Making a difference...together

For members of the **public who wish to listen to the meeting** via telephone please call **1-833-353-8610** and enter the **Participant Code 1911461 followed by #.** You will not be heard in the meeting room but will be able to listen to the proceedings.

WATER ADVISORY COMMITTEE
Notice of Meeting on **Tuesday, February 27, 2024 at 12 pm**
Goldstream Meeting Room, 479 Island Highway, Victoria, BC

Celine Davis
(Resident / Ratepayer)
Mike Doehnel
(Vice Chair, Saanich Peninsula Water Commission)
Ashley Fernandes
(Environmental)
Karen Harper
(Vice Chair, Regional Water Supply Commission)
Tayler Krawczyk
(Agriculture)
Alex McArdle
(Agriculture)
Craig Nowakowski
(Island Health)
Katie Oppen
(Scientific)
Adam Pakvis
(DND – Commercial / Industrial Water User)
Tom Pedersen
(Environmental)
John Rogers
(Vice Chair, Juan de Fuca Water Dist. Commission)
Wilf Scheuer
(Commercial / Industrial)
David Timothy
(Fish Habitat)
Mike Turner
(Fisheries)
Kathleen Zimmerman
(Agriculture)

AGENDA

1. **TERRITORIAL ACKNOWLEDGEMENT**

2. **ELECTION OF CHAIR**
   Pursuant to Terms of Reference, General Committee Operations Item 3.

3. **ELECTION OF VICE CHAIR**
   Pursuant to Terms of Reference, General Committee Operations Item 3.

4. **APPROVAL OF AGENDA**

5. **ADOPTION OF MINUTES** 3

   ***Recommendation**: That the minutes of the September 26, 2023 meeting be adopted.*

6. **CHAIR'S REMARKS**

7. **PRESENTATIONS/DELEGATIONS**

   Delegations will have the option to participate electronically. Please complete the online application for "Addressing the Board" on our website and staff will respond with details.

   Alternatively, you may email your comments on an agenda item to the Water Advisory Committee at iwsadministration@crd.bc.ca. Requests must be received no later than 4:30 p.m. two calendar days prior to the meeting.

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*To ensure quorum, advise **iwsadministration@crd.bc.ca** if you cannot attend.*

8. GENERAL MANAGER'S REPORT

9. COMMITTEE BUSINESS

9.1. Water Conservation Bylaw Amendment [Presentation] 7

There is no recommendation, the presentation is for information only.

9.2. Regional Water Supply 2017 Strategic Plan Closeout – Regional Water Supply Commission Staff Report for Information.....20

There is no recommendation, the report is for information only.

9.3. Agricultural Water Rate Study – Overview 60

There is no recommendation, the overview is for information only.

9.4. Summary of Recommendations from Regional Water Supply Commission.....63

There is no recommendation, the summary is for information only.

9.5. Water Watch Report 69

There is no recommendation, the report is for information only.

10. WATER ADVISORY COMMITTEE PROPOSED MEETING SCHEDULE

Regular meetings of the Water Advisory Committee shall be held on the fourth Tuesday of the month commencing at 12 pm unless otherwise determined.

- *February 27, 2024*
- *May 28, 2024*
- *September 5, 2024 (Special date)*
- *November 26, 2024*

11. NEW BUSINESS

12. ADJOURNMENT

Next Meeting: Tuesday, May 28, 2024

Making a difference...together

MINUTES OF A MEETING OF THE Water Advisory Committee, held Tuesday, September 26, 2023 at 12 p.m., Board Room, 6th Floor, 625 Fisgard Street, Victoria, BC

PRESENT: **Members:** K. Oppen (Chair); J. Todd (Vice Chair) (EP); C. Davis (EP); M. Doehnel; A. Fernandes; K. Harper; T. Krawczyk; A. McArdle; C. Nowakowski; A. Pakvis (12:10 pm); J. Rogers (EP); W. Scheuer; D. Timothy; M. Turner; K. Zimmerman
Staff: A. Fraser, General Manager, Integrated Water Services; S Irg, Senior Manager, Infrastructure Water Operations; J. Marr, Senior Manager, Infrastructure Engineering; E. Sinclair, Senior Manager, Regional and Strategic Planning; K. Wilson, Environmental Protection; D. Buckle, Environmental Protection; M. Irwin, Environmental Protection; N. Brotman, Regional and Strategic Planning; D. Dionne, Integrated Water Services; M. Risvold, Integrated Water Services (Recorder)

EP = Electronic Participation

The meeting was called to order at 12:06 pm.

1. TERRITORIAL ACKNOWLEDGEMENT

The Chair provided a Territorial Acknowledgement.

2. APPROVAL OF AGENDA

MOVED by Commissioner K. Zimmerman, **SECONDED** by Commissioner T. Krawczyk,
That the agenda be approved as circulated.

CARRIED

3. ADOPTION OF MINUTES

MOVED by Commissioner A. McArdle, **SECONDED** by Commissioner M. Turner,
That the minutes of the June 27, 2023 Water Advisory Committee meeting be adopted.

CARRIED

4. CHAIR'S REMARKS

The Chair made the following remarks:

- The three Water Advisory Committee resolutions from the last meeting were well received at the Regional Water Supply Commission. They referred them to staff for consideration in the next Strategic Plan.
- She met with A. Fraser, K. Harper, and G. Baird. They reviewed Committee work and priorities. Several items of Committee interest were noted as being challenging due to presiding bylaws or processes.
    - Wants to determine what barriers the Committee can tackle, to help move some of the good ideas from the Committee along.
- Report was received from Vancouver regarding non-potable water. Would like to see if it is possible to work with Vancouver and maybe sit in on their working group meetings.

5. PRESENTATIONS/DELEGATIONS

There were no presentations or delegations.

6. GENERAL MANAGER'S REPORT

6.1. General Manager's Introduction

A. Fraser provided a brief introduction of herself and noted that she is looking forward to working with this Committee and to engaging them on the new Strategic Plan.

6.2. Update on Recommendation to July Regional Water Supply Commission

A. Fraser advised that the Regional Water Supply Commission received the recommendations from the Water Advisory Committee and moved:

That the Water Advisory Committee recommendations be referred to staff for consideration in the new strategic planning process.

6.3. Update on Actions Arising from the Previous Meeting

1. That the Water Advisory Committee receive full access to the Agriculture Rate Scenario Tool spreadsheet, subject to Freedom of Information Act requirements, from the draft Consultants' report showing the full data related to the 682 accounts.

A. Fraser advised that the requested Agricultural Water Rate information was forwarded to the Committee on August 28, 2023 by S. Irg.

2. That, when the Vancouver guidelines on the use of grey water are available, staff get copies for the Water Advisory Committee to review.

A. Fraser advised that the Vancouver guidelines were forwarded to the Committee on September 6 by herself.

She further noted that there was an action for the Agricultural Working Group from July to prepare a recommendation to the Regional Water Supply Commission requesting that the Planning and Protective Services Committee consider looking at its Regional Food and Growth Strategy in a more holistic way. She noted that Emily Sinclair has been invited to this meeting to present further information related to this topic for the Committee's information.

Discussion ensued regarding the Agricultural Rate scenario spreadsheet and Committee members stated that the information was not detailed enough.

Staff requested that a more specific request be formulated to staff, identifying what the information they are wishing to access would be used for so that staff can better understand the options or specifics of interest. Knowing what the overall need is may allow staff to be able to address the concern in a holistic way through an alternate method.

The Committee stated that there is concern regarding non-agricultural properties using lots of water not for food-related purposes.

7. COMMITTEE BUSINESS

7.1. Presentation: Regional Planning: Foodlands Access Program - Status Update (Fall 2023)

E. Sinclair provided the presentation to the Water Advisory Committee.

Discussion ensued and staff responded to questions from the Committee regarding:

- Agricultural Water Rates, agricultural storm water outreach.
- Goose management.
- Farmers in the Capital Regional District (CRD) leasing land outside of the region.
- Percentage of potential organics at Hartland ending up as compost and whether that material could be accessible to farmers for farmland use.
- Whether compost would be used to amend/rejuvenate farmland soil at the Bear Hill project for growing purposes.
- Trust Fund for farmland acquisition.
- Land matching opportunities.

K. Harper and A. Fraser left the meeting.

7.2. Presentation: Application of Demand Management in the Region

K. Wilson, D. Buckle and M. Irwin provided the presentation.

Discussion ensued and staff responded to questions from the Committee regarding:

- Agricultural Water Rate not part of mandate, looking at ways to encourage water conservation.
- Once Through Cooling Systems, suggestions submitted to staff via e-mail from W. Scheuer (on file at 479 Island Highway).
- Farming incentive programs.
- British Columbia statistics model will be updated to account for factors increasing drivers for housing. Changes by the government will be reviewed from a regional perspective.
- Regional Growth Strategy.
- Regional net amount of water, Sooke Lake available volume.
- Rainwater barrel collection.
- Marina water use and what they are using it for.

C. Davis left the meeting.

- Conservation and supply, financial incentives, education.
- Non-potable rainwater usage.
- Leaks and pipe replacement program.

The Water Advisory Committee would be interested in any additional details related to agricultural water use based on the future study highlighted in the Demand Management presentation.

The Water Advisory Committee would be interested in knowing details related to water use data pertaining to the construction sector.

7.3. Summary of Recommendations from Regional Water Supply Commission

There was no discussion, this item was received for information.

7.4. Water Watch Report

There was no discussion, this item was received for information.

7.5. Water Advisory Committee Membership Terms – Expiring December 31, 2023

Staff advised that four members' terms are expiring at the end of December. All are eligible to stand for another two-year term. Three members indicated they would be willing to stand again. J. Todd advised that she would not be returning for another term. Advertisement for the vacancy is underway.

8. NEW BUSINESS

There was no new business.

9. ADJOURNMENT

MOVED by A. Pakvis, **SECONDED** by M. Turner,
That the September 26, 2023 meeting be adjourned at 2:05 pm.

CARRIED

_____ _____

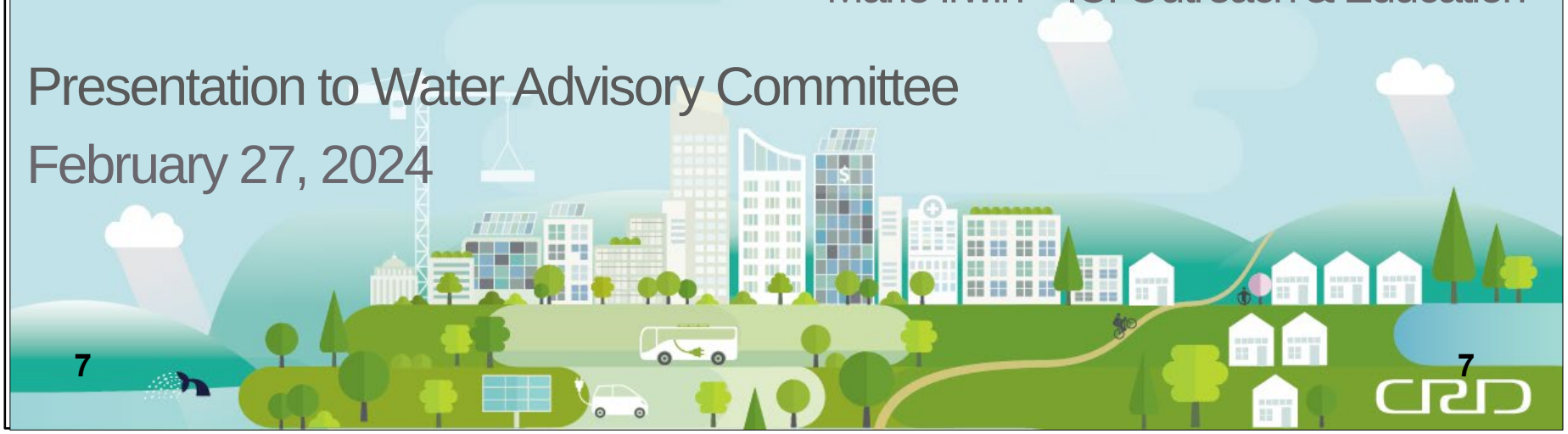
CHAIR **SECRETARY**

Approach to Reduce Peak Demands

Kristi Wilson – Demand Management Coordinator
Danielle Buckle – Residential Outreach & Education
Marie Irwin – ICI Outreach & Education

Presentation to Water Advisory Committee

February 27, 2024



Agenda

- Staff Introduction
- What Are Peak Demands
- Current Peak Demand Concerns
- Approach to Reducing Peak Demands
- Questions

Peak Demands

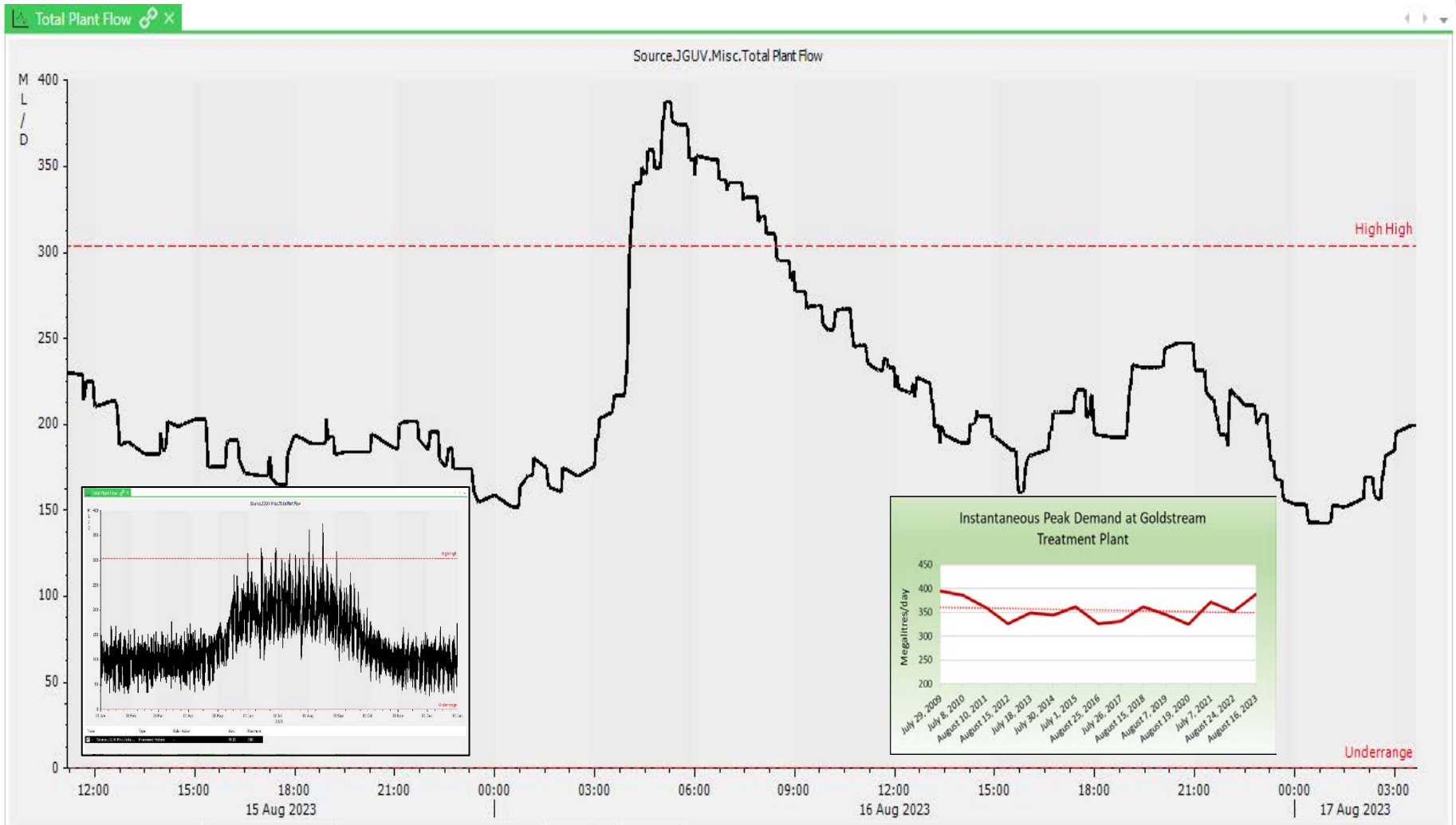
What Are Peak Demands?

Peak Day vs. Instantaneous Demands

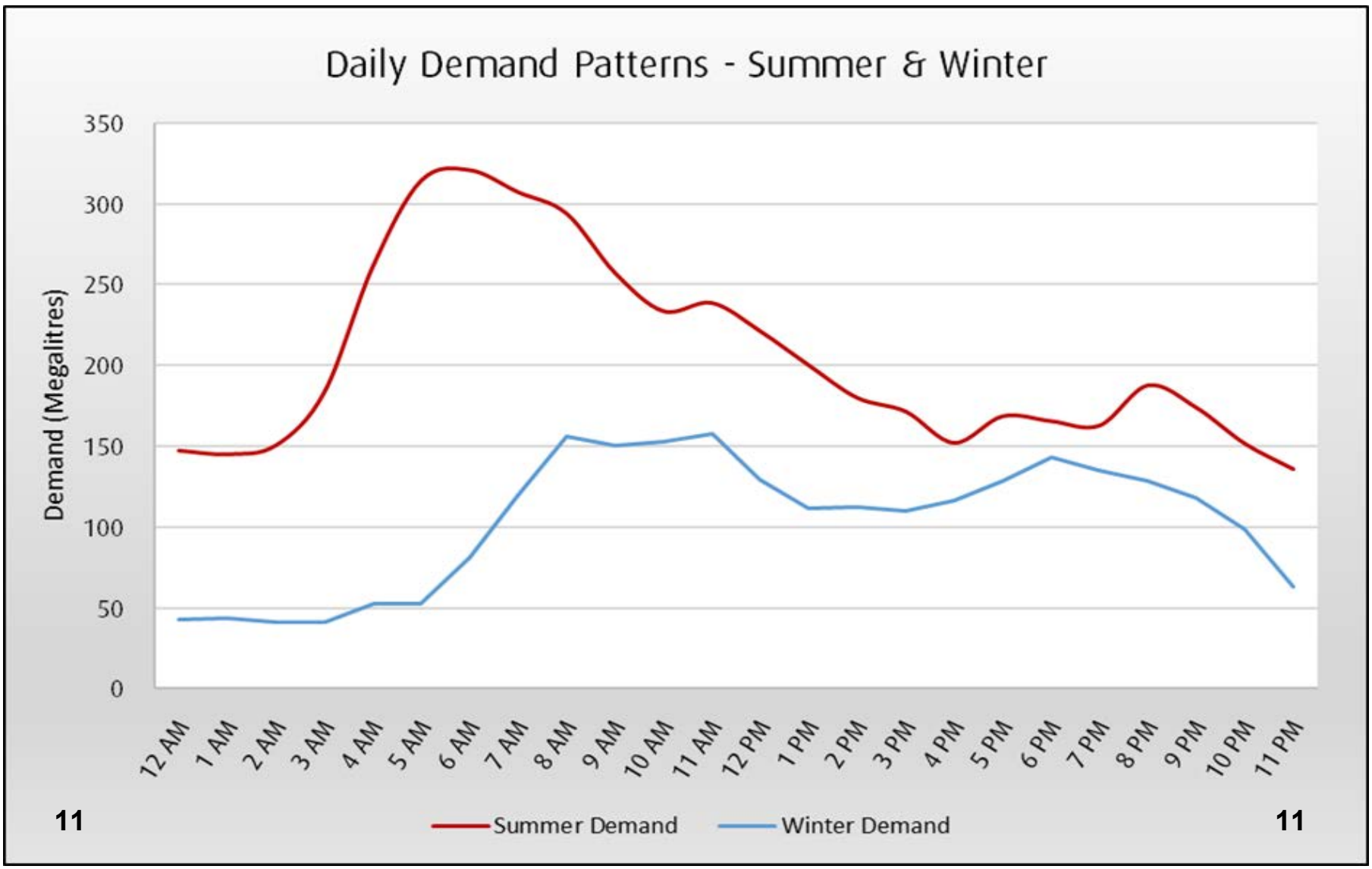
Impacts of Peak Demands

- Ability to meet the demands of the community
- Reduction in pressure or possible backflow/siphonage
- Risk of water hammer
- Rapid increase in demand can stress the valves and infrastructure
- Increase in water velocity and scouring leading to turbidity issues

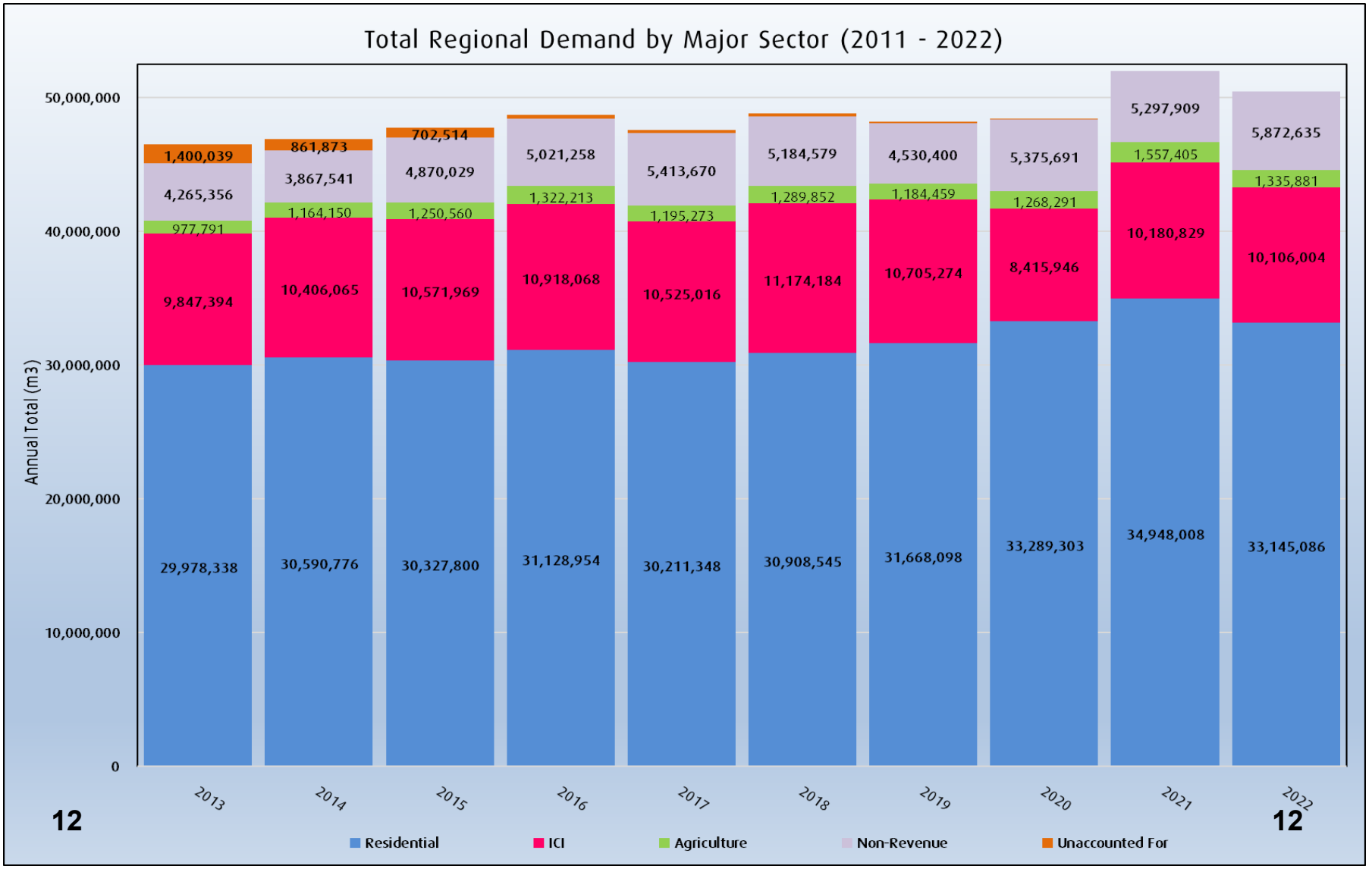
Instantaneous Peak Demand



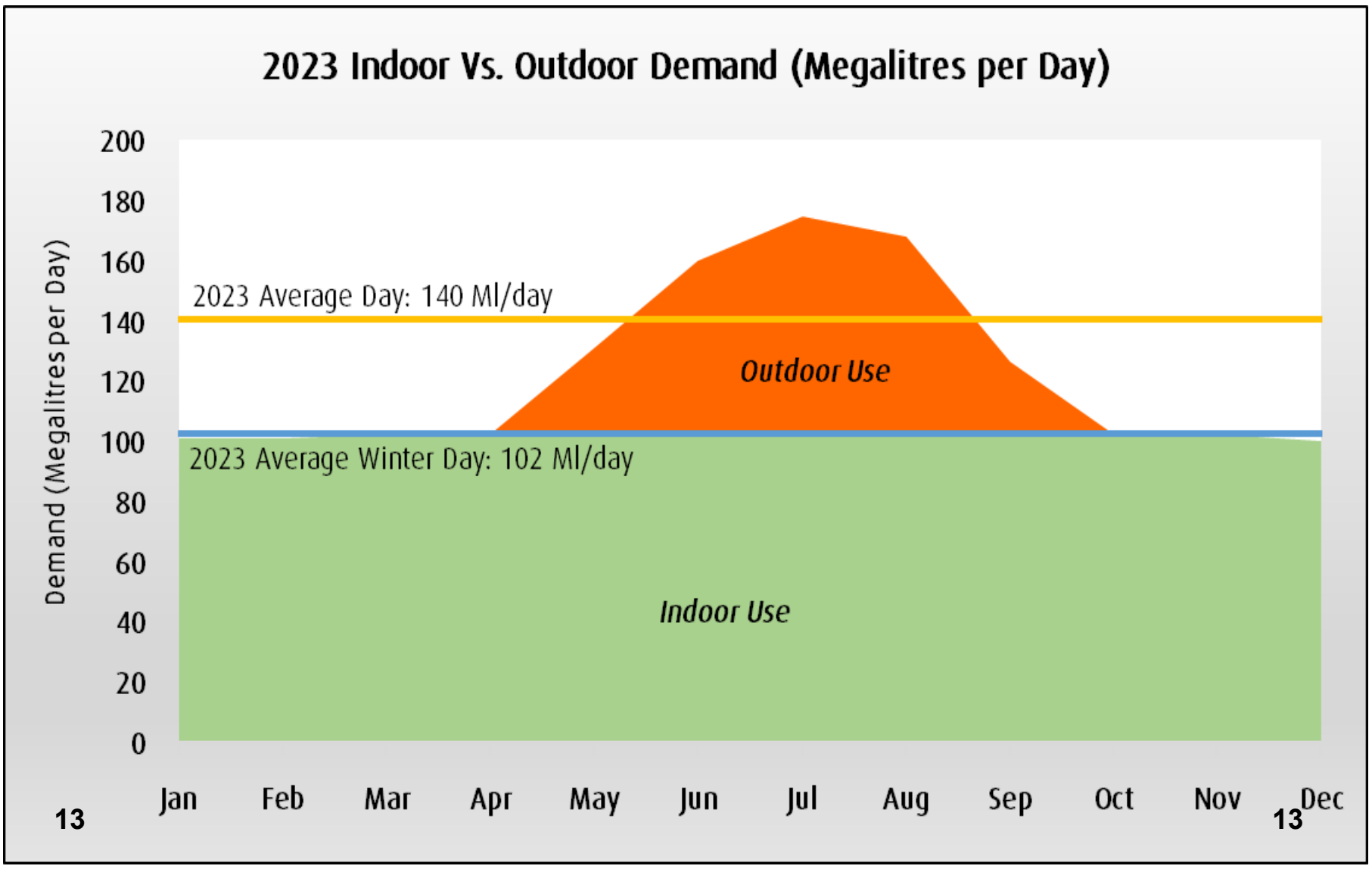
Peak Seasonal Demand



Demand by Major Sector



Indoor vs. Outdoor Demand



Bylaw Amendment

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Residential, Commercial, Or Institutional Lawn Watering

Address	Days	Hours for Manual Watering	Hours for Automatic Watering
Even-Numbered	Wednesday and Saturday	4:00 a.m. to 10:00 a.m. or 7:00 p.m. to 10:00 p.m.	12:01 a. m. to 4:00 a.m
Odd-Numbered	Thursday and Sunday	4:00 a.m. to 10:00 a.m. or 7:00 p.m. to 10:00 p.m.	12:01 a. m. to 4:00 a.m

Public Authorities

Type	Day	Time
Public, Institutional Or Community Playing Fields 14	Tuesday (previously Wednesday)	1:00 a.m. to 10:00 a.m. or 7:00 p.m. to 10:00 p.m. 14

Residential Outreach & Education

Residential Outreach & Education

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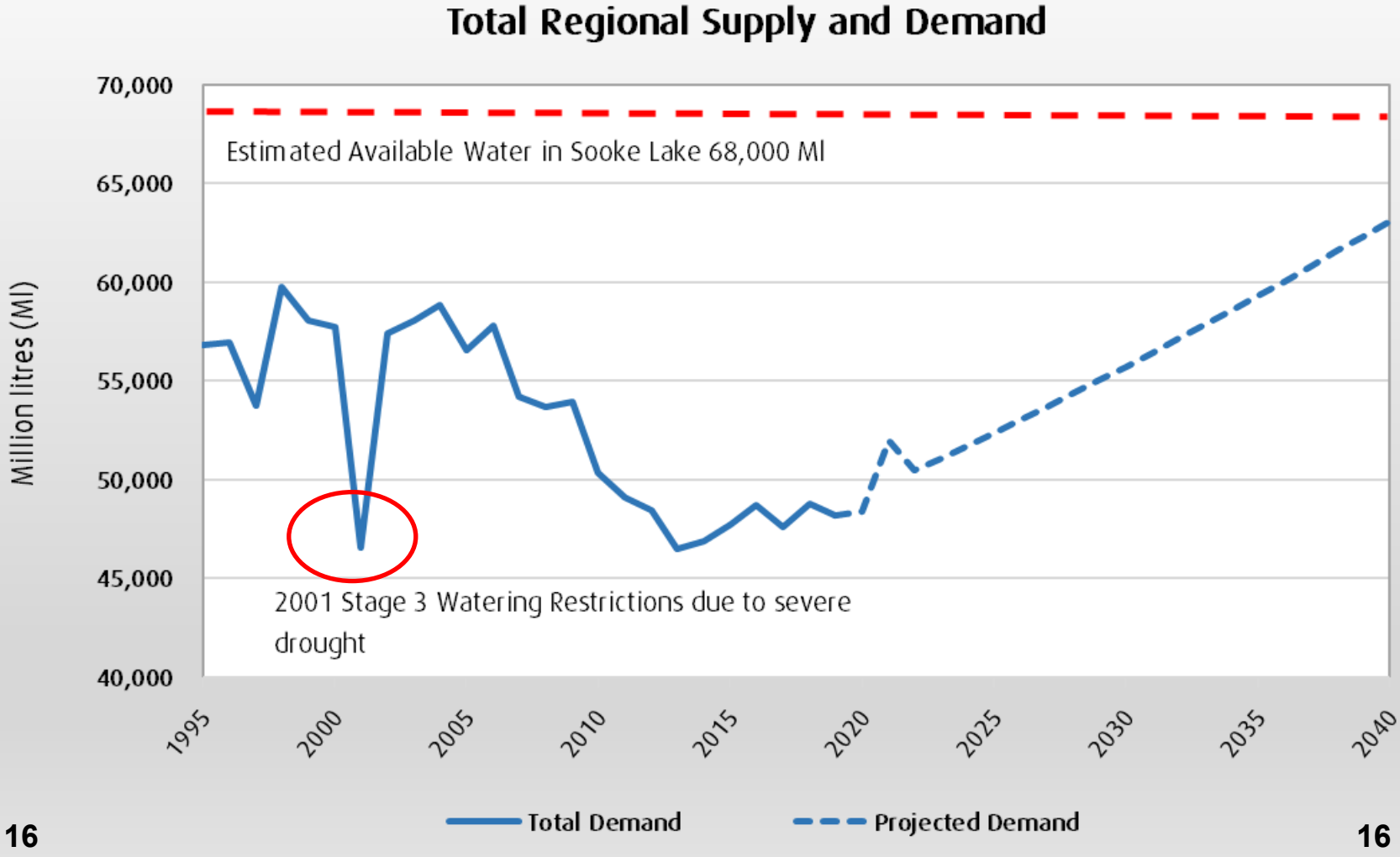

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ICI Program Overview

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- Water use efficiency helps reduce operating costs, energy & greenhouse gas consumption and helps preserve source water
  - For both Industrial, Commercial and Institutional (ICI) & Water Utilities and/or Local Governments
- Focus on the business case – return on investment
  - Efficiency pays!

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Focus on ICI High Users

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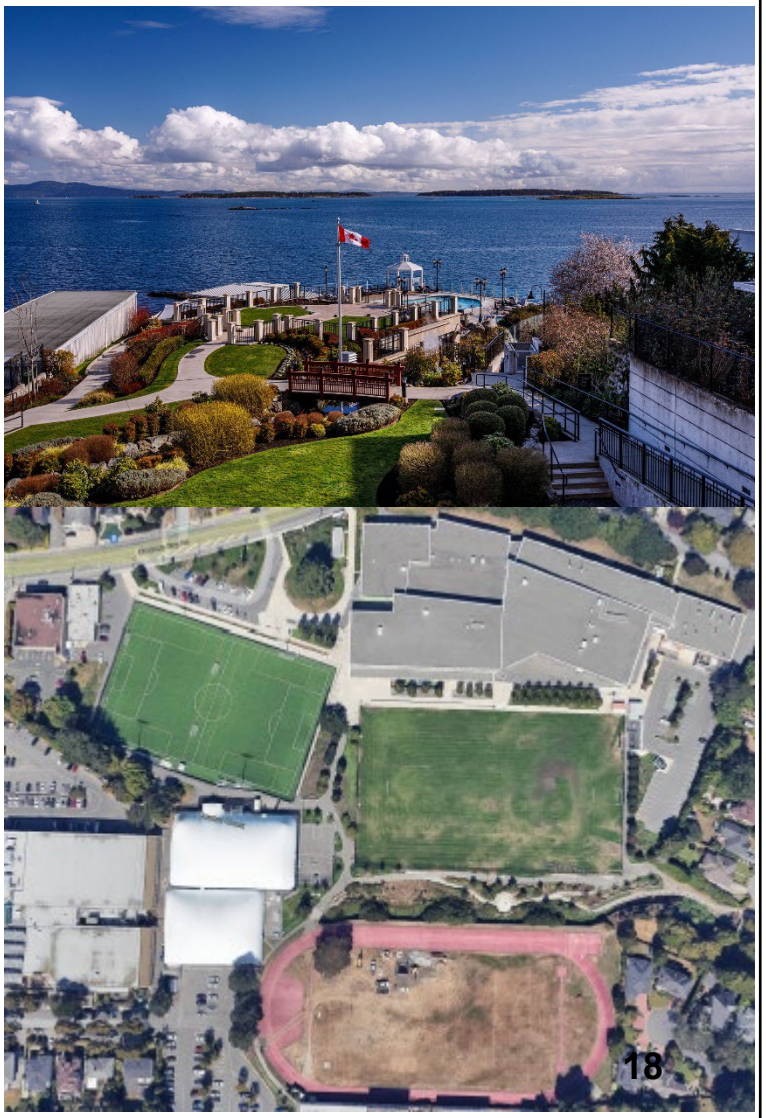
- Engage with ICI facilities with large irrigated areas located in most vulnerable sections of distribution system
  - Exempt facilities
    - Farms (agricultural), nurseries
  - Facilities on a watering schedule
    - Schools & research facilities, golf courses, parks & recreation facilities
  - Communicate and work with municipalities



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Questions & Feedback

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RWSC 24-03

REPORT TO REGIONAL WATER SUPPLY COMMISSION
MEETING OF WEDNESDAY, FEBRUARY 21, 2024

SUBJECT **2017 Regional Water Supply Strategic Plan – Close-out**

ISSUE SUMMARY

To close-out the 2017 Regional Water Supply Strategic Plan, provide a summary of the accomplishments between 2018 and 2023 and to seek direction to draft an update to the Regional Water Supply Strategic Plan.

BACKGROUND

Section 5 of British Columbia Regulation 284/97 under the *Capital Region Water Supply and Sooke Hills Protection Act* required that the Capital Regional District (CRD) adopt a strategic plan for a 20-year period and that the plan be reviewed on a regular basis.

The Plan for Regional Water Supply was renewed in 2017 following public and Water Advisory Committee engagement and approved by the Regional Water Supply Commission (Commission) and the CRD Board in the Fall of 2017. The current plan sets out a 30-year planning horizon to 2050. The Plan centers around three overarching commitments, with strategic priorities and actions to ensure the commitments are upheld over the planning period.

A safe and adequate supply of drinking water is critical to the livability and sustainability of Greater Victoria. Recognizing this, the 2017 Strategic Plan (attached at Appendix A) highlights the CRD's commitment to:

- Provide high quality, safe drinking water,
- Provide an adequate, long-term supply of drinking water,
- Provide a reliable and efficient drinking water transmission system.

To achieve these commitments and ensure the service is adapting to changing factors, the Plan identifies strategic priorities and actions. The actions focus on tactics including initiatives, projects or studies intended to inform or meet near-term objectives and support the strategic priorities. It is expected that the strategic priorities would be reviewed and updated every 5 to 10 years and the actions would be planned, budgeted, and implemented (subject to Commission and Board approval) over the five years following approval of the plan (2018 – 2022).

A status report on the implementation of the actions was presented to the Regional Water Supply Commission in October 2020.

Since 2018 significant progress was made on the Plan's strategic priorities and associated actions. These accomplishments span across all three commitments and the accomplishments are summarized in Appendix B. Some of the notable accomplishments include, but are not limited to:

- Development and adoption of land acquisition priorities for the Greater Victoria Water Supply Area (GVWSA) and resulting acquisition of 56.5 ha, disposition of 5.6 ha; and extinguishment of 12 placer claims in the Leech.

- Modelling of burn severity, soil erosion and debris flow potential following wildfire in the Sooke watershed to guide post-wildfire preparedness.
- Various partnerships with academia that seek to increase the knowledge of the watershed and resiliency capacity.
- Completion of a hydrology monitoring system in the Leech WSA and upgrade of hydrology monitoring stations in the Sooke and Goldstream WSAs.
- Forest & wildfire resilience trial [of thinning] to better protect and enhance forest health and resilience in the face of climate change.
- ISO 17025 laboratory accreditation.
- Creation of a Dam Safety Risk Register which is used to prioritize capital work.
- Completion of the 2021 Supply System Risk and Resilience Study which identifies risks to critical water supply assets and prioritizes strategies/capital investments to reduce risk.
- Completion of the 2022 Master Plan which provides a high-level roadmap that offers a 30-year vision into the future requirements for the Service, considering future needs-related sources of water, treatment, and conveyance considering future demand projections, hydraulic capacity limitations and risks to the system.
- Began discussions with the First Nations to negotiate terms of first bulk Water Supply Service Agreements.
- Creation of a seismic resilient transmission system, development of a critical spare inventory for transmission main repair and distribution units/kits that can be leveraged in the event of transmission main failures. These systems would be critical to response after a seismic event.

There are some actions that have yet to be completed, these have also been noted in Appendix B. Staff will continue to progress these future actions and they will be carried forward to a new Strategic Plan.

Given the progress and accomplishments made since 2018, a review of the strategic priorities and actions should be conducted to refresh the Plan for the next 5 to 10-year time horizon.

ALTERNATIVES

Alternative 1

1. That staff be directed to update the Regional Water Supply Strategic Plan; and,

2. That staff provide the Regional Water Supply Commission an updated draft Strategic Plan prior to initiating public, First Nations, and stakeholder engagement on the Plan.

Alternative 2

That staff be directed to maintain the existing plan and complete the outstanding actions.

Alterative 3

That this report be referred back to staff for more information.

IMPLICATIONS

Service Delivery Implications

The update of the Strategic Plan would include workshopping current opportunities and challenges with CRD staff followed by public, First Nations, and stakeholder engagement. This engagement would include sharing the draft plan, gathering feedback from the Regional Water Supply Commission, the Water Advisory Committee, the municipal and First Nations water purveyors, the regulators, and the public, to prior to finalizing. Staff anticipate seeking final approval of the updated Plan by the end of 2024.

By not moving forward, staff may not be able to proactively react to emerging risks and over time service level may be impacted.

Financial Implications

Updates to the Strategic Plan and associated priorities may result in required adjustments to the 2025 to 2030 capital plan.

CONCLUSION

In 2017, the Capital Regional District (CRD) set out a 30-year plan of renewed commitments, strategic priorities and actions in a *Strategic Plan for Regional Water Supply*. After seven years of working under this Plan, many of these key actions have been completed or operationalized while new trends and challenges face the Regional Water Supply service. The Strategic Plan needs to be updated to define actions for the next 5- to 10-year planning horizon. The refresh of the Strategic Plan would include workshopping current opportunities and challenges with staff and the management team followed by stakeholder engagement. This engagement would include sharing the plan, gathering feedback from the Regional Water Supply Commission, the Water Advisory Committee, the municipal and First Nations water purveyors, the regulators, and the public, prior to finalizing. We anticipate seeking final approval of the updated Plan by the end of 2024.

RECOMMENDATION

1. That staff be directed to update the Regional Water Supply Strategic Plan; and,

2. That staff provide the Regional Water Supply Commission an updated draft Strategic Plan prior to initiating public, First Nations, and stakeholder engagement on the Plan.

Submitted by:	Alicia Fraser, P. Eng., General Manager, Integrated Water Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENT(S)

Appendix A: 2017 Regional Water Supply Strategic Plan
Appendix B: Regional Water Supply Strategic Plan Close-out Summary Report

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CRD | Capital Regional District

625 Fisgard Street
Victoria, BC V8W 2S6
250.360.3000

Website: www.crd.bc.ca
Twitter: @crd_bc
Facebook: Capital Regional District

Regional Water Supply
2017 Strategic Plan

CRD
Making a difference...together

23

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Table of Contents

Introduction

The Capital Regional District (CRD) supplies drinking water for more than 370,000 people, supporting residential, commercial, institutional, light industrial, agricultural and public safety uses across the Greater Victoria area on Vancouver Island in British Columbia. Greater Victoria is growing and factors affecting water supply continue to change. A safe and adequate supply of drinking water is critical to the livability and sustainability of Greater Victoria. Recognizing this, the CRD is committed to:

Provide high quality, safe drinking water

Provide an adequate, long-term supply of drinking water

Provide a reliable and efficient drinking water transmission system

This Strategic Plan for Regional Water Supply sets Commitments and identifies Strategic Priorities and Actions, with a planning horizon to the year 2050, that will guide the future direction for the Regional Water Supply Service. The Strategic Plan will also support CRD Board priorities, provide context for water servicing policy, and align with other CRD strategies and plans.

Sooke Lake Dam

Context for the Strategic Plan

In 1997, the service authority for Regional Water Supply transferred from the Greater Victoria Water District to the CRD under the Capital Region Water Supply and Sooke Hills Protection Act and Regulation, provincial legislation enacted to establish a new model for the delivery of Regional Water Supply.

The Regulation required the CRD to establish a strategic plan for water supply. The first strategic plan was completed in 1999 and has been reviewed and updated in 2004 and 2012. The previous plans have resulted in the implementation of a number of initiatives in the areas of water conservation, management of the watershed lands, investment in treatment and transmission infrastructure, climate change adaptation, and addressing changing trends in water use.

Moving forward, there will be a periodic review of the Strategic Prioirities, and an update of the Actions set out in this plan every five years.

The CRD treats and delivers an average of

130 million

litres of water every day.

Service Governance & Stakeholders

The water supply system operates under a CRD regional service, known as the Regional Water Supply Service, which is administered by the Regional Water Supply Commission, a Commission of the CRD Board.

The Regional Water Supply Commission is a body of 22 elected officials who represent and provide political leadership and decision making on behalf of the local authorities that receive water supply service. The Water Advisory Committee is the public advisory committee that provides advice to the Commission on matters related to the service including water supply, water quality, water conservation and stewardship of the water supply area lands.

There are many stakeholders involved in the supply and delivery of safe drinking water, each with specific roles and responsibilities.

Some of the key stakeholders are:

Canada

The Guidelines for Canadian Drinking Water Quality, published by Health Canada, set out the basic microbiological, chemical and radiological parameters and the physical characteristics, such as taste and odour, that water systems such as the Regional Water Supply System strive to achieve in order to provide the cleanest, safest and most reliable drinking water possible.

Province of British Columbia

The provincial Public Health Act and Regulation sets out the role and powers of health

The Regional Water Supply service provides bulk water to the municipalities listed below and the CRD, who operate water distribution systems that deliver water directly to customers across Greater Victoria.

- District of Central Saanich
- District of North Saanich
- District of Oak Bay
- District of Saanich
- Town of Sidney
- City of Victoria/Township of Esquimalt
- CRD Juan de Fuca Water System
  (Serving Town of View Royal, City of Colwood, City of Langford, District of Metchosin, District of Highlands, District of Sooke, East Sooke in the Juan de Fuca Electoral Area, Beecher Bay First Nation, Esquimalt First Nation, Songhees First Nation, T'Souke First Nation)

officials and the requirements for planning, reporting and regulation of activities that may affect public health, including the provision of drinking water. The Public Health Act works in concert with the Drinking Water Protection Act and Regulation which pertains specifically to drinking water supply and protection requirements. The CRD also meets the requirements of the Water Sustainability Act which sets out requirements to ensure a sustainable supply of fresh, clean water that meets the needs of BC residents today and into the future.

Island Health

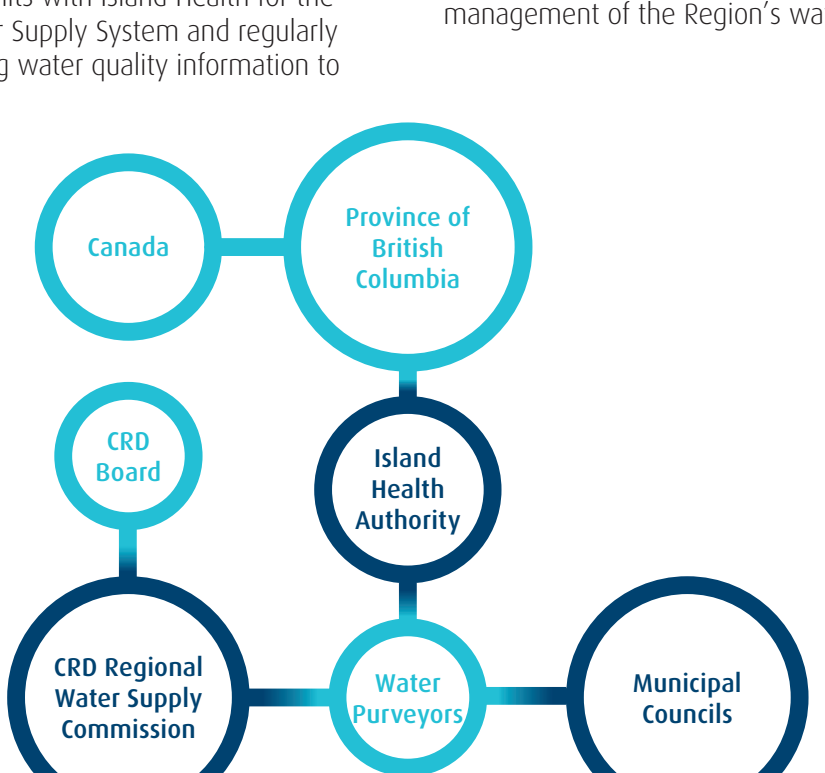
Island Health is the Vancouver Island Health Authority that administers and enforces the applicable provincial legislation through water system operating permits. The CRD holds operating permits with Island Health for the Regional Water Supply System and regularly reports drinking water quality information to Island Health.

Water Purveyors

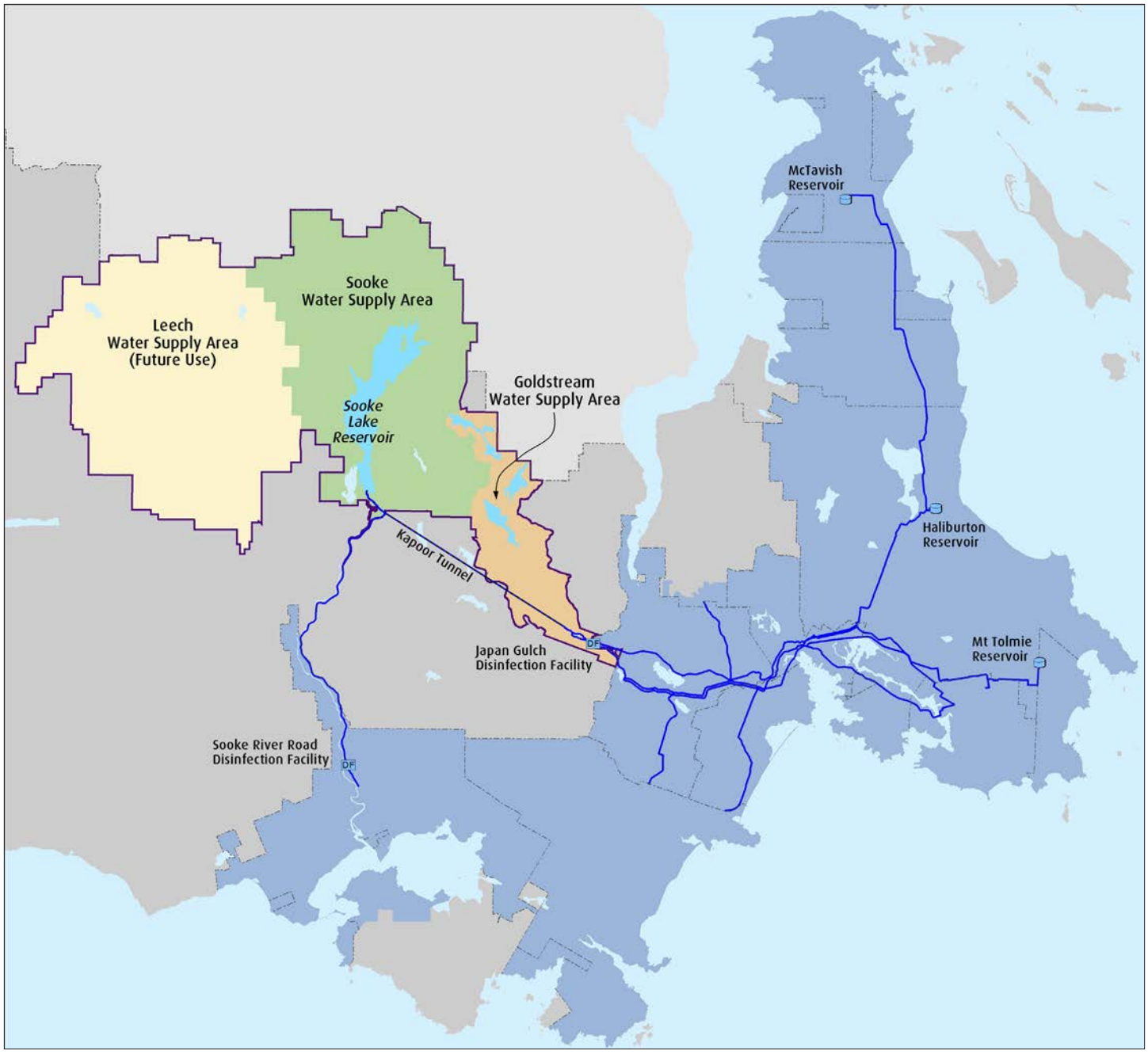
The CRD, municipalities and First Nations in the Region own and operate water systems that receive water from the Regional Water Supply Service, then distribute water directly to water customers. Water purveyors are responsible for the provision of safe drinking water as well as managing all other aspects of the distribution system.

Water Customers

All water customers connected to a public water system are responsible for ensuring that the public system is not exposed to any contamination that could be introduced through private water plumbing systems by cross connection or backflow, and for using water responsibly, particularly when using water for discretionary purposes, to assist with management of the Region's water supply.



Regional Water Supply System



Regional Water Supply System – Serving Greater Victoria

Regional Water Supply Area:

20,549 HECTARES OF PROTECTED DRINKING WATER CATCHMENT LANDS

- Primary Supply Source: Sooke Lake Watershed & Reservoir
- Secondary Supply Source: Goldstream Watershed & Reservoir System
- Future Water Supply Area: Leech Watershed

Water Treatment

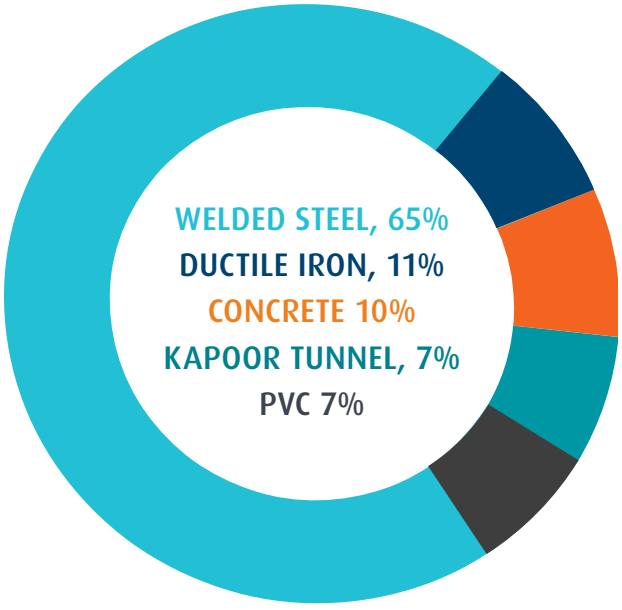
- Unfiltered Source Water
- Primary Disinfection:
  - Ultraviolet light – targets parasites
  - Free chlorine – targets bacteria and viruses
- Secondary Disinfection:
  - Ammonia to produce chloramine – long lasting disinfectant

Bulk Water Supply Points to water distribution systems

187 POINTS

Water Transmission Mains

- 130 km of pipe and tunnel, size range: 400mm – 2,134mm in diameter
- Pipe construction and materials:



The Regional Water Supply Strategic Plan Overview

This update of the Strategic Plan for Regional Water Supply sets out the Commitments, Strategic Priorities and Actions for the Regional Water Supply Service.

Commitments

There are three key water supply Commitments the CRD makes today and into the future. These long term Commitments are foundational to the plan and to achieving the service authority and mandate. The Commitments are expected to remain virtually unchanged for decades.

Strategic Priorities & Actions

Each Commitment has supporting Strategic Priorities and Actions which will guide shorter term initiatives as well as service planning and delivery. It is expected that Strategic Priorities would be reviewed and updated every 5-10 years and Actions would be planned, budgeted and implemented over the five-year cycle.

Planning Horizon

The planning horizon for the development of the plan is to the year 2050 based on the following considerations:

- 2050 is the projected earliest date that the Leech Water Supply Area may be required to supplement the Sooke Lake Reservoir to meet regional water supply demand based on higher population growth rate projections
- Water supply system components can have a useful life as short as 15 years and as long as 80 years or more
- Approximately 30 years from now strikes a balance with what can reasonably be planned considering the projected water supply needs of the Region and other factors such as climate change and advances in technology, while looking far enough ahead to allow informed decision making regarding key infrastructure and financial decisions

Areas of Focus

There are six areas of focus that emerge from the Strategic Priorities and Actions that will influence operational, capital and financial aspects of the Regional Water Supply Service over the next five years and beyond. The six areas of focus are:

CRD BOARD PRIORITIES – SUSTAINABLE AND LIVABLE REGION

The current CRD Board Strategic Priorities include 12 priority areas and 51 strategic priorities, which support a vision for a sustainable, livable, vibrant, collaborative and service oriented Region. In addition, the CRD has identified corporate and core service priorities - the Drinking Water and Regional Infrastructure priority areas directly relate to Regional Water Supply and the importance of the service in supporting a sustainable and livable region. The Regional Water Supply Commission supports these priority objectives.

CLIMATE CHANGE IMPACTS – MITIGATION AND ADAPTATION

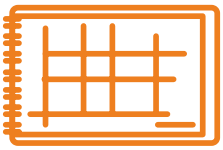
Preparing for and mitigating or adapting to climate change will be necessary in the Capital Region. In the years to come, it can be expected that there will be warmer winter temperatures, more extreme hot days and longer dry spells in the summer, more precipitation in fall, winter and spring and more intense, extreme weather events. All of these weather changes can have an impact on water supply, water quality and the health and resilience of forests in the watersheds. The CRD will respond to the climate change challenges by integrating climate change implications into risk register and infrastructure management decision making and plans.

PREPARING FOR EMERGENCY AND POST-DISASTER WATER SUPPLY

Planning and preparing for the potential impacts of a destructive earthquake and other natural disasters on regional and municipal infrastructure is a priority for the CRD and municipal partners. Water supply and distribution in a post-disaster situation is a key aspect of regional emergency planning. Furthering infrastructure resiliency, coordinating emergency planning with other local governments and senior governments, and preparing for emergency water supply and distribution are priorities.

SUPPLY SYSTEM INFRASTRUCTURE INVESTMENT – RENEWING EXISTING AND PREPARING FOR NEW INFRASTRUCTURE

Infrastructure renewal is an integral component of the management of the Regional Water Supply System. The goal is to ensure that water supply infrastructure is replaced or upgraded prior to the end of its projected service life to ensure the system performs reliably, while maximizing the service life of the assets. Planning for new infrastructure related to water treatment requirements, to meet water supply and demand capacity expectations, and to address redundancy and seismic resiliency will be a priority.



PLANNING FOR THE FUTURE USE OF THE LEECH WATER SUPPLY AREA

The Leech Water Supply Area (LWSA) was acquired by the CRD in 2007 as the future water supply area for the Regional Water Supply System. The LWSA will serve as an additional water catchment area that will provide more water runoff into the Sooke Lake Reservoir when it is brought into service. Although the actual year the LWSA will be required will be subject to changing water demand and climate change impacts, as well as actual population growth rates, it is estimated that the LWSA will not be required to supplement the Sooke Lake Reservoir storage volumes until around 2070 with a moderate population growth projection or as early as around 2050 with a higher population growth rate projection. To prepare for the eventual use of the LWSA, further work is required to plan for the water quality impacts of the different raw water sources, rehabilitation of the water supply area forests and drainage structures, and infrastructure necessary to convey the LWSA flows into Sooke Lake Reservoir.

DEMAND MANAGEMENT - ADDRESSING CHANGING TRENDS IN WATER DEMAND

It is expected that the trend of declining per capita water demand across the Capital Region will continue at a rate of approximately 1% per year over the next 10 years. The declining demand is largely related to declining indoor demand resulting from ongoing household conversions to low flow fixtures and high efficiency appliances, as well as declining outdoor demand as public attitudes and behavior towards discretionary outdoor water use change. However, it remains a priority to achieve a further reduction in per capita water use in order to defer the need to build water supply, treatment and transmission capacity in the supply system, until it is necessary to support population growth. Water conservation and understanding the value of water will continue to be key elements of demand management.

COMMITMENT:

Provide high quality, safe drinking water

1 Manage and protect the Greater Victoria Water Supply Area (GVWSA).

- Continue to actively protect the GVWSA and water supply infrastructure from unauthorized activities and seek opportunities to acquire ownership and control of the remaining catchment lands and critical adjacent lands to act as a buffer.
- Reduce risk to water supply and ecosystems from contaminants and invasive plants, animals and pathogens by completing a biosecurity risk assessment and implementing biosecurity mitigation measures.
- Implement the GVWSA climate change adaptation initiatives to reduce the impact of the potential types, magnitude and rate of climate change on GVWSA ecosystems, water quality and infrastructure.
- Assess the need for more active forest management to protect and enhance forest health and resilience.
- Reduce risk of landscape level wildfire by designing and implementing forest fuel management treatments.

47.6M m^3 of drinking water was delivered in 2016 through the regional water supply system

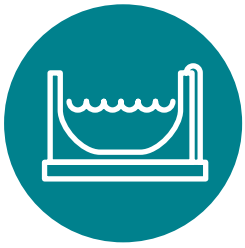
CRD Water Quality Laboratory

2 Maintain a multi-barrier approach to drinking water quality protection.

- Continually evaluate the effectiveness of the water treatment processes.
- Use the Regional Water Supply Service drinking water safety plan in operational and capital project decision making.
- Maintain multiple accreditiations to ensure highest quality drinking water testing.
- Continue to develop and refine the Utility Operator Training Program and ensure adherence to Environmental Operator Certification Program requirements.
- Identify and implement progressive and innovative training and development opportunities with respect to utility operations and management for departmental staff.

3 Maintain a risk register for the Regional Water Supply System that identifies potential risks to water quality, water supply and water transmission and provide mitigation and adaptation measures.

- Regularly review Regional Water System hazards, risks and vulnerabilities and update the risk register.
- Continue the emphasis on wildfire prevention, early detection and suppression capability, preparedness, forest fuel management and post-fire rehabilitation planning to reduce and mitigate the risk of a large-scale wildfire affecting the water supply area and source water quality.
- Continue to monitor and evaluate the implications of the reliance on unfiltered source water and the absence of a filtration step in the water treatment process.
- Conduct specific seismic risk evaluations of critical assets.

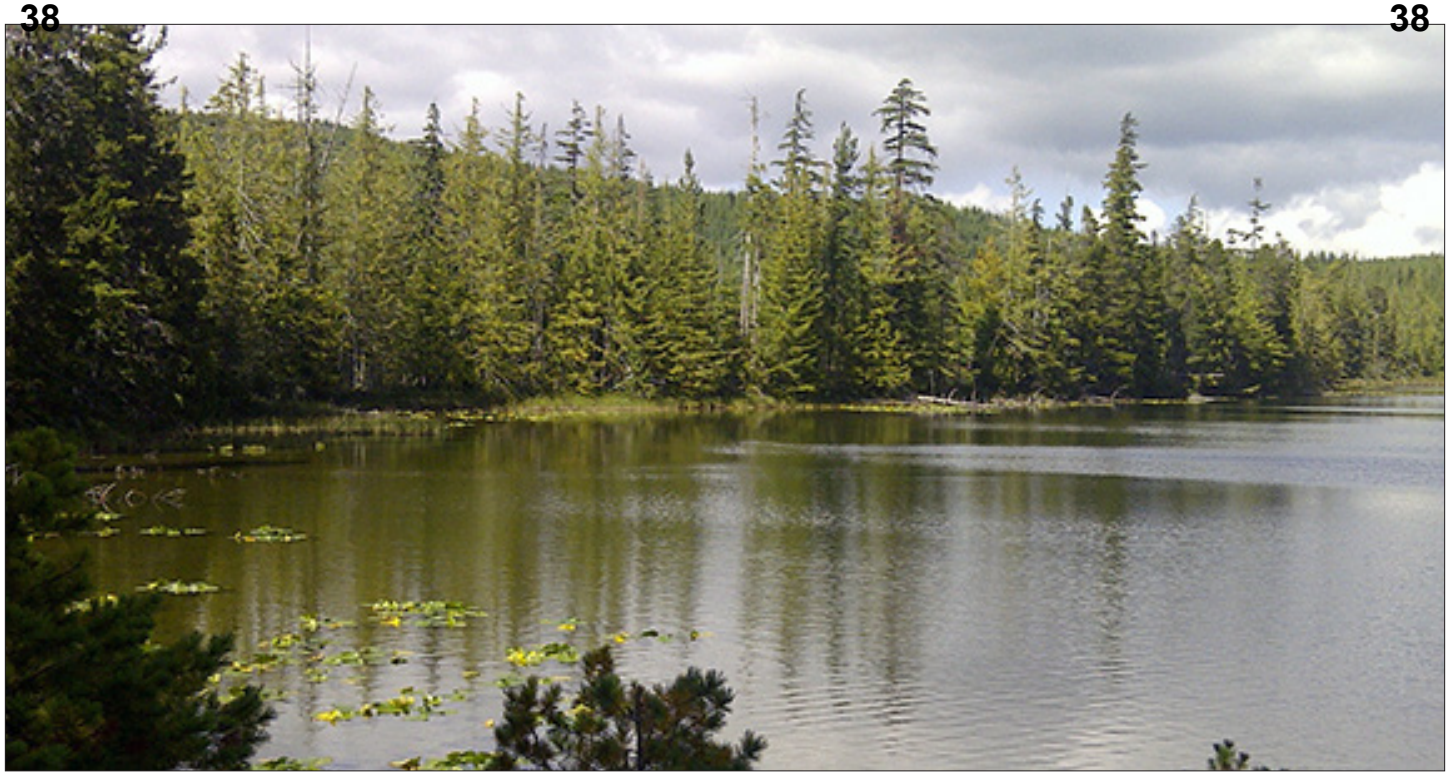


COMMITMENT:

Provide an adequate, long-term supply of drinking water

1 Plan and prepare for future water supply needs to meet demand considering impacts of climate change, population growth, and per-capita demand rates.

- Evaluate climate change impacts and risks on water supply and incorporate mitigation and adaptation recommendations in operating and capital plans.
- Update service population and service population growth rate forecasts with current census data, considering municipal Official Community Plan land use and population directions, to estimate growth related water demand.
- Establish long-term per capita demand rate projections and Demand Management Program objectives to achieve rates and determine annual water demand by sector.
- Undertake regular monitoring and assessment of the physical, chemical, and biological parameters of the Leech Water Supply Area (WSA) source water and determine a plan to address potential water quality, ecological and ecosystem implications at Sooke Lake Reservoir resulting from diversion of Leech WSA source water (Leech River water) to Sooke Lake Reservoir (ie. combining source waters).
- Develop a plan to undertake more 'intensive' monitoring of Leech River water quality to inform treatability recommendations and long term treatment strategy.
- Determine conceptual 'hard' capital infrastructure plan to design and construct the necessary infrastructure to divert Leech WSA flows to Sooke Lake Reservoir.
- Conduct a feasibility study to explore the design and construction of supply and transmission infrastructure at Sooke Lake Reservoir to provide increased resiliency, including consideration of a deep northern intake and a secondary transmission pipe between the reservoir and the treatment facilities.
- Undertake biannual Supply System hydraulic modelling to confirm system capacity.



Jarvis Lake in the Leech Water Supply Area

2 Develop a higher level of public understanding of the drinking water supply system and value of water through education and engagement.

- Continue to improve Regional Water Supply service and system information available to the public through a variety of media streams, to raise awareness around specific topics including water supply and conservation, and supply infrastructure investment.
- Continue to promote the value of the drinking water resource through Water Supply Area public and school tours and other outreach.
- Continue to have two-way dialogue with the Water Advisory Committee regarding water supply matters.
- Explore opportunities for mutually beneficial collaborative partnerships to carry out research and monitoring initiatives in the water supply area and across the system.

9,628 Hectares of protected catchment lands within the Leech Water Supply Area acquired in 2007 for future drinking water supply area.

COMMITMENT:

Provide a reliable and efficient drinking water transmission system

1 Maintain a capital planning process and appropriate investment in water supply infrastructure to ensure reliable system performance

- Complete a short term (annual and 5-year), medium term (5-10 year), long term (10-20 year) and long range (20-50 year) asset management plan – informed by asset condition and remaining service life assessment, water operation and maintenance history, water audit, changing regulatory requirements, Hazard, Risk and Vulnerability Assessment (HRVA) recommendations, and system capacity requirements.
- Explore Regional Water Development Cost Charges to fund future growth related supply system infrastructure improvements.
- In collaboration with municipal and First Nations water purveyors, establish water supply service agreements.

2 Continually review cost effectiveness of service respecting operations and maintenance and capital investment decisions.

- Continue to review reactive, preventive and predictive operations and maintenance history and confirm operation and maintenance service levels for the Regional Water Supply Service that consider best practices and reliability centered maintenance approach.
- Consider life cycle costs with new infrastructure design and asset replacement.
- In asset replacement decisions, balance maximizing infrastructure service life with infrastructure reliability.
- Optimize capital investment taking into consideration priority, annual and long term budget and water rate impacts and resource availability to deliver the projects.

Japan Gulch Ultraviolet Disinfection Plant

3 Develop and manage emergency bulk drinking water supply systems for Greater Victoria.

- Establish emergency and post-disaster water supply protocols and obtain necessary supplies, materials and equipment to implement protocols. Establish water purveyor support roles and responsibilities in emergency water supply and distribution.
- Outline how an emergency/post disaster drinking water supply can be supported by regional emergency management plans and available senior government supports under certain conditions.

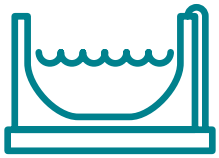
4 Continue to focus on retaining and recruiting experienced and professional employees responsible for the Regional Water Supply System engineering, system operation and maintenance, and management of the water supply area.

- Develop a succession plan to ensure key positions are backfilled by experienced and knowledgeable employees, and that system knowledge is preserved.
- In alignment with CRD organizational development initiatives, provide learning and development opportunities for employees.

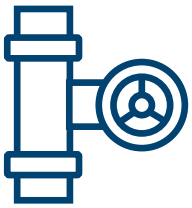
Over $130 million has been invested in supply system infrastructure renewal since 1995.

Commitments

Provide high quality, safe drinking water



Provide an adequate, long-term supply of drinking water



Provide a reliable and efficient drinking water transmission system

Advancing the Strategic Plan

A safe and adequate supply of drinking water is critical to the livability and sustainability of Greater Victoria and the Capital Region. The Greater Victoria area is fortunate to have a well established water supply system and a climate that has allowed for the replenishment of source water.

The Commitments outlined in the Plan will ensure that the CRD continues to provide clean, safe, reliable drinking water to the communities we serve. The Strategic Priorities and Actions will guide service planning and delivery over the coming years. The CRD will be responsive to factors affecting the uncertainty of water supply, such as climate change and future water demand, while ensuring the long term Commitments to our customers remain our priority.

Progress and outcomes will be tracked and reported annually to the Regional Water Supply Commission and the CRD Board to ensure the ongoing achievement of the Commitments, Strategic Priorities and Actions in the Strategic Plan.

The photos in this document were taken within the boundaries of the Capital Regional District, and we wish to acknowledge Helene Cyr whose work is featured here.

Regional Water Supply

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COMMITMENT:
Provide high quality, safe drinking water

Manage and protect the Greater Victoria Water Supply Area (GVWSA)

Actions	Accomplishments	Future Actions
Continue to actively protect the GVWSA and water supply infrastructure from unauthorized activities and seek opportunities to acquire ownership and control of the remaining catchment lands and critical adjacent lands to act as a buffer.	• Development and adoption of land acquisition priorities for the GVWSA. • Remediation of the Weeks Lake gravel pit that was contaminated with lead and hydrocarbons. • Acquired 56.5ha of watershed, disposition of 5.6ha; and extinguishment of 12 placer claims in the Leech. • Various security gate improvements.	
Reduce risk to water supply and ecosystems from contaminants and invasive plants, animals and pathogens by completing a biosecurity risk assessment and implementing biosecurity mitigation measures.	• Completion of a GVWSA biosecurity strategy for the GVWSA. • Introduced disinfection protocols and separate equipment for each water supply area. • Started a Sooke Lake Food Web Study in 2023 to identify key species for monitoring the stability and health of the ecosystem.	• Sooke Lake Food Web Study to be completed in 2024. • Updated or new spill management plan. • Further biosecurity documentation/protocols.

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Regional Water Supply

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COMMITMENT:
Provide high quality, safe drinking water

Manage and protect the Greater Victoria Water Supply Area (GVWSA)

Actions	Accomplishments	Future Actions
Implement the GVWSA climate change adaptation initiatives to reduce the impact of the potential types, magnitude and rate of climate change on GVWSA ecosystems, water quality and infrastructure.	• Implementation of climate change actions related to increasing the capacity of stream crossing structures and upgrade of weather and hydrology monitoring in the GVWSA. • Developed a risk-based drainage structure replacement priority map for the GVWSA that factors in climate change needs. • Initiation of a collaborative research project with the University of Victoria and Natural Resources Canada to model potential changes to the forests in the GVWSA with climate change and the implications of these changes for wildfire risk (NSERC Alliance Project). • Completed Sooke Lake Watershed Flood forecasting.	• Additional studies including reservoir operating strategies and culvert assessments. • Producing summary documents on climate change adaptation and vulnerability and risk for wider distribution. • Ongoing monitoring and mapping of forest health issues in the GVWSA to help determine the effects of changing climatic conditions. • Ongoing implementation of recommended adaptation initiatives. • NSERC Alliance Project completion (2025). • MSc study of Douglas-fir bark beetle threat to the GVWSA in a changing climate completion (2024). • Complete GVWSA ecosystem mapping (2024).
Assess the need for more active forest management to protect and enhance forest health and resilience.	• Completed Aerial and air photo mapping and ground investigation to monitor forest insect and diseases present in the GVWSA. • Worked with Provincial researcher to identify issues with chlorotic (yellow) forest stands in the Leech WSA. • Implementation of 42 ha trial of thinning for wildfire and forest resilience. • Update of ecosystem mapping to better identify forest stands vulnerable to wildfire and climate change.	• Juvenile spacing to reduce wildfire hazard, accelerate stand development and reduce potential climate impacts on the forest stands. • Completion of NSERC Alliance project (2025) to model how forest management treatments could reduce wildfire impacts help, inform active forest management. • Assessments and monitoring to determine the effects and effectiveness of the thinning trials. • Assessment of the chlorotic stands in the Leech WSA to determine if forest management options are needed.

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Regional Water Supply

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COMMITMENT:
Provide high quality, safe drinking water

Manage and protect the Greater Victoria Water Supply Area (GVWSA)

Actions	Accomplishments	Future Actions
Reduce risk of landscape level wildfire by designing and implementing forest fuel management treatments.	• Completion of burn probability mapping for the GVWSA to guide forest fuel management. • Completion of forest fuel management treatments by thinning, pruning and removing, chipping or burning woody debris (2 major fuel treatment corridors completed). • Creation of a Niagara North and Goldstream Connector fuel management corridor.	• Complete trial prescribed burn (when weather permits).

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Regional Water Supply

COMMITMENT:
Provide high quality, safe drinking water

Maintain a multi-barrier approach to drinking water quality protection

Actions	Accomplishments	Future Actions

Continually evaluate the effectiveness of the water treatment processes.	• The water quality monitoring program for the Greater Victoria Drinking Water System is continually expanded to account for population/system growth and emerging new contaminants and new technologies. Since 2018 the following have been added to the monitoring program:
	  • Addition of 16 sample locations to Westshore due to population growth; and
	  • Sampling for polyfluoroalkyl substances (PFAS) since December 2020.
		• Greater Victoria Nitrification Study planned for 2024 to investigate and identify potential water quality risks from nitrification processes.

Use the Regional Water Supply Service drinking water safety plan in operational and capital project decision making	• The Greater Victoria Drinking Water Safety Plan (DWSP), a comprehensive water quality risk registry, was completed in 2018, and is annually updated to inform operational and capital upgrades.	• Drinking Water Safety Plan (DWSP) is update on an ongoing basis and new risks captured and acted upon (Ongoing).
Maintain multiple accreditations to ensure highest quality drinking water testing.	• ISO 17025 accreditation (first certified 2017 to ISO 17025:2015, recertified in 2019 to new standard ISO 17025:2017). • Reassessed by Canadian Association for Laboratory Accreditation (CALA) every 2 years to maintain accreditation status. Requires successful participation in a semi-annual proficiency testing. • Program certified by Provincial Health Officer (PHO) for water microbiology. Maintenance of approval contingent on thrice yearly successful participation in proficiency testing program and onsite audit every 3 years.	• Ongoing recertification.

Regional Water Supply

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COMMITMENT:
Provide high quality, safe drinking water

Maintain a multi-barrier approach to drinking water quality protection

Actions	Accomplishments	Future Actions
Continue to develop and refine the Utility Operator Training Program and ensure adherence to Environmental Operator Certification Program requirements.	• Environmental Operator Certification Program (EOCP) Corporate Recognition Award for IWS internal operator program. • Continued Utility Operator exposure to all utility disciplines, for well-rounded development. • Ensure compliance and progression through EOCP certifications as a requirement of the Utility Operator Program. • Development onboarding program that provides a broad exposure to the operator program over multiple years.	• Ongoing engagement and promotion of the program.
Identify and implement progressive and innovative training and development opportunities with respect to utility operations and management for departmental staff.	• Utilize professional training consultants to expand knowledge of all working environments. • Engaged with Corporate safety to ensure our training program meets requirements and achieve the highest value for the employer. • Expand hands-on field scenario training.	• Continue to seek out new and innovative ways of training through professional consultants who engage staff training from different perspectives (Ongoing.)

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Regional Water Supply

COMMITMENT:
Provide high quality, safe drinking water

Maintain a risk register for the Regional Water Supply System that identifies potential risks to water quality, water supply and water transmission and provide mitigation and adaptation measures

Actions	Accomplishments	Future Actions

Regularly review Regional Water System hazards, risks and vulnerabilities and update the risk register.	• Established a Corporate Risk Register which includes Regional Water System risks.
	• A Drinking Water Safety Plan was developed that lists and categorizes risks to the RWS and tracks actions to reduce or mitigate those risks.
	• Completed:
	  • 2022 Master Plan which identified future infrastructure investments that mitigat identified risks,
	  • 2021 Supply System Risk and Resilience Study, and
	  • 2022 Seismic Assessment of Critical Facilities Study (Phase 1).
	• These reports summarize the critical RWS related risk and proposed mitigation measures.
		• Continue to include capital projects to reduce items identified in the risk registry and updating of the risk registry (Ongoing).

Continue the emphasis on wildfire prevention, early detection and suppression capability, preparedness, forest fuel management and post-fire rehabilitation planning to reduce and mitigate the risk of a large-scale wildfire affecting the water supply area and source water quality.	• Added an infrared and drone technology to assist with monitoring for wildfire. • Added new FTEs to support wildfire/security. • Completed study on post-wildfire hazards and mitigation options in the Sooke WSA.	• Complete the post-wildfire risk mitigation strategy for the Sooke WSA (2024).
Continue to monitor and evaluate the implications of the reliance on unfiltered source water and the absence of a filtration step in the water treatment process.	• Completed 2021 Regional Water Supply System Risk and Resilience Study which identifies risks to its critical water supply assets as well as, strategies/capital investments to reduce risk, this included assessment of risk to water supply as a result of unfiltered water source. • Completed the 2022 Master Plan which identified the future addition of filtration by 2035, though this will be refined based on further feasibility, piloting and design.	• Conduct ongoing water quality analysis to monitor for any change in water quality. • Continued water quality sampling to identify treatment requirements, followed by piloting studies and design of treatment requirements that consider the addition of additional source was and increase resilience to address identified risk, this would include the addition of filtration.

Regional Water Supply

COMMITMENT:
Provide high quality, safe drinking water

Maintain a risk register for the Regional Water Supply System that identifies potential risks to water quality, water supply and water transmission and provide mitigation and adaptation measures

Actions	Accomplishments	Future Actions
Conduct specific seismic risk evaluations of critical assets.	• Created a Dam Safety Risk Register which includes recommendations from various Dam Safety studies and Dam Safety Reviews. • Updated the Sooke, Saddle and Deception Dams Emergency Procedures along with dam breech scenario inundation mapping. • Completed the Supply System Risk and Resilience Study and the Seismic Assessment of Critical Facilities Study (Phase 1) and Dam Safety seismic assessments.	• Seismic Assessment of Critical Facilities (Phase 2) completion in 2025. • Deception Gulch Dam Risk Reduction Assessment in 2025. • Goldstream System Dams Updating of Seismic Hazard, Geotechnical Investigations and Deformation Analysis in 2026. • Dam Failure Mode Analysis (incl. Spillway Gates) in 2025.

Regional Water Supply

COMMITMENT:
Provide an adequate, long-term supply of drinking water

Plan & Prepare for future water supply needs to meet demand considering impacts on climate change, population & per-capita demand rates

Actions	Accomplishments	Future Actions
Evaluate climate change impacts and risks on water supply and incorporate mitigation and adaptation recommendations in operating and capital plans.	• Completion of a hydrology monitoring system in the Leech WSA and upgrade of hydrology monitoring stations in the Sooke and Goldstream WSAs. • Completed a study on the effects of climate change on Sooke Lake Reservoir. • Introduced a flood forecasting system to guide operating decisions. • Goldstream Water Supply Area Capacity Study. • Sooke Lake Reservoir – North Basin Water Quality Feasibility Study. • Completed 2021 Regional Water Supply System Risk and Resilience Study which identifies risks to its critical water supply assets from man-made, natural, and dependency hazards and prioritizes strategies/capital investments to reduce risk. • Completed the 2022 Master Plan which provides a high-level roadmap for the implementation of works that mitigate the risk to climate change.	• Development of a 3D hydrodynamic model of Sooke Lake is underway. The model will inform decisions around siting new intakes and Leech water discharge points.
Establish long-term per capita demand rate projections and Demand Management Program objectives to achieve rates and determine annual water demand by sector.	• Completed an agricultural Water Demand Model and Land Use Inventory. • Present an annual Water Demand report which provides details of the “by sector” demand and is used to inform our water conservation action plan and develop campaigns and education and outreach material, as well as to track progress in reducing demand by these sectors.	• Continue to track and update per capita demand rate projections and resulting demands.

Regional Water Supply

COMMITMENT:
Provide an adequate, long-term supply of drinking water

Plan & Prepare for future water supply needs to meet demand considering impacts on climate change, population & per-capita demand rates

Actions	Accomplishments	Future Actions
Undertake regular monitoring and assessment of the physical, chemical, and biological parameters of the Leech Water Supply Area (WSA) source water and determine a plan to address potential water quality, ecological and ecosystem implications at Sooke Lake Reservoir resulting from diversion of Leech WSA source water (Leech River water) to Sooke Lake Reservoir (i.e. combining source waters).	• Installation of hydrology monitoring system in the Leech WSA. • Collected data on bathymetry of Weeks Lake to determine volume and elevation of outlet.	• Continuing to expand methods of assessing ecological/ecosystem impacts from combined sources waters. • Installation of West Leech weather station (2025).
Develop a plan to undertake more 'intensive' monitoring of Leech River water quality to inform treatability recommendations and long-term treatment strategy.	• Water quality sampling and testing in the Leech WSA started in 2020.	• Baseline data collection and then ongoing water quality sampling/testing of Deception Reservoir to start in 2025. (Ongoing).

Regional Water Supply

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COMMITMENT:
Provide an adequate, long-term supply of drinking water

Plan & Prepare for future water supply needs to meet demand considering impacts on climate change, population & per-capita demand rates

Actions	Accomplishments	Future Actions
Determine conceptual 'hard' capital infrastructure plan to design and construct the necessary infrastructure to divert Leech WSA flows to Sooke Lake Reservoir.	• Completed the 2021 RWS Service-Supply System Risk and Resilience Study which identifies risks to its critical water supply assets from man-made, natural, and dependency hazards and prioritizes strategies/capital investments to reduce risk. • Completed the 2022 Master Plan which provides a high-level roadmap that offers a 30-year vision into the future requirements for the Service, considering future needs related sources of water, treatment, and conveyance. The Master Plan identified a Phase 2 hydrology study to investigate the feasibility of direct diversion of Leech River or construction of a storage dam.	• Currently developing a hydrology model for dam safety which will inform the Phase 2 model identified in the Master Plan. • Phase 2 hydrology model development will commence in the next 5yrs.
Conduct a feasibility study to explore the design and construction of supply and transmission infrastructure at Sooke Lake Reservoir to provide increased resiliency, including consideration of a deep northern intake and a secondary transmission pipe between the reservoir and the treatment facilities.	• Completed 2022 Master Plan that addressed the supply and transmission infrastructure resiliency, long-term capacity and treatment requirements. The Master Plan recommended the addition of a Deep Northern Intake, pumping station and transmission main from Sooke Lake Reservoir to the head tank as early as 2031.	
Undertake biannual Supply System hydraulic modelling to confirm system capacity.	• Completed 2022 Master Plan which included a hydraulic capacity assessment of the transmission system.	• Future Capital Plans will include ongoing updates to the Hydraulic Capacity of the transmission system.

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Regional Water Supply

COMMITMENT:
Provide an adequate, long-term supply of drinking water

Develop a higher level of public understanding of the drinking water supply system and value of water through education & engagement

Actions	Accomplishments	Future Actions
Continue to improve Regional Water Supply service and system information available to the public through a variety of media streams, to raise awareness around specific topics including water supply and conservation, and supply infrastructure investment.	• Increased use of CRD social media streams (Twitter and Facebook). • Continue to prepare the Daily, Weekly and Monthly Water Watch and include information on the CRD webpage.	• Continue to prepare the Daily, Weekly and Monthly Water Watch and include information on the CRD webpage and investigate providing more information being available online.
Continue to promote the value of the drinking water resource through Water Supply Area public and school tours and other outreach.	• Conduct annual public and school tours which are reported on annually. Feedback to tours has been positive. • Created four videos for the Public: Overview, WSA, Treatment, Conservation, Protecting Water.	• Public Tours will continue. • Future engagement with school tours and outreach/education will be incorporated into existing school curriculum development. (Ongoing).

Continue to have two-way dialogue with the Water Advisory Committee regarding water supply matters.	• The Water Advisory Committee (WAC) typically meets quarterly and has provided advice on:
	  • Post Disaster Water Supply and Distribution Plan;
	  • Demand Management program;
	  • Water Supply Area Land Acquisition Study;
	  • Impacts of Malahat Detour Route Proposal;
	  • Health Canada change in Lead Guidelines for Drinking Water and CRD Actions; and
	  • Agricultural Rate Program.
	  • Development Cost Charge Program
		• Will engage the WAC for major projects identified in the Master Plan such as the Filtration plant as planning commences. (Ongoing).

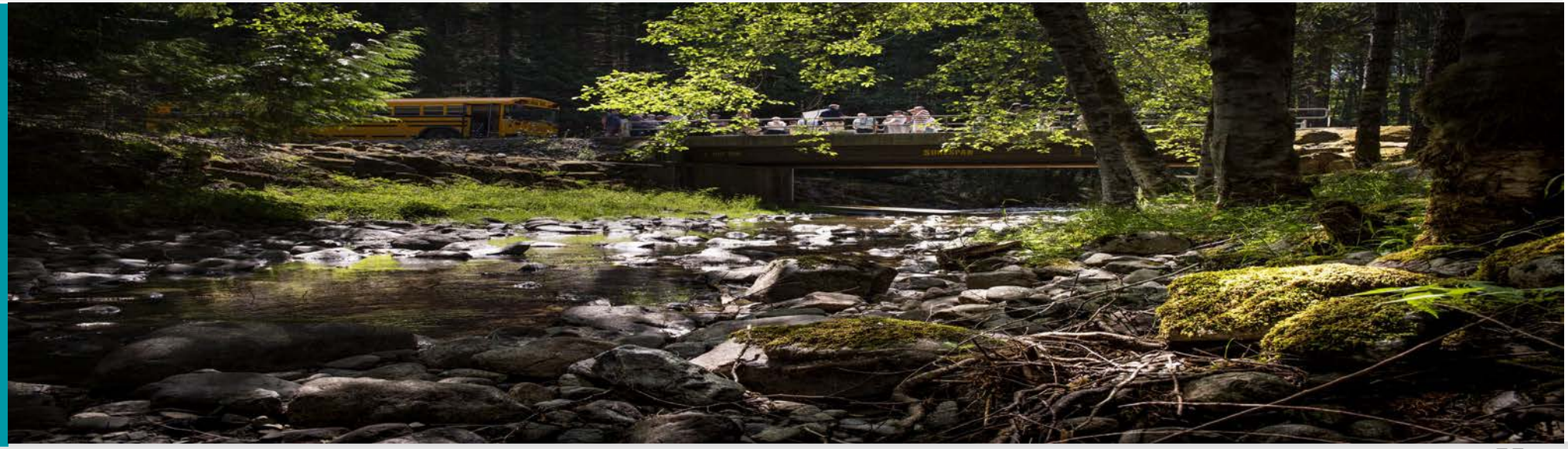
Regional Water Supply

COMMITMENT:
Provide an adequate, long-term supply of drinking water

Develop a higher level of public understanding of the drinking water supply system and value of water through education & engagement

Actions	Accomplishments	Future Actions

Explore opportunities for mutually beneficial collaborative partnerships to carry out research and monitoring initiatives in the water supply area and across the system.	• Successful research partnerships with University of Victoria, NSERC for Water network, Canadian Forest Service and UBC in the areas of:
	  • wildfire fuel and burn modelling;
	  • paleo-ecological record of large wildfires and forest changes; and
	  • hydrology of the Leech WSA.
	• Began forWater partnership to complete Dissolved Organic Carbon (DOC) characterization for Sooke Lake source water.
		• Completion of the NSERC Alliance Project in 2025. The project will inform the effects of climate change on forests and wildfire in the GVWSA and options for forest management to reduce potential impacts.
		• UBC Douglas-fir bark beetle project completion (2024).
		• forWater DOC characterization of Sooke Lake completed (2024).



Regional Water Supply

COMMITMENT:
Provide a reliable and efficient drinking water transmission system

Maintain a capital planning process & appropriate investment in water infrastructure to ensure reliable system performance

Actions	Accomplishments	Future Actions

Complete a short term (annual and 5-year), medium term (5-10 year), long term (10-20 year) and long range (20-50 year) asset management plan informed by asset condition and remaining service life assessment, water operation and maintenance history, water audit, changing regulatory requirements, Hazard, Risk and Vulnerability Assessment (HRVA) recommendations, and system capacity requirements.	• Completed a Maintenance, Repair and Replacement Strategies, as well as asset management preliminary study in 2018.
	• The Capital Plan includes various assignments related to Asset Management Planning work on each element has begun and completed to the following extent:
	  • Levels-of-Service: 60% complete,
	  • Asset inventory: 60%,
	  • Asset capacity: Complete
	  • Asset condition: 20%
	  • Asset risk: 20%
	  • Criticality assessment: 80%
		• Completion of the asset management program/plan, including each element by the end of 2025.
		• 2024-2028 Capital plans include significant Infrastructure investments including upgrades to Goldstream UV Plant and renewals to Main No 3, Main No 4 and Main No. 1.

Explore Regional Water Development Cost Charges to fund future growth-related supply system infrastructure improvements	• Completion of the Development Cost Charge Analysis Phase 1 and initiation of Phase 2, Implementation Program including Bylaw.	• Completion of a Regional Water DCC program and bylaw in 2024.
In collaboration with municipal and First Nations water purveyors, establish water supply service agreements.	• Created Draft Water Supply Service Agreements between CRD and First Nations. • Created Draft Conveyance Agreements between CRD and relevant Municipalities. • Began with discussion with the First Nations in the Region to negotiate terms of the agreements.	• Execute Water Supply agreement with the First Nations.

Regional Water Supply

COMMITMENT:
Provide a reliable and efficient drinking water transmission system

Continually review cost effectiveness of service respecting operations, maintenance & capital investment decisions

Actions	Accomplishments	Future Actions
Continue to review reactive, preventive and predictive operations and maintenance history and confirm operation and maintenance service levels for the Regional Water Supply Service that consider best practices and reliability centered maintenance approach.	• Conducted in-depth analysis of past reactive, preventive, and predictive operations and maintenance records. • Evaluating service levels for the Regional Water Supply Service to ensure they meet industry standards and user expectations. • Implementation of best practices in operations and maintenance to enhance the reliability and longevity of water supply infrastructure.	• Identify and monitor performance metrics to track the effectiveness of implemented strategies. • Continuously refining operation and maintenance processes to achieve optimal performance and customer satisfaction. • Adoption of reliability-centered maintenance approach to prioritize maintenance activities based on criticality and risk assessment. • Improvement to Work Management System to improve efficiency, real-time tracking, data quality and support initiatives above.
Consider life cycle costs with new infrastructure design and asset replacement.	• Life cycle costing is incorporated into all major design projects, this includes acquisition, operation, maintenance, renewal, and disposal.	• Ongoing
In asset replacement decisions, balance maximizing infrastructure service life with infrastructure reliability	• Utilize condition assessments to determine replacement and rehabilitation needs of critical transmission mains.	• Expand condition-based maintenance and replacement to other critical asset classes, instead of solely time based in order to maximize service life of assets.
Optimize capital investment taking into consideration priority, annual and long-term budget and water rate impacts and resource availability to deliver the projects	• Ongoing as part of Capital Plan process, staff consider output of the Corporate and RWS Risk Registers, financial impacts and staff constraints when finalizing the annual capital program.	• Ongoing

Regional Water Supply

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COMMITMENT:
Provide a reliable and efficient drinking water transmission system

Develop and manage emergency bulk drinking water supply systems for Greater Victoria

Actions	Accomplishments	Future Actions
Establish emergency and post-disaster water supply protocols and obtain necessary supplies, materials and equipment to implement protocols. Establish water purveyor support roles and responsibilities in emergency water supply and distribution.	• Creation of a seismic resilient 'hardened water main grid' which provides a point of connection for the emergency water distribution modules. Currently 12 Seismically Restrained Hydrants. • Reservoir seismic valves are located at several sites, as new reservoirs are constructed seismic valves are included as part of the project. • Created a critical spares inventory for large diameter steel and ductile iron water main. • Two emergency water supply/ distribution modules are ready for deployment consisting of a trailer module and a stationary module. • Fabrication of drop kits and located strategically throughout the region. • Three portable laboratories were procured for post disaster water quality testing, these labs will be stored at three locations.	• Construction of a critical equipment storage building. This structure will be used to store critical equipment and spare parts required for an emergency response related to the water supply systems.
Outline how an emergency/post disaster drinking water supply can be supported by regional emergency management plans and available senior government supports under certain conditions.	• CRD initiated the Saanich Peninsula Post Disaster Water Supply Technical Working Group which included membership from the local municipalities, First Nations, and key stakeholder. • Provided a demonstration of the post-disaster equipment to Staff from Island Health were present and View Royal Fire Department.	• Future initiative that considers integration with Regional Emergency Management Partnership and collaboration with Municipal water purveyors in the context of the new Emergency and Disaster Management Act.

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Regional Water Supply

COMMITMENT:
Provide a reliable and efficient drinking water transmission system

Continue to focus on retaining & recruiting experienced professional employees responsible for the RWS system engineering, system operation, maintenance & management of the water supply area

Actions	Accomplishments	Future Actions

Develop a succession plan to ensure key positions are backfilled by experienced and knowledgeable employees, and that system knowledge is preserved.	• Staff hiring is ongoing to replace experienced staff who retire. Cross over training is required for each departing staff member.
	• CRD's continues to invest and support the iLead program which benefits the development of the IWS management team. The iLead program supports CRD managers to meet the challenges leaders are facing today and to take their leadership to a new level, while supporting moving towards the desired outcomes as outlined by the organization's Strategic and Board Priorities and Corporate Plan.
	• The utility operator (UO) progression program is a CRD specific program that has benefited attraction and retention of operators to Integrated Water Services, between 2018 to 2023 the following advancements have occurred within this program:
	  • 21 staff moved from UO1 to UO 2
	  • 9 staff moved from UO 2 to UO 3
	  • 8 staff moved from UO 3 to UO 4	

In alignment with CRD organizational development initiatives, provide learning and development opportunities for employees.	• Efforts continue to be made to ensure knowledge is carried forward in procedures and practices such as standard operating procedures, emergency response procedures and system drawings to reduce the risk when staff retire. • Staff are required and fully supported to obtain continuing education credits so as to maintain their professional status whether it be as an engineer, technician, operator or other.	

Agricultural Water Rate Review and Rate Model Study – Phase 2

APPENDIX "A" – SCOPE OF SERVICES

BACKGROUND

The Capital Regional District (CRD) has provided an agricultural water rate through the Regional Water Supply Service since 2002. Properties that hold a BC Assessment farm classification are eligible to receive the rate subject to provision of CRD Bylaw No. 2570 which sets out how the rate applies. The rate subsidy is funded through the annual Regional Water Supply Service operating budget, this funds the difference between the municipal retail rate and the agricultural rate.

The Agricultural rate of $0.2105 per cubic meter has not changed since 2010 while the wholesale and municipal retail water rates have steadily increased. In 2023 the Regional Water Supply agricultural rate funding budget was $1.75 million. Properties that hold a BC Assessment farm classification are eligible to receive the rate. If all of the water consumption on a property is related to agriculture, the rate applies to the total volume of water consumed. If the property has a residence, the local municipal distribution water rate applies to the first 455 cubic metres consumed in a calendar year, then the agricultural water rate applies to the volume of water consumed during the remainder of the year.

The current agricultural rate methodology and application provides the opportunity for farm-classified properties to receive the rate regardless of what type of agriculture they are supporting. In other words, the municipalities/distributors receive their full retail rate revenue for the agricultural water consumed in their service area via the CRD reimbursement for the difference between the local municipal retail rate and the agricultural rate, funded from the Regional Water Supply agricultural rate budget.

In 2023 the CRD retained Stantec to complete an Agricultural Water Rate Review (attached Appendix E) Stantec has presented recommendations for implementation over a three-year period with the agricultural rate remaining unchanged over year one and two until additional information can be gathered to inform policy change. Stantec recommended the following considerations:

- Establish a maximum total annual subsidy amount
- Prioritize rate attributes
- Develop a reporting program
- Review expanding eligibility

GENERAL SCOPE

The scope places a strong emphasis on assessing and enhancing public benefits, fostering inclusive stakeholder engagement, and ensuring transparency throughout the process. The goal is to create a subsidy program that aligns closely with the needs and expectations of the broader community while maximizing positive impacts.

In general, the scope of work by the Consultant shall include, but not limited to the following:

1. Project initiation meeting with CRD staff;
2. Review existing reports and available documentation, and review current agricultural water rate, rate model, and implications of current application;
3. Prepare a stakeholder list (in consultation with CRD staff) and stakeholder consultation plan;
4. Conduct stakeholder consultation (coordinated with CRD staff) and prepare findings summary report;
5. Develop the recommendations from the Agricultural Water Rate Review and Rate Model Options Study (Stantec June 30, 2023). Four key recommendations are included in this study:
    a. Establish a maximum total annual subsidy amount using a Total Valuation Study
    b. Prioritize rate attributes
    c. Develop a reporting program
    d. Review expanding eligibility

6. Total Valuation Study:
    a. Conduct a detailed Total Valuation Study to quantify and assess the comprehensive benefits derived from the agricultural water subsidy program, ensuring a thorough understanding of its impact on the community and economy.
    b. Evaluate the economic, and social impacts of the subsidy on the community and agriculture sector.
    c. Assess the social benefits derived from the agricultural water subsidy, including improved livelihoods, community stability, and social equity. The Consultant will describe in detail, their approach to balancing social and economic inputs as part of their proposal.
    d. Conduct a rigorous cost-benefit analysis, comparing the total costs of the subsidy program against the quantified benefits.
    e. Provide a detailed breakdown of both costs and benefits, considering short-term and long-term implications.
7. Stakeholder Engagement
    a. Expand stakeholder engagement efforts to include a diverse range of community representatives, environmental groups, and advocacy organizations.
    b. Facilitate inclusive discussions to gather insights on the public perception of the subsidy and its impact on various community sectors.
    c. Include consultation with member municipalities and agricultural groups such as the Peninsula & Area Agricultural Commission (advisory committee to Central Saanich, Metchosin, North Saanich and Saanich) to expand the lens of rate subsidies and public benefits.
    d. Include in person presentations to the Water Advisory Committee (assume two) and the Regional Water Supply Commission (assume one).

8. Based on findings, and assessment of opportunities, prepare alternative agricultural water rate structures and option analysis (including financial, social, environmental and governance considerations and setting out option evaluation criteria).
9. Prepare conclusions, recommendation(s), and implementation plan, including benefits of implementing recommendation(s).

The successful respondent will be required to develop rate/rate model options, then ultimately recommend a rate model to the CRD along with an implementation plan that could include a phase-in plan if necessary to accommodate any large changes. Proposals should expand upon the information presented and the specific requirements listed, where deemed appropriate by the Consultant.

DOCUMENTATION PROVIDED (APPENDIX "E")

1. Agricultural Water Rate Review – Stantec 2023
2. Regional Water Supply 2017 Strategic Plan
3. Bylaw No. 2570 (amendments and consolidated in accordance with Bylaw No. 3014) – Local Service Fee and Charge Bylaw
4. 2011-2020 Agricultural Water Rate Funding
5. 2022 Regional Water Supply Service budget
6. Regional Water Advisory Committee presentation – June 2021
7. Peninsula and Area Agricultural Commission correspondence – May 2019

PROJECT DELIVERABLES

Proponents are to determine the Scope of Consultant services required to complete the assignment and should include, except as otherwise noted, all required services and related fees in their proposal. The Consultant is encouraged to add whatever duties they may feel are necessary to provide the CRD with adequate professional services for this assignment. All work should be listed in detail in the Consultant's submission. If sub-consulting services are required for the successful completion of the project, the cost for retaining those services, as well as personnel and fees, must be provided for in the original submission.

The Consultant shall also define the scope of work to be performed by each sub-consultant required to complete the assignment.

It is anticipated that services for the following deliverables will be required for this assignment:

1. Executed Consulting Services Agreement
2. Table of Contents for the Draft Report
3. Stakeholder consultation plan
4. Lead and implement stakeholder consultation process
5. 80% draft report
6. Final report

PROJECT TEAM

Any changes to the proposed professional services team members will require the CRD's written approval. Team member changes may not be approved if there is a decrease in value to the CRD.

Capital Regional District

HOTSHEET AND ACTION LIST

Regional Water Supply Commission

Wednesday, February 21, 2024 **11:30 AM** **6th Floor Boardroom**
625 Fisgard Street
Victoria, BC

The following is a quick snapshot of the FINAL Regional Water Supply Commission 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.

3. ADOPTION OF MINUTES

That the minutes of the January 17, 2024 meeting be adopted.

CARRIED

7. COMMISSION BUSINESS

7.1. Regional Water Supply 2017 Strategic Plan Closeout

Recommendation:

1. That staff be directed to update the Regional Water Supply Strategic Plan; and,
2. That staff provide the Regional Water Supply Commission an updated draft Strategic Plan prior to initiating public, First Nations, and stakeholder engagement on the Plan.

CARRIED

7.3. Greater Victoria Water Supply Access and Special Use Request for Wind Data Collection – Innergex Renewable Energy Inc. [Annette – 24-188]

Recommendation:

1. That access be approved and special use for Innergex Renewable Energy Inc. (Innergex) to place, maintain and draw data from a wind measuring device in the Greater Victoria Water Supply Area; and,
2. That staff be directed to execute a licence of occupation with Innergex for Greater Victoria Water Supply Area access and special use.

CARRIED

9. MOTION(S) WITH NOTICE

9.1. Delay Action on the Regional Water Supply 2022 Master Plan [Commissioner Jordison–January 17]

Motion arising:
That the notice of motion be deferred to the March 1, 2024 Special Regional Water Supply Commission meeting.

DEFEATED

Recommendation:
To delay further action on the Regional Water Supply 2022 Master Plan until such time as the concerns raised by the Huggett report can be investigated and addressed.

DEFEATED

9.2. First Nations Consultation Re: Bill 44 [Commissioner Chambers–January 17]

Recommendation:
That the commission reach out to the WSANEC Leadership Council First Nations, in the absence of consultation by the Provinces' Bill 44, regarding the impacts on infrastructure and the Goldstream River.

WITHDRAWN

11. MOTION TO CLOSE THE MEETING

The commission rose from its closed session without report.

The following Items were received for information:
7.2. Water Quality Summary Report for Greater Victoria Drinking Water System – April to December 2023
7.4 Summary of Recommendations from Other Water Commissions
7.5 Water Watch Report
8.1 Correspondence: from Dale Puskas, Director of Engineering, District of Central Saanich: Re: Regional Water Supply Development Cost Charges, February 14, 2024

Capital Regional District

HOTSHEET AND ACTION LIST

Regional Water Supply Commission

Wednesday, January 17, 2024 **11:30 AM** **CRD Boardroom**
625 Fisgard Street
Victoria, BC

The following is a quick snapshot of the FINAL Regional Water Supply Commission 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.

3. ELECTION OF CHAIR

Commissioner Baird was acclaimed as Chair.

4. ELECTION OF VICE CHAIR

Commissioner Harper was elected Vice Chair.

5. ADOPTION OF MINUTES

That the minutes of the October 18, 2023 meeting be adopted.

CARRIED

6. CHAIR'S REMARKS

Staff to distribute the Chair's remarks to the Commission following the meeting.

9. COMMISSION BUSINESS

9.1. Greater Victoria Water Supply Area Land Acquisition Reserve Fund Update

Recommendation:

1. That a reserve fund for Greater Victoria Water Supply Area land acquisition be included when considering of a reserve fund for Regional Water Supply System Master Plan projects, and that, until reserves are established, land purchase opportunities continue to be addressed through adjustments to the existing capital program and/or debt financing;
2. That the decision whether to establish a Greater Victoria Water Supply Area land acquisition reserve fund be brought back either, when recommendation 1. Above occurs, or when a specific need arises; and,
3. That a report on land acquisition opportunities and progress be provided, in closed meeting, only when Commission decision is required or significant progress is made.

CARRIED

9.2. Motion with Notice: Placement of Post Disaster Water Supply Drop Kits in Relevant Fire Halls (Commissioner Rogers)

Item postponed to March.

Recommendation: That the Regional Water Supply Commission directs staff to explore cost-sharing with municipalities to get the Post Disaster Water Supply Drop Kits in relevant fire halls, for consideration in the next budget cycle.

9.3. Regional Water Supply 2024 Capital Plan Update

Recommendation: That the Regional Water Supply Commission recommends that the Capital Regional District Board:
Update the 2024 Regional Water Supply Service Capital Budget and Five Year Capital Plan to include 2024 budget updates for projects 24-19, 20-16, 20-17, 21-03, 19-16, 18-18 and 21-11 as outlined in Appendix A.

CARRIED

9.4. Regional Water Supply Commission Representative on the Water Advisory Committee

Recommendation: That the Regional Water Supply Commission appoint its Vice Chair as its representative on the Water Advisory Committee for a one-year term ending December 31, 2024.

CARRIED

10. NOTICE(S) OF MOTION

The following motions were received:

Recommendation: To delay further action on the Regional Water Supply 2022 Master Plan until such time as the concerns raised by the Huggett report can be investigated and addressed

- Commissioner Jordison

Recommendation: That the commission reach out to the WSANEC Leadership Council First Nations, in the absence of consultation by the Provinces' Bill 44, regarding the impacts on infrastructure and the Goldstream River

- Commissioner Chambers

Capital Regional District

HOTSHEET AND ACTION LIST

Regional Water Supply Commission

Wednesday, October 18, 2023 **11:30 AM** **6th Floor Boardroom**
625 Fisgard Street
Victoria, BC

The following is a quick snapshot of the FINAL Regional Water Supply Commission 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.

3. ADOPTION OF MINUTES

That the minutes of the July 19, 2023 meeting be adopted.

CARRIED

7. COMMISSION BUSINESS

7.1 Service Planning 2024 – Water Community Need Summary

Recommendation: The Regional Water Supply Commission recommends the Committee of the Whole recommend to the Capital Regional District Board:
That Appendix A, Community Need Summary – Water, be approved as presented and form the basis of the 2024-2028 Financial Plan.

CARRIED

7.2 Regional Water Supply 2024 Capital & Operating Budget

Recommendation: The Regional Water Supply Commission recommends that the Committee of the Whole recommend that the Capital Regional District Board:

1. Approve the 2024 Operating and Capital Budget and the Five Year Capital Plan;
2. Approve the 2024 wholesale water rate of $0.8094 per cubic metre;
3. Approve the 2024 agricultural water rate of $0.2105 per cubic metre;
4. Direct staff to balance the 2023 actual revenue and expense on the transfer to the water capital fund;
5. Direct staff to update carry forward balances in the 2024 Capital Budget for changes after year end; and
6. Direct staff to amend the Water Rates Bylaw accordingly.

CARRIED

7.3 Greater Victoria Water Supply Area Land Acquisition Reserve Fund Update

Item 7.3 was postponed to the next meeting.

The following reports were received for information

7.4 Summary of Recommendations from the Water Advisory Committee
7.5 Summary of Recommendations from Other Water Commissions
7.6 Water Watch Report

8. MOTION(S) WITH NOTICE

8.1 Placement of Post Disaster Water Supply Drop Kits in Relevant Fire Halls

Item 8.1 was postponed to the next meeting.

CAPITAL REGIONAL DISTRICT - INTEGRATED WATER SERVICES

Water Watch

Issued February 20, 2024

Water Supply System Summary:

1. Useable Volume in Storage:

Reservoir	February 29 5 Year Ave		February 28/23		February 18/24		% Existing Full Storage
	ML	MIG	ML	MIG	ML	MIG	
Sooke	92,120	20,266	89,887	19,775	92,727	20,400	100.0%
Goldstream	8,417	1,852	9,825	2,162	9,905	2,179	99.9%
Total	100,537	22,118	99,712	21,937	102,633	22,579	100.0%

2. Average Daily Demand:

For the month of February	104.0 MLD	22.88 MIGD
For week ending February 18, 2024	103.2 MLD	22.70 MIGD
Max. day February 2024, to date:	107.9 MLD	23.73 MIGD

3. Average 5 Year Daily Demand for February

Average (2019 - 2023)	102.0 MLD [1]	22.43 MIGD [2]

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

4. Rainfall February:

Average (1914 - 2023):	190.7 mm
Actual Rainfall to Date	35.8 mm (19% of monthly average)

5. Rainfall: Sep 1- Feb 18

Average (1914 - 2023):	1,190.2 mm
2023/2024	939.6 mm (79% of average)

6. Water Conservation Action Required:

To avoid possible leaks this spring, now is the time to winterize your sprinkler system.
Visit our website at www.crd.bc.ca/water for more information.

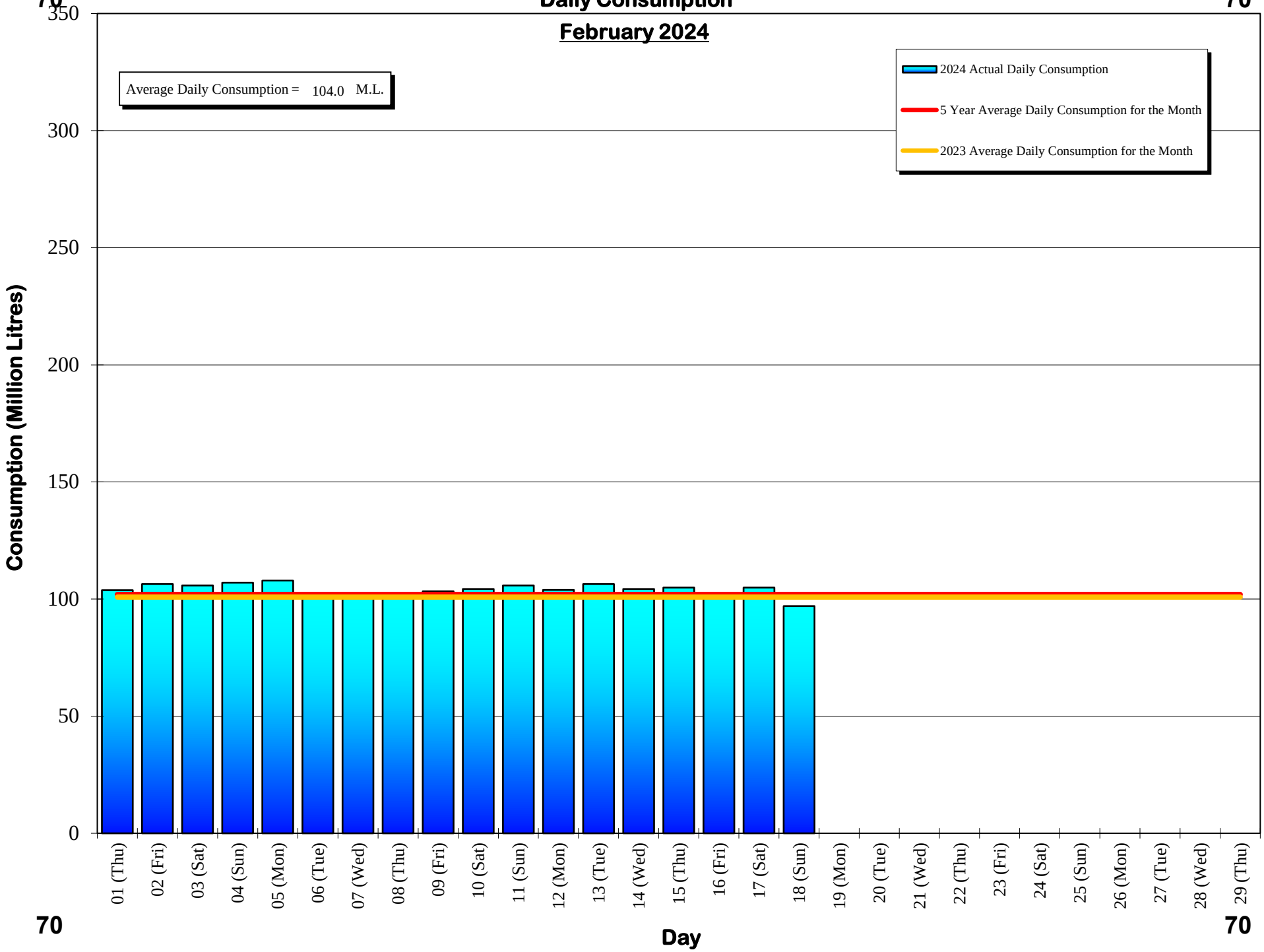
If you require further information, please contact:

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

Capital Regional District Integrated Water Services
479 Island Highway
Victoria, BC V9B 1H7
(250) 474-9600

Daily Consumption

February 2024



J:\WATERENG\HYDROLGY\AMRIT\MONTHEND.24\H2o watch 2024Cons. Chart

Daily Consumptions: - February 2024

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)	Snowfall [3.] (mm)	Total Precip.
01 (Thu)	103.8		22.8	11	7	Cloudy / P. Sunny / Showers	0.3	0.0	0.3
02 (Fri)	106.4		23.4	11	6	Sunny / P. Cloudy / Showers	14.2	0.0	14.2
03 (Sat)	105.8		23.3	8	3	Cloudy / Showers	1.0	0.0	1.0
04 (Sun)	107.0		23.5	6	1	Sunny / P. Cloudy	0.0	0.0	0.0
05 (Mon)	107.9	<=Max	23.7	7	2	Sunny / P. Cloudy	0.0	0.0	0.0
06 (Tue)	102.5		22.6	7	1	Cloudy / P. Sunny / Showers	0.3	0.0	0.3
07 (Wed)	101.1		22.2	8	3	Cloudy / Showers	0.3	0.0	0.3
08 (Thu)	101.6		22.4	6	3	Cloudy / Showers	0.5	0.0	0.5
09 (Fri)	103.3		22.7	7	1	Sunny / P. Cloudy	0.0	0.0	0.0
10 (Sat)	104.3		22.9	7	2	Cloudy / Showers	3.0	0.0	3.0
11 (Sun)	105.8		23.3	8	4	Cloudy / Showers	14.2	0.0	14.2
12 (Mon)	103.9		22.9	7	2	Cloudy / Showers	0.5	0.0	0.5
13 (Tue)	106.4		23.4	7	1	Cloudy / P. Sunny	0.0	0.0	0.0
14 (Wed)	104.3		23.0	6	1	Cloudy / P. Sunny	0.0	0.0	0.0
15 (Thu)	104.9		23.1	5	0	Cloudy / Showers	1.5	0.0	1.5
16 (Fri)	100.9		22.2	7	0	Sunny / P. Cloudy	0.0	0.0	0.0
17 (Sat)	104.9		23.1	9	2	Cloudy	0.0	0.0	0.0
18 (Sun)	97.0	<=Min	21.3	9	4	Cloudy	0.0	0.0	0.0
19 (Mon)									
20 (Tue)									
21 (Wed)									
22 (Thu)									
23 (Fri)									
24 (Sat)									
25 (Sun)									
26 (Mon)									
27 (Tue)									
28 (Wed)									
29 (Thu)									
TOTAL	1871.8 ML		411.8 MIG				35.8	0	35.8
MAX	107.9		23.73	11	7		14.2	0	14.2
AVG	**104.0**		22.88	7.6	2.4		2.0	0	2.0
MIN	97.0		21.33	5	0		0.0	0	0.0

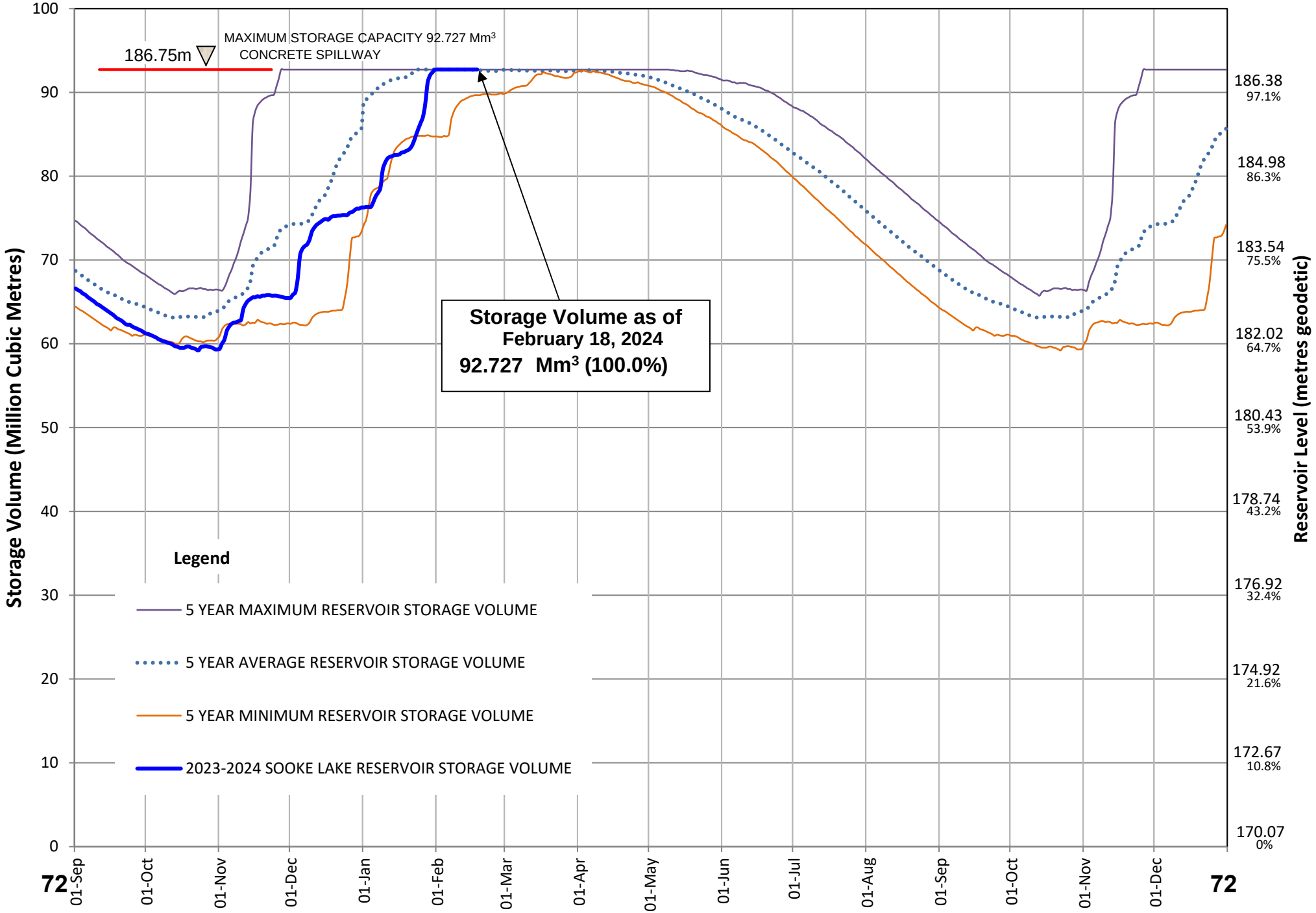
1. ML = Million Litres 2. MIG = Million Imperial Gallons 3. 10% of snow depth applied to rainfall figures for snow to water equivalent.

Average Rainfall for February (1914-2023)	190.7	mm
Actual Rainfall: February	35.8	mm
% of Average	19%	
Average Rainfall (1914-2023): Sept 01 - Feb 18	1,190.2	mm
Actual Rainfall (2023/24): Sept 01 - Feb 18	939.6	mm
% of Average	79%	

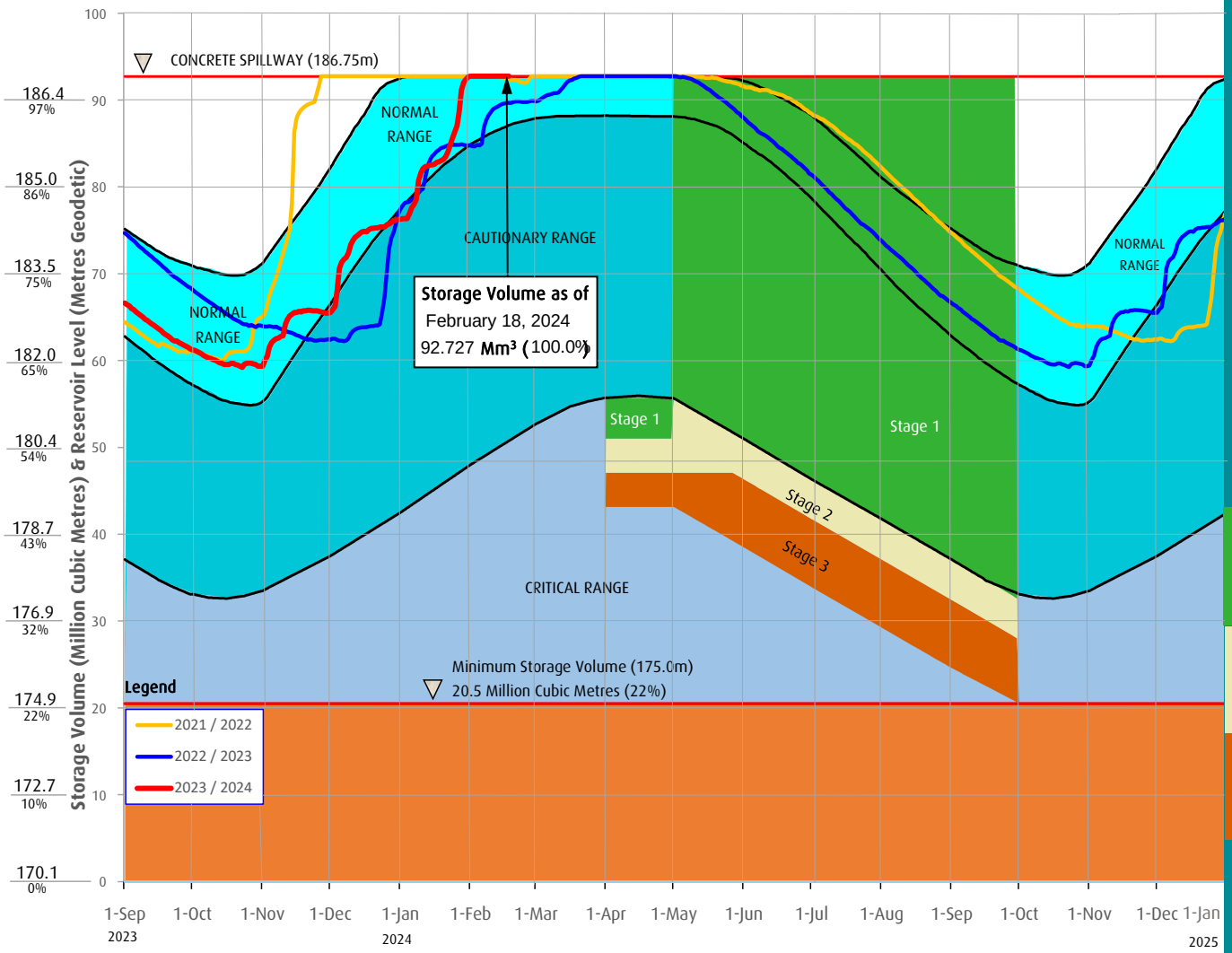
Number days with precip. 0.2 or more
10

Water spilled at Sooke Reservoir to date (since Sept. 1) = 0.21 Billion Imperial Gallons
= 1.00 Billion Litres

SOOKE LAKE RESERVOIR STORAGE SUMMARY
2023 / 2024



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

CRD
Making a difference...together

Making a difference...together

Useable Reservoir Volumes in Storage for February 18, 2024