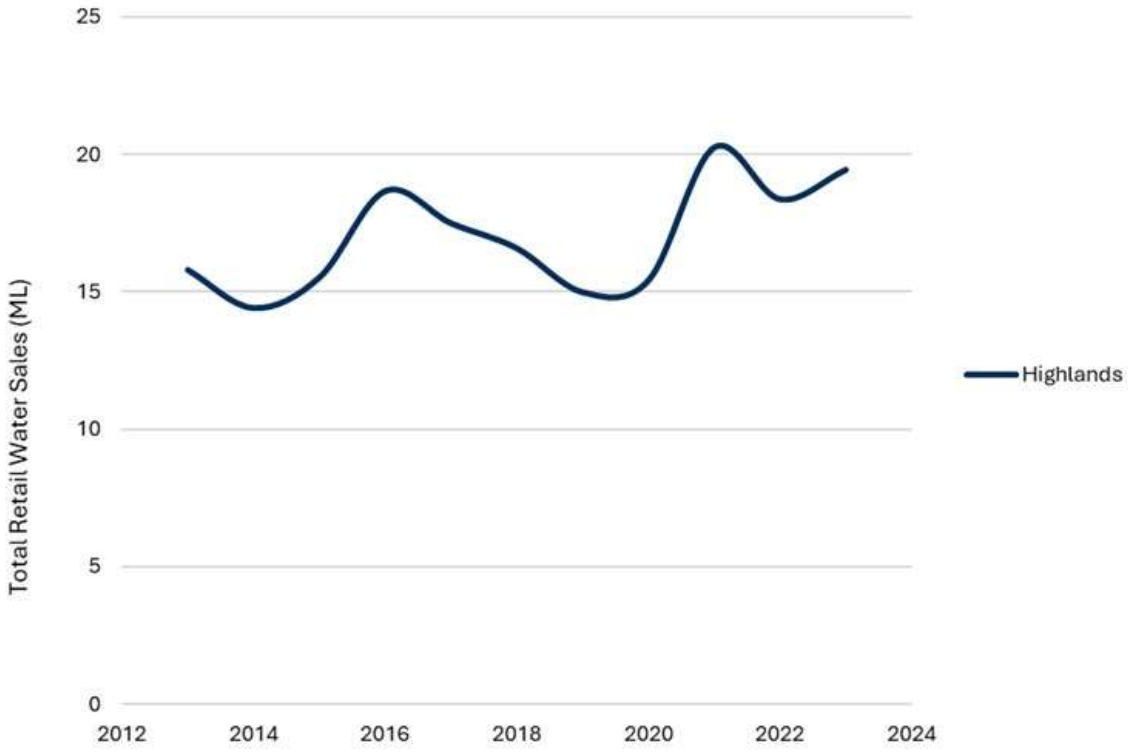

Figure A1-9: District of Highlands Historical Total Retail Water Sales – 2013 to 2023 (ML/year)

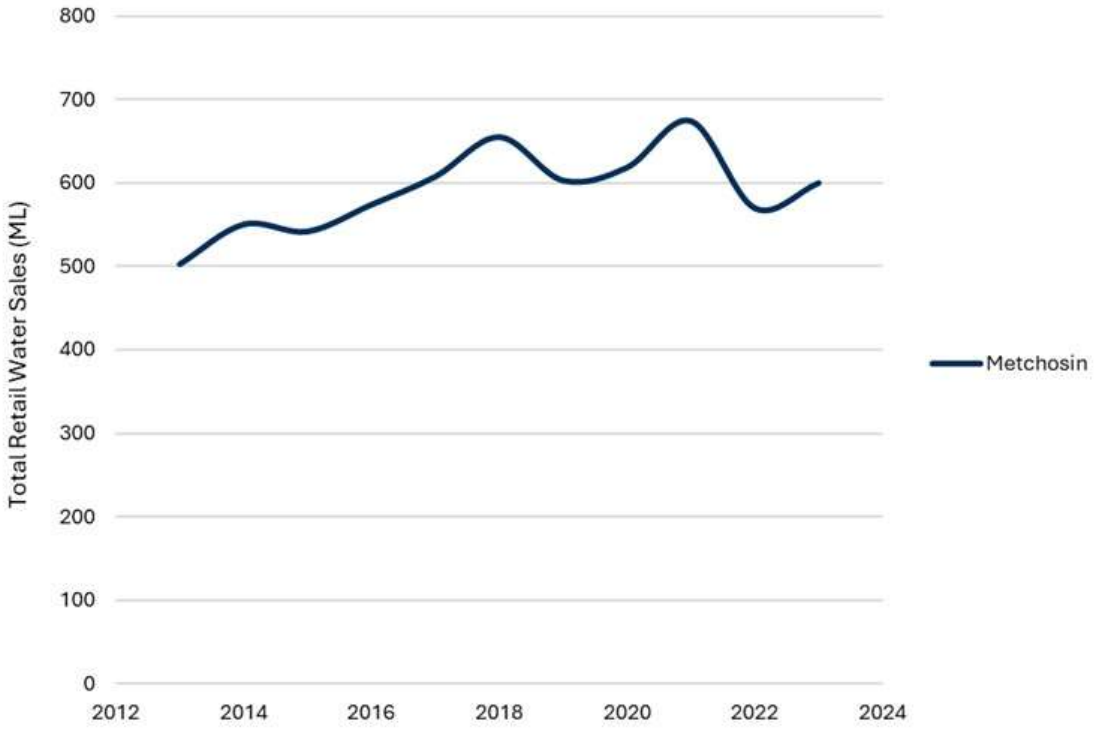

Figure A1-10: District of Metchosin Historical Total Retail Water Sales – 2013 to 2023 (ML/year)

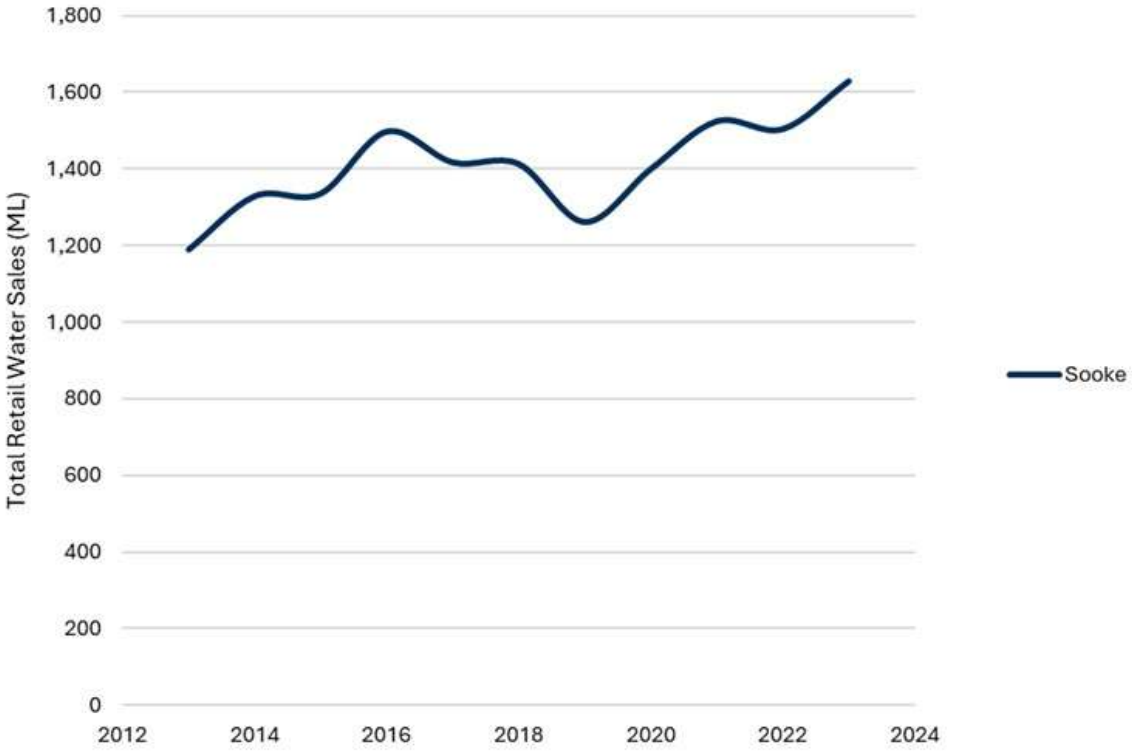

Figure A1-11: District of Sooke Historical Total Retail Water Sales – 2013 to 2023 (ML/year)

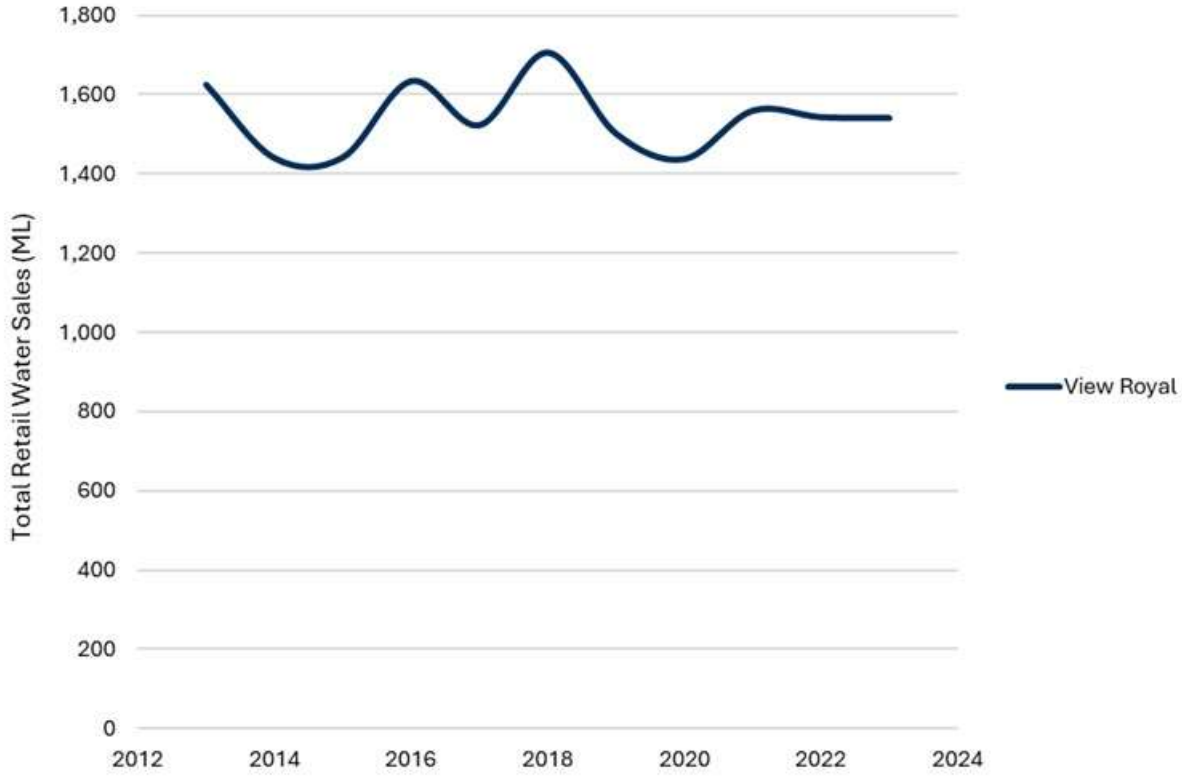

Figure A1-12: Town of View Royal Historical Total Retail Water Sales – 2013 to 2023 (ML/year)

CRD Water Production Analysis

The following figures show total water production from CRD water treatment facilities overlaid with average daily temperature for City of Victoria. Not surprisingly, the peaks and valleys of the water production data correspond with annual temperature fluctuation.

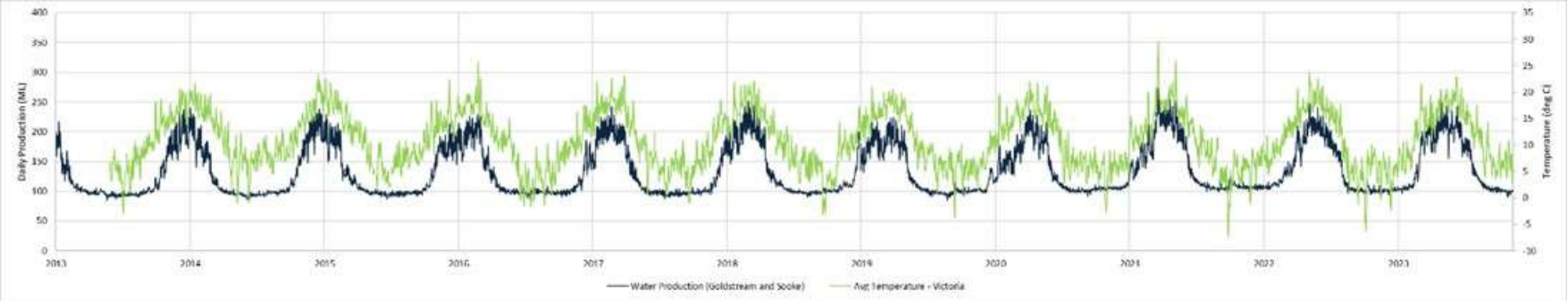

Figure A1-13: Daily Water Production & Annual Victoria Temperature (All CRD Treatment Facilities)

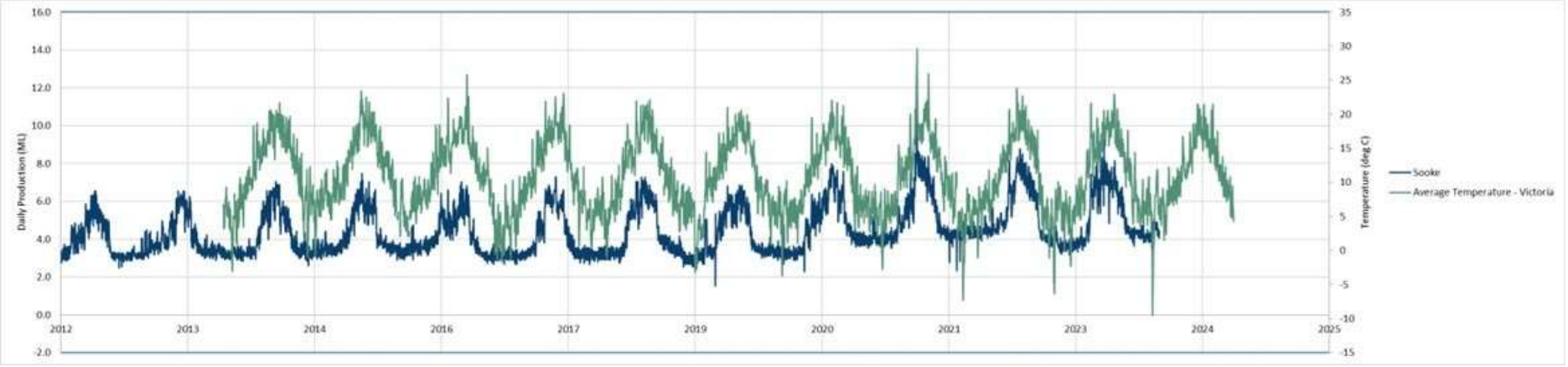

Figure A1-14: Daily Water Production & Annual Victoria Temperature (Sooke Treatment Facility)

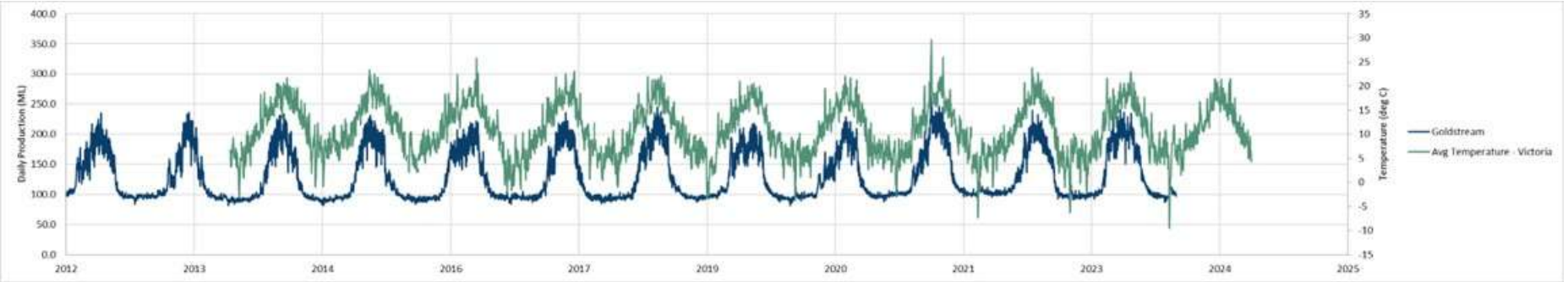

Figure A1-15: Daily Water Production & Annual Victoria Temperature (Goldstream Treatment Facility)

Appendix 2

Existing Program Review

Appendix 2: Existing Program Review

MEMO

To:	Kriti Wilson, Demand Management Coordinator, CRD
cc:	Danielle Bassett, Danielle Buckle, Marie Irwin, Jody Watson, CRD Environmental Services
From:	Kirk Stinchcombe, Managing Director, Econics
Date:	27 January 2025
Re:	Existing Program Review: Capital Regional District Water Conservation Program

1. Introduction

In Fall 2024, the Capital Regional District (CRD) Demand Management Program initiated development of a new Water Conservation Plan. This plan, scheduled for completion in early 2025, will set goals, data-based targets, implementation strategies, and guide community engagement. This plan is for the Greater Victoria Water Supply Service and the 13 municipalities that rely on the CRD for regional water conservation messaging.

The new plan will be based in part on various programs that are already successfully underway. It will then be refined by drawing on current best practices from Canada and around the world. As such, an obvious starting point is looking at the current program's strengths and the opportunities for improvement.

This memo, the *Existing Program Review*, will serve as an appendix to the new plan. It provides an inventory and assessment of CRD's current water efficiency efforts. The goal is to provide a foundation for evaluating how the current program might be further developed and improved going forward.

This memo has two main parts. First, it inventories key elements of the current program. Second, it looks at program strengths, opportunities, and challenges.

1.1 Limitations

The reader should be aware of several limitations. First, due to scope constraints, this work is not a formal or comprehensive audit of CRD's current water efficiency program. Rather, it is a general review informed by examination of documents, marketing collateral and other resources, as well as by a structured workshop and numerous informal discussions with staff.

Second, this summary focuses on program highlights – major initiatives, achievements and identified challenges. It should be noted that a great deal of additional water conservation work has been completed by CRD staff and partners over several decades, more than can be detailed here.

Third, no attempt is made in this memo to systematically quantify the overall impact of these programs on community water demand. Quantitative analysis on water consumption will be provided in the Water Conservation Plan itself later in the project.

2. Water Efficiency Program Inventory

In this section, CRD's water efficiency program elements are inventoried using Econics' 5E Framework (see Figure A2-1). This is simply a convenient way of organizing program components to understand how they work together as parts of a complete package. Each 5E theme deals with a different facet of water efficiency, and they complement each other. A water service provider that invests in effort under each theme is more likely to have a comprehensive approach that will achieve sustained community water use reductions. The 5Es are as follows:

1. **Education tools** involve giving information to customers to help them understand how they use water and how to make changes.
2. **Encouragement tools** provide customers with incentives with tangible value. Examples include cash rebates, home audits, low-cost access to plumbers, or giveaways such as lawn watering gauges and outdoor water saving kits.
3. **Enforcement tools** involve judicious use of regulatory instruments like watering restrictions, building and plumbing codes, and product performance standards.
4. **Economic tools** focus on providing financial incentives through effective water and wastewater pricing and similar mechanisms.
5. **Engineering approaches** focus on technology adoption, either by customers (for example, rainwater harvesting or on-site water recycling) or by the water service provider itself (for example, system loss management).

Figure A2-1: The 5E's of Demand Management

2.1 Education

Education tools provide information to residents about water efficiency through various channels "from the classroom to the family room to the boardroom". This category includes traditional education, marketing and advertising, and communication through customer service staff, elected officials, and other spokespeople.

Poorly executed community education and marketing efforts often have little or no impact on changing behavior. However, well-executed campaigns that employ carefully constructed messages, target specific behaviors, and emphasize personal contact can be tremendously successful. Outreach also lays a foundation for effective implementation of other tools.

2.1.1 Program Branding

Most aspects of the program are branded under the corporate "CRD – Making a difference…together" wordmark (see, for example, Figure A2-2). Design consistently displays the corporate white, aqua, and green color palette. In a few cases, the supporting "Every Drop Counts!" wordmark also appears, notably with collateral aimed at children.

Figure A2-2: Example of CRD Water Conservation Program Branding

Marketing collateral is generally visually compelling, consistently branded, gives appropriate acknowledgement of the sponsoring organization (i.e., CRD) through logo placement and meets contemporary design standards. This is true of both print and electronic material.

2.1.2 Print & Online Education Material

Dissemination of educational materials through both print and online channels is a significant focus for CRD's program (CRD, 2024a). There is an extensive library of resources available through the corporate website (www.crd.bc.ca/education/water-conservation). Select examples include:

- a collection of fact sheets targeted at residential customers, suitable for either print or online use on topics such as rainwater harvesting, native plants, lawn health, etc.
- an attractive and comprehensive Homeowner's Guide to Outdoor Water Use manual (CRD, 2011);
- various giveaway items for adults and children (fridge magnets, water shut off hangers, stickers, etc.);
- web page targeted at industrial, commercial, and institutional (ICI) customers with various resources including fact sheets for offices, commercial car washes and restaurants and pubs; and,
- a detailed Waterwise Irrigation Handbook (CRD, nd), currently only available electronically, which staff contemplate updating.

In addition to the website, staff also push information out through corporate social media (Facebook, Instagram, X). However, a review of these platforms indicates that water conservation faces much internal competition for space in these channels from CRD's many other programs.

2.1.3 Community Events

CRD staffs booths seasonally at events such as farmers markets, community fairs, and other regional festivities (see Figure A2-4). Typically, these are staffed by auxiliary summer staff, often students, who also provide similar support to other Environmental Services program areas. Events are designed to be interactive and include giveaways and games for children. Information on programs such as watering restrictions and leak detection is offered on request. CRD also provides unstaffed displays at retail locations such as garden centres on an ad hoc basis (see Figure A2-3).

Figure A2-3: Example Retail Display
Photo Credit: CRD

Figure A2-4: CRD Community Event Booths
Photo Credit: CRD

Figure A2-5 shows annual effort for community events, noting that this work was curtailed in 2020 and 2021 by the COVID pandemic, and has gradually ramped up since.

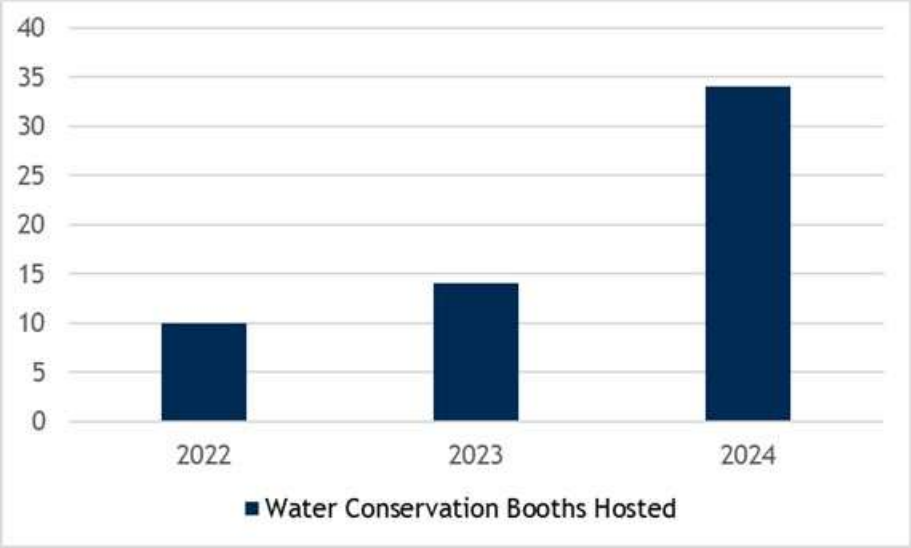

Figure A2-5 Annual Community Event Effort (2022-2024)
Source: CRD, 2024e

In addition, CRD also has five Water Stations that event organizer can use at events. Community members use these to fill up personal water bottles. For example, in the summer of 2023, these stations were deployed at 15 different events or to event organizers (CRD, 2024a). When possible, stations are accompanied by water conservation outreach materials.

CRD also provides in-person, three-hour introductory native plant gardening workshops in the spring and fall, delivered in collaboration with Swan Lake Nature Sanctuary. A virtual option is also offered in the fall. Annual effort for this program is shown in Figure A2-6. Again, effort in 2020 and 2021 was curtailed by the pandemic.

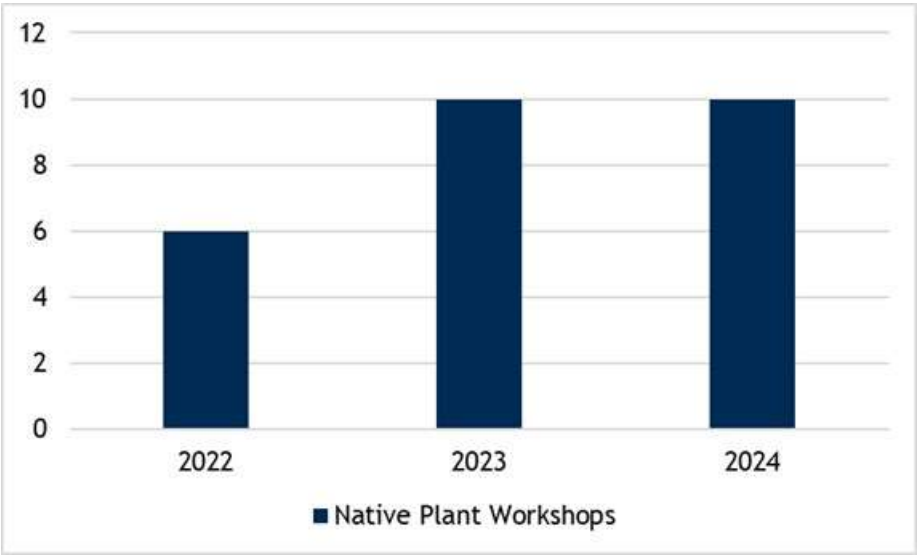

Figure A2-6: Native Plant Workshops by Year (2022-2024)
Source: CRD, 2024e

2.1.4 School Programs

School programs are delivered through CRD's Communications team, who staff an education coordinator position. They offer "Every Drop Counts" learning resource kits to grade two teachers. The kit includes lesson plans, digital resources, books, and demonstration materials. The education coordinator is also available to deliver in-person programming for grades two or five through one hour or 45-minute sessions. This person also provides outreach to schools about other environmental priorities such as solid waste management, watershed health, and climate action. As well, there is a drinking water and wastewater model that can be signed out by schools and is used at outreach events.

Annual effort for water conservation aspects of the school program is shown in Figure A2-7.

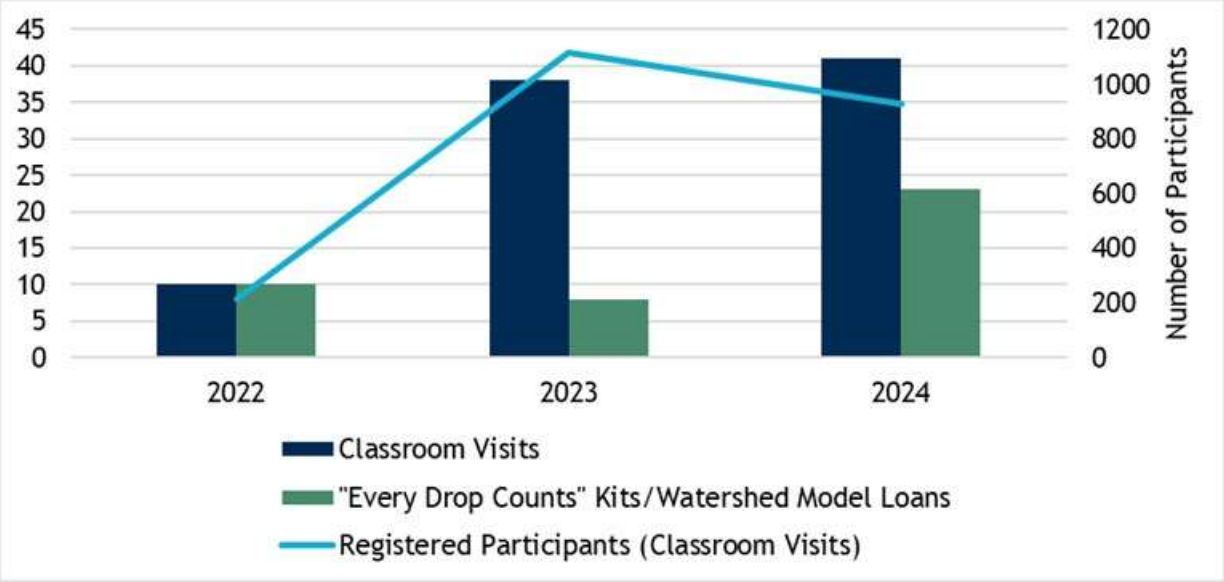

Figure A2—7: "Every Drop Counts" School Program Effort by Year (2022-2024)
Source: CRD, 2024e

2.2 Encouragement

Encouragement tools include incentives like product rebates, home audits, low-cost access to plumbers or giveaways. Incentives might be offered to customers of all kinds in both residential and non-residential settings. Research from the fields of environmental psychology and social marketing shows that such instruments can have a substantial impact on changing behavior.

2.2.1 Giveaways & Rebates

CRD offers various low-cost giveaway items to residential customers including rain gauges, toilet dye tabs, shut off hangers, tap aerators, and shower timers. More expensive items (shower heads, outdoor water savings kits) are also available but are not heavily promoted. These items are distributed mainly through the community events discussed in Section 2.1.3.

Hardware items such as tap aerators and pre-rinse spray valves are also available to ICI customers and may be promoted through an audit program (discussed in Section 2.5.1).

CRD, in partnership with North Salt Spring Waterworks District (NSSWD), also provides rebates to residents of Salt Spring Island and the Southern Gulf Islands who install rainwater harvesting systems. However, this incentive is not available to customers in the Regional Water Supply System, so is outside of the scope of the water conservation plan under development with this particular project.

2.2.2 Fix A Leak Week Kits

Each March, CRD participates in "Fix A Leak Week", an annual national campaign that educates homeowners about leak detection best practices. Staff distribute Fix a Leak kits throughout the region through venues such as municipal halls (see Figure A2-8). Residents can pick these up at no cost. Kits include toilet dye tabs, a bag to measure the flow rate of the showerhead, a new aerator for a faucet, and educational material. This effort is supported with print and digital ads and a social media burst.

Figure A2-8: Fix a Leak Week Kit & Display
Photo Credit: Victoria News

2.2.3 Once-Through Cooling Rebate Program

CRD currently offers rebates to ICI customers who swap out inefficient once-through cooling systems with new air-cooled ones, as follows:

- $600 to eliminate a mid-sized condensing unit;
- $300 to replace a mid-sized ice maker;
- up to $2,500 per account to replace equipment such as industrial air conditioners, wok stoves, coolers, and larger ice machines.

This incentive is intended to support the pending region-wide once-through cooling ban (discussed in Section 2.3.2, below). Unfortunately, to date the program is significantly underspent. Exploring options to improve uptake is a goal for the water conservation plan.

2.3 Enforcement

Enforcement tools involve judicious use of regulatory instruments such as watering restrictions, plumbing codes, and product performance standards. Regulatory approaches are often highly cost effective because they can make significant contributions to cutting demand without requiring large operational budgets for water service providers (excepting enforcement costs).

2.3.1 Water Conservation Bylaw

CRD implements seasonal lawn watering restrictions each year under its Water Conservation Bylaw (CRD, 2016). Restrictions can escalate in the event of drought or other shortages and are tied to supply conditions at the Sooke Lake Reservoir. Under ordinary conditions, "Stage 1" restrictions allow lawn watering two days per week, from 1 May to 30 September, on an "evens and odds" house number system. Residents may water in the morning or the evening. Established trees, shrubs, flowers, and vegetable gardens can be watered on any day.

Figure A2-9: Example Social Media Post to Support Watering Restrictions Compliance
Source: CRD, 2024d

The bylaw schedule was amended in April 2024 to include a wider range of lawn watering times for programmable irrigation systems. The intent is to reduce the instantaneous demands that occur on the top of the hour on watering day mornings and to spread out the demand from irrigation systems over a larger timeframe (CRD, 2024a).

CRD introduces a "seasonal priming" communications campaign each spring to remind residents that restrictions will come into effect and what their watering days are (CRD, 2024g). Channels include radio, print, online, Spotify ad placements, and social media (see, for example, Figure A2-9).

CRD's enforcement and compliance efforts focus on the latter (i.e., compliance) by raising awareness through the annual advertising campaign and other outreach. Warning letters may be issued on a complaints basis as required. Repeat offenders may be ticketed. However, this is rarely done, which is wholly appropriate if other compliance efforts prove successful, and consistent with the approach taken in most jurisdictions we work with.

The current restrictions system appears to work well. It should be noted, however, that best practice jurisdictions are moving away from this traditional "evens and odds/mornings and evenings" system to more strict requirements such as "mornings only" (e.g., Metro Vancouver) or "one day per week" (e.g., Region of Waterloo). This would also be an option

for CRD if there is sufficient organizational and political will, noting that the schedule was already modified very recently.

2.3.2 Once-Through Cooling System Ban

The CRD Board has approved an amendment to the Water Conservation Bylaw (CRD Bylaw No. 4099) to prohibit the use of water for once-through cooling within the Regional Water Supply System, effective July 2028. This ban will apply to residential, commercial, and institutional properties unless an exemption is issued.

To support this pending regulatory change, CRD provides technical resources online, has prepared four "champion stories" (case studies of businesses that have successfully retrofitted equipment; see Figure A2-10), and is supporting the rebate program outlined in Section 2.2.2, above.

Staff note that additional compliance and outreach effort will be required ahead of 2028.


Conservation Case Study

Strathcona Hotel saves dollars, gas & water

Capital Regional District |

When the Strathcona Hotel upgraded their refrigeration system to air cooled with boiler heat recovery, they achieved payback in under two years. Here is their story.

"Between 2010 and 2013 our water and gas bill increased by approximately $38,000! One significant flaw in our building was the cooling system for our refrigerators and freezers which relied on running water, and then went right down the drain (once-through cooling). For us, the solution was a closed-looped water cooling system.

In 2014 we started to build this system in our six-story building. While most cooling was needed at the lower and street level, we needed to install a cooling tower on the roof. The entire project took nine months to complete and cost approximately $150,000. Fortunately, we were able finish the project with little interruption to our business.

Now the great news: We realized an instant savings in our water consumption to the tune of about $50,000 annually and as an added bonus we received a $5,000 CRD rebate. A further "unexpected" bonus was realized in our gas consumption: we installed a suitcase-sized heat exchanger near our hot water boilers that allowed us to "dump" compressor coil heat into our hot water tanks. Now our hot water tanks only need gas to bring the water temperature up to 45°C from 32°C instead of from 8°C. The savings have been incredible, dropping our annual gas bill by about $35,000.

Together, the combined annual savings in our water and gas consumption are about $85,000 and payback took less than two years. We all know that utility costs are going nowhere but up so the sooner you invest in your property's efficiency the better off you will be."

– Grant Olson, Co-Owner & General Manager, Strathcona Hotel, Victoria, BC

For more about helping your business save water, call 250.360.3101 or visit www.crd.bc.ca/cwi

Figure A2-10: Example Once-Through Cooling Conservation Case Study
Source: CRD, 2024e

2.4 Economics

Effective volume-based water and wastewater pricing are key economic tools that encourage water use efficiency through the incentive of saving money. Other economic tools include tax rebates, low interest loans, and targeted investment by public agencies.

Unlike the various other programs and incentives discussed above that are offered directly by CRD, water billing is undertaken independently by each municipality or water services retailer. CRD acts as a wholesale provider of water and wastewater services to local municipalities who then set retail service rates that account for both regional bulk water and wastewater costs and capital and operational costs incurred locally for distribution. It is these retail costs (for both water and wastewater) that residents see on water bills and respond to when making water use decisions or when thinking about purchasing efficient products.

Given this situation, detailed investigation of the water efficiency potential of conservation-oriented pricing is not part of the scope of this review. We are also unable to comment on the extent to which any water service retailer's current charges meet the long-term costs of sustainably funding their water systems.

Nevertheless, Figure A2-11 provides a snapshot of the current situation in the region. It compares residential water costs of all water service retailers in the Regional Water Supply System. Note that this shows water charges only (i.e., fixed and volume-based sewer charges are not incorporated). Where a water service retailer has a fixed charge component, this is shown on the bottom of the bar in blue, with variable charges on the top in green. The figure shows combined water and wastewater costs at different consumption levels – 15, 25, and 45 cubic meters. For reference, a family of four consuming an average of 200 liters per person per day would consume a little less than 25 cubic meters in a month.

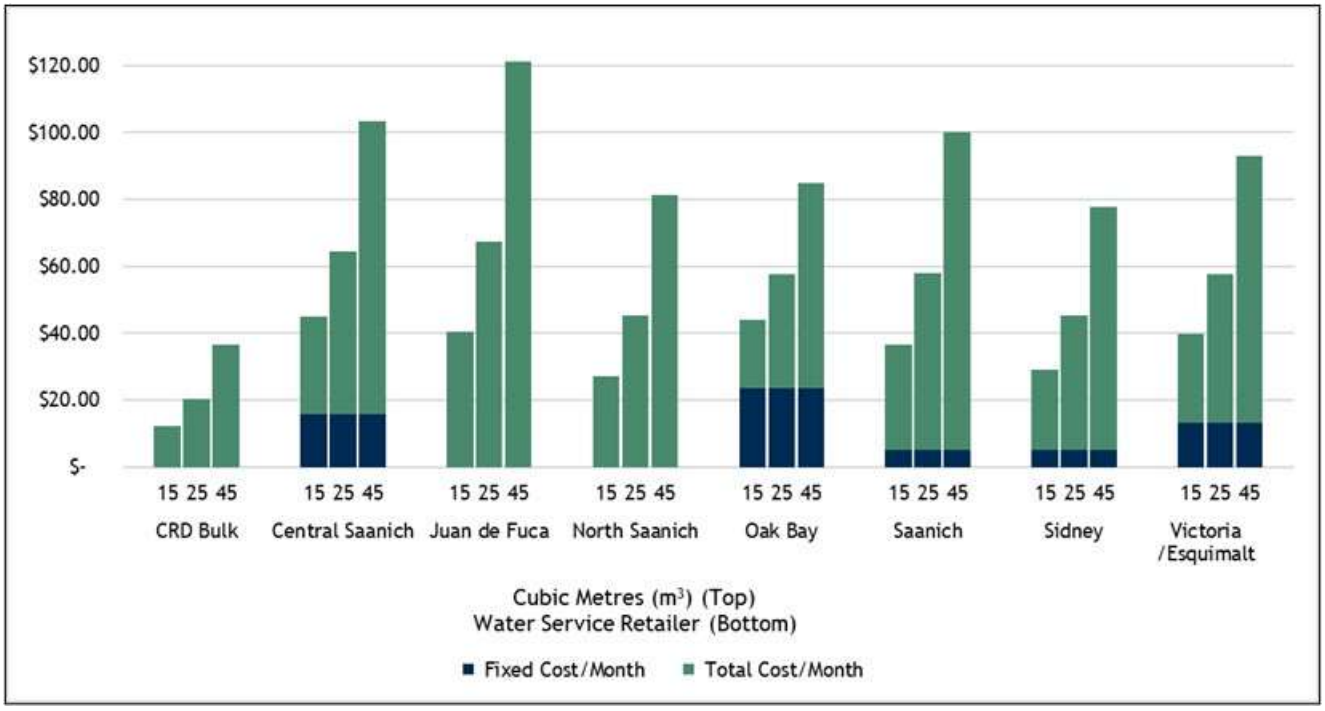

Figure A2—11: 2024 Residential Water Costs Across Water Service Retails in the CRD*
Sources: see Table 4.1 on p. 30 below

Disclaimer: Water and wastewater rates are subject to frequent changes. As well, communities rarely have similar supply availability, infrastructure composition, operating costs, or demand characteristics. Interpretation of the information in Figure 11 should therefore be viewed with the understanding that direct comparisons of water service systems are not usually possible and that there are a number of current and historical explanations for how rates are set in any one community. This community cost comparison is provided for general information purposes only and should not be relied on in isolation for making management decisions. See Section 4.1 for sources.

2.5 Engineering

Engineering approaches use emerging technology and techniques to reduce total system demand. Examples include advanced pressure and leakage management, water reuse, rainwater harvesting, smart metering, and various in-home or business technologies, sometimes involving retrofit projects for existing facilities.

2.5.1 Industrial, Commercial & Institutional Programs

ICI facilities are typically the largest individual consumers of water in any community. As such, they are an attractive target for engineering-oriented conservation programs and incentives.

The CRD offers free water use and efficiency audits to businesses. These audits help the recipients understand where water is used within their facilities and provide cost-benefit analysis of conservation measures. CRD has conducted over 40 water use audits at facilities including food services, offices, retail, schools, municipal buildings, and hospitality.

Actual audit work is outsourced to expert contractors through a competitive selection process. Program staff also follow up with representatives of facilities that have received assessments in previous years to assess progress on recommendations and support implementation.

Staff take a sector-by-sector approach to recruiting participants. For example, in 2024 the audit program is focusing effort on secondary and middle schools.

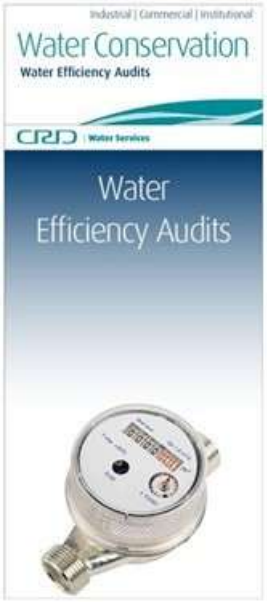

Figure A2-12: Audit Promotional Brochure
Source: CRD, 2024e

Figure A2-13 shows annual uptake for the audit program and projected water savings. CRD averages just under seven audits per year (excluding 2020), limited by budget availability. No audits were completed in 2020 due to the pandemic. Projected water savings in 2017 was significantly higher than the norm, primarily because a number of high use businesses achieved greater saving mainly due to replacement of once-through cooling systems. 2024 projected water savings estimates have not yet been completed at time of writing.

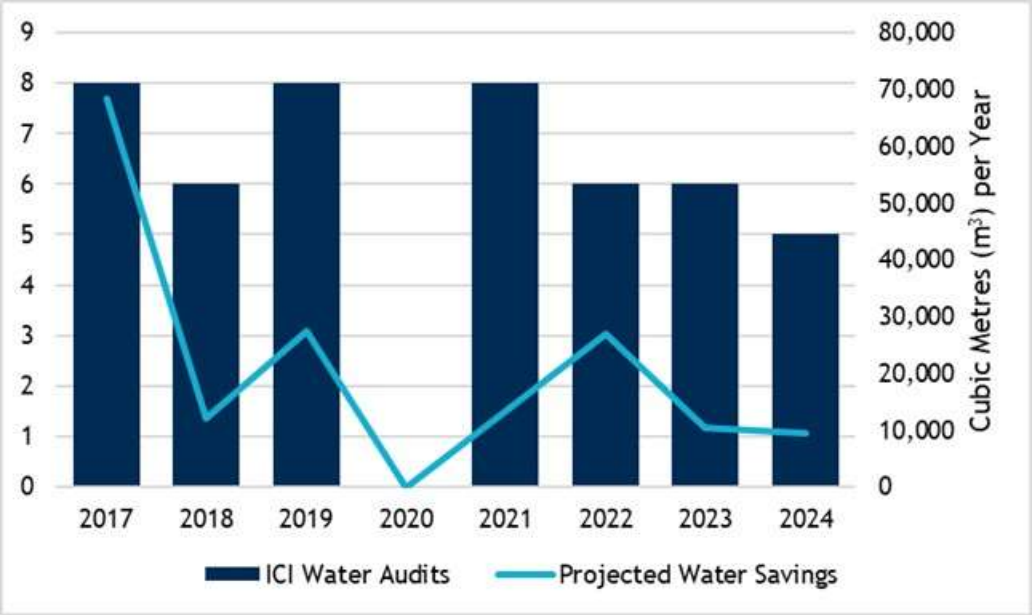

Figure A2-13: ICI Audit Program Annual Uptake & Projected Water Savings (2017-2024)
Source: CRD, 2024f

CRD also supports its ICI customers with a Commercial Aerator Replacement Program. A technician will come to any business or institution and assess faucets on all hand wash sinks. If the faucet is not operating at maximum efficiency, the aerator will be replaced with a new low flow model at no cost.

Finally, CRD continues to work toward elimination of once-through cooling in the region through the Rebate Program discussed in Section 2.2.1 and the pending regulatory ban discussed in Section 2.3.2.

2.5.2 Water Efficiency Research

CRD conducts or supports various research projects to support water efficiency programs. Some prominent recent examples include the following:

- participation in the Water Research Foundation's pending Residential End Uses of Water update;
- Water Use in the Capital Region Tourism Sector (Econics and Kerr Wood Leidal, 2022);
- Water Sub-metering to Promote Water Efficiency: A Survey of Existing Literature and Local Case Studies (Sher, 2016);
- On-Demand Hot Water Systems Research Brief (CRD, 2016b);
- Ongoing annual updates to the regional Retail Water Use database.

3. Analysis

Based on the inventory presented above, this section provides a high-level qualitative assessment of strengths, challenges, and opportunities we see in CRD's current water efficiency program. This is based on our experience working with similar programs across North America as well as best practices as outlined in key industry publications such as AWWA (2006), AWWA (2013), BC Government et. al. (2013), Maddaus (2014), and Vickers (2001).

3.1 Program Strengths

Strengths are internal characteristics of the organization that give it an advantage. CRD can count the following among these:

- By Canadian standards and taken as a whole, the current water efficiency program is robust, long running, and comprehensive, with coverage across all the 5E's of demand management.
- The program is mature with a long implementation history. Over time, elements that once made sense but no longer do have been phased out (e.g., various residential rebates). Other program elements (e.g., school programs, watering restrictions, community events) have achieved more-or-less "steady state" implementation and appear well accepted by their target markets.
- Program design and branding is clean, contemporary, and (mostly) consistent. It appears that there is good adherence to a corporate style guide. CRD as an agency is almost always clearly identified as the sponsor in brand execution. Designers have avoided the common pitfall of creating prolific and confusing sub-brands for different program areas.
- The watering restriction regime was recently reviewed and updated; each year, staff implement a predictable and extensive "seasonal priming" outreach campaign to raise awareness of restrictions. Based on market research we have conducted in CRD in the past (Econics and Metroline, 2017) and more recently elsewhere in Canada we predict relatively high resident awareness, acceptance, and compliance with requirements.
- Unlike many comparable parts of British Columbia (notably the Lower Mainland), all customers in the region are fully metered and service retailers charge for water services by volume.
- The school education program is mature and consistent with Canadian standard practice. It appears well resourced and is regularly enhanced with new elements (e.g., a recently updated watershed model).
- CRD has developed strategically important partnerships with several external organizations including local municipalities, industry partners (e.g., water audit providers) and others (e.g., local school districts, Swan Lake Nature Sanctuary). These partnerships reduce staff workload and provide a foundation for future joint initiatives.
- The ICI audit program is well established. Responsible staff have a good grasp on what works and where improvements might be merited. The pending region-wide ban on once-through cooling systems is consistent with emerging North American best practice.

3.2 Program Challenges

Challenges are either internal features that place the organization at a disadvantage or can cause difficulties. Examples in CRD's case include:

- CRD does not directly control some key aspects of holistic demand management program planning and delivery. Most notably, with the exception of communities in the Juan de Fuca Water Distribution System, local municipalities are responsible for non-revenue water management and setting water rates. As well, local municipalities have lead responsibility for most aspects of land use planning, including development approvals, building code inspections, and setting landscape bylaws. As a result, if CRD wants more active application of the many policy tools available in these areas, it must work through partnerships.
- Partially because of the limited number of tools under CRD's control (and, we suspect, partially due to budget limitations), the CRD demand management program currently focuses heavily on outreach and education. This is not necessarily a problem, and virtually all water conservation programs rely on education tools to a greater or lesser extent. However, there is strong evidence from the fields of psychology and education that, in order to measurably and materially change sustainable behaviour, community outreach programs must be very carefully designed and executed (see, for example, McKenzie-Mohr, 2011).
- Program web pages are beginning to look a bit dated relative to best practice and are not always easy to navigate.[2] Web content tends to be information intensive rather than offering a compelling user experience that will make searchers want to stay on the site. Again, research suggests that simply providing more information does not correlate with measurable behaviour change.
- The program's access to CRD corporate social media channels is limited because it competes with many other parts of the organization for space on these platforms. To illustrate, at time of writing, the most recent post directly related to water conservation that we could find on CRD's Facebook page (a post about the benefits if using native plants in gardens) was over two months' old.
- Outreach through community events (booths and tables) generally uses a passive approach that focus on distributing information through handing out print material or conversation with semi-skilled spokespeople. Best practice would see these opportunities used for more specific and measurable goals. For example, this might involve shifting to focus more on information collection (e.g., completing anonymized surveys on iPads), more systematically marketing specific programs or goals, or, within the boundaries of privacy legislation and policy, enrolling visitors on-the-spot in specific programs, then following up with them later to measure uptake and impact on behavior and water use.
- Generally, there could be more focus on measuring program impact. Where measurement is happening, it tends to focus on activities (e.g., number of events) rather than outcomes (e.g., volume of water saved). In fairness, this is a challenge we

[2] To illustrate, the top listed link for a Google search using the search terms "CRD water conservation" brings a resident to a page focused mainly on watering restrictions (www.crd.bc.ca/service/drinking-water/water-conservation). From this page, the navigation path to the water conservation parent page at www.crd.bc.ca/education/water-conservation, where many additional resources can be found, is not clearly laid out. (There is a link, but it is buried in page copy, and we suspect would be easily missed.)

see with most of the programs we have worked with. Measuring the impact of water conservation programs is challenging, and particularly so for CRD given that it does not have direct access to water meter data for most of its customers.

- Staff express frustration with some aspects of ICI-focused programs:
  - While participation in early stages of the ICI audit program is relatively healthy, there are issues with program completion by participants (i.e., actually implementing recommended retrofits and process changes). This is problematic given the up-front cost of the assessments. Again, this is a phenomenon we have seen with many of the program we have worked with that have similar offerings.
  - Uptake of the recently launched once-through cooling rebate program is well below target, which is concerning in light of the looming regulatory ban. The reasons for this are not entirely clear; however, it may be explained in part by structural challenges with the restaurant and hospitality industry that may be difficult to overcome with the current rebate design. This program is proving resource intensive relative to the water savings return.
- The regional watering restriction regime was very recently updated, so there may be little appetite to revisit this in the immediate future. Currently, CRD follows a traditional "evens & odds/mornings & evenings" approach. Best practice is shifting toward more limited watering regimes such as "mornings only" (e.g., Metro Vancouver) or "one day a week" (e.g., Region of Waterloo). Recent academic research suggests that these best practices approaches are more likely to result in material water savings (see, for example, Finley and Basu, 2020).
- Related to the point above, operational staff complain that peak demand in summer mornings is a growing concern because of operational capacity constraints. Programs that can shift some types of demand (e.g., lawn irrigation in the morning) to other times of the day will be of interest.

3.3 Program Opportunities

Opportunities are internal or external factors that might be leveraged to improve program performance. In the CRD's case, these include the following:

- With available budget from the undersubscribed once-through cooling rebate and staff interest in innovating, it may be an ideal time to pivot the ICI program. There are opportunities to target new end uses or to pilot new ways of recruiting participants to boost the chances that efficiency improvements will be fully implemented.
- Recent and upcoming research efforts (e.g., the 2022 tourism sector research, the pending WRF residential end uses of water research) can be leveraged to guide program planning based on empirical evidence.
- Expecting that education and outreach will continue to be a significant focus of the program in the future, CRD can look at best practice in other North American markets to inform website updates that offer a more compelling user experience and fresh guidance to residents.
- A compliance plan for the once-through cooling system ban has not yet been developed. There is a "clean slate" to develop a plan that will clearly communicate requirements to affected businesses and lead to higher levels of compliance.
- More effort could be directed toward working with water service retailers on best practices around less utilized demand management tools. This might include system loss management, conservation-oriented water and wastewater pricing, and water efficient land development practices.

- Related to the point above, there may be additional opportunities to work with water service retailers to reach out to high volume residential users. This could involve more sophisticated, targeted offers, particularly as automated metering infrastructure gradually becomes the norm over time.
- Within the organization, there may be opportunities to better inform staff in other areas and senior leaders about the business case for water demand management and its role in supporting the Water Master Plan.

Insights gained through this program review will be used to guide development of the new Water Conservation Plan in the next stages of the project.

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4.1 Regional Water Service Retailers Water Rates Sources

Water Service Retailer	Water Rates Information Source
Victoria/Esquimalt	https://www.victoria.ca/home-property/utilities/utility-rates-billing
Oak Bay	https://www.oakbay.ca/municipal-services/taxes-utilities/utilities/water-sewer-rates
Saanich	https://www.saanich.ca/EN/main/community/utilities-garbage/your-utility-bill/your-utility-bill/charges-explained.html
North Saanich	https://northsaanich.ca/wp-content/uploads/0118-Water-Rates-Consolidated-Bylaw-August-2023.pdf
Central Saanich	https://www.centralsaanich.ca/sites/default/files/2024-05/2175%20Fees%20and%20Charges%20Bylaw%202024.pdf
Sidney	https://www.sidney.ca/services/water-sewer-and-storm-drains/water-and-sewer-utility-charges/
Juan de Fuca System	https://www.crd.bc.ca/service/drinking-water/billing-accounts/account-balance-and-payments

Appendix 3

Residential Customer Outreach Program Direction

Appendix 3: Residential Customer Outreach Program Direction

Residential customers account for the great majority of water use in the Capital Region. Not surprisingly, much of CRD's water conservation effort is directed toward this group.

In recent years, budget allocation has focused heavily on outreach through mass media including print, radio and online platforms, as well as use of social media and staffed tables at community events. While these channels are often used by demand management programs across North America, they suffer from well-established limitations including the following:

- specific market segments (e.g., homes with scheduled irrigation systems) are not easily isolated and targeted, implying inefficient advertising spend,
- research from the fields of environmental psychology and marketing shows that providing information alone is unlikely to result in behaviour change - to achieve this, one must employ more proven outreach methods,
- the demand management program's access to CRD's social media platforms - crucial channels for reaching some audiences - is quite limited and competes with many other program areas,
- mass media advertising is ill suited to grabbing enough attention to "explain the why" of demand management – that is, to tell residents why they should be motivated to conserve or undertake other behaviour change,
- the impact that messaging through these channels makes on reducing water demand is difficult to measure directly.

Given these various challenges, program staff are highly motivated to refresh the residential outreach program and explore more innovative ways to reach target audiences.

Key Elements of Refreshed Program Direction

Below are planned elements of a refreshed direction for CRD's residential outreach programs. This direction is based on findings from two in-person workshops with responsible staff, as well as the project consulting team's experience with similar programs across Canada and elsewhere. The key elements are:

- Effort will be directed to more precisely define and direct demand management outreach at specific market segments. For example, there is currently high interest in reaching the following group, which accounts for a very small fragment of the total market, precisely defined as follows:
    - *Owners of single-family homes with automatic irrigation systems that have programmed timers, and who irrigate regularly, do not already have their system programmed to irrigate at off peak hours, and are amenable to changing this programming.*

- Outreach will be more driven by principles of community based social marketing (see McKenzie-Mohr, 2011) including the following:

    - market research: outreach will be informed by the best available information on why residents continue to engage in specific water use behaviours, and particularly the barriers that prevent people from changing.

    - pilot projects: prior to launching large new projects, smaller, precisely designed pilot projects will be conducted to test methods; results will be quantitatively measured, and the approach will be refined based on results.
    - tools of change: emphasis will be placed on employing tools proven to result in behaviour change including social norming, commitments, and prompts.

- Emphasis on two-way communication with customers will increase. This means providing more opportunities for customers to ask questions about programs, engage in conversations about why conservation is important, tell CRD about the barriers that prevent change, and measure the impact that programs have. This can be mediated through online forums, increased direct interaction, and more creative use of staffed tables at summer events.

- More attention will be devoted to measuring outcomes, particularly behaviour change and water use reductions. This will include measurement through customer meters, market research studies based on random participant selection, surveys of program participants, and new technology (e.g., flow monitoring, GIS, etc.).

- Residents often tell staff that they understand the need for various actions but need more step-by-step guidance (e.g., how to convert grass to meadow, design their own native plant garden, fix their own irrigation system, etc.). This "how to" information needs to be better incorporated into outreach collateral.

Implementation & Next Steps

Based on the key elements outlined above, next steps are as follows:

1. Staff will revise plans for the spring 2025 advertising and mass mail campaign to more precisely target homes likely to have irrigation systems. For example, this may include using a mailing list already available within CRD and/or directing mail outs to geographic areas with demographics that correlate with irrigation system ownership.

2. Staff will revise plans for staffed tables at the summer events to focus on one or a small set of specific objectives. This will require enhanced training/mentoring for seasonal staff and designing a new survey instrument for table visitors.

3. Staff will clarify how resident data can be collected and used for water conservation program delivery. For example, this may include water use information, results from surveys of program participants, and information collected at staffed event tables. Among other things, this will include clarifying requirements for setting up mailing lists or for direct outreach to residents.

4. CRD will seek in-depth training opportunities on community based social marketing including high-level training (e.g., short seminars) for managers and leaders that need familiarity with the concepts and methods.

5. Staff will investigate updating the CRD Residential Water Survey, which has not been completed since 2017, including looking into potential overlap with the survey already planned for pending participation in the Water Research Foundation Residential End Uses of Water (V3) study.

Appendix 4

Industrial, Commercial & Institutional Program Direction

Appendix 4: Industrial, Commercial & Institutional Program Direction

The non-residential sector accounts for over a quarter of the region's water consumption. Both local and national evidence suggests that there are still opportunities for many of these customers to improve their water use efficiency and reduce operational costs.

CRD has a long running and successful suite of programs targeted at industrial, commercial, and institutional customers. These are anchored by the audit program, wherein customers receive free inspections of their facilities by a contracted qualified professional, followed by a report that outlines cost effective ways to save water. Other program elements include the following:

- rebates for replacement of once-through cooling systems and a pending ban of once-through cooling systems;
- customer education and outreach to encourage reduction in peak demand, delivered in conjunction with residential programs;
- supporting demand management efforts of retail water suppliers and multi-use residential property managers;
- tap aerator and pre-rinse spray valve giveaways; and,
- leak detection and smart metering device pilot studies.

In recent years, staff have noted several challenges with the water use audit portion of the program, particularly that customers are often slow to implement audit recommendations. This is attributed to a variety of internal administrative and financial factors within participating organizations. Issues include staff turnover, low engagement by senior leaders and financial managers, and the fact that audit recommendations can sometimes be costly and complex.

Key Elements of Refreshed Water Audit Program Direction

This section lists the key elements of a refreshed direction for the industrial, commercial, and institutional audit program. This direction is based on findings from two in-person workshops with responsible CRD staff and the consulting team's experience with similar programs across Canada and elsewhere. Key elements are:

- The program will continue to be anchored by technical facility water use audits, completed by contracted professionals.

- The recruitment/engagement phase of the audit program will be enhanced to place much more emphasis on screening and qualifying candidate organizations prior to entering them into the program.

- A guiding philosophy of the enhanced program will be that, if a participant is not experiencing some kind of specific pain point related to their water, they will be unlikely to fully implement audit recommendations. Therefore, fully understanding their motives for participating is crucial, noting that motives may go beyond simply saving money.

- CRD program staff will seek to engage a broader cohort of people within candidate organizations during the recruitment phase. This should include senior managers and financial administrators, with the goal of ensuring broad buy-in to participation and post-audit implementation.

- CRD staff will pilot different approaches to securing customer commitment to implement cost effective recommendations after audits are completed. These will include better communicating the full value proposition and tying recommendations to other goals such as affordability, future liability, and business values/corporate responsibility

- Where incentives continue to be available (such as the once-through cooling retrofit rebates currently on-offer), these will be more tightly focused on motivating implementation of audit recommendations.

- Greater attention will be devoted to understanding and integrating with participant's asset renewal plans and financial payback expectations. A potential approach would be to review audit participants' capital plans with them every 5 years or so to identify projects that have high potential for improving efficiency (ideally using the water audit to quantify potential savings). This may require that implementation of audit recommendations takes place on multi-year cycles, necessitating ongoing contact and relationships with participants.

- In recent years CRD has recruited participants mainly on a sector-by-sector basis (e.g., schools in one year, hotels in another). Going forward, it will trial new recruitment methods with the goal of identifying more highly motivated participants. These may include: advertising, seeking referrals from past participants, reengaging past participants, more active recruitment of source control program customers, or using enhanced analysis of retail billing data.

- CRD will explore the benefits of using new technology like meter data logging devices and advanced metering infrastructure to provide better information about where and when water is consumed within facilities.

Implementation & Next Steps

Based on the key elements outlined above, next steps are as follows:

1. Program staff will develop a formal, written business process handbook that will include recruitment, audit, and follow up stages. Included in this will be a customer qualification screening tool designed to gauge likelihood of implementing results post audit. This document will be continuously improved based on outcomes.

2. Staff will conduct informal but well-planned trials and pilot projects to test different approaches in the following areas:
    - format of pre-audit agreements with participating organizations (ranging from formal to informal),
    - methods of engaging leaders and financial managers in participant organizations, and

- participant recruitment and selection using the methods listed above (advertising, referrals, etc.).

3. Staff will explore options for targeting and marketing currently under-subscribed once-through cooling rebates to better incentivize audit participation and implementation.

4. CRD's audit program contract will be renewed or re-issued following CRD's procurement policies and process. Contract requirements will be modified as required to reflect the changes in program direction set out here.

5. Organizationally, CRD staff will develop a plan to improve management of industrial, commercial, and institutional data including retail billing data. The goal is to improve both recruitment and measurement of program results (i.e., water savings after participation). It is noted that depends on the ability to modify service agreements with water service retailers in the region. More information on this task is provided in Appendix 5 (Water Use Data, Information, and Accounting).

Appendix 5

Water Use Data, Information & Accounting

Appendix 5: Water Use Data, Information & Accounting

CRD depends on accurate data and information to make decisions about investment and timing of demand management programs and infrastructure planning more broadly. Fortunately, it has access to very good information about how residents use water including both quantitative data from meters and from residents themselves through market research. A non-exhaustive list of current and planned information and data sources can be found in the following table:

Table A5-1: Sources of Water Use & Conservation Data and Information

Information Source	Examples
Water production data from treatment facilities	• Treatment plant master meters • Retail bulk water meters • Instantaneous water demand data
Customer consumption data	• Customer meters (provided by region water service retailers though the annual Retail Water Database) • WRF Residential End Uses of Water study (pending) • Smart home water monitoring systems (e.g., Flume) • Advanced Metering Infrastructure (AMI) data (emerging best practice) • Industrial/commercial/institutional customer end use and consumption data from the ICI audit program
Market research	• Statistically reliable market research studies based on large samples and random selection of participants • Market research data collection through programs (e.g., events, workshops)
Other	• Water audits based on American Water Works Association M36 Manual methodology • GIS studies (e.g., overlaying water consumption data with demographic and planning layers)

Because water service retailers are responsible for customer billing, including collecting meter data, effective water use accounting in the region means working in partnership. This requires establishing clear data specifications, protecting privacy and personal data, and ensuring data quality control and accuracy.

With this in mind, while preparing the Water Conservation Plan, various challenges with water information and data were identified. These include the following:

- The Retail Water Database is a fundamentally important dataset for planning and evaluating demand management strategies and progress toward overall objectives. However, the current state of the data collected annually from retailers necessitates high effort to compile and "clean" a master CRD dataset each year. This is due to data quality and consistency issues including inconsistent use of billing codes, miscoded accounts, use of different units of measure, and differing billing cycles (which makes it difficult to align consumption trends between communities). Some of these issues arise due to lack of standardization and some due to different billing systems. Solving these issues will require working collaboratively with retailers and likely formalizing best practices through updated service agreements.

- Historically, CRD regularly commissioned robust, statistically reliable market research studies on water use behaviour and attitudes; however, this has not been undertaken since 2017.
- Water service retailers regularly communicate with residents about leaks on private property as part of billing processes, but there are no formal systems in place for CRD to gain information about the extent of this or for CRD to optimally support retailers with things like leak detection and repair outreach material.
- Results from analysis of non-revenue water levels can vary due to different water use accounting practices and use of different data sets.
- Opportunities to collect market research information from residents at very low cost and effort are not capitalized on, for example through tables at community events.
- Important new technology and best practices are emerging with the development Advanced Metering Infrastructure and smart home monitoring systems, but there is no region-wide plan to ensure that this is implemented consistently or in a timely manner.

Given these various challenges, program staff are highly interested in refreshing the CRD's approach to data and information management related to water conservation.

Key Elements of Refreshed Program Direction

Below are planned elements of a refreshed direction. This direction is based on findings from several meetings with responsible staff, as well as the project consulting team's experience with similar programs across Canada and elsewhere. The key elements are:

- Collaborate with all retail water service providers and billing software vendors to improve quality and collection efficiency of retail water use data (see note 1 below).
- Explore opportunities to pilot the use of AMI and meter data logging devices for targeted program delivery and performance assessment (see note 2 below).
- Establish common "master" water use datasets and tools for operations, engineering, finance and demand management uses (see note 3 below).
- Update the CRD Residential Water Survey, a market research study with customers that was last conducted in 2017.
- Clarify privacy and personal data requirements to ensure protection of customer information and to confirm how this information can and cannot be used to support conservation program delivery.
- Complete targeted market research and other studies to support pilot project development and program enhancements discussed under other themes in this plan.
- Continue research projects already underway, notably participation in the WRF Residential End Uses of Water Study.

Notes:

1. **Collaborate with all retail water service providers and billing software vendors to improve quality and collection efficiency of retail water use data.**

   Most or all municipal retailers use one of two software products for water billing: Tempest and Vadim, both of which were developed in BC and have been acquired by CentralSquare Technologies. CRD uses SAP for utility billing for the Juan de Fuca Water Distribution System serving West Shore communities.

As CRD updates service agreements with retailers, there is an opportunity to collaboratively develop a single data standard and annual procedure for retail water use reporting, with vendor support for implementation. Key elements include:

- standardization of how BC Assessment Actual Use Codes (and ideally also North American Industry Classification System codes) are assigned to customer accounts,
- standardized property and meter location information (including Jurisdiction/Roll number and meter UTM coordinates if available),
- a consistent report structure for meter reading and billing cycle dates, and
- consistent units of consumption, standardized on cubic metres.

These measures would help to make the data ready for use in a GIS platform, and ready for the increased frequency of consumption data collection that will be enabled by Advanced Meter Infrastructure systems.

2. **Explore opportunities to pilot the use of AMI and meter data logging devices for targeted program delivery and performance assessment.**

   AMI (fixed-network radio meter reading) systems have improved in reliability and decreased in cost over the past ten years to the extent that it is likely that every retailer in the CRD will begin transitioning to this technology as aging meters are replaced over the next decade. AMI systems are generally capable of collecting and recording retail water use every hour, or even every minute.

   Early implementation of AMI presents an excellent opportunity for targeting demand measures especially for leakage management, landscape watering (including measures to manage peak demands), and targeting and monitoring industrial/commercial/ institutional facility audits. Leveraging AMI data should be explored with retailers in conjunction with the approach set out above in Note 1.

   Portable water meter data logging devices have also rapidly become affordable and accessible on the mass market in the past 10 years. The North American market leader, Flume, is a cloud-based data collection service based in California that has partnered with CRD for the current update to the Water Research Foundation's Residential End Uses of Water Study. Some competing products offer potential advantages over Flume, including local data collection that does not rely on local Wi-Fi or centralized US-based data collection. It is recommended that CRD continue evaluating these data logging technologies for industrial/commercial/institutional water audits and neighbourhood-scale targeting or piloting of residential demand management measures.

3. **Establish common "master" water use datasets and tools for operations, engineering, finance and demand management uses.**

   The collection and use of water data related to the Regional Water Supply service is generally ad-hoc and driven by individual program or project needs. Several work groups would benefit from a single "source of truth" that reconciles total supply flows, bulk sales, and retail water use data at various time scales.

Appendix 6

Water Conservation Program Targets

Appendix 6: Water Conservation Plan Targets

This appendix provides additional information on the program targets set out in Section 7 Water Conservation Plan.

Target 1: Total Water Production

Reduce per capita water production from treatment facilities by 0.9% year-over-year to achieve a target of 300 LCD by 2035

Reducing the total amount of water produced at CRD's water treatment facilities, measured on a per capita basis, is a key goal of this Plan.

This target is simple in principle to calculate and track. However, the influence of factors outside CRD's control needs careful consideration. These factors include population growth and housing form. Therefore, at a more diagnostic level, the "business as usual" scenario should be adjusted for such factors to assess the real impact of demand management programs on total demand. Based on the current regional population projection of 1.66% annual growth through 2038, and the densification rates indicated by available housing projections, a status quo annual demand of 65 gigalitres (GL/year) is projected for 2025; however, a range of 50 to 80 GL/year is plausible, and year-to-year variation due to weather and other factors must be taken into account. A 0.9% year-over-year reduction will be difficult to measure with such a high degree of uncertainty.

A practical approach would be to monitor performance against 5-year milestone targets based on more precise forecasts, using program data as supporting evidence for measuring savings. The target reduction for each 5-year period would be 0.6% below the status quo forecast, or 1.2% by 2035. A five-year forecast can be accurately calibrated against actual data for population, land use and other factors using a robust demand model, and good program and demand data.

Target 2: Residential Consumption

Reduce residential per capita consumption by 1.2% year-over-year to achieve a target of 200 LCD by 2035

Residential per capita consumption is widely considered a standard benchmark for measurement of water efficiency program impact across North America.

This target is easy to monitor using currently available retail water use data and serves as the largest component of Target 1 (representing roughly a 3% reduction from the 2050 mid-range "business as usual" forecast). The current regional average is approximately 225 LCD with 227 serving as the benchmark (the 2023 result).

It is important to recognize that average demand fluctuates from year to year due to weather, so a weather-normalized value or a trendline is a more reliable (though lagging) indicator than single-year actual demand.

This target also supports monitoring progress on the other targets.

Target 3: Instantaneous Peak Demand

Reduce the maximum change in instantaneous flow rate at 4:00am from 46% to 20%

This is measured as the difference from 4:00am to 4:05am and is equivalent to a reduction in the maximum rate of change in instantaneous flow in the transmission system from 9% per minute to 4% per minute. Note that this does not imply that the goal is to simply shift the peak flow from 4:00am to 4:05am but rather to reduce the peak demand generally and to spread the flow increase over a longer period (for example, by encouraging those who continue to irrigate with automatic systems to set timers to different times of the morning).

Reducing instantaneous peak demand in the early hours of the morning, much of which is attributable to automatic irrigation systems, is a key goal of this plan. This target has been suggested by CRD operation staff. It is also a practical target that potentially has high value in improving reliability of the supply system, reducing failure risks, and "buying time" to plan and implement appropriate capital measures to address the supply system constraints. The primary demand management objective would be to motivate retail customers to shift automatic irrigation system start times away from 4:00am and, to a lesser extent, away from 5:00am as well.

This target has the advantage of being very specific and measurable, and achievable within the first five-year planning cycle through a combination of minor amendments to the Water Conservation Bylaw and a highly targeted outreach campaign toward irrigation system maintenance contractors and home and business owners with these systems.

Target 4: Peak Season Demand

Maintain Maximum Day Demand at 300 megalitres per day (ML/day) through 2035

Controlling peak season demand, measured by change in the Maximum Day Demand (the day in a year with the highest total daily water production) is an important goal for most communities. This is particularly important locally given the Capital Region's hot, dry summers and relatively high seasonal demand.

This target represents a 5% reduction from KWL's mid-range "business as usual" demand management forecast. Factors including climate change, population growth, and rate of densification would need to be monitored on a 5-year review and planning cycle. The target may need to be adjusted if the demand management mid-range forecast proves too optimistic over time.

There are many potential strategies to influence MDD, which has already significantly decreased since the 1980s and was routinely above 300 ML/d before 2010, though it has been consistently below this level since then. CRD's immediate plans to address this are set out in the Water Conservation Plan (see Section 5, Theme 3).

Appendix 7

Impact of Water Conservation Plan on Water Production - Quantitative Analysis

Appendix 7: Impact of Water Conservation Plan on Water Production - Quantitative Analysis

This Appendix defines estimated water savings associated with implementing several key Action described in the in the Water Conservation Strategy.

If the recommended water conservation measures are implemented as described in the main report, it is estimated that annual total water demand will be reduced relative to the status quo (continuation of the current course) by approximately 3% to 5% over 10 years (i.e. by 2035). Maximum day demand is estimated to be reduced by 4% to 9% in the same timeframe. The reductions are attributed to specific program measures as shown in Table A7-1 below. Discussion of the rationale follows the table.

Table A7-1: Estimated Water Savings Under Recommended Water Efficiency Program

#	Action	Estimated Reduction	% of Total Production	Reduction of Total Production	% of MDD	Reduction of MDD
1.1	Regional non-revenue water management community of practice	5 to 10%	10.0%	0.5 to 1%	5.6%	0.3 to 0.6%
2.1, 2.2 2.3	Review & update Water Conservation Bylaw	5 to 10%	22.2%	1 to 2%	59%	3 to 6%
3.6	Water Use Assessment Program	0.4%	21.1%	0.1%	11.8%	0.05%
3.7	Phase out once-through cooling systems	70 to 90%	0.3%	0.2 to 0.3%	0.18%	0.2%
2.4, 2.5 3.1, 3.2 3.3, 3.4	Education and outreach	1-2%	90.0%	1-2%	90.0%	1% to 2%
Total Estimated 10-Year Water Savings				**3 to 5%**		**4 to 9%**

Regional Non-Revenue Water Community of Practice (Action 1.1)

Non-Revenue Water (NRW) is approximately 10% of total water production region-wide, averaging approximately 4,600 ML between 2011 and 2023; however, it has fluctuated between 1,400 and 7,300 ML/year. NRW is forecasted to increase to 5,500 ML in 2035 under a status quo scenario.

The AWWA *M36 Water Audits and Loss Control Programs* Manual of Practice (5th ed., 2020) prescribes a water balance method for estimating the minimum amount of background leakage in a water distribution system that cannot be economically reduced. It assigns a unitless Infrastructure Condition Factor (ICF) of 1.0 to this level of real loss (system leakage). Based on the regional retail data and available information about distribution system characteristics (Water demand forecast Excel spreadsheet, KWL, 2025), the current ICF values for the local water supplier (municipal and First Nations) systems connected to the Regional Water Supply (RWS) System range from 1 (Sidney) to 7 (Victoria and Esquimalt).

Although NRW for the CRD RWS, JDF and SPW systems is not reported in the retail dataset, KWL has previously estimated real losses and ICFs for each system (GVWSS Audit, 2017). Real losses in the RWS system were estimated at 235 ML, although apparent losses due to meter inaccuracies and unmetered connections to Saanich and Victoria increased the total estimate of NRW to 2,800 ML. These bulk metering deficiencies are a likely cause of the fluctuation in

NRW reported in the retail data for Victoria/Esquimalt and Saanich. Losses in the SPW and JDF West Shore systems are difficult to separate from those in the RWS system due to bulk metering deficiencies between the three CRD systems. NRW was estimated to be between 700 and 1,600 ML annually in the JDF West Shore system, and approximately 360 ML in the Sooke system.

The high degree of uncertainty and fluctuation in NRW data indicates a clear opportunity to more effectively measure real losses in Greater Victoria water systems and to pursue cost-effective measures to reduce them. The available data indicate high potential to economically reduce real losses in most of the distribution systems connected to the RWS system. It is conservatively estimated that establishing a NRW community of practice (COP) can reduce NRW by 5-10% region-wide, representing a 0.5-1% reduction in total annual supply flow and a 0.3-0.6% reduction in MDD. The COP would include staff of CRD and municipal water services and would regularly meet to coordinate system water audits, efforts to maintain and improve bulk metering, and prioritization of economical measures to reduce real losses. The work arising from the COP would be budgeted individually by water utilities under their engineering and capital programs and is therefore not included in the estimated cost of this measure. The level of effort to convene the COP meetings is estimated to be within the existing capacity of demand management program staff and program resources. It is assumed that water savings from this measure would accumulate uniformly between 2026 and 2035. Assuming the COP remains active over time and distribution system owners continue to invest in cost-effective measures to manage water losses, the savings achieved by this action will be durable indefinitely.

Water Conservation Bylaw Review and Update (Actions 2.1, 2.2, 2.3)

Seasonal water use in recent years has ranged from 12,000 to 14,000 ML annually, representing roughly 30% of total annual water use in Greater Victoria, and approximately 60% of MDD. Agricultural use is approximately 3% of seasonal demand, and indoor seasonal uses including tourism and cooling uses are a small fraction. CRD has made only minor changes to its Water Conservation Bylaw (lawn and gardening schedule restrictions) in the past 25 years. Based on Econics and KWL experience with other jurisdictions, adjusting the allowable days and times for sprinkler irrigation of lawns and gardens can substantially reduce seasonal water demand. Through a series of revisions to its Drinking Water Conservation Plan, Metro Vancouver has held its total seasonal water demand roughly constant at 50 BL and has reduced MDD from 1,800 to 1,600 on average (11%) despite 35% regional growth in the same period. Similar results have been achieved in Region of Waterloo after it transitioned to a "one day per week" schedule. These results are also supported by recent academic research (see "Irrigation Bylaws: What is Best Practice?" under Goal 2 in the main report).

Revisions to the Water Conservation Bylaw based on review and analysis of the potential impact of changes to watering restrictions on seasonal and peak demands has high potential to reduce total annual demand and MDD. This also brings the added benefit of reducing the instantaneous increase in demand associated with automatic irrigation systems simultaneously starting on watering days. It is estimated that the impacts of bylaw review and resulting amendments, supported by subsequent changes in outreach and compliance strategies (Actions 2.2 and 2.3) would reduce annual total demand by 1-2% and MDD by 3-6% gradually over three years between 2028 and 2031. These actions might be completed with current staff and program resources, but modest increases to communications and bylaw enforcement resources would increase likelihood of success. Assuming these communication and

compliance efforts are sustained over time, the savings achieved by this action will be durable indefinitely.

Water Use Assessment Program (Action 3.6)

The Industrial, Commercial and Institutional (ICI) sectors together comprise approximately 23% of total retail water consumption and 21% of total production (11,000 ML/year). The ICI water use assessment program is estimated to have generated savings of roughly 15 ML/year between 2021 and 2024 (4 ML/year for each year of program delivery on average). It is conservatively estimated that by increasing the focus on relationships, commitments and follow-up, the water use assessment program can achieve savings of 5 ML/year every year between 2026 and 2035, totalling savings of 50 ML/year by 2035 (0.1% of total annual water production and 0.05% of MDD).

This is a relatively modest volume of water savings compared to other measures assessed in this appendix. However, it is important to note that this assumes that program continues at the current relatively modest level of effort (5 to 10 audits per year). Should CRD increase resources allocated to this program (based on the improved performance monitoring described in Appendix 4), total water savings would presumably increase correspondingly.

It is assumed that half of the savings achieved by this action will be durable indefinitely (i.e. replacement of inefficient fixtures and appliances with more efficient ones) and the other half (i.e. changes in work practices) will deteriorate between five and ten years after assessments if regular follow-up contacts with assessment recipients as part of an ongoing program are discontinued.

This action can be completed with current staff and program resources, albeit at current level of effort only, again noting that any decision to increase effort should be made based on improved performance monitoring of water savings from audits facilities.

Phase out once-through cooling (Action 3.7)

Initial results from a current research project into prevalence of remaining once through cooling systems points to a rough estimate of 100 once-through cooling (OTC) systems still operating in Greater Victoria, primarily in the restaurant and food service sector. On average these systems are estimated to use 1.5 ML/year (representing a typical 12,000 BTU/h condensing unit operating 12 hours a day) for a total water use of 300 ML/year. Assuming 70-90% of OTC water use will be eliminated through regulation and effective compliance communication and enforcement, annual total water savings are estimated to be 0.2 to 0.3% of total annual production and 0.2% of MDD. Given that communications to refrigeration contractors and system owners is ongoing in 2025, and that the prohibition will take effect in 2028, is assumed that the savings will be realized between 2026 and 2029. This action can be completed with current staff and program resources. Assuming communication and compliance strategies are sustained over time, the savings achieved by this action will be durable indefinitely.

Education and Outreach (Actions 2.4, 2.5 3.1, 3.2 3.3, 3.4)

Although difficult to measure directly, it is assumed that an ongoing program of well-designed and executed community-based social marketing campaigns will reduce water demand by 1 to 2% in addition to other program measures.

Effective education and outreach are necessary to support the other measures described in this section, and most of the savings achieved through communications is included in the estimates above. However, some water savings are unrelated to the end uses of water already described (e.g., behavioural change and increased selection of high-efficiency fixtures and appliances that reduce indoor residential water demand below the status quo). The overall impact of an effective education and outreach program is a significant shift in choices made by large groups of water users who are influenced by the program.

An example pathway for achieving a 2% region-wide reduction in demand through social marketing is a sustained campaign to promptly address leaking toilet flapper valves and water service lines. Leakage is estimated to be roughly 10% of residential indoor water use in North America (see Water Research Foundation Residential End Uses of Water Studies, 1999 and 2016). Residential base demand is just under half of total annual water use in Greater Victoria, so a 20 to 40% reduction in residential leakage resulting from a targeted and sustained social marketing campaign would achieve a 1 to 2% reduction in total water demand.

It is important to note that additional savings from education and outreach beyond the status quo are predicated on transitioning to a community-based social marketing approach, and improved monitoring of performance as described in Appendix 3. Conversely, continuation of passive, information-intensive marketing campaigns primarily delivered through mass media channels is unlikely to achieve any additional water savings. Moreover, attaining the savings described here is also predicated on increased resourcing of communications staff, as described in the main report.

It is assumed that the water savings resulting from this action would be achieved gradually between 2026 and 2035 and would deteriorate to zero over ten years if the program is discontinued.

Research and Pilot Project (Actions 1.2 1.3, 1.4, 3.5, 4.1, 4.2, 4.3, 4.4)

Research, data-collection, and monitoring actions (Actions 4.1, 4.2, 4.3, 4.4) do not directly contribute to water savings, but are essential to target, measure, and sustain reductions. Similarly, this plan identifies several pilot projects that will initially be delivered on a small scale or specifically in the Juan de Fuca system (Actions 1.2, 1.3, 1.4. 3.5). Water savings from these pilots will initially be relatively small, so are not included in modelling. However, over time these could grow to significantly reduce total water production should be prove successful and scale up to region-wide delivery

The overall impact of the recommended demand management program on forecasted water demand over the next ten years is shown in the figures on the following page.

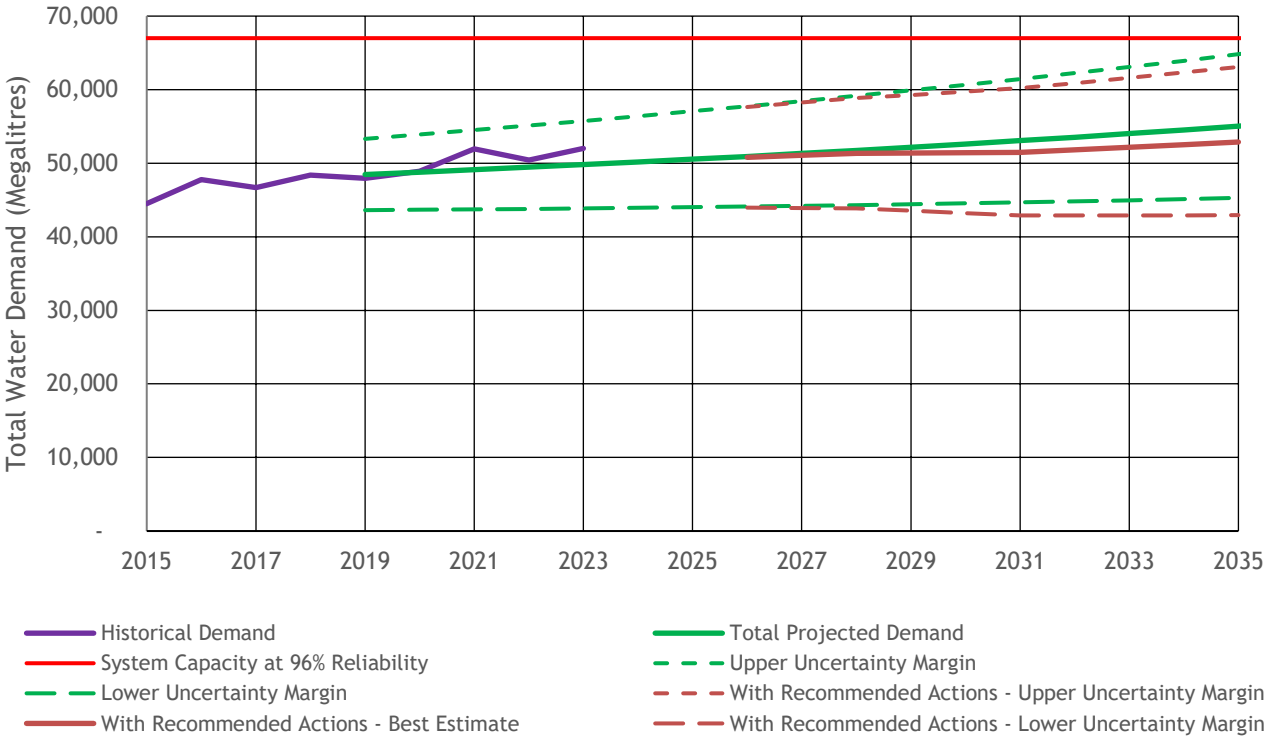


Figure A7-1: **Estimated Impact of Recommended Actions on Annual Total Demand**

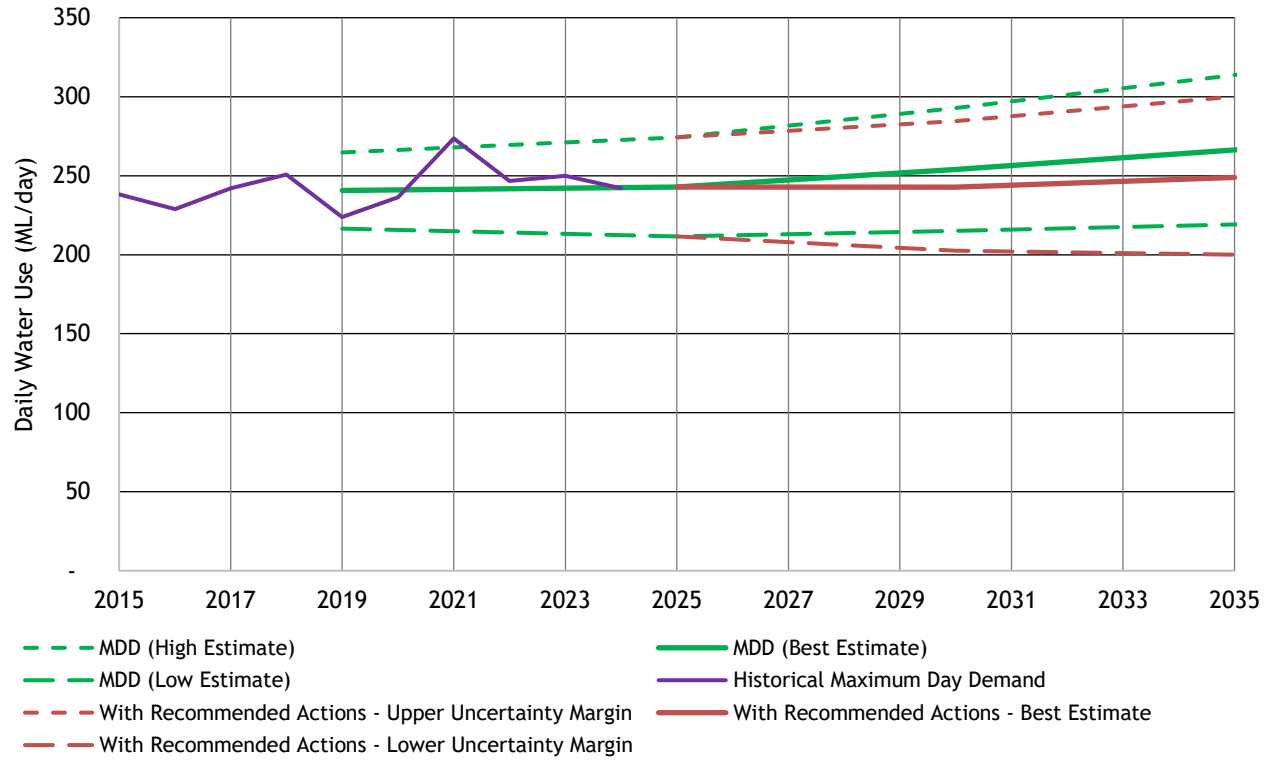


Figure A7-2: **Estimated Impact of Recommended Actions on Maximum Day Demand**

Summary of 2026-2035 Water Conservation Plan Goals, Targets and Actions

The 2026–2035 Greater Victoria Water Conservation Plan is built around four goals:

1. Lead and support collaborative water conservation best practices.
2. Reduce outdoor water use and instantaneous peak demand.
3. Foster community water stewardship and encourage efficient use.
4. Improve understanding of community water use through research and monitoring.

The following 2035 targets will be used to measure progress on the 2026–2035 Greater Victoria Water Conservation Plan implementation:

- Target 1: Total Water Production – Reduce per capita water production from treatment facilities by 0.9% year-over-year to achieve a target of 300 litres per capita per day (LCD).
- Target 2: Residential Consumption – Reduce residential per capita consumption by 1.2% year-over-year to achieve a target of 200 LCD.
- Target 3: Instantaneous Peak Demand – Reduce the maximum change in instantaneous flow rate at 4:00 am from 46% to 20%.
- Target 4: Peak Season Demand – Maintain Maximum Day Demand at 300 megalitres per day (ML/day).

The following high priority actions will be implemented first because they are likely to provide good volume of water savings relative to costs, or address more urgent operational needs:

- Establish a regional demand management community of practice with local governments in 2026.
- Review and update the Water Conservation Bylaw.
- Enhance outdoor irrigation outreach and education campaigns aimed at Water Conservation Bylaw compliance and at reducing instantaneous peak demand.
- Phase out once-through cooling systems by July 1, 2028.
- Review and maintain the industrial, commercial and institutional Water Use Assessment Program.
- Complete a CRD Residential Water Survey in 20267to inform best practices for the capital region.

Making a difference...together

REPORT TO REGIONAL WATER SUPPLY COMMISSION
MEETING OF MAY 20, 2026

SUBJECT **Greater Victoria Water Supply Area 2025 Wildfire Management Update**

ISSUE SUMMARY

To provide an update on wildfire management for the Greater Victoria Water Supply Area (GVWSA) for the past wildfire season (2025) and plans for 2026..

BACKGROUND

Several risk assessments of the GVWSA have been completed over the years. In all cases, the risk of large-scale wildfire has been determined to be the greatest land-based threat to drinking water quality and infrastructure in the GVWSA. Landscape level wildfire is assessed as a low likelihood but high consequence risk.

Water quality impacts associated with large fires stem from sediment, soils, woody debris, potential contaminants and nutrients washing into source water reservoirs from severely burned areas. A large pulse of nutrients entering the reservoir may also lead to algal blooms affecting taste, odour and potential toxicity. Physical infrastructure in the GVWSA may also be destroyed or damaged by a large wildfire, and the ability of the watershed lands to hold water may also be affected (increased runoff rates).

Given these risks, the Watershed Protection division has developed a comprehensive wildfire management program including planning, prevention, detection, response, forest fuel reduction and burned area rehabilitation preparedness. Wildfire program updates from 2025 and plans for 2026 follow.

Planning

A comprehensive *GVWSA Wildfire Management Plan* was prepared in 2015, providing an overview of GVWSA climate, weather, forest fuels, potential fire behaviour, fire history and strategies for wildfire prevention, detection, suppression and fuel management. In 2026, staff will be updating the plan to reflect advances in technology, new information and current conditions.

Each spring the *GVWSA Wildfire Preparedness Plan* is updated and distributed to staff and external agencies annually, providing operational procedures for wildfire reporting and readiness. The 2026 *GVWSA Wildfire Preparedness Plan* has been prepared and distributed.

Prevention

Wildfire prevention activities begin with restricting public access and enforcing the GVWSA Protection Bylaw to reduce the probability of fire starts from unauthorized access. Revisions to the bylaw in 2026 will increase fines and improve enforcement capability when it is needed.

In 2025, there were 69 instances of unauthorized individuals or groups detected in the GVWSA, with a further 42 instances of unauthorized access on neighbouring park and private lands. Unauthorized entries have been largely on the edges of the GVWSA by foot, bicycle and motorbike. Three cold campfires were found, with two in the GVWSA. Where interaction was possible, positive outcomes were achieved by informing the public of their location and the necessity of a closed watershed, and enforcement in the form of two written warnings and two bylaw tickets. In 2026, security improvements on newly acquired lands are planned with the goal of reducing trespass in these areas.

Detection

It is important for the GVWSA wildfire management program to detect any fires early, to increase the probability of controlling and suppressing the fire. Fire starts are detected by ground patrols, air patrols, tracking lightning strikes and, more recently, by drones and fixed infrared wildfire cameras. In July 2025, the Watershed Protection Gatekeeper provided the first report to the British Columbia Wildfire Service (BCWS) of the Grass Lake fire in Sea-to-Sea Regional Park through a new hourly routine of fire / smoke scouting through the wildfire cameras. The early detection and reporting allowed BCWS to contain the fire quickly and at a small size compared with the 2024 Old Man Lake fire, though fuel and weather conditions were similar.

The long-standing air patrol contract service provided by the Victoria Flying Club has not been renewed in 2026 at their request. Given demonstrated effectiveness of the two wildfire cameras and drones, rather than seeking a new air patrol vendor an automated real-time monitoring service for the camera network will be procured in 2026. Use of such systems is on the rise in Canada and the United States as an integral part of wildfire detection programs.

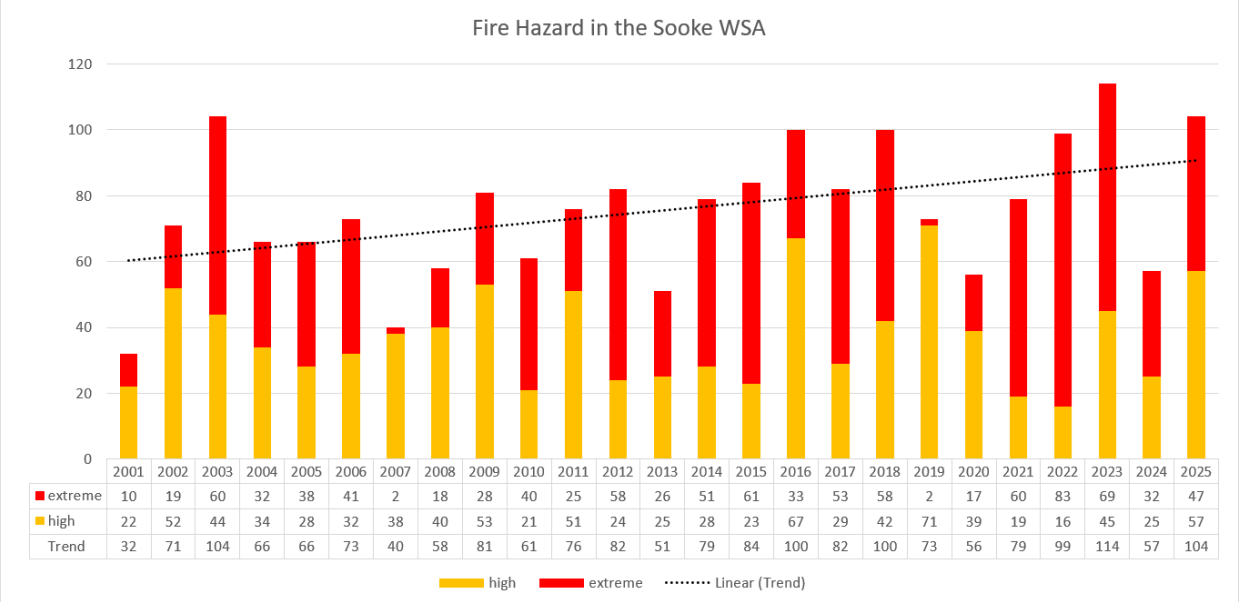
Wildfire Response

There were no fires within the GVWSA in 2025, thus no service was required from BCWS under the terms of our Wildfire Response Agreement; however, Watershed Protection supported BCWS helicopter operations out of the Goldstream Field Operations Centre to fight the Sea-to-Sea wildfire at Grass Lake and also supported BCWS by supplying an initial attack crew on standby for 10 days under the terms of our Wildfire Resource Sharing Agreement.

Wildfire Conditions

In 2025, the GVWSA experienced 104 days in high and extreme fire danger compared with 57 days in 2024. The trend line shows an increase of 30 additional high and extreme fire danger days over the last 25 years, extending the most dangerous part of the fire season by a month into both spring and fall (see figure below). In 2025, there were more days in high than in extreme due to significant rainfall in late May and June 2025, and heavy rain on August 15 - 16 dampening fire danger ratings and providing welcome relief.

Figure 1: The number of days in High and Extreme Fire Danger Rating in the Sooke Water Supply Area, 2001-2025



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
extreme	10	19	60	32	38	41	2	18	28	40	25	58	26	51	61	33	53	58	2	17	60	83	69	32	47
high	22	52	44	34	28	32	38	40	53	21	51	24	25	28	23	67	29	42	71	39	19	16	45	25	57
Trend	32	71	104	66	66	73	40	58	81	61	76	82	51	79	84	100	82	100	73	56	79	99	114	57	104

Forest Fuel Reduction

FireSmart zones around infrastructure and fuel reduced corridors that have been implemented over the last 15 years were maintained in 2025 (Appendix A).

The initiative to reduce forest fuels and improve forest resilience through thinning was trialed in 2023-2024 and monitored through 2025. Early results indicate microclimate changes: thinned sites are slightly warmer, drier and windier at the forest floor during the day, but also cooler and moister at night, and are reasonable while the fuel buildup is considerably reduced. Woody debris remaining after the thinning treatment represented the same or reduced fuel hazard. Both microclimate changes and debris fuel hazard are expected to decrease over time as the canopy fills in and woody debris decomposes. Another thinning project is being planned in 2026 for implementation in 2027 in strategic locations for wildfire management.

Like thinning, juvenile spacing of young forest plantations was undertaken in 2024 and 2025 to reduce densities before they cause a greater forest fuel hazard and to improve forest resilience. Fuel hazard information is also being collected on these sites for before and after monitoring.

In 2026, the large volume of modelling results from the Natural Sciences and Engineering Research Council of Canada (NSERC) and University of Victoria study of the effect of forest treatments on forest and wildfire is being reviewed to further guide watershed forest stewardship planning. A three-month auxiliary staff resource has been hired to assist in this review in 2026.

In 2025, staff undertook a trial prescribed understory burn in a small portion of one of the areas thinned in 2023/24 (Appendix A). The remaining woody debris did not require additional treatment (actual fuel load was not high), but there was enough debris remaining to benefit from a light burn. It was an opportunity to address the remaining fuel risk, introduce beneficial fire onto the landscape and trial prescribed burning as tool to reduce forest fuel under a young forest stand.

A burn plan was developed by staff and approved by BCWS providing the weather and fuel conditions, planning, notifications, preparations, resources and equipment required to implement the burn. The required environmental conditions of moist soils with slightly dried fuels occur only a few days, if at all, each spring and fall. In 2025, the required weather and forest fuel conditions occurred on May 9 and 28, and with BCWS staff assistance, two of the small areas were successfully burned (0.9 ha total). In keeping with the approved burn plans, a large portion of the smallest fuels (finger size and smaller) was consumed, as well as some reduction of medium-sized fuels. At the same time, the fire intensity and residence time (how long it burns on the same spot) did not result in complete reduction of forest floor mosses and surface roots (duff layer). This allowed for a rapid regrowth of herbaceous species and low shrubs. The objectives of the burn plan were met, smoke generated was light and dispersed before leaving the GVWSA, and staff learned and practiced prescribed burning in collaboration with BCWS staff.

Figure 2: Understory prescribed fire, May 9 and 28, 2025

Clockwise from top left: intensity of burn and ground fuels being reduced; regrowth one month post-burn; combined BCWS and CRD burning crew; and, smoke generated.

For 2026, additional prescribed understory burning is planned in the previously thinned areas pending the appropriate weather/forest fuel conditions, as well as a prescribed burn on a 6 ha area of the “Kapoor” lands. First Nations were invited to view and discuss the proposed burn on the Kapoor lands and there was interest and discussion, with an invitation to view the burning when and if it occurs.

CONCLUSION

Wildfire management remains the highest priority program in managing the Greater Victoria Water Supply Area (GVWSA) lands and forests. The GVWSA experienced an extended period of high and extreme fire danger in 2025, but there were no wildfires. A prescribed understory burn trial was implemented to reduce remaining forest fuels in a previously thinned area and to learn more about this technique. The treatment was a success and provides another tool to help manage forest fuels in longer, warmer and drier-trending wildfire seasons. Plans for 2026 include procuring a wildfire camera monitoring system to aid detection, learning from modelling research on the effect of forest treatments on GVWSA forests and wildfires in a changing climate, implementing additional prescribed burning and planning future thinning and spacing projects.

RECOMMENDATION

There is no recommendation. This report is for information only.

Submitted by:	Annette Constabel, M.Sc., RPF., Senior Manager, Watershed Protection
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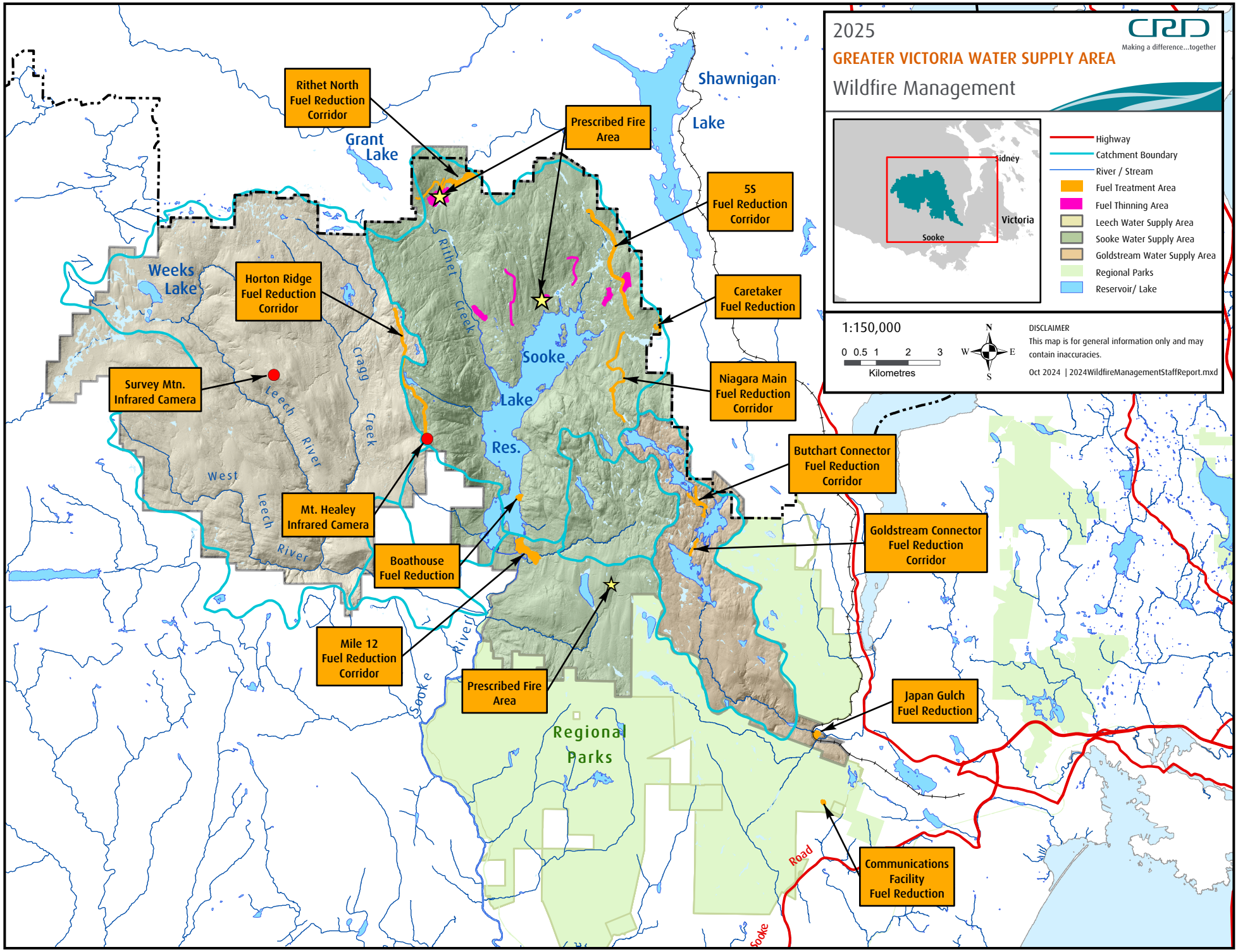
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENT(S)

Appendix A: 2025 Wildfire Management Map


2025
GREATER VICTORIA WATER SUPPLY AREA
Wildfire Management
Making a difference...together
Rithet North Fuel Reduction Corridor
Prescribed Fire Area
5S Fuel Reduction Corridor
Caretaker Fuel Reduction
Niagara Main Fuel Reduction Corridor
Butchart Connector Fuel Reduction Corridor
Goldstream Connector Fuel Reduction Corridor
Japan Gulch Fuel Reduction
Communications Facility Fuel Reduction
Mile 12 Fuel Reduction Corridor
Prescribed Fire Area
Boathouse Fuel Reduction
Mt. Healey Infrared Camera
Survey Mtn. Infrared Camera
Horton Ridge Fuel Reduction Corridor
Shawnigan Lake
Grant Lake
Weeks Lake
Sooke Lake Res.
Rithet Creek
Cragg Creek
Leech River
West Leech River
Sooke River
Regional Parks
Road
Sooke
Highway
Catchment Boundary
River / Stream
Fuel Treatment Area
Fuel Thinning Area
Leech Water Supply Area
Sooke Water Supply Area
Goldstream Water Supply Area
Regional Parks
Reservoir/ Lake
Victoria
Sooke
1:150,000
0 0.5 1 2 3
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This map is for general information only and may contain inaccuracies.
Oct 2024 | 2024WildfireManagementStaffReport.mxd