



WATER SUPPLY ADVISORY COMMITTEE
Monday, May 3, 2021
Via Zoom, 1975 Field Road, Sechelt, B.C.

AGENDA

CALL TO ORDER **3:30 p.m.**

AGENDA

1. Adoption of Agenda

PRESENTATIONS AND DELEGATIONS

BUSINESS ARISING FROM MINUTES AND UNFINISHED BUSINESS

MINUTES

2. Water Supply Advisory Committee Meeting Minutes of April 12, 2021 – *for receipt only* Annex A
pp 1 - 3

REPORTS

3. WASAC's Water Supply Questions - Update Manager, Strategic Initiatives Annex B
pp 4 - 10
4. Update on Current Water Supply Projects General Manager, Infrastructure Services Verbal
5. Water Public Participation Activities (events and website) Manager, Strategic Initiatives Verbal
6. WASAC Recordings Manager, Strategic Initiatives Verbal

COMMUNICATIONS

NEW BUSINESS

NEXT MEETING June 7, 2021 @ 3:30 p.m.

ADJOURNMENT

**SUNSHINE COAST REGIONAL DISTRICT
WATER SUPPLY ADVISORY COMMITTEE**

April 12, 2021

RECOMMENDATIONS FROM THE WATER SUPPLY ADVISORY COMMITTEE MEETING
HELD VIA ZOOM

| | | |
|----------------------|--|--|
| PRESENT: | Chair Vice-Chair | S. Thurber D. McCreath D. Marteinson A. Skelley (part) M. Hennessy (part) T. Beck B. Fielding (part) T. Silvey T. Adams (part) |
| ALSO PRESENT: | Director, Area F Director Area D Director Area A District of Sechelt Town of Gibsons | M. Hiltz A. Tize L. Lee T. Lamb B. Beamish |
| (Non-voting) | GM, Infrastructure Services Manager, Strategic Initiatives Water Sustainability Coordinator Administrative Assistant/Recorder | R. Rosenboom M. Edbrooke J. Callaghan T. Ohlson |
| | Public | 2 |
| REGRETS: | | J. Bowen |

Directors, staff, and other attendees present for the meeting participated by means of electronic or other communication facilities in accordance with Sunshine Coast Regional District Board Procedures Bylaw 717.

CALL TO ORDER 3:35 p.m.

AGENDA The agenda was adopted as amended to include the following items of New Business:

- Letters from Geoff Bedford
- Questions that remain outstanding

MINUTES

Recommendation No. 1 *Water Supply Advisory Committee Meeting Minutes of March 1, 2021*

The Water Supply Advisory Committee recommended that the Water Supply Advisory Committee meeting minutes of March 1, 2021 be received for information.

REPORTS

Recommendation No. 2 *WASAC’s Water Supply Planning Questions*

The Water Supply Advisory Committee recommended that the report titled WASAC’s Water Supply Planning Questions be received for information.

Discussion included the following:

- Annual capital and operating costs of metering program
- Phased approach to meter installations and cost implications
- Cost comparison of meter installation vs additional sources
- Primary concern amongst the public is cost
- Additional ads in local newspaper on this topic
- Regional growth rates

The General Manager, Infrastructure Services provided the Committee with an update on Water Supply projects which included Langdale well, Mary Anne Park West and the results of recent snow surveys.

Discussion included the following:

- Monitoring program for Langdale well
- Treatment for iron and manganese

Recommendation No. 3 *March and April Water Related Staff Reports to WASAC*

The Water Supply Advisory Committee recommended that the report titled March and April Water Related Staff Reports to WASAC be received for information.

The Manager, Strategic Initiatives discussed recording of WASAC meetings for members with the Committee.

Discussion included the following:

- Recordings will be public record and posted online
- WASAC to discuss and make a decision as a Committee

NEW BUSINESS

Letters from Geoff Bedford

Discussion included the following:

- Aquifers are a different form of secure water storage with no evaporation

- Access to grants for local residents through an equity lens
 - Concerns about taxes and increases
 - Parcel taxes cannot be waived
- Various SCRD water conservation campaigns
 - Pledge to reduce water use
 - Rainwater harvest rebate
 - Clothes washer rebate – partner with BC Hydro
 - Mini campaign for pressure washing
 - Golden lawn
- Provincial and federal grants for metering and SCRD's ability to access
- Rate structure for water billing
- Long-term water supply planning
- Bylaw 422 – water conservation regulations
- Costs of groundwater investigation with no guarantee of finding sustainable sources

Questions that remain outstanding

- How could meters be used?
 - Gain a better understanding of water use
 - Leak detection and resolution
 - Billing, subject to Board direction and public input
 - Conservation
- What is the benefit of water meters?
- What is the cost per cubic meter of water for meters relative to other options? (see staff report and presentation)
- Consider avoided costs, such as \$10 million for Chapman Water Treatment Plant expansion not being required.

Future Meeting Topics

- Bang the Table
- Water metering

NEXT MEETING May 3, 2021 @ 3:30 p.m.

ADJOURNMENT 4:57 p.m.

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Water Supply Advisory Committee – May 3, 2021

AUTHOR: Mia Edbrooke, Manager, Strategic Initiatives

SUBJECT: WASAC'S WATER SUPPLY QUESTIONS - UPDATE

RECOMMENDATION

THAT the report titled WASAC's Water Supply Questions - Update be received for information.

BACKGROUND

After their meeting on April 12, 2021, the Water Supply Advisory Committee sent additional questions and correspondence to staff for a response, related to the water supply and demand data, and associated assumptions. The purpose of this report is to provide information related to these additional questions from WASAC.

DISCUSSION*Water Demand Data*

Water demand is the amount of water the Sunshine Coast Regional District (SCRD) must produce to meet all water needs of the community. This includes water supply for residents and businesses, fire protection, and environmental flow needs to protect ecosystems. All water systems have a certain amount of leakage, with aging pipes and infrastructure, on both public and private property, and the SCRD has tools to reduce water losses, like the Leak Notification Program and leak detection equipment for water mains. The information below uses the best data available. There is some water that is unaccounted for, including unmetered properties and non-metered water usage. Currently, about 6,200 properties are metered, out of about 11,000 properties that could be metered within the SCRD's water systems.

Water demand varies throughout the season, with the highest usage in the summer and lowest usage during the winter. Variations also occur during the day, generally peaking in the morning and early evening when more residents are home or using water for outdoor use.

Average Daily Demand (ADD) is the average volume of water used in a day in a given year. It is calculated using total annual water delivered divided by 365 days. ADD can be used to calculate per capita demand (ADD divided by residential population) and is used for certain types of infrastructure expansion planning.

Maximum Daily Demand (MDD), sometimes referred to as peak daily demand, is the highest daily volume of water used per year, and does not reflect total or average water use. MDD can help plan for infrastructure expansion, and may reflect events like extreme warm weather associated with large outdoor water use, or fires or emergencies requiring a large amount of water.

Analysing water use provides important insights about meeting water demand and achieving conservation objectives. Staff can only use available data, and metered properties and businesses provide information about per capita water demand, leaks, and water use behaviour. Staff are currently hiring additional staff resources, and developing tools to enhance and increase its capacity to undertake water analyses.

Clarifications on Assumptions

In March and April 2021, staff provided the presentation titled, “Integrated Approach to Water - 2021 Spring Update” and a staff report to WASAC (Appendix A) which looked at two scenarios using the Water Demand Analysis, a planning tool for forecasting water needs using factors like growth, climate change projections, and future infrastructure expansion. The first scenario was called the **status quos scenario**, which assumed the current water meter program, which included the leak notification program, water meters installed in most areas of the SCRCD, and the commissioning of new water sources that are currently under development in the short term (before 2030). An **alternate scenario** was presented which included a fully implemented water meter program with water meters installed in the Sechelt Area and a pay-per use rate structure.

Staff used assumptions in the recent the analysis that are aligned with a *2018 Water Demand Analysis* prepared by Integrated Sustainability, who was retained to review and analyse historic community water demands and water supply characteristics, and project future water demands and storage needs (Appendix B). Specifically, the report provides a forecast to estimate the future water supply deficit for the Chapman System with no new water sources added.

The following assumptions formed a basis for the two scenarios presented:

- Two per cent population growth, based on historical census population statistics. This is the same annual growth rate that was used in the *2013 Comprehensive Regional Water Plan* (Appendix C) (**both scenarios**),
- Per capita ADD is currently about 10% below the 2010 baseline, based on a review of the Chapman System which showed 2017 water use was 13% below 2010 levels (**status quo scenario**),
- An additional 10% reduction could be achieved if water meters were installed in the Sechelt Area (**alternate scenario**), and
- A further 10% reduction could result from a switch to volumetric billing, where all water users are aware of their water use, resulting in behavioral change (**alternate scenario**).

A total 30% reduction under the **alternate scenario** is considered realistic based on examples from other jurisdictions and the reductions achieved to date in the SCRCD system resulting from existing water meter installations:

- A Canadian study¹ found metered properties with volume-based water charges used 65% less water than unmetered properties.
- After water meters were installed:
 - The Town of Gibsons’ per capita demand fell by 40% due to a number of water conservation initiatives, and
 - West Vancouver saw a 30% reduction during the summer season.

¹ Environment Canada. (2011). 2011 Municipal water use report: Municipal water use 2009 statistics. Government of Canada.

In addition, water meters allow the SCRD to notify residents about their water leaks. In 2020, staff sent out leak notification letters to 858 out of 6,200 metered properties (more than 10%) and residential properties with a water leak unknowingly used about four times more water than the average home.

Conservation Estimates

WASAC inquired about the following statement from a staff report presented to the Infrastructure Services Committee in 2018:

“Despite the above-mentioned resident and tourism growth the recent trends in water demand are: Over the last 8 years, the annual average daily water use remains at 13,500m³ per day. The maximum daily demand during the summer months has fallen from 28,000m³ per day in 2009 to 21,500m³ per day in 2017 – a reduction of 23% that can largely be attributed to water conservation initiatives.”

The 23% decrease in MDD during the summer, meaning peak daily demand. This could be attributed to a more water conservation-orientated community and/or significantly more stringent regulatory water restrictions in place. Prior to 2012, it was common for water restrictions to not exceed Stage 2. The water conservation assumptions in the Water Demand Analysis reflect average annual water demand throughout the year, as opposed to peak summer events.

Benefits of a Water Meter Program

A fully implemented SCRD water meter program:

- **Promotes water efficiency and conservation.** Water metering is broadly accepted as a best management practice for water demand management.
- **Helps with early leak detection**, preventing property damage and water losses.
- **Can offset costs.** Water metering costs money, but so does treating and distributing water, and expanding our water supply. We need to continue balancing supply and demand to improve the resiliency of our current water system.
- **Offers the opportunity for fair billing.** With volumetric billing, you only pay for what you use.

The April 2021 WASAC report (Appendix A) described two scenarios to further demonstrate the benefits of a water meter program. It showed that the scenario with a fully implemented water meter program in short term compared to not keeping the current program:

- Eliminates impacts on community and economy of Stage 3 and 4 Water Conservation Restrictions as of 2024/2025.
- Is more cost effective than only increasing supply, aligned with the lifecycle analysis in the *2013 Comprehensive Regional Water Plan* (Appendix C).
- Delays need for upgrades to Gray Creek water intake from 2024 until at least 2032 (\$2.5 million).

- Delays need for an additional water supply source from 2026 until at least 2039 (\$2.5-\$7.5 million).
- Avoids need to expand Chapman Water Treatment Plant (\$12.5-15 million).
- Significantly improves the chance of receiving grants for water supply expansion projects.

What could Water Meter Data be Used For?

Water meters measure water used by residential and businesses properties. Water meters data could be used for the following:

- Make residents aware about their water use. If you can't measure it, you can't manage it.
- Allows the SCRD to improve its water management policies and practices.
- Help with early leak detection. If the water meter disc spins continuously, 24 hours per day, it indicates a leak.
- If water metering is implemented across the region, the SCRD Board could consider incorporating a pay-by-use rate structure, to increase fairness in our community. Currently, SCRD residential water customers pay a flat rate, regardless of how much water they use. Future rate structures would be set by the SCRD Board with community input. For example, different rate structure options for low-income households or other incentives could be considered.

SCRD's Role in Restricting Water Use

Regulatory Initiatives

Regional water rates, operations, and restrictions are set out under *SCRD Water Rates and Regulations Bylaw No. 422* (the Bylaw, Appendix D). Water restrictions and resolving leaks are regulatory requirements, not voluntary or part of incentive programs. The SCRD seeks to promote compliance first through education and outreach, and uses enforcement actions when necessary.

The Bylaw has several elements, including:

- [Water Conservation Regulations](#) that come into effect between May 1 to September 30 every year, starting with Stage 1. Water restrictions help ensure there is enough treated drinking water for everyone during the dry summer months.
- Lawn watering permits are available for watering beyond the allowable times in order to establish new seed or sod lawns. Permits are only available during Stage 1 for a period of 21 days, or until Stage 3 is declared.
- Requirements for rain sensors as part of any irrigation system, regardless of whether it is a new or existing system, unless the system uses micro- or drip-irrigation technologies which are exempt under the Bylaw.
- Requirements to fix household leaks after due notification to the property owners. Staff provide residents notifications regularly and guidance for fixing leaks, to prevent water losses. If the leak is not fixed, causing water losses, then the SCRD has authority to stop water supply to that property until such time that the situation has been resolved.



Source: [SCRD Water Meter Program Summary](#)

Non-Regulatory Initiatives

Non-regulatory initiatives, sometimes referred to as voluntary, are activities such as education, outreach and incentive programs, and research and operational activities. Non-regulatory initiatives are most effective if implemented proactively, and with participation by key stakeholders.

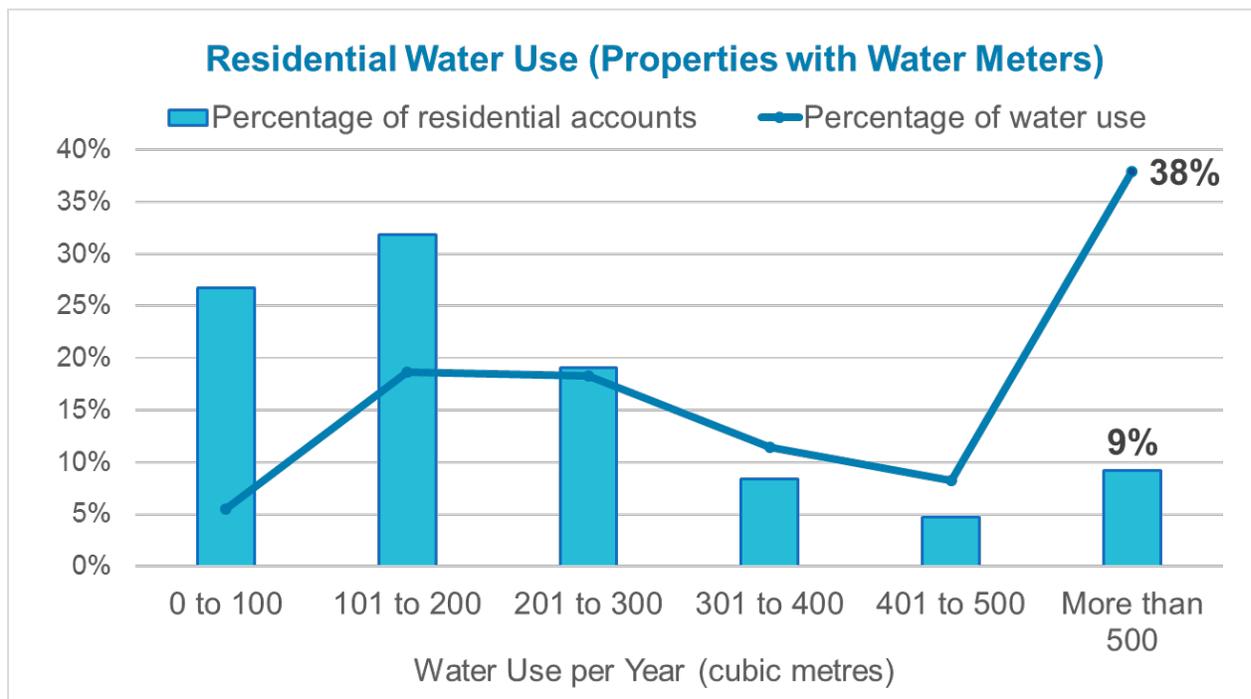
Examples of non-regulatory initiatives that are part of the SCRD’s water conservation program are:

- Rainwater harvesting rebate program. In 2021, the SCRD is providing up to \$1,000 for a minimum of 9,000 litres of new rainwater storage.
- Guides, best management practices, and other educational resources.
 - o Example: [How to build your own rain barrel](#)
- Education and outreach
 - o Let’s Talk Water events
 - o Summer pledge campaigns to reduce water with businesses in the tourism sector
 - o Social media and newspaper advertisements
 - o Website information
 - o Water Treatment Plant tours
 - o Partnerships with schools

Clarification on Residential Water Use

This chart represents residential metered properties in 2020, in Areas A, B, D, E, and F. It does not include commercial properties or facilities like the hospital. The chart describes last year’s average annual residential water use, where the line represents the portion of the system’s drinking water used by residential metered users. The upper range of the high use category is 1,700m³.

A small number of metered properties, each using more than 500m³ of water per year, used about one-third of the total drinking water distributed to metered properties. Many of these properties have water leaks and staff are working to get these leaks resolved as soon as possible. Staff identified seven farms and they are not among the highest users in the high use category.



Next Steps

The information outlined in this report was the subject of the ‘Let’s Talk Water’ forum on April 26 and again for the ‘Let’s Talk Water’ forum scheduled in May. These events provide an opportunity for the public to ask questions about the SCRD’s water supply projects and initiatives, including the water meter program.

STRATEGIC PLAN AND RELATED POLICIES

The completion and implementation of the water supply projects and water meter program were identified in the SCRD 2019-2023 Strategic Plan through the following strategies:

- The Engagement and Communications goal “to proactively engage with our residents, partners and staff in order to share information and obtain their input on issues and decisions that affect them.”
- The Asset Stewardship goal, specifically the strategy to have a “plan for and ensure year-round water availability now and in the future”.

CONCLUSION

WASAC requested information from staff related to the water supply systems. This report aims to provide further detail in response to WASAC’s request. Staff have outlined information about water demand data, further clarification about assumptions used in the Water Demand Analysis and conservation estimates, and the SCRD’s regulatory, education and outreach programs. Staff will continue to share this information with the public through venues like the Let’s Talk Water Forum scheduled in May.

APPENDICES:

Appendix A – [Staff Report: WASAC’s Water Supply Planning Questions](#)

Appendix B – [2018 Water Demand Analysis, prepared by Integrated Sustainability](#)

Appendix C – [2013 Comprehensive Regional Water Plan](#)

Appendix D - [Sunshine Coast Regional District Water Rates and Regulations Bylaw No. 422](#)

| | | | |
|--------------|------------------|-------------|--|
| Reviewed by: | | | |
| Manager | | Finance | |
| GM | X – R. Rosenboom | Legislative | |
| CAO | | Other | |