

**METRO VANCOUVER REGIONAL DISTRICT  
WATER COMMITTEE**

**REGULAR MEETING**

**May 13, 2021**

**9:00 am**

**28<sup>th</sup> Floor Boardroom, 4730 Kingsway, Burnaby, British Columbia**

**A G E N D A<sup>1</sup>**

**1. ADOPTION OF THE AGENDA**

**1.1 May 13, 2021 Regular Meeting Agenda**

That the Water Committee adopt the agenda for its regular meeting scheduled for May 13, 2021 as circulated.

**2. ADOPTION OF THE MINUTES**

**2.1 April 15, 2021 Regular Meeting Minutes**

That the Water Committee adopt the minutes of its regular meeting held April 15, 2021 as circulated.

**3. DELEGATIONS**

**4. INVITED PRESENTATIONS**

**5. REPORTS FROM COMMITTEE OR STAFF**

**5.1 Coquitlam River Watershed Roundtable's 2020 Annual Report for Greater Vancouver Water District**

That the GVWD Board receive for information the report dated May 3, 2021, titled "Coquitlam River Watershed Roundtable's 2020 Annual Report for Greater Vancouver Water District".

**5.2 GVWD Watershed Wildfire Preparedness Update**

That the Water Committee receive for information the report dated April 12, 2021 titled "GVWD Watershed Wildfire Preparedness Update".

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<sup>1</sup> Note: Recommendation is shown under each item, where applicable.

**5.3 Award of Contract Resulting from Tender No. 20-154: Pebble Hill Reservoir Unit No. 1 & 2 Seismic Upgrades**

That the GVWD Board:

- a) approve award of a contract in the amount of \$7,062,500.00 (exclusive of taxes) to Bennett Mechanical Installations (2001) Ltd. resulting from Tender No. 20-154: Pebble Hill Reservoir Unit No. 1 & 2 Seismic Upgrades, subject to final review by the Commissioner; and
- b) authorize the Commissioner and the Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

**5.4 Water Supply Forecast and Water Consumption Update for Summer 2021**

That the Water Committee receive for information the report dated May 6, 2021, titled "Water Supply Forecast and Water Consumption Update for Summer 2021".

**5.5 Update on the Cleveland Dam Safety Enhancements Program**

That the Water Committee receive for information the report dated May 3, 2021, titled "Update on the Cleveland Dam Safety Enhancements Program".

**5.6 Manager's Report**

That the Water Committee receive for information the report dated May 3, 2021 titled "Manager's Report".

**6. INFORMATION ITEMS**

**6.1 Project Delivery Department – Governance Transition**

**7. OTHER BUSINESS**

**8. BUSINESS ARISING FROM DELEGATIONS**

**9. RESOLUTION TO CLOSE MEETING**

*Note: The Committee must state by resolution the basis under section 90 of the Community Charter on which the meeting is being closed. If a member wishes to add an item, the basis must be included below.*

That the Water Committee close its regular meeting scheduled for May 13, 2021 pursuant to the *Community Charter* provisions, Section 90 (1) (e) and (i).

"90 (1) A part of the meeting may be closed to the public if the subject matter being considered relates to or is one or more of the following:

- (e) the acquisition, disposition or expropriation of land or improvements, if the board or committee considers that disclosure could reasonably be expected to harm the interests of the regional district," and

- (i) the receipt of advice that is subject to solicitor-client privilege, including communications necessary for that purpose.”

## **ADJOURNMENT/CONCLUSION**

That the Water Committee adjourn/conclude its regular meeting of May 13, 2021.

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### Membership:

Brodie, Malcolm (C) - Richmond  
Elford, Doug (VC) - Surrey  
Asmundson, Brent - Coquitlam  
Baird, Ken - Tsawwassen First Nation  
Bell, Don - North Vancouver City

Bligh, Rebecca - Vancouver  
Clark, Carolina - Belcarra  
Dingwall, Bill - Pitt Meadows  
Guichon, Alicia - Delta

Keithley, Joe - Burnaby  
Martin, Gayle - Langley City  
Svendsen, Ryan - Maple Ridge  
Vagramov, Rob - Port Moody

**METRO VANCOUVER REGIONAL DISTRICT  
WATER COMMITTEE**

Minutes of the Regular Meeting of the Metro Vancouver Regional District (MVRD) Water Committee held at 9:00 a.m. on Thursday, April 15, 2021 in the 28<sup>th</sup> Floor Boardroom, 4730 Kingsway, Burnaby, British Columbia.

**MEMBERS PRESENT:**

Chair, Mayor Malcolm Brodie\*, Richmond  
Vice Chair, Councillor Doug Elford\*, Surrey  
Councillor Brent Asmundson\*, Coquitlam  
Chief Ken Baird\*, Tsawwassen  
Councillor Don Bell\*, North Vancouver City  
Councillor Rebecca Bligh\*, Vancouver  
Councillor Carolina Clark\*, Belcarra  
Mayor Bill Dingwall\*, Pitt Meadows  
Councillor Alicia Guichon\*, Delta  
Councillor Joe Keithley\*, Burnaby  
Councillor Gayle Martin\*, Langley City  
Councillor Ryan Svendsen\*, Maple Ridge  
Mayor Rob Vagramov\*, Port Moody

**MEMBERS ABSENT:**

None.

**STAFF PRESENT:**

Marilyn Towill, General Manager, Water Services  
Eva Haan, Legislative Services Coordinator, Board and Information Services

**1. ADOPTION OF THE AGENDA**

**1.1 April 15, 2021 Regular Meeting Agenda**

**It was MOVED and SECONDED**

That the Water Committee adopt the agenda for its regular meeting scheduled for April 15, 2021 as circulated.

**CARRIED**

\*denotes electronic meeting participation as authorized by Section 3.6.2 of the *Procedure Bylaw*

**2. ADOPTION OF THE MINUTES**

**2.1 March 11, 2021 Regular Meeting Minutes**

**It was MOVED and SECONDED**

That the Water Committee adopt the minutes of its regular meeting held March 11, 2021 as circulated.

**CARRIED**

**3. DELEGATIONS**

No items presented.

**4. INVITED PRESENTATIONS**

No items presented.

**5. REPORTS FROM COMMITTEE OR STAFF**

**5.1 Water Services Capital Program Expenditure Update to December 31, 2020**

Report dated March 18 2021, from Goran Oljaca, Director, Engineering and Construction, Water Services, reporting on the status of the Water Services Capital Program and financial performance for the 2020 fiscal year ending December 31, 2020.

Members were provided a presentation regarding updates to the Capital Program Expenditures highlighting the Second Narrows Water Supply Tunnel, Newton Pump Station No. 2, Kennedy Newton Main, Annacis Main No. 5 South, Central Park Main No. 2, South Delta Main, and Sunnyside Reservoir.

In response to questions, members were informed about the expected completion of the Second Narrows Valve Chamber. Members were advised that staff will coordinate with the contractors to ensure projects remain on schedule and on budget despite COVID-19 pandemic related restrictions.

A member requested that staff consider including maps of project locations in future reports.

**Request of Staff**

Staff were requested to include maps of Capital Project locations in future reports to the Water Committee.

Presentation material titled "Capital Expenditure Summary Project Update" is retained with the April 15, 2021 Water Committee agenda.

**It was MOVED and SECONDED**

That the Water Committee receive for information the report dated March 18, 2021, titled "Water Services Capital Program Expenditure Update to December 31, 2020".

**CARRIED**

**5.2 GVWD 2020 Water Quality Annual Report**

Report dated April 1, 2021, from Larry Chow, Program Manager, Quality Control, Interagency Projects and Quality Control, Water Services, providing the Water Committee with a summary of the GVWD 2020 Water Quality Annual Report.

Members were provided a presentation regarding the GVWD 2020 Water Quality Annual Report highlighting the water quality at the Capilano, Seymour, and Coquitlam source reservoirs, at the Seymour Capilano Filtration Plant and the Coquitlam Water Treatment Plant, within the regional transmission and local distribution systems.

Presentation material titled "2020 GVWD Water Quality Annual Report" is retained with the April 15, 2021 Water Committee agenda.

**It was MOVED and SECONDED**

That the GVWD Board receive for information the report dated April 1, 2021, titled "GVWD 2020 Water Quality Annual Report".

**CARRIED**

**5.3 Seymour Salmonid Society's 2020 Annual Report for Greater Vancouver Water District**

Report dated April 1, 2021, from Jesse Montgomery, Division Manager, Environmental Management, Water Services, providing the Water Committee with the Seymour Salmonid Society's 2020 Annual Report in accordance with the Contribution Agreement between GVWD and the Society.

**It was MOVED and SECONDED**

That the GVWD Board receive for information the report dated April 1, 2021, titled "Seymour Salmonid Society's 2020 Annual Report for Greater Vancouver Water District".

**CARRIED**

**5.4 Watering Regulations Communications and Regional Water Conservation Campaign for 2021**

Report dated March 9, 2021, from Larina Lopez, Division Manager Corporate Communications, and Amy Weiss, Project Coordinator, External Relations, updating the Water Committee on watering regulations communications and the annual regional water conservation campaign.

**It was MOVED and SECONDED**

That the Water Committee receive for information the report dated March 9, 2021, titled "Watering Regulations Communications and Regional Water Conservation Campaign for 2021".

**CARRIED**

**5.5 Manager's Report**

Report dated April 1, 2021, from Marilyn Towill, General Manager, Water Services, providing an update on current watershed snowpack, Capilano Hydropower, beneficial use of drinking water treatment residuals at Lafarge Cement Plant, and the Committee Work Plan.

**It was MOVED and SECONDED**

That the Water Committee receive for information the report dated April 1, 2021 titled "Manager's Report".

**CARRIED**

**6. INFORMATION ITEMS**

No items presented.

**7. OTHER BUSINESS**

No items presented.

**8. BUSINESS ARISING FROM DELEGATIONS**

No items presented.

**9. RESOLUTION TO CLOSE MEETING**

**It was MOVED and SECONDED**

That the Water Committee close its regular meeting scheduled for April 15, 2021 pursuant to the *Community Charter* provisions, Section 90 (1) (e) and (g) as follows:

"90 (1) A part of the meeting may be closed to the public if the subject matter being considered relates to or is one or more of the following:

- (e) the acquisition, disposition or expropriation of land or improvements, if the board or committee considers that disclosure could reasonably be expected to harm the interests of the regional district; and
- (g) litigation or potential litigation affecting the regional district."

**CARRIED**

**10. ADJOURNMENT/CONCLUSION**

**It was MOVED and SECONDED**

That the Water Committee adjourn its regular meeting of April 15, 2021.

**CARRIED**

(Time: 9:29 a.m.)

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Eva Haan,  
Legislative Services Coordinator

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Malcolm Brodie, Chair



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To: Water Committee

From: Jesse Montgomery, Division Manager, Environmental Management, Water Services

Date: May 3, 2021 Meeting Date: May 13, 2021

Subject: **Coquitlam River Watershed Roundtable's 2020 Annual Report for Greater Vancouver Water District**

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### RECOMMENDATION

That the GVWD Board receive for information the report dated May 3, 2021, titled "Coquitlam River Watershed Roundtable's 2020 Annual Report for Greater Vancouver Water District".

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### EXECUTIVE SUMMARY

The Coquitlam River Watershed Roundtable (CRWR) is a non-profit society with a mission "To preserve and enhance the health of the Coquitlam River Watershed through collaboration, education and advisory action". GVWD has a three-year (2020 – 2022) Contribution Agreement to the CRWR, via the Watershed Watch Salmon Society as financial trustee, for \$34,000 annually. This funding supports a paid full-time coordinator role and a number of community initiatives in the cities of Coquitlam and Port Coquitlam that provide public education and environmental outreach in the lower Coquitlam River Watershed. Key funding organizations in addition to GVWD include the Kwikwetlem First Nation, City of Coquitlam, City of Port Coquitlam as well as several industry and business contributors. The CRWR met the requirements of the GVWD Contribution Agreement in 2020.

The *Coquitlam River Watershed Roundtable's 2020 Annual Report for Greater Vancouver Water District* (attachment) provides an overview of the program in 2020.

### PURPOSE

To provide the Board with the Coquitlam River Watershed Roundtable's 2020 Annual Report in accordance with the Contribution Agreement between GVWD and the CRWR.

### BACKGROUND

A three-year Contribution Agreement, the first between GVWD to CRWR, was approved in 2020 to provide funding via the Watershed Watch Salmon Society (acting as Financial Trustee). At its November 1, 2019 meeting, the GVWD Board adopted the following resolution:

*That the GVWD Board approve the Contribution Agreement between the Greater Vancouver Water District and the Watershed Watch Salmon Society for a three-year term and annual contribution of \$34,000 commencing on January 1, 2020 and ending on December 31, 2022.*

A requirement of the Contribution Agreement is for the CRWR to submit an annual report on its activities to the GVWD on or before January 15 of the following year. This report provides the CRWR's annual update on their 2020 activities.

### **HISTORY OF THE COQUITLAM RIVER WATERSHED ROUNDTABLE**

The CRWR was formed in 2011 with roots back to a Coquitlam River Watershed Strategy from 2007 developed by stakeholders. The group completed a *Lower Coquitlam Watershed Plan* in 2014 and identified action plans and implementation strategies which have been ongoing since 2016. Priorities of the CRWR pertain to advocacy and actions contributing to improvements in development practices, stormwater and invasive species management.

### **Contribution Agreement**

The Contribution Agreement specifies key CRWR services supported by GVWD. These include that the Recipient will provide an annual report to Metro Vancouver on or before January 15 of each year of the Term, detailing the previous year's activities in connection with the Services, including at a minimum the following:

- (a) operating results showing revenues and expenditures to December 31 of the preceding year;
- (b) a summary reviewing the goals, objectives and the results achieved for the year, including the challenges, program cancellations, and significant issues addressed, including;
  - i. progress towards implementation of the Watershed Plan;
  - ii. assistance with the development and implementation of binding water and land use sustainability plans;
  - iii. Core Committee activities;
  - iv. issues affecting Coquitlam River health;
  - v. implementation and support of environmental monitoring, mitigation and restoration activities, including invasive species treatments;
  - vi. outreach and education related to water conservation efforts;
  - vii. other outreach and education programs;
  - viii. collaboration efforts with First Nations; and
  - ix. details on special events and public outreach programs; and
- (c) a summary of other funding partner initiatives and financials to year end.

### **Annual Reporting Highlights**

The Roundtable's 2020 Annual Report is provided as an attachment and is summarized with the following bullets:

- Acquired society status to better access grants and sponsorship opportunities.
- Produced an interactive Coquitlam River Watershed Atlas and Project Catalogue.
- Developed a virtual Lower Coquitlam River Watershed Tour film for educational purposes.
- Promoted two shoreline clean-ups with one held on World Rivers Day in Port Coquitlam (second event was cancelled due to the pandemic).

- Hosted a Community Roundtable Webinar – “Watersheds and Wellbeing: A Healthy Two-way Stream” with guest speakers from BC Children’s Hospital and UBC.
- Continued to work on urban development pressures and stormwater management issues.
- Convened five, three-hour roundtable meetings during the year.
- Significantly updated the CRWR website.
- Published an annual “Backgrounder” in the spring of 2020 and bi-annual “Implementation Updates” in spring and summer.

## **ALTERNATIVES**

This is an information report. No alternatives are presented.

## **FINANCIAL IMPLICATIONS**

GVWD is a primary contributor to the CRWR, providing \$34,000 annually through 2022. These funds are included in the Watershed & Environmental Management program budget and Financial Plan.

## **CONCLUSION**

Under the terms of the Contribution Agreement with GVWD, the CRWR is required to submit an annual report on its activities by January 15 of each year in the term. The CRWR expectedly struggled with public engagement in 2020 due to the pandemic, but launched a number of successful virtual and digital initiatives to reach their audience and achieve targets within the Contribution Agreement.

## **Attachment**

Coquitlam River Watershed Roundtable's 2020 Annual Report for Greater Vancouver Water District  
(44748667)

## **Reference**

[Coquitlam River Watershed Roundtable Website](#)

44747846



Photo credit: Originelle Designs Photography

# 2020 Annual Report

## Demonstrating Adaptability and Resilience

[coquitlamriverwatershed.ca](http://coquitlamriverwatershed.ca) | [info@coquitlamriverwatershed.ca](mailto:info@coquitlamriverwatershed.ca)

Coquitlam River  
Watershed Roundtable



Prepared for:  
Greater Vancouver Water District

Published by:  
Coquitlam River Watershed Roundtable

January 15<sup>th</sup>, 2021

Water Committee

## **Our Mission**

*To preserve and enhance the health of the Coquitlam River Watershed  
through collaboration, education and advisory action.*

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# Executive Summary

## Acknowledgements

We wish to thank the cities of Coquitlam and Port Coquitlam, Greater Vancouver Water District (GVWD), Morguard, Port Coquitlam and District Hunting and Fishing Club, Fisheries and Oceans Canada and Lehigh Hanson Materials Ltd for their generous financial support in 2020. Our deepest gratitude to the cities of Coquitlam and Port Coquitlam, Kwikwetlem First Nation, Pooni Group, Watershed Watch Salmon Society and ArtsConnect for their contributions of time, staff resources and venue, event and refreshment supplies.

## Core Committee

The Roundtable bid farewell to founding member Margaret Birch for her retirement in early 2020. New Core Committee members Caresse Selk from the City of Coquitlam, Cllr. Darrell Penner and Meghan Woods from the City of Port Coquitlam, Glen Joe from Kwikwetlem First Nation, Cam Hiebert from BC Hydro, Lilian Kan from Noura Homes, Geoff Nagle from Morguard and Susan Devlin from Vancity were welcomed. The Provincial representative stepped down and the seat remained empty for the remainder of the year. Minor alterations to the structure of the Core Committee were made when the Aggregate Industry sector was renamed Industry and split into two seats for aggregate and construction, and the Recreation sector was renamed Community.

Active committees and task groups for 2020 included the standing committees for Resilience and Capacity Building, Communications and Habitat; Project Committees for Development, Roundtable Meeting Planning and Stormwater Management; and Task Groups for Financial Trustee matters and Terms of Reference review.

## Operational Updates

To facilitate better access to grants and sponsorship, and to streamline application processes with funders, the Roundtable has acquired society status under the name Coquitlam River Watershed Society. It will continue to operate as the Coquitlam River Watershed Roundtable. The Terms of Reference and mission statement were also updated to include society bylaw requirements and to better reflect the Roundtable's purpose and practices.

## Projects and Public Outreach

COVID-19 presented significant challenges in 2020. Health and safety protocols were imposed just as projects and campaigns were being finalized and after a brief waiting period, a new COVID-safe work plan was created. The Roundtable is pleased to report that, while slightly truncated, activities were adapted to a virtual platform with success.

The Development Project Committee produced an interactive Coquitlam River Watershed Atlas and Project Catalogue that allows users to access and input geospatial information about the watershed, including low-impact development, invasive species, fish, wildlife and habitat projects in the area. In partnership with Roundtable volunteers and the University of Victoria's Environmental Law Centre, the committee is also producing an evidence-based report on the effects of urban development in the watershed. The paper will speak to low-impact development techniques that can help to alleviate these



pressures and identify regulations that either facilitate or inhibit their implementation. The recommendations will be presented at developers' workshops in 2021.

The Stormwater Management Committee is currently liaising with local watershed governments on the development of their integrated stormwater management plans and related adaptive management framework. The goal is to create a watershed-wide adaptive stormwater management plan.

The Roundtable helped to promote two shoreline clean-ups with the BC Greens (a non-partisan event) and the City of Port Coquitlam's Rivers and Trails event. The BC Greens event was cancelled due to lack of garbage, but 29 Roundtable and community members were able to participate in the Port Coquitlam event on Rivers Day and collected at least 10 full bags of refuse.

To address mainstream cultural norms and emotive concerns for the watershed, a virtual Lower Coquitlam River Watershed Tour was filmed. The video featured eight spots in the watershed that viewers could learn about, visit and get engaged. The full tour and individual stops are available on our YouTube, Facebook and website.

In place of its typical in-person event, the Roundtable hosted its first ever Community Roundtable Webinar – *Watersheds and Wellbeing: A Healthy Two-way Stream*. Guest speakers from BC Children's Hospital and UBC spoke to the connection between healthy watersheds and human wellbeing, and the Roundtable received valuable feedback on green spaces in the watershed. Results indicated that community members felt there was adequate access to meaningful green spaces, but that habitat connectivity and garbage maintenance could be improved. A public outreach video titled [\*A Guide to Nature Therapy in the Watershed\*](#) was created from pre-show entertainment to address mainstream cultural norms.

## Meetings and Presentations

The Core Committee convened for five three-hour meetings, each member contributing their time in-kind, as with subcommittees and task groups. The Resilience and Capacity Building Committee met three times, the Communications Committee assembled quarterly, and the Habitat committee collaborated via email to address relevant concerns. The Community Roundtable Meeting/Webinar planning group met seven times, while the Development Project committee convened three times and Stormwater Management committee assembled twice. Financial Trustee and Terms of Reference Review Task Force groups met once and twice respectively.

Two delegation presentations were given to core funders, the cities of Coquitlam and Port Coquitlam and two community presentations were made to community groups, the Coquitlam Rotary Club and Our Water BC.

## Social Media and Website

The Roundtable website was updated to allow users to easily access information about volunteering and donating. A section featuring the Watershed Atlas was also added and media updated throughout the site. Analytics were collected starting in April and the number of monthly website users has steadily increased from 484 to 762 in November, with a slight decrease to 628 in December for a total of 5094 users over the year. Facebook followers have increased from 762 at the start of the year to 816 at the end and YouTube video views have increased from 214 in 2019 to 982 in 2020.

## Communications

An annual Backgrounder was published in Spring and bi-annual Implementation Updates were distributed in Spring and late Summer. E-news is published on a quarterly basis. These publications had an open rate of between 35%-45% with the exception of the Fall e-news, which received an open rate of 25%. Subscribers did however decrease from 305 to 276. Efforts will be made to increase subscriptions moving forward.

## In-kind Contributions

In-kind contributions were valued at \$18,822 including 632 hours of time and \$600 of venue/refreshment donations.

## Financials

The Roundtable received \$99,547 and carried over \$36,348 from 2019 for a total of \$135,895 available funds for the year. The Greater Vancouver Water District contributed \$34,000 of the total deposits. Cash expenditures totaled \$91,159. When combined with in-kind contributions of \$18,822, operating costs totaled \$109,981. GVWD's funds were largely attributed to operational costs, the greatest of which was to maintain the Roundtable Coordinator.

## Year in Review

2020 was a challenging year due to COVID-19. We are proud to say that the Roundtable was able to adapt and demonstrate resilience in the face of adversity and did so with success. This is exhibited by the metrics for our virtual platforms, which have all shown excellent growth: website use up by 50% at its peak, Facebook by 7% and YouTube by 300%.

While in-kind contributions were less than the previous year, the difference is accounted for by the lack of need for municipal and financial trustee staff resources now that sustainable funding is in place. With the uncertainty of continued funding due to COVID, and because of the break in activities at the start of the pandemic, fiscal expenditures were conservative. In November, core funders confirmed that funding for 2021 remains in place and activities will resume as budgeted with appropriate modifications for COVID.

## Moving Forward

In 2021, funding agreements with the cities of Coquitlam and Port Coquitlam will reach the end of their terms and one final year will remain in the agreement with the GVWD. The Roundtable will now begin to build a new five-year plan and seek renewed funding agreements with the cities of Coquitlam and Port Coquitlam, the GVWD and Kwikwetlem First Nation. With a COVID-safe strategy in place, the Roundtable will continue to advance its Lower Coquitlam River Watershed Plan as capacity allows.

## Acknowledgements

We wish to thank the following organizations for their generous financial support in 2020:



Our deepest gratitude to the following partners for their contributions of time, staff resources and venue and refreshment supplies:

- Kwikwetlem First Nation
- Pooni Group
- Watershed Watch Salmon Society
- City of Port Coquitlam
- City of Coquitlam
- ArtsConnect

## Core Committee Sectors and Representatives

The Core Committee comprises a team of 19 sector representatives from 12 diverse sectors, all of whom contribute their time in-kind to attend Core Committee and Community Roundtable meetings, sit on standing and project committees and attend outreach events. Without their dedication and collaborative efforts, the Roundtable would not be what it is today. Each member sits on the Core Committee for 18-24 month terms, although many continue on for years beyond their tenure. We wish to thank our Core Committee members for their generous contributions of time in 2020.

 <b>Scott Ducharme</b> <i>Fisheries and Oceans Canada</i>	 <b>Jesse Montgomery</b> <i>Greater Vancouver Water District</i>	 <b>Cllr. Steve Kim</b> <i>City of Coquitlam</i>	 <b>Caresse Selk</b> <i>City of Coquitlam</i>	 <b>Cllr. Darrell Penner</b> <i>City of Port Coquitlam</i>
 <b>Meghan Woods</b> <i>City of Port Coquitlam</i>	 <b>Cllr. George Chaffee</b> <i>Kwikwetlem First Nation</i>	 <b>Craig Orr</b> <i>Kwikwetlem First Nation</i>	 <b>Cam Hiebert</b> <i>BC Hydro</i>	 <b>Lilian Kan</b> <i>Noura Homes</i>



**Jim Allard**  
*Allard Contractors*



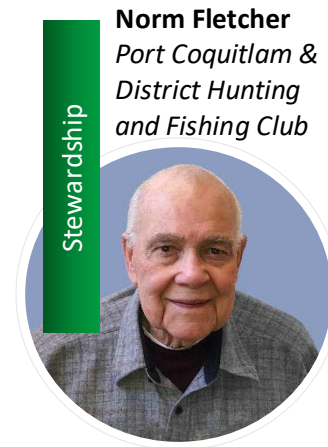
**Kirsten Wilson**  
*Jack Cewe*



**Marvin Rosenau**  
*BC Institute of  
Technology*



**Eve Gauthier**  
*Tri-City Green  
Council*



**Norm Fletcher**  
*Port Coquitlam &  
District Hunting  
and Fishing Club*



**Tony Matahlija**  
*North Fraser Salmon  
Assistance Project*



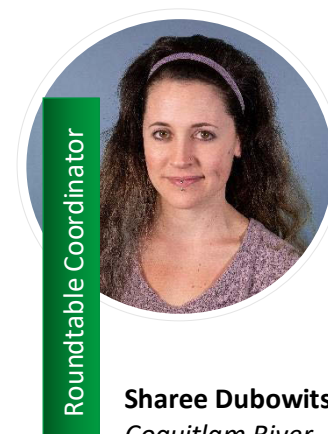
**Sherry Carroll**  
*ArtsConnect*



**Susan Devlin**  
*Vancity*



**Shayla Walker**  
*Watershed Watch  
Salmon Society*



**Sharee Dubowits**  
*Coquitlam River  
Watershed Roundtable*

**Note:** For 2020 the Provincial Government seat remained vacant and is not represented here

Early in the year, the Core Committee bid founding member Margaret Birch farewell for her retirement. Margaret carries on as an active community participant on the Roundtable. City of Coquitlam staff representative Steffanie Warriner was succeeded by Caresse Selk and City of Port Coquitlam member Cllr. Laura Dupont was succeeded by Cllr. Darrell Penner and joined by staff representative Meghan Woods. The Core Committee welcomed Glen Joe as alternate for Cllr. George Chaffee with Kwikwetlem First Nation. BC Hydro's Karen Popoff was succeeded by Cam Hiebert and Development representatives from the Urban Development Institute changed from Pooni Group's Blaire Chisholm to Lilian Kan from Noura Homes and alternate Geoff Nagle from Morguard.

Provincial Government representative Jim Dunkley stepped down from his seat early in the year. The Roundtable is currently searching for an alternative representative from the Ministry of Forests, Lands, Natural Resource Operations and Rural Development. After a year with no permanent representative, the Recreation sector was renamed the Community sector and filled by long-time Roundtable supporter Susan Devlin from Vancity. Finally, the Aggregate Industry sector was renamed Industrial and a second seat was added; the first for the aggregate industry and the second for construction.

## Subcommittees

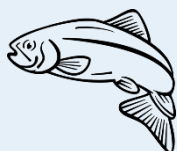


### Resilience and Capacity Building Committee

Cllr. Steve Kim, Cllr. Darrell Penner, Caresse Selk, Shayla Walker

### Communications Committee

Shayla Walker, Melissa Chaun, Carmen Green

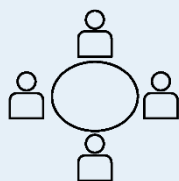


### Habitat Committee

Tony Matahlija, Norm Fletcher, Scott Ducharme

### Development Project Committee

Melissa Chaun, Geoff Nagle, Kirsten Wilson



### Roundtable Meeting Planning Committee

Elaine Willis, Eve Gauthier, Craig Orr, Margaret Birch

### Stormwater Management Committee

Meghan Woods, Eve Gauthier, Glen Joe



### Terms of Reference Review Task Force

Cllr. George Chaffee, Glen Joe, Jesse Montgomery, Meghan Woods, Caresse Selk

### Financial Trustee Task Force

Shayla Walker, Jace Harrison, Margaret Birch





## Operational Updates

### Society Status

In September, the Core Committee agreed to pursue society status for the Roundtable. The organization is now formally named the Coquitlam River Watershed Society and will continue to operate as the Coquitlam River Watershed Roundtable. This new incorporation allows the Roundtable better access to grants and sponsorship, will help to streamline agreements with funders and has the potential to help the organization deliver its Lower Coquitlam River Watershed Plan strategies with increased capacity.

### Terms of Reference Review

The Terms of Reference were originally adopted in 2016 and had not been reviewed since. Members provided feedback that the document did not clearly describe the Roundtable's purpose and practices, reflect First Nation engagement, or contain a concise mission statement. A strategy task force was formed to review and revise the document to address these concerns while preserving the original vision of the Roundtable. The Terms of Reference will now function as the society's bylaws and updates to the document now reflect those requirements.

## Projects and Public Outreach

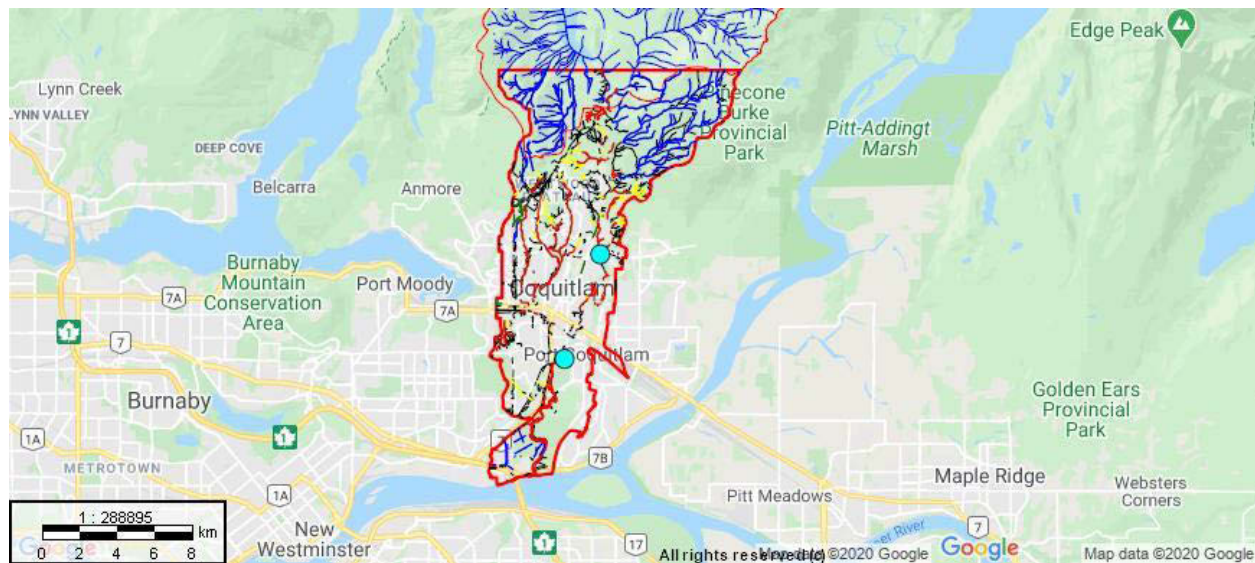
COVID-19 made 2020 a challenging year. The effects of the pandemic began to take shape just as the Roundtable had solidified its work plan for the year. Given the uncertainty of the novel situation, plans were put on hold until it became clear that the health and safety measures put in place by government authorities were long-term and would require significant adaptations.

Traditionally, the Roundtable's public outreach campaigns take place at large in-person events, all of which were cancelled to observe physical distancing protocols. Our subcommittees reconvened to demonstrate the resilience of the Coquitlam River Watershed Roundtable and were able to issue a [COVID-19 response](#), reprioritize and adapt their projects and campaigns to a virtual format with success. Given the time constraints imposed by the timing of the pandemic, these projects and outreach campaigns were truncated in number but effective.

### Development

Development is the top-rated pressure on the Coquitlam River Watershed and affects the highest number of components in the area. Our subcommittee was originally formed to address a *Development Incentives* strategy that proposed an incentives program for developers who choose to implement low-impact development (LID) techniques. Subcommittee members from the Urban Development Institute noted that awareness of the effects of urban development, LID techniques that could help to alleviate these pressures and relevant bylaws and policies were lacking. The subcommittee adjusted the strategy to focus on education and engagement of developers, planners and end-users. This was done in two ways: designing an interactive Watershed Atlas and Project Catalogue and preparing an evidence-based research paper that will compile the necessary information for presentation at a virtual developer's workshop.

## Watershed Atlas and Project Catalogue



The Coquitlam River Watershed Atlas and Project Catalogue is intended to be used as a resource tool for community members, including developers, planners, biologists, environmental and other organizations who are seeking information about or wishing to engage in environmentally-friendly projects within the watershed. Users can access and input geospatial information about the watershed and low-impact development, invasive species and fish, wildlife and habitat projects in the area.

The goal of this project is to encourage the preservation and development of a healthy watershed. The atlas also functions as a tool for tracking the progress of our Lower Coquitlam River Watershed Plan implementation strategies as all catalogued projects are dated with links to media and descriptions.

The Atlas was released for beta testing and feedback in late November 2020. Final release of the application is planned for early 2021. A link to the atlas description, map and help video is available on our [website's homepage](#) or accessed directly at <https://www.cmnbc.ca/atlasgallery/coquitlam-river-watershed-roundtable/>.

## Development Impacts and Relevant Low-Impact Development Techniques Report

With the assistance of a volunteer technical writer and the University of Victoria's Environmental Law Centre, the Roundtable is producing a report that will identify evidence-based impacts of urban development in the watershed. This paper will discuss appropriate low-impact development (LID) strategies that can help to alleviate this pressure and describe the associated maintenance practices. It will also identify the relevant local policies and bylaws that may either assist or inhibit the implementation of these features and provide recommendations to reduce barriers.

The volunteer technical writer has started drafting information related to development impacts and LID techniques. An application has been submitted to the University of Victoria's Environmental Law Centre clinic to begin drafting information related to local policies and bylaws that either facilitate or inhibit the implementation of LID approaches.

Once the report has been finalized, the findings will be presented to the development community at a virtual workshop, which is planned for 2021.



## Stormwater Management

Stormwater is another high-rated pressure in the watershed that is associated with the introduction of foreign or excess material into hydrologic systems due to surface water loading and runoff from the built environment. Stressors to the watershed ecosystem may include toxins (from vehicles, pavement, roofs, etc.), fertilizers and refuse (plastics, etc.). These stressors can result in degraded water quality, altered hydrological dynamics, increased nutrient loading, and consequently, compromised human, aquatic/riparian species and habitat health.

A subcommittee has begun working on a strategy to develop a watershed-wide adaptive stormwater management plan using the Metro Vancouver Adaptive Management Framework for Stormwater. During this phase of the strategy, the subcommittee is liaising with governments in the watershed on the development of their integrated stormwater management plans and associated adaptive frameworks. It is critical that this project is conducted in partnership with municipal and First Nation drainage staff and will be limited by their ability to contribute staff resources.

## Anti-Littering and Dumping Engagement



With restrictions placed on public gatherings, engagement events were limited. The Coquitlam River Watershed Roundtable worked with event organizers at the BC Greens (a non-partisan event) and the City of Port Coquitlam to promote physically-distant shoreline clean-ups along the Coquitlam River.

We are pleased to announce that the event with the BC Greens on June 27<sup>th</sup> was cancelled due to lack of garbage! The Port Coquitlam Rivers Day event on September 21<sup>st</sup> was well-attended by Roundtable and community members who arrived in small teams at staggered intervals wearing masks and gloves. Participants were provided with garbage pickers, bags and buckets, and collected everything from micro-garbage to bike frames. This event was capped at 50 registrants and served as an excellent pilot for future physically-distant clean-up events. Port Coquitlam reported that 29 registrants checked in (others had planned to meet at different sites) and collected at least 10 bags of refuse.

The Roundtable Public Outreach is currently building a virtual anti-littering/dumping campaign for 2021 which will target new watershed residents, homeless, youth and fast-food chains in the catchment.

## Mainstream Cultural Norms Outreach

This pressure is associated with a disconnection from or lack of understanding of the value of local ecosystem services provided to people by local natural resources. Stressors associated with mainstream cultural norms include increased apathy, decreased stewardship, lack of environmental awareness and knowledge, lack of respect for nature and decreased sense of value. Outreach programs were identified as the most effective strategy to alleviate this pressure.

### Virtual Lower Coquitlam River Watershed Tour



In an effort to emote concerns for the watershed and encourage stewardship, the Roundtable typically hosts lower watershed tours. To continue advancing this strategy while observing physical distancing, a virtual Lower Coquitlam River Watershed tour was filmed. Eight sites were selected for filming and a local expert spoke to her/his work in the area, current conservation concerns and how the community could get involved. The tour was produced by Babylon Film Studios and ArtsConnect and debuted during a virtual film screening event on World Rivers Day. The [full-length tour](#) is available on the Roundtable's YouTube, website and social media pages, as are each stop.

The virtual tour has had excellent reach on our social media platforms:

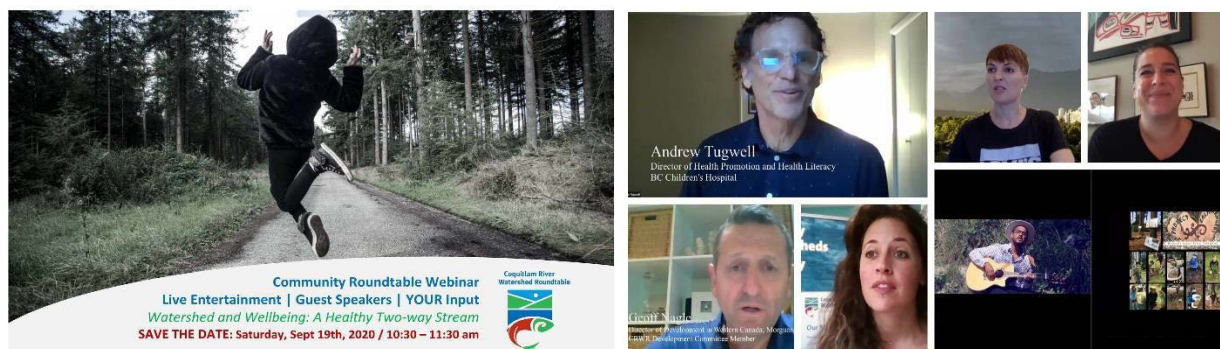
*Table 1. 2020 Views of the Virtual Lower Coquitlam River Watershed Tour*

Video	YouTube Views	Facebook Views	Total Views
Full-length tour	456	420	876
KFN/Colony Farms stop	25	21	46
Maple Creek stop	5	37	42
Hoy Creek Hatchery stop	44	236	280
River Springs stop	9	16	25
Crystal Falls RST stop	14	19	33
Lehigh Hanson stop	19	38	57
Grist Goeson Hatchery stop	2	19	21
Coquitlam Reservoir stop	31	3	34
			<b>1414</b>

The tour also addresses the Lower Coquitlam River Watershed Plan’s strategy for outreach on the state of mining practices. It features a stop at the [Lehigh Hanson aggregate site](#) on Pipeline Road and discusses their methods for settling fines and restoring sites.

## Community Roundtable Webinar

### *Watersheds and Wellbeing: A Healthy Two-way Stream*



The Roundtable aims to host one to two Community Roundtable meetings each year, which are typically in-person events. A meeting was planned and finalizations underway for a Spring 2020 event, however this event was postponed, then cancelled due to COVID-19 restrictions. The planning team reconvened virtually over multiple summer meetings to build its first ever Community Roundtable Webinar.

The event tied into work by the Development subcommittee underway at the time. Guest speakers Andrew Tugwell (Director of Health Promotion and Health Literacy at BC Children’s Hospital) and Dr. Lorien Nesbitt (Assistant Professor of Urban Forestry, University of British Columbia) discussed the connection between healthy watersheds and human wellbeing, and participants provided information on access to equitable green spaces in the watershed. The event was well-attended by local representatives and community members, and the Roundtable received valuable information on how to provide recommendations for the development of green spaces in the area. Survey results (n=22) indicated that participants felt there was adequate access to meaningful green spaces in the watershed, but that improvements could be made in habitat connectivity and garbage maintenance. A [recording of the webinar](#) was posted on our YouTube channel and Facebook page for subsequent viewing/input.

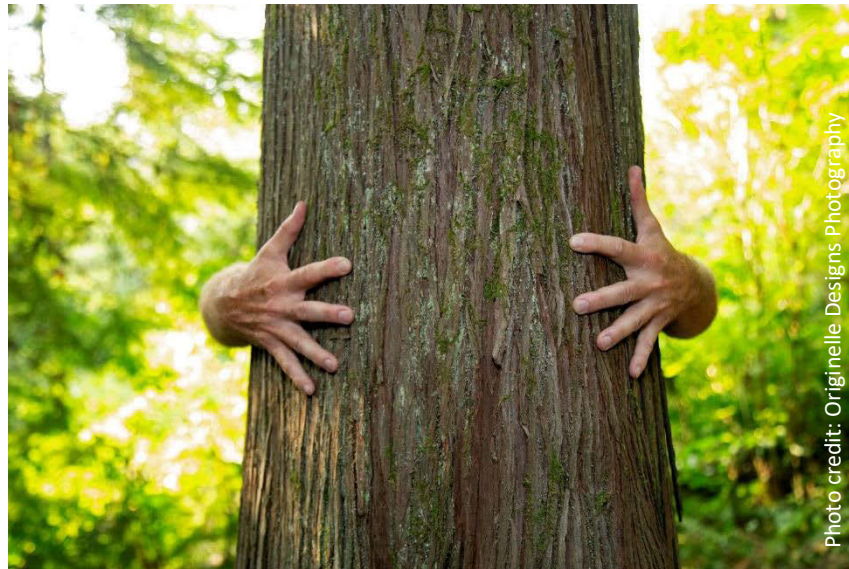
Table 2. 2020 Community Roundtable Webinar Attendance and Views

Pre-registrations	Attended Live	YouTube Views	Facebook Views
78	55	26	1
<b>Total Views</b>		<b>82</b>	

The [full event report](#) is available on our website.



## A Guide to Nature Therapy in the Watershed



During the Community Roundtable Webinar event pre-show, local musician Etienne Siew contributed a filmed set of original music, much of which was inspired by and written in the watershed. The show was streamed alongside slides depicting images of nature and nature therapy in the watershed, provided by local photographer Tina-Louise Harris of Originelle Designs Photography. The two shows were later combined as a video [Guide to Nature Therapy in the Coquitlam River Watershed](#) and released as a public outreach piece to further address mainstream cultural norms. The video is available on our YouTube, website and social media pages. In 2020 the video had 22 views on YouTube and 60 on Facebook for a total of 82 views throughout the year.

## Meetings and Presentations

As a collaborative governance organization, meetings and presentations are a key component of the success of the Roundtable. Due to COVID-19, all meetings and presentations (with the exception of one) after March were held virtually via Zoom. This presented challenges for many members who are not comfortable with this technology and did at times limit engagement within meetings since body language is poorly transmitted remotely. Fortunately, Zoom provides a phone-in option for those without access to computers, and the Roundtable was able to adopt online surveys as an effective method of gathering feedback. All members contributed their time in-kind.

## Core Committee and Subcommittee Meetings



The Core Committee met for five three-hour meetings in the months of January, March, June, September and November. These meetings discussed prioritizing Watershed Plan implementation strategies, COVID strategies, budgeting issues, project updates, outreach campaigns and issues of watershed health.

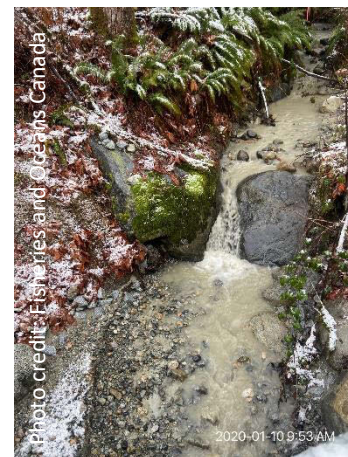
### Subcommittee Meetings

Subcommittees include standing committees for resilience and capacity building, communications and habitat and ad hoc project committees for community roundtable meeting planning, development, stormwater management, financial trustee matters and a task force to perform a review of the Core Committee Terms of Reference.

The Resilience and Capacity Building committee met three times to discuss strategies for increasing Roundtable capacity, business plans, prioritizing strategies, budget drafts and Coordinator contract renewals. The Communications committee met on a quarterly basis to discuss communications strategies and publications, social media and the Roundtable website.

The Habitat committee did not meet but collaborated via email on a letter sent to the Province of British Columbia's Ministers of Forests, Lands, Natural Resources and Rural Development and of Energy, Mines and Petroleum Resources regarding overdue remediation of the Fulawka/Fulton Creek drainage area. Stream modification has contributed to slope failures in the area and caused silt pollution to subsequently flow into Coquitlam River and off-channel habitats.

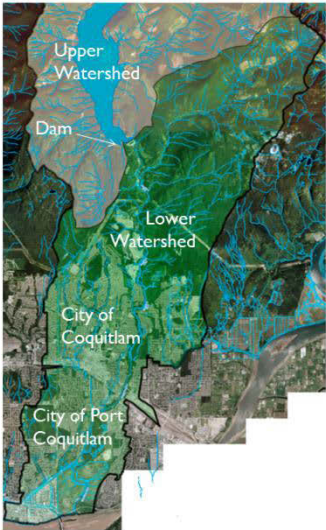
Additional letters of support were sent to the Province from Coquitlam Mayor and Council and the Steelhead Society of BC. A response from Minister Donaldson stated that an interim solution was being pursued. The Roundtable requested a progress report in December 2020.



The Community Roundtable Meeting Planning committee met seven times during the course of the year to plan the event intended for the Spring, and then re-plan for the virtual event in the fall. The committee is responsible for organizing guest speakers, venues, activities, refreshments, facilitators, communications (including photography, videography, promotions and social media), speeches and agendas. The Development project committee met three times and Stormwater Management committee met twice to discuss project strategy, budgeting, communications and liaisons.

Special task force committees were formed ad hoc. A Financial Trustee task force met once to facilitate staff changeovers at both Watershed Watch Salmon Society and the Roundtable, to reconcile finances and migrate reporting data from a fiscal year to a calendar year. A strategy task force met twice to review and revise the Core Committee Terms of Reference and Mission Statement.

## Presentations



### A Brief History of the Watershed

**The Watershed Consists of:**

- Upper Coquitlam Lake Reservoir (undeveloped, protected, 1/3 MV drinking water, power source)
- Lower Coquitlam River Watershed (6600 Ha, 30+ watercourses, urbanized)
- Hoy-Scott and Maple Creek Watersheds

**The Lower Watershed**

- 45% of the City of Coquitlam's and 30% of the City of Port Coquitlam's developed land lies within the Lower Watershed
- Subject to pressures that affect the health of the watershed

To help build capacity and engage in community outreach, the Roundtable gives delegation presentations to potential and existing funders and other organizations/groups. Due to COVID, these presentations were truncated as funding and community organization staff worked from home, however the Roundtable was able to appear virtually (with one in-person exception) later in the year.

Two delegation presentations were given to core funders (the cities of Coquitlam and Port Coquitlam) to provide an update on the Roundtable's activity for the year. Two community presentations were made to the Coquitlam Rotary Club and Our Water BC, the first to provide information to potential volunteers and funders, and the second to promote the Coquitlam River Watershed Atlas and Project Catalogue.

## Social Media and Website

The Coquitlam River Watershed Roundtable maintains a website at [www.coquitlamriverwatershed.ca](http://www.coquitlamriverwatershed.ca) to provide details about watershed history, the Roundtable and Core Committee, event and media promotions and contacts. Over the year, the site was modified to provide easier access to volunteer opportunities, donations and newsletter subscription. Media, including photos and videos, were also

updated and a new section was added to access the Coquitlam River Watershed Atlas and Project Catalogue.

Website analytics were not collected prior to April 2020, however since then, the number of monthly website users has increased from 484 to 762 in November with a slight decrease to 628 in December for a total of 5094 annual users.

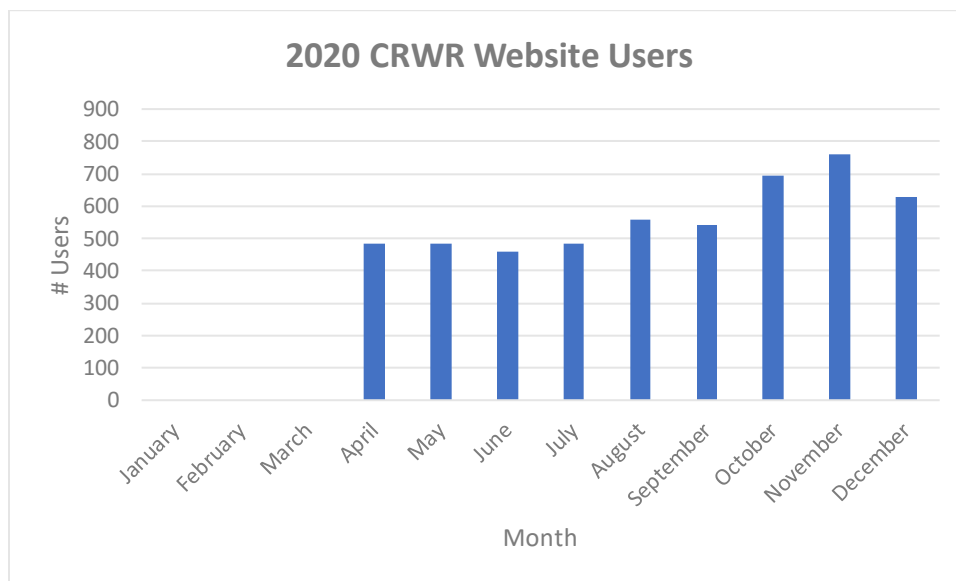


Figure 1. 2020 CRWR Website Users

The Roundtable also reaches community members via social media outlets Facebook, Twitter, Instagram and YouTube. Each is used to promote project and event information with the main goal to direct users to the Roundtable website. Facebook followers have increased from 762 at the start of the year to 816 at the end.

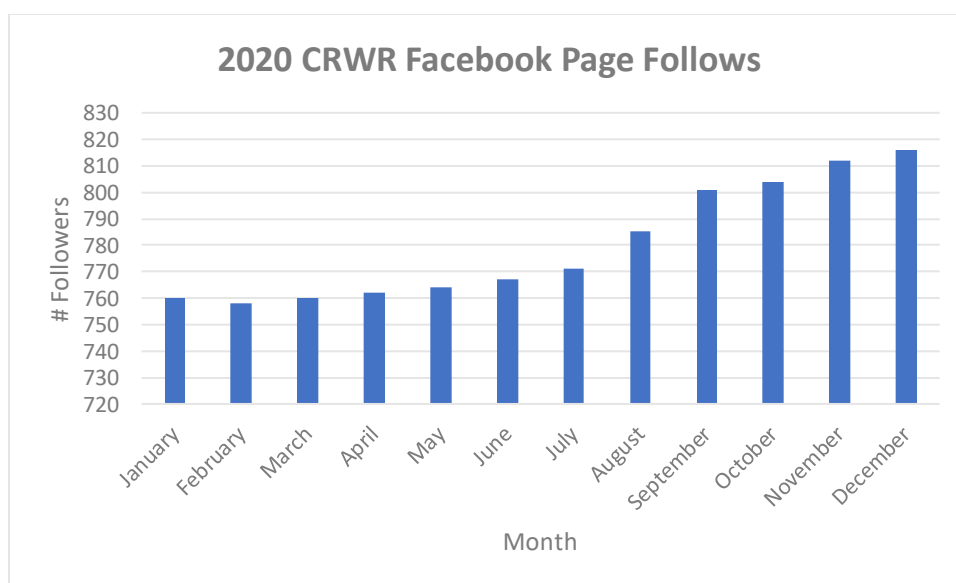


Figure 2. 2020 CRWR Facebook Page Follows

Twitter followers however, only increased from 832 in January to 839 in August. After that month, the account was suspended after Twitter imposed two-factor authentication which included a phone



number that is no longer associated with the Roundtable and could not be verified. Repeated unsuccessful attempts have been made to rectify the situation and the Communications committee decided to create a new account for 2021. Instagram was not widely used until the Twitter account was suspended and too little metrics have been recorded to show an accurate growth in followers. The number of followers on Instagram as of December 31<sup>st</sup>, 2020 was 409.

With the increase in virtual communications published, specifically in video format, YouTube has seen a large increase in viewers. In January, there were only 11 video views, a trend which continued until June and increased to a peak of 322 in November with releases and promotions of the virtual watershed tour, Community Roundtable webinar and the Watershed Atlas tutorial.

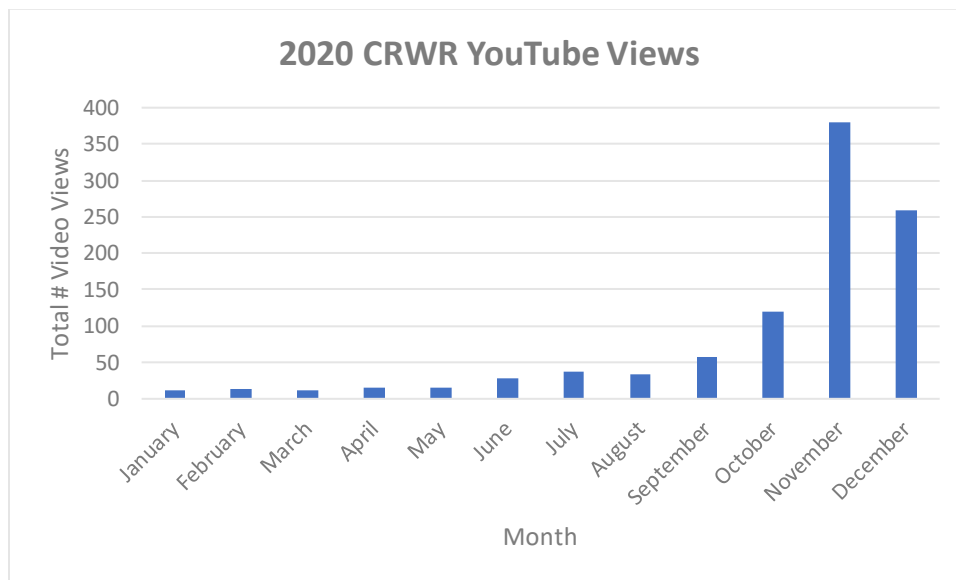


Figure 3. 2020 CRWR YouTube Views

2020 videos were viewed a total of 982 times compared to 2019, which saw a total of 214 views.

## Communications

Regular publications are sent to a list of subscribers throughout the year and promoted on social media. These communications are intended to keep the community apprised of the Roundtable's activities and provide an avenue for open dialogue and feedback.



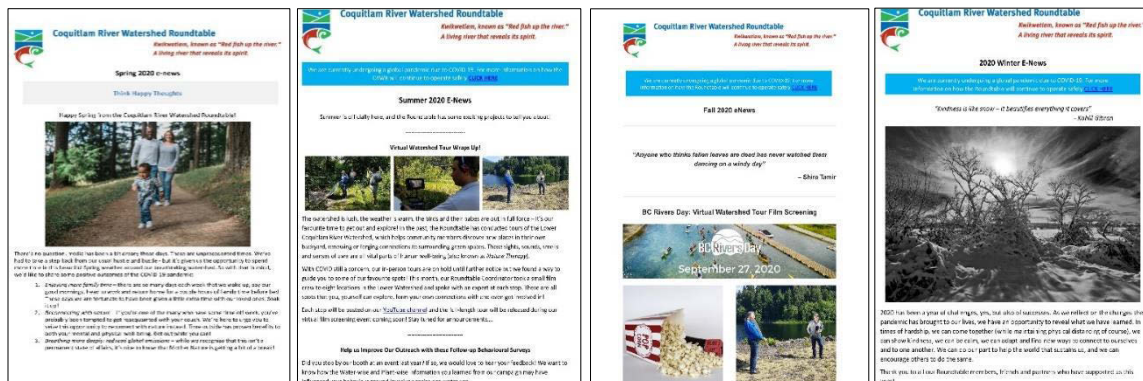
## Backgrounder and Implementation Updates



Backgrounders are released annually each Spring and provide information about the Roundtable's history, funders, mission, vision, values, the current composition of the Core Committee and the watershed. The 2020 issue was sent to 305 subscribers and opened by 37% of recipients.

Lower Coquitlam River Watershed Plan Implementation Updates are released bi-annually in the Spring and Summer of each year. Our Spring update was sent to 301 subscribers and was opened by 45% of recipients and, our Summer update was sent to 272 subscribers and was opened by 35% of recipients.

## E-news



E-news is sent out on a quarterly basis in Spring, Summer, Fall and Winter to provide an update on the Roundtable's activities and promote events and campaigns. Open rates for 2020 e-news editions range from 25% to 43%.

Table 3. 2020 CRWR E-news Subscribers and Open Rate

E-news Edition	# Subscribers	% Opened
Spring	297	40%
Summer	282	43%
Fall	276	25%
Winter	276	37%

## In-kind Contributions

The Roundtable's success relies heavily on the generous contributions of time, staff resources and venue, event and refreshment supplies. In-kind contributions were valued at an incredible **\$18,822** including **632 hours** of time.

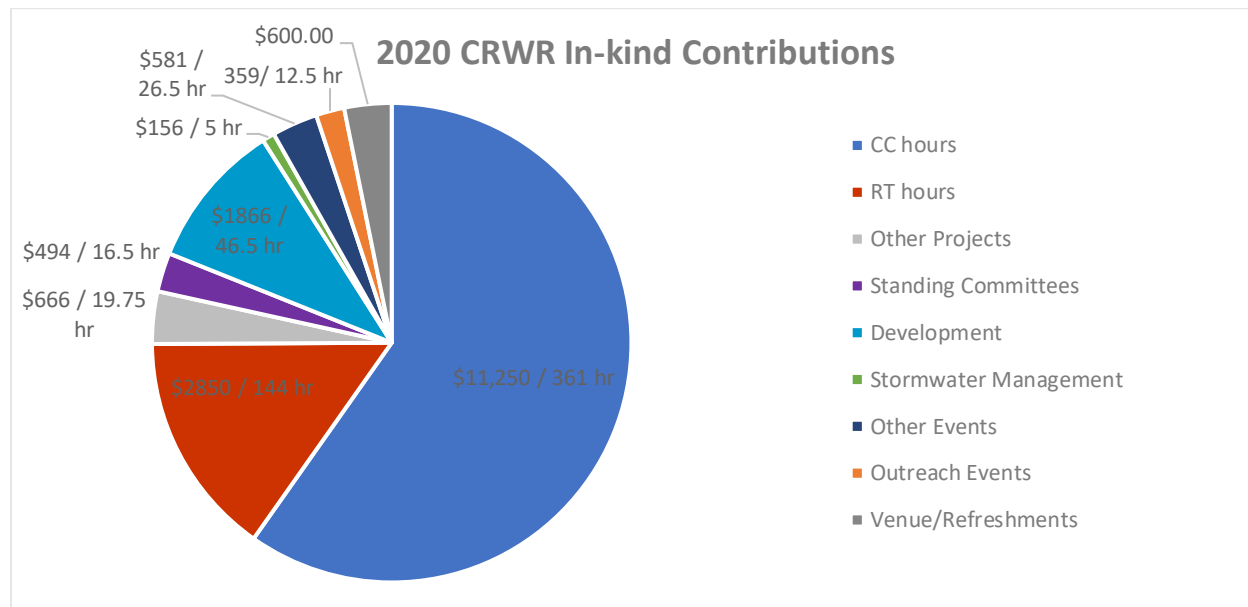


Figure 4. 2020 In-kind Contributions to the CRWR

## Financials

### Revenues

The Coquitlam River Watershed Roundtable currently operates on one of the smallest budgets of any Roundtable organization in British Columbia. Our Resilience and Capacity Building committee is currently working to build a new five-year plan and assess further sustainable funding mechanisms so we can continue to advance our Lower Coquitlam River Watershed Plan with increased capacity.

In 2020, the Roundtable received \$99,547 and carried over \$36,348 from 2019 for a total of **\$135,895** available funds for the year.

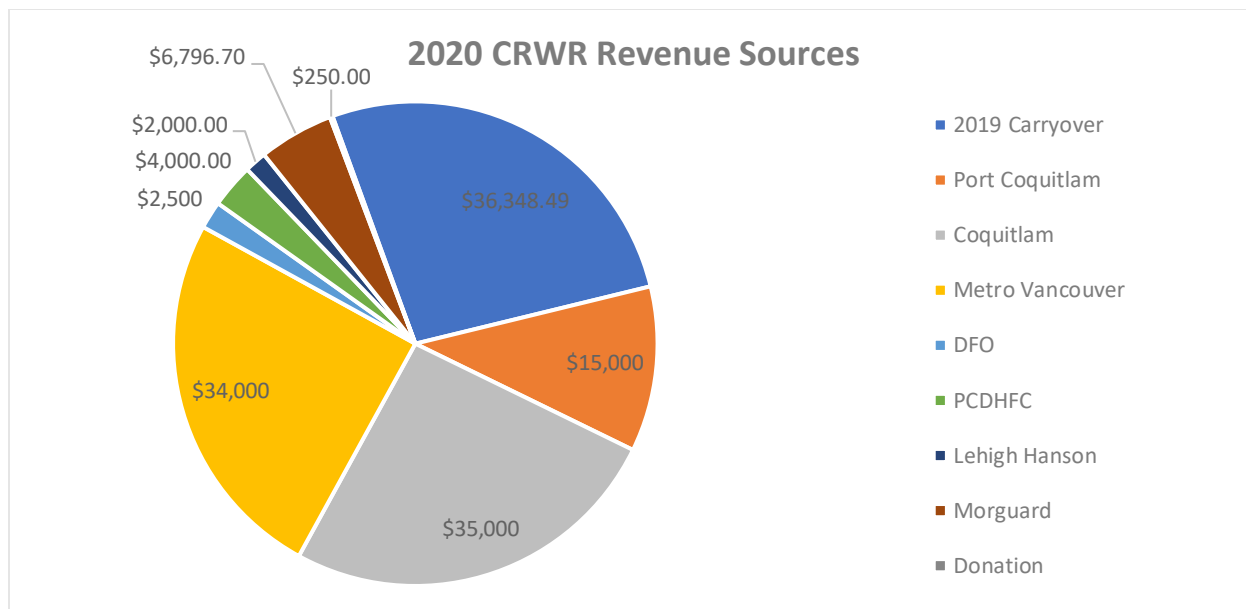


Figure 5. 2020 CRWR Revenue Sources

## Expenditures

Core Committee and Roundtable meetings, public outreach, communications and Watershed Plan implementation projects are all organized by the Roundtable Coordinator, whose salary currently comprises the majority of Roundtable expenses, followed by administration fees and Watershed Plan implementation and assessment.

In 2020, the Roundtable's cash expenditures totaled **\$91,159** (this does not include GST credits). When combined with in-kind contributions of \$18,822, the organization's operating costs totaled **\$109,981**.

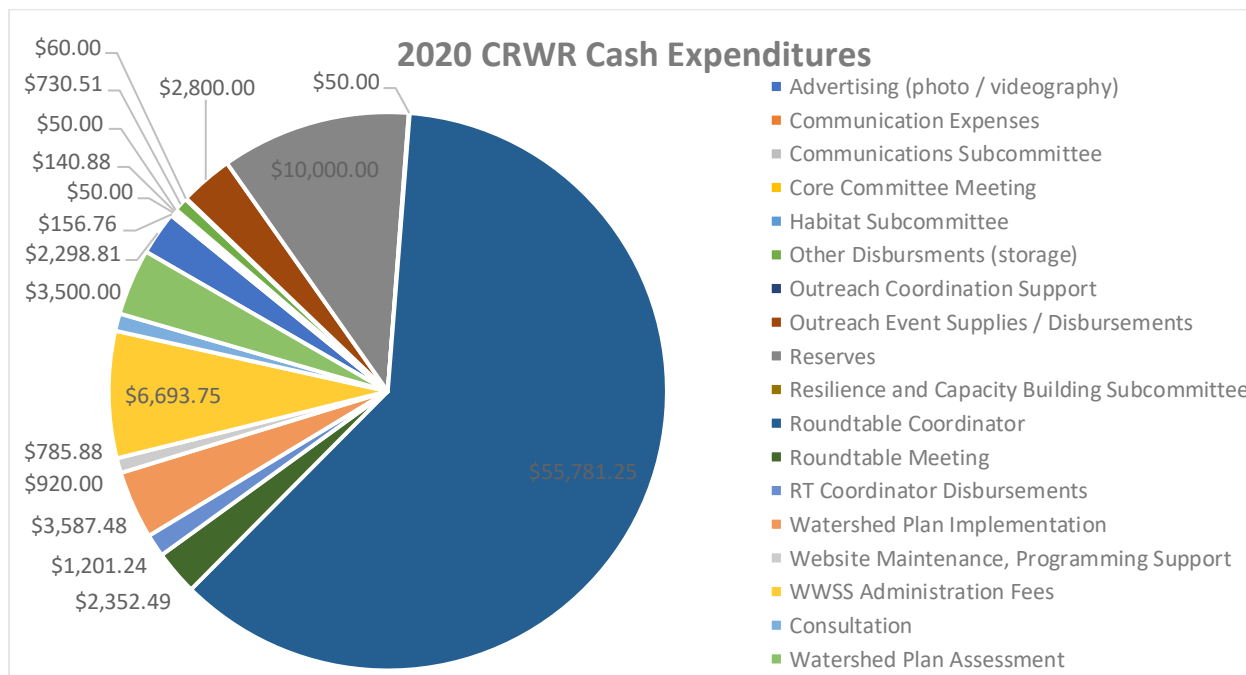


Figure 6. 2020 CRWR Cash Expenditures

Some projects required applications for additional funding and are not represented in the following figure, which shows expenditures specific to GVWD funding.

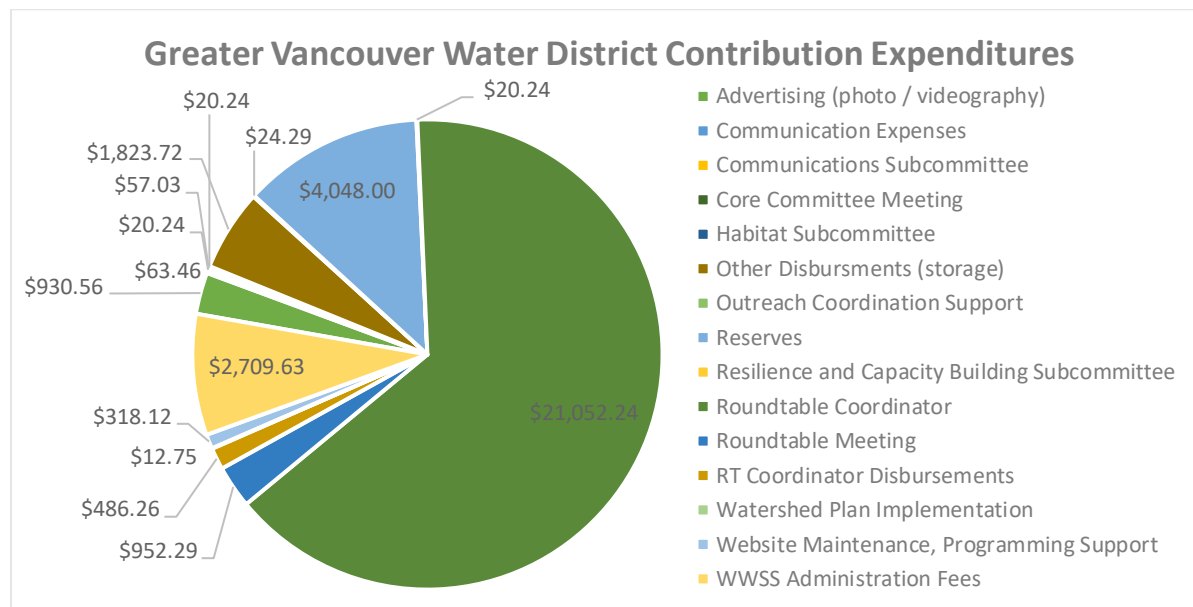


Figure 7. 2020 Greater Vancouver Water District Contribution Expenditures

## Year in Review

The year 2020 was challenging for organizations around the world, and the Roundtable was no exception. COVID struck just as our committees were finalizing plans, events and campaigns. It paused operations and left us in an uncertain limbo until it became clear that we had to figure out a new normal. We are proud to say that the Roundtable was able to adapt and demonstrate resilience in the face of adversity and did so with success:

- Projects were reprioritized to accommodate physical distancing regulations and focused on advisory tasks that could be executed virtually
- Meetings and presentations were held online or by phone
- Outreach campaigns were converted to online events and media productions that could be promoted on social networks

The efficacy of our outreach is demonstrated by our virtual platform metrics. Website use has shown over 50% growth in monthly users at its peak in November and Facebook follows have increased by 7%. With the concentrated efforts on media communications, YouTube has demonstrated unprecedented growth of over 300% compared to the previous year.

Regularly scheduled communications (implementation reports, backgrounders and e-news) had an average open rate of 36%. This is slightly below the average peer open rate of 37.7% as identified by Mailchimp, although likely influenced by the Fall e-news outlier, which performed poorly compared to other communications. While the open rate of these publications is satisfactory, efforts could be made to increase the number of subscribers.

In-kind contributions were valued at approximately \$10,000 less than the previous year, however the majority of this difference is due to the lack of need for municipal and financial trustee staff resources.

In 2019, these contributions were valued at almost \$8000. This is to be expected as sustainable funding contributions were put in place to offset this need.

The Roundtable spent \$91,159 of the \$99,547 contributed in 2020. An amount of \$36,348 was carried over from 2019, because municipal contributions for that year were received in the final months. With the uncertainty of continued funding due to COVID, and because of the break in activities at the start of the pandemic, fiscal expenditures were conservative, leaving a similar amount to be carried over into 2021 as into 2020. In November, core funders confirmed that funding for 2021 remains in place and activities will resume as budgeted with appropriate modifications for COVID.

## Moving Forward

In the coming year, funding agreements with the cities of Coquitlam and Port Coquitlam will reach the end of their terms and one final year will remain in the agreement with the GVWD. With this in mind, the Roundtable will begin to build a new five-year plan and seek renewed funding agreements with the cities of Coquitlam and Port Coquitlam, the GVWD and Kwikwetlem First Nation.

With a COVID-safe strategy in place, the Roundtable will continue to advance its Lower Coquitlam River Watershed Plan as capacity allows. Strategies to address the pressures of development, stormwater and water-use have been prioritized and a virtual public outreach campaign to address the increasing pressure of littering and dumping is currently being developed for early 2021.

The Roundtable would like to express its deepest gratitude to all partners, volunteers and contributors for their continued support through this challenging time. We look forward to continued partnerships for years to come.

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To: Water Committee

From: Kevin Brown, Superintendent, Watershed Protection, Water Services  
Mike Mayers, Division Manager, Watershed and Environmental Management,  
Water Services

Date: April 12, 2021 Meeting Date: May 13, 2021

Subject: **GVWD Watershed Wildfire Preparedness Update**

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**RECOMMENDATION**

That the Water Committee receive for information the report dated April 12, 2021 titled “GVWD Watershed Wildfire Preparedness Update”.

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**EXECUTIVE SUMMARY**

Metro Vancouver provides clean, safe drinking water to 2.7 million residents. An integral component of this service is management of the forested lands surrounding Capilano, Seymour and Coquitlam Reservoirs. These water supply lands are closed to the public for protection from pollution and fire, and to ensure they are solely used for drinking water supply.

The watersheds have a historically low incidence of fire due in large part to these restrictions. Consequently, the primary cause of fire is from lightning strikes during periods of moderate to high fire danger. Most fires are extinguished quickly and without incident due to rapid discovery made possible by real-time lightning detection, staff patrols, local air traffic, and public reports.

The Water Services Protection Program (Protection Program) has staff with expertise in wildfire management, equipment available for strategic deployment, a resource sharing agreement, and monitoring stations ready for the 2021 fire season.

**PURPOSE**

To provide the Water Committee with an annual update on watershed wildfire preparedness in advance of the 2021 fire season.

**BACKGROUND**

A watershed is a geographic term to describe a water collection and drainage area from mountain top to convergence with another larger body of water. The Capilano, Seymour and Coquitlam watersheds collect and drain water from mountain ridgetops to Burrard Inlet and the Fraser River respectively. The GVWD water supply areas encompass the mid and upper portions of the Capilano, Seymour, and Coquitlam watersheds and include approximately 60,000 ha of forested lands. Access into these lands is controlled and limited through the *Watershed Access Policy*. The principle of protecting the watersheds by restricting access is a fundamental component of the multiple barrier approach to drinking water quality protection.

The requirements for fire protection on GVWD's watershed lands dates back to the 1927 and 1942 provincial crown land leases. These 999-year leases require Metro Vancouver to protect the lands from wildfire and retain qualified and trained staff for this purpose.

Historically, in the 1920s and 1930s, the watersheds, particularly Seymour and Capilano, experienced large scale, human caused fires due to industrial activities. As the GVWD policy enforcing restricted access came into effect, the primary cause of wildfires shifted to lightning strikes. The Protection Program responded by implementing a system that decreased response times and increased effectiveness in fighting these types of fires. The current Protection Program, based on an Initial Attack (IA) model, utilizes three-person IA fire crews, in conjunction with helicopters, for rapid deployment of resources to fire sites. In addition, Metro Vancouver maintains a resource sharing agreement with the BC Wildfire Service that ensures seamless communications with the Province and allows for additional resource requests should they be needed.

In addition to providing wildfire response within the three water supply areas and the Lower Seymour Conservation Reserve (LSCR), the GVWD Protection Program is also the primary wildfire response for Electoral Area A, and assists the Greater Vancouver Regional District Parks system as required.

## **WATERSHED WILDFIRE PREPAREDNESS**

### **Preparedness**

The Protection Program currently has two dedicated three-person IA fire crews and approximately 25-30 additional Watershed and Environmental Management (WEM) staff trained to a basic fire response level. Drills of varying complexity are conducted throughout the season to maintain proficiency in fire response skill sets and to ensure equipment readiness.

### **Equipment**

For mobile deployment, the Protection Program maintains one dedicated IA truck that is supported by two 4-wheel drive water tankers. These vehicles are staged in North Vancouver and Coquitlam as the fire danger increases within the watershed lands.

The majority of wildfire response equipment (pumps, hoses, hand tools) is stored at the Bone Creek Operations Centre in the LSCR, with strategic cache locations in each watershed.

In 2020, in consideration of protecting reservoir water quality, staff installed three "Heli-well" tanks (one per watershed) that allow helicopters to decontaminate and fill water buckets without directly drawing from the main or alpine reservoirs. The Heli-well tanks are strategically located throughout the watersheds at points that would improve water delivery response time. Lightning strike fires often occur in steep terrain inaccessible by vehicle. Helipads, strategically located throughout the water supply lands, are maintained to support the initial air attack of emerging wildfire in these situations. A helicopter use contract for fire response and other operations is in place to ensure necessary helicopter resources are available throughout the busy fire season.

### **Resource Sharing Agreement**

Metro Vancouver maintains an agreement with the BC Wildfire Service (BCWS) in which fire-fighting resources are shared between both parties. This agreement is the basis for a strong and positive

relationship which is of great benefit to both groups when assistance is required. Metro Vancouver crews routinely backfill BCWS resource shortfalls throughout the Coastal Fire Centre and, as required, BCWS crews can be stationed at the Bone Creek Operations Centre to provide additional support to GVWD response efforts. This arrangement has been in place since 1997 and has been effective for regional response to fire situations.

### **Interagency Preparedness**

Staff work with various municipal partners, including the North Shore Interface Wildfire Working Group, Coquitlam Fire & Rescue, and the Metro Vancouver Wildfire Conditions Task Group, to ensure preparedness and coordinated response across the region. Groups meet throughout the fire season to discuss communications, planning, specific critical issues, drills, and equipment availability.

Specifically, District of North Vancouver Fire & Rescue Services and Metro Vancouver staff continue to share cross training opportunities. Metro Vancouver staff have been taking part in various Incident Command System and interface wildfire training hosted by the District.

### **Monitoring**

Water Services staff carry out extensive fire weather monitoring and publish a weekly Fire Weather Report. This report utilizes data from eight weather stations located throughout the water supply lands and the Metro Vancouver region. Municipal fire chiefs, regional/municipal parks staff, and the emergency planning community rely on this information to determine the fire danger rating for their jurisdictions and the appropriate public activity restrictions.

Staff continue to investigate and monitor the current state of forest health within the watersheds and to track changes over time associated with climate change. Working with neighboring watershed managers in the Pacific Northwest, a shared goal is to better understand wildfire and water quality implications from changing forest health trends.

### **Interface Areas and Fuels Management**

Forest fuel management along the residential interface areas of the Capilano Watershed (British Properties) have been completed and are now in a maintenance phase. Interface fuel management for Seymour and Coquitlam falls to other jurisdictions. Other interface areas, including around Water Treatment facilities, are inspected on an annual basis and maintenance treatments (pruning, brushing, etc.) are used as required.

### **ALTERNATIVES**

This is an information report. No alternatives are presented.

### **FINANCIAL IMPLICATIONS**

There are no financial implications.

### **CONCLUSION**

Although the extent, duration, and intensity of the 2021 fire season is unknown, the Protection Program is well positioned to effectively react to wildfires within the water supply lands and the region. Strong relationships built over many years with the BC Wildfire Service, local fire departments,



and other emergency services ensures a rapid and well-coordinated response should additional resources be required to respond to a large scale wildfire.

**Attachments**

1. Heli-well Installation, Interagency Equipment Showcase Photos
2. Single Tree Fire Photo

44746150

Heli-well Installation in Seymour Watershed



North Shore Interagency Equipment Showcase – Pre-COVID



Single Tree Fire in the Seymour Watershed – 2017



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To: Water Committee

From: Roy Moulder, Director, Purchasing and Risk Management, Financial Services  
Goran Oljaca, Director, Engineering and Construction, Water Services

Date: April 23, 2021 Meeting Date: May 13, 2021

Subject: **Award of Contract Resulting from Tender No. 20-154: Pebble Hill Reservoir Unit No. 1 & 2 Seismic Upgrades**

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**RECOMMENDATION**

That the GVWD Board:

- a) approve award of a contract in the amount of \$7,062,500.00 (exclusive of taxes) to Bennett Mechanical Installations (2001) Ltd. resulting from Tender No. 20-154: Pebble Hill Reservoir Unit No. 1 & 2 Seismic Upgrades, subject to final review by the Commissioner; and
- b) authorize the Commissioner and the Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

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**EXECUTIVE SUMMARY**

The Pebble Hill Reservoir Unit No. 1 & 2 Seismic Upgrades project is located at 411 Milsom Wynd, in the City of Delta. Unit No. 1 and Unit No. 2 were constructed in 1976 and 1970 respectively. The work involves construction of interior seismic force resisting systems (SFRS), thickening of perimeter walls and footings, roof slab strengthening, repair of columns, joint sealant replacement and installation of rooftop sports facilities.

As a result of Request for Qualifications (RFQ) No. 18-117, five (5) experienced firms were shortlisted and invited to respond to the tender. Bennett Mechanical Installations (2001) Ltd. was identified as offering the lowest compliant bid which is within the overall project budget. Based on the evaluation of tenders, it is recommended that the Board authorize the Commissioner and the Corporate Officer to award and execute the contract to Bennett Mechanical Installations (2001) Ltd. in the amount of \$7,062,500.00 (exclusive of taxes).

**PURPOSE**

This report is to advise the GVWD Board of the results of Tender No. 20-154: Pebble Hill Reservoir Unit No. 1 & 2 Seismic Upgrades and to recommend award of the contract in the amount of \$7,062,500.00 (exclusive of taxes) to Bennett Mechanical Installations (2001) Ltd.

**BACKGROUND**

Pursuant to the *GVWD Officers and Delegation Bylaw No. 247, 2014 (Bylaw)* and the *Procurement and Real Property Contracting Authority Policy (Policy)*, procurement contracts which exceed a value of \$5 million require the approval of the GVWD Board of Directors.

This report is being brought forward to the Water Committee to consider a recommendation to the GVWD Board to authorize award of a contract for the construction of Pebble Hill Reservoir Unit No. 1 & 2 Seismic Upgrades.

### PROJECT DESCRIPTION

As shown in the attachment to this report, Pebble Hill Reservoir Unit No. 1 & 2 are located at 411 Milsom Wynd, in the City of Delta. The in-ground concrete reservoir consists of three separate units. Unit No. 1 (northeast) and Unit No. 2 (southeast) were built in 1976 and 1970 respectively. Units No. 1 & 2 are part of the same structure located on the east side of the site separated by an interior partition wall. Unit No. 3 was constructed in 1989 and is located on the west side of the site. It is not included in this project.

Units No. 1 & 2 have a combined storage capacity of 22.2 ML and the adjacent Unit No. 3 has a storage capacity of 22.6 ML. The work involves construction of interior seismic force resisting systems (SFRS), thickening of perimeter walls and footings, roof slab strengthening, repair of columns, joint sealant replacement and installation of rooftop sports facilities for the City of Delta. The City of Delta sports facilities are included in the tender as optional work funded by the City and this price is included in the tender price. It will only be awarded when the City of Delta Council approves their funding.

As a result of Request for Qualifications (RFQ) No. 18-117, five (5) experienced firms were shortlisted and invited to respond to the tender. The tender closed on April 6, 2021 and four (4) submissions were received as shown in Table 1.

**Table 1: Bids Submissions**

<b>Tenderer</b>	<b>Tender Price (exclusive of taxes)</b>
Bennett Mechanical Installations (2001) Ltd.	\$7,272,500.00*
PCL Constructors Westcoast Inc.	\$9,795,913.00
Kenaidan Contracting Ltd.	\$11,577,709.90
Jacob Bros. Construction Inc.	\$12,692,440.35

\*' Includes an amount of \$210,000.00 for the City of Delta sports facilities.

The bid from Bennett Mechanical Installations (2001) Ltd. was reviewed for completeness by staff from the Purchasing and Risk Management Division, and is identified as the lowest compliant bid. It is recommended to initially award a contract in the amount of \$7,062,500.00 to Bennett Mechanical Installations (2001) Ltd. and later award the City of Delta sports facilities in the amount of \$210,000.00 through the appropriate contracting authority when the City of Delta Council approves their funding.

## **ALTERNATIVES**

1. That the GVWD Board:
  - a) approve award of a contract in the amount of \$7,062,500.00 (exclusive of taxes) to Bennett Mechanical Installations (2001) Ltd. resulting from Tender No. 20-154: Pebble Hill Reservoir Unit No. 1 & 2 Seismic Upgrades; and
  - b) authorize the Commissioner and the Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.
2. That the GVWD Board terminate Tender No. 20-154: Pebble Hill Reservoir Unit No. 1 & 2 Seismic Upgrades and direct staff to report back to the GVWD Board with options for an alternate course of action.

## **FINANCIAL IMPLICATIONS**

If the GVWD Board approves Alternative 1, a contract will be awarded to Bennet Mechanical Installations (2001) Ltd. in the amount of \$7,062,500.00 (exclusive of taxes) to complete the project work. This amount is within the budget allocated for this project. The tender submitted by Bennet Mechanical Installations (2001) Ltd. is the lowest compliant bid.

The GVWD Board has the choice not to proceed with Alternative 1, but staff will need further direction in relation to the project. Alternative 2 will result in a delay to the project schedule and is anticipated to add additional costs to the overall project.

## **CONCLUSION**

Tender No. 20-154 was issued for the Construction of Pebble Hill Reservoir Unit No. 1 & 2 Seismic Upgrades and Bennet Mechanical Installations (2001) Ltd. was identified as offering the lowest compliant bid. Based on the evaluation of tenders, it is recommended that the Board authorize the Commissioner and the Corporate Officer to award and execute the contract to Bennet Mechanical Installations (2001) Ltd. in the amount of \$7,062,500.00 (exclusive of taxes).

## **Attachment**

Greater Vancouver Water District – Pebble Hill Reservoir Unit No. 1 & 2 – Site Plan

44659831



## ATTACHMENT

GREATER VANCOUVER WATER DISTRICT – PEBBLE HILL RESERVOIR UNIT NO.1 & 2 – SITE PLAN



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To: Water Committee

From: Paul Kohl, Director, Operations and Maintenance, Water Services  
Lucas Pitts, Acting Director, Policy, Planning and Analysis, Water Services

Date: May 6, 2021 Meeting Date: May 13, 2021

Subject: **Water Supply Forecast and Water Consumption Update for Summer 2021**

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**RECOMMENDATION**

That the Water Committee receive for information the report dated May 6, 2021, titled “Water Supply Forecast and Water Consumption Update for Summer 2021”.

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**EXECUTIVE SUMMARY**

This report summarizes the current state of source water supply and trends in water use and reflect current plans for operating the source reservoirs and water system this summer and fall.

The existing snowpack, overall precipitation in the form of rainfall, and expected full source lake storage will be sufficient to ensure adequate water supply for the 2021 summer season. Peak day and winter water use continue to decrease while average day water use is starting to stabilize, indicating the importance of continued conservation initiatives. System improvements have increased the capacity of the transmission system to meet peak summer demands.

**PURPOSE**

To provide the Committee and Board with the annual update on the current water supply and water consumption situation in advance of the approaching summer peak demand period.

**BACKGROUND**

As per the Committee’s 2021 Work Plan, and those of previous years, water supply and water consumption status reports are brought forward to the Committee and Board each spring. These reports are developed based on the current state of source water supply and trends in water use and reflect current plans for operating the source reservoirs and water system this summer and fall.

**CURRENT SOURCE WATER SUPPLY SITUATION****Snowpack**

Snowpack measurements are routinely conducted at sample sites across the Capilano, Seymour and Coquitlam watersheds. The April 1, 2021 survey results indicate that the depth and water equivalent of the current snow pack are respectively 124% percent and 120% percent of the historical average for this time of year. These survey results indicate an above average spring runoff from snowmelt.

While snowpack is important, it should be noted that the region’s water supply is not solely dependent on snowpack. Overall precipitation in the form of rainfall contributes to the water levels in the three primary source reservoirs that serve Metro Vancouver.



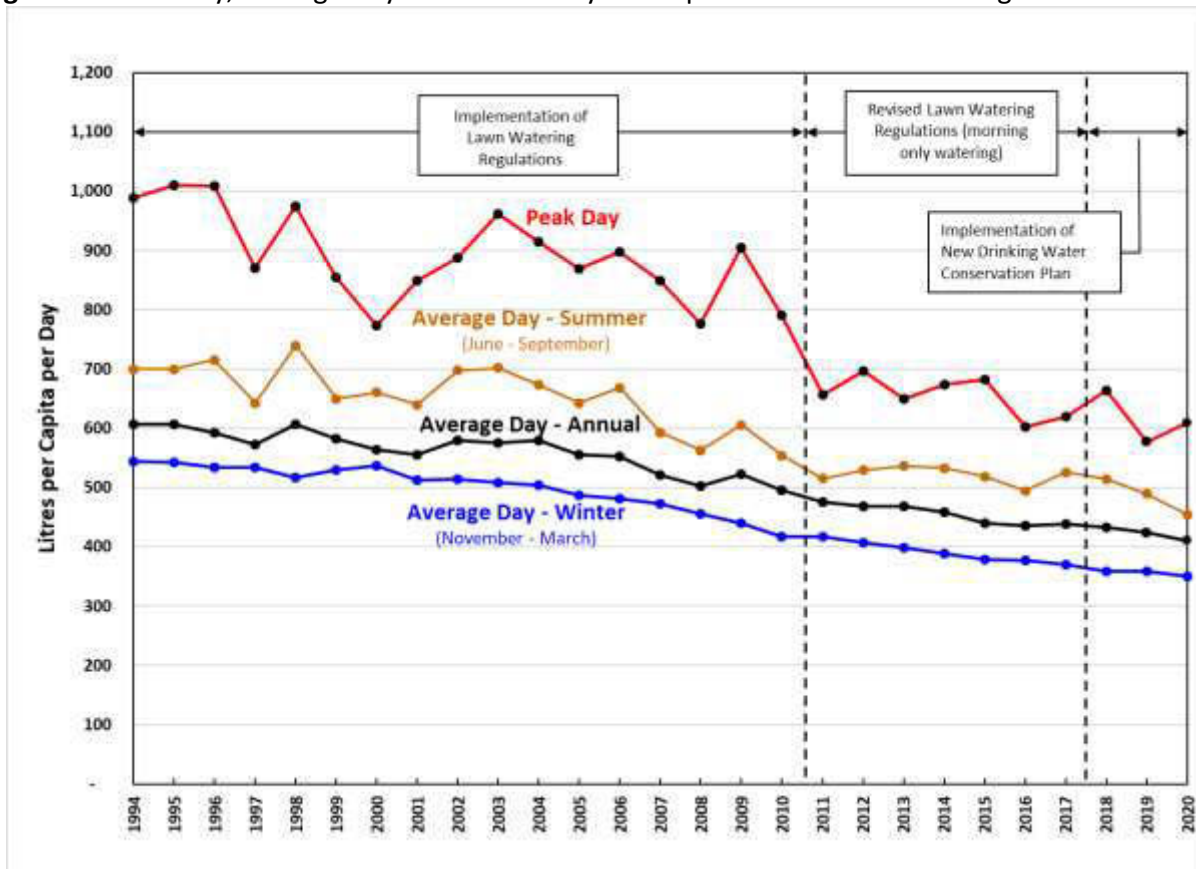
### Stored Water - Source Reservoirs

- Capilano Reservoir: currently being managed under the spring operating protocol with the reservoir currently at 71 percent of full summer storage capacity. The GVWD expects the drum gate to be returned to service by June and anticipates that the reservoir will be at full capacity by early summer.
- Seymour Reservoir: currently being managed under the spring operating protocol with the reservoir currently at 81 percent of full summer storage capacity. The reservoir is expected to be at full capacity by early summer.
- Coquitlam Reservoir: controlled by B.C. Hydro within criteria established by agreement with the GVWD. It is expected that BC Hydro will have Coquitlam reservoir sufficiently full to provide for adequate regional summer water supply and the necessary allocation for fisheries flows in the Coquitlam River. BC Hydro is upgrading their tunnel gates in the fall and there will be no impact to the summer water supply.
- Alpine Lakes: GVWD's three alpine lakes, Palisade, Burwell and Loch Lomond, which are used as reserves for Capilano and Seymour reservoirs during the summer period, are all expected to be at full capacity by early summer.

### Trends in Water Consumption/Use

This section discusses trends in water consumption/use, as well as some of the factors affecting water use. Figure 1 shows water use in the region in litres per capita per day for the years 1994 to 2020.

**Figure 1 – Peak Day, Average Day and Winter Day Per Capital Water Use in the Region**



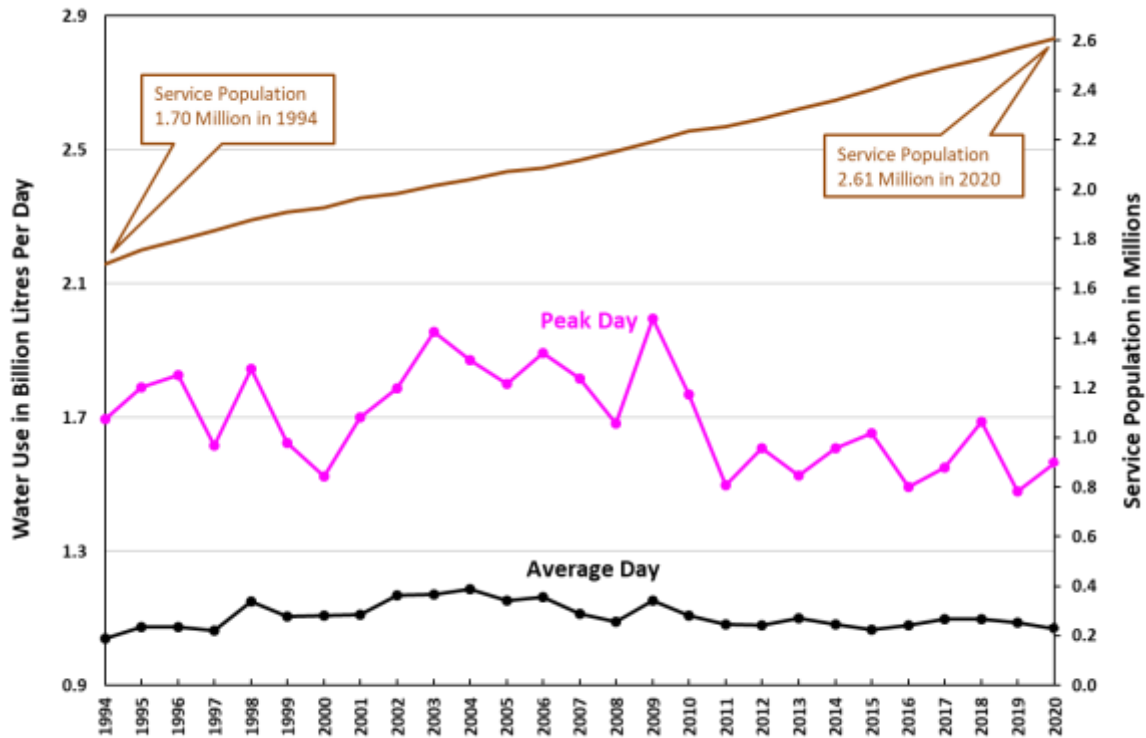
The upper (red) line in Figure 1 shows peak day water use over the 26-year period. Historically, the peak day usage occurs on a hot and dry summer day when many people in the region are watering their lawns. The *Drinking Water Conservation Plan* (DWCP) includes annual implementation of Stage 1 restrictions on May 1 that limit lawn watering for residential and non-residential properties to two mornings a week. In 2018, the Board endorsed *Region-wide Guide for Enforcement of Metro Vancouver's Drinking Water Conservation Plan* as a resource for member jurisdictions. Key performance metrics on education and enforcement of the DWCP were first collected from member jurisdictions in Summer 2018 and continue to be monitored. This information is helpful in moving the region toward more consistent best practices for enforcement of the DWCP regulations.

The middle (black) line in Figure 1 shows the average day per capita water use over the 26-year period. This represents the overall regional water use on a per capita basis, which has been gradually trending downwards. In more recent years, there are indications that per capita water use is stabilizing, indicating the importance of continued water conservation initiatives. Metro Vancouver staff will work with staff at member jurisdictions on possible revisions to the Drinking Water Conservation Plan to allow implementation of region-wide summertime lawn watering bans in drought years. This could allow for the deferral of some supply expansion projects if supported by robust water conservation communications and active local bylaw enforcement to ensure compliance with regulations. Without this support, growing demand for water from an expanding population and the effects of climate change (less snowpack and longer, drier summers) will put a significant strain on our ability to supply drinking water to the region.

The lower (blue) line in Figure 1 shows winter per capita water use steadily declining between 1994 and 2020, in part due to recent water efficiency and conservation policies. During the winter months of November to March, outdoor water use is generally low with little fluctuation due to weather conditions, making winter water use on a per capita basis a good measure for comparing baseline water use from year to year. Metro Vancouver's Drinking Water Management Plan (DWMP), first approved in 2005 and updated in 2011, includes water conservation actions for Metro Vancouver and member local governments. Work is currently underway to modernize and update the DWMP from its 2011 version. During 2021 Metro Vancouver will be working collaboratively with our partners to update the document.

Figure 2 shows service population and total water use in billions of litres per day. Although total water use has stabilized in recent years, it is expected to increase as the effect of population growth on water demand begins to exceed per capita water use reductions due to water efficiency. During 2020 annual water use decreased 3% from the forecasted consumption figures. Metro Vancouver is unsure at this time whether the reduction is as a result of COVID-19 or larger economic impacts in the Region.

**Figure 2 – Population Growth and Daily Water Use**



### SYSTEM OPERATIONS OUTLOOK FOR SUMMER 2021

Water usage patterns will be monitored and adjustments made to withdrawals from each of the three main sources and within the transmission system to meet the regional water demand through the summer and fall. Additional withdrawals from Coquitlam Reservoir have been secured from BC Hydro for 2021. The three alpine lakes will also be utilized within their refillable storage limits, as required.

Hot and dry summer weather conditions drive demands and may create challenges for the transmission system to meet service levels in parts of the region, most notably in the southern and eastern parts that are both geographically furthest from the sources and are experiencing the fastest population growth rates. Systems upgrades such as the Barnston Maple Ridge Pump Station, Port Mann Main #2, the Port Mann Water Supply Tunnel, Clayton Reservoir and the South Delta Main No. 1 Replacement (Phases 1 and 2) have all contributed to additional transmission system capacity to meet summer peak demands in both the eastern and southern jurisdictions and will continue to benefit the regional transmission system in summer 2021.

In the event that summer water storage supplies become stressed, Metro Vancouver will introduce upgraded water restrictions in accordance with the Drinking Water Conservation Plan.

## **ALTERNATIVES**

This is an information report; no alternatives are presented.

## **FINANCIAL IMPLICATIONS**

During the hotter and drier months, the demand for water increases significantly over that in the winter, putting additional stress on the water supply system. Metro Vancouver's seasonal pricing reflects the cost of building larger infrastructure and higher operating costs such as increased pumping to meet peak summer demands. Historically water rate increases have been spread equally between the peak (summer) and non-peak rates (winter). As part of the Region's commitment to water conservation the 2021 water rate increase was applied only to the peak rate.

## **CONCLUSION**

The existing snowpack, overall anticipated precipitation in the form of rainfall, and expected source storage will be sufficient to ensure adequate water supply for the 2021 summer season.

Although the region's population continues to grow; historically, overall water demand has remained relatively steady, generally offset by conservation measures. However, overall water use is increasing gradually as the effect of the rate of population growth on water demands begins to exceed the per capita water use reductions. Outdoor watering regulations, along with our regional partners' implementation of the Region-wide Guide for Enforcement of the DWCP, are expected to help manage water demands during the upcoming peak season.

System improvements have increased the capacity of the transmission system to meet peak summer demands.

45227480

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To: Water Committee

From: Daniel Roberge, Director, Water Services

Date: May 3, 2021 Meeting Date: May 13, 2021

Subject: **Update on Cleveland Dam Safety Enhancements Program**

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**RECOMMENDATION**

That the Water Committee receive for information the report dated May 3, 2021, titled "Update on the Cleveland Dam Safety Enhancements Program".

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**EXECUTIVE SUMMARY**

Metro Vancouver is updating the public warning system along the Capilano River downstream of the Cleveland Dam. This includes installing audible and visible alarms, installing new signage, evaluating access areas, and enhancing our communications and education. Starting May 13, the first of two phases of public engagement will begin, during which the public, stakeholders, and First Nations will be invited to provide input on various themes to help inform the design of the long-term enhanced public warning system.

This work is in addition to extensive internal reviews of our dam operations and procedures.

**PURPOSE**

To report on the status of Metro Vancouver's initiatives to enhance public safety along the Capilano River downstream of the Cleveland Dam.

**BACKGROUND**

On Thursday, October 1, 2020, the spillway gate at the Cleveland Dam released a large volume of water into the Capilano River while it was undergoing maintenance. Metro Vancouver recognizes the impact that this had on everyone involved and is committed to ensuring this never happens again. As part of the commitment to make improvements, enhancements are being made to the public-facing warning systems, including the installation of new signage as well as audible and visible alarms.

**CLEVELAND DAM SAFETY ENHANCEMENTS PROGRAM**

Metro Vancouver is installing an interim alarm system in Capilano River Regional Park intended to be operational for up to two years, with a long-term system to be designed over the next two years with input from North Shore municipalities, First Nations, stakeholders, and through two rounds of public engagement. The goal is to have the interim alarm system in place in advance of returning the spillway gate at the Cleveland Dam back into service to raise the reservoir level to ensure there is sufficient drinking water supply to last through the summer and fall.

**Project Timeline**

- Spring 2021: Install public-facing warning alarms with visible and audible signals;

- June 2021: Cleveland Dam spillway gate is returned to service and water is stored in the reservoir for use during the summer season;
- May – July: First phase of public engagement on enhanced public warning system;
- 2021: Design long-term options for enhanced public warning system;
- Spring 2022: Second phase of public engagement on enhanced public warning system; and
- Fall 2022: Construction of long-term public warning system enhancements.

### **Locations of the Interim Public-Facing Alarms**

Construction of the audible and visible alarms will take place mid-April–May 2021. The alarms will be installed at six locations along the Capilano River (see Attachment):

- Cleveland Dam Screen Room;
- Capilano Salmon Hatchery;
- Trans-Canada Highway Bridge;
- Fullerton Bridge;
- Marine Drive Bridge; and
- Taylor Way Bridge on Squamish Nation’s reserve lands.

The locations were chosen based on research of industry best practices, assessment of the Cleveland Dam and the Capilano River, preliminary input from representatives of Squamish Nation and the North Shore municipalities, and input by dam public safety experts. Locations will be further refined for the long-term design based on input from external partners and stakeholders over the next year.

### **Public Engagement**

During the public engagement process, the goal is to share how the interim alarm locations were developed, understand any issues, and generate suggestions that will help improve the options for development of the long-term public warning system.

Starting on May 13, 2021, the first of two phases of engagement will begin to help inform the long-term solution for the enhanced public warning system. Phase 2 of engagement will take place once the draft design for the long-term system is complete. The results of the initial public engagement process will be combined with the expertise of third-party engineering consulting firms and shared with the public and other partners for further input to inform long-term public warning system enhancements before the design is finalized.

Engagement will include Squamish Nation, Tsleil-Waututh Nation, the North Shore municipalities, and groups who are known to be active along the river to learn of their experiences with the interim system.

### **Next Steps and Ongoing Collaboration**

Metro Vancouver will continue to work closely and collaborate with staff from North Shore municipalities and Squamish Nation throughout this process to ensure technical and permitting requirements are being considered. This will help in the evaluation of the interim measures and in developing opportunities to hear from the community as options for the long-term enhanced public warning system are refined.

## **ALTERNATIVES**

This is an information report; no alternatives are presented.

## **FINANCIAL IMPLICATIONS**

The costs of these actions are contained within the Water Services Minor Capital program. The budget for the permanent long-term Public Warning System will be presented later this year as part of the 2022 budget submission.

## **CONCLUSION**

A set of public-facing alarms will be installed along the Capilano River downstream of the Cleveland Dam. The installation of these alarms is a direct response to public, stakeholder, and First Nations input following the Cleveland Dam event of October 1, 2020. The alarms are the first step in a two-year program intended to result in an enhanced public warning system along the Capilano River. The long-term public warning system will be informed by technical expertise from third-party experts, the dam safety best practices, and by two phases of engagement, during which Metro Vancouver will actively seek feedback on various public safety enhancement options along the river.

## **Attachment**

Location of new public-facing alarms

45360896



## LOCATION OF NEW PUBLIC-FACING ALARMS



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To: Water Committee

From: Marilyn Towill, General Manager, Water Services

Date: May 3, 2021

Meeting Date: May 13, 2021

Subject: **Manager's Report**

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## **RECOMMENDATION**

That the Water Committee receive for information the report dated May 3, 2021 titled "Manager's Report".

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### **1. Earthquake Early Warning – Strategic Response System**

Through support from the Water Sustainability Innovation Fund and the Climate Action Committee, a pilot "Earthquake Early Warning (EEW) – Strategic Response System (SRS)" is in development. EEW systems detect a precursor wave before a damaging wave from a large earthquake impacts a given location. To enable such a system, specialized sensors (accelerometers and geophones) are being placed at the Seymour Capilano Filtration Plant (SCFP), Coquitlam Water Treatment Plant (CWTP) and the Lake City Operations Centre (LCOC) in Burnaby. Working together as a network, these sensors will enable staff to react and will eventually allow for automated actions to be taken through the SCADA system to begin to close valves, shut down equipment, etc. This will help mitigate some of the potential impacts of the incoming damaging wave and help preserve vulnerable parts of water supply system. The EEW system is designed to guard against false alarms and the actions taken will ensure water is not inadvertently shut off during critical operations such as firefighting.

Additional sensors at SCFP will also permit the immediate exploration of the damage caused by the damaging wave, thereby enabling initial evaluation (remotely and within minutes of the earthquake strike) of possible impacts to the facility. If proven, these sensors may be placed at multiple facilities throughout the regional water supply so as to enable effective prioritization of field crew deployment, i.e. provide a "Strategic Response System".

The pilot EEW system will be implemented this summer and the exploration of potential actionable measures, both manual and automated, will begin this fall and continue for the next few years. If successful, an operational system with sensors at multiple facilities throughout the region may be deployed. Future work would explore whether the EEW system could be extended to cover Liquid Waste and other Metro Vancouver infrastructure. The results will also be shared with member jurisdictions for potential municipal uses.

### **2. Annual Smolt Outmigration Request from Seymour Salmonid Society**

The Seymour Salmonid Society (SSS) releases up to 40,000 juveniles and 300 adult salmon above the Seymour Falls Dam annually to spawn and rear in the upper Seymour Watershed. Juvenile releases have been occurring for over 20 years and adult releases since 2019. To further support this effort,

each spring the Seymour River Hatchery Manager requests the gate on Bay 10 of the dam be opened to allow for smolt outmigration. Smolts make their way from the upper reaches of the watershed, through the reservoir, over the spill of Bay 10 gate and into the plunge pool below the dam before continuing their journey downstream to Burrard Inlet. The outmigration typically occurs from late April through early June and Water Services works to keep the gate open for as long as possible during the outmigration period as is operationally feasible. In the last decade there has only been one year, 2015, when due to a lack of snowpack and a spring drought, MV was not able to meet this request in order to ensure adequate summer water supply levels were maintained. Water Services continues to work collaboratively with the SSS on this and other initiatives to support fish populations in the Seymour River.

### **3. Grouse Mountain Resort Improvements Update**

Grouse Mountain Resorts (GMR) has begun planning an infrastructure improvement project that will include upgrades to the base visitor center and staff offices as well as the replacement of the aging Blue Tram with an eight-person cabin Gondola. A portion of the GMR facilities to be upgraded is on leased GVWD land, as well, the preliminary alignment for the tram replacement passes over a small portion of Grouse Mountain Regional Park which is operated under licence agreement with GVWD.

GMR plans to make a preliminary development permit application to the District of North Vancouver in the coming months and this application will include public consultation on the project. Due to the land ownership status, GMR will require approvals from both GVWD and MVRD to proceed, discussions for which are in the preliminary stages. The purpose for bringing this forward is to let our Committee members know before the GMR starts their public consultation process.

### **4. Work Plan**

#### **Attachment**

Water Committee 2021 Work Plan

**Water Committee 2021  
Work Plan**

**Priorities**

<b>1st Quarter</b>	<b>Status</b>
Annual Energy Management Program Update	Complete
Capilano Hydropower Project Business Case Update	Complete
Corrosion Control Program – Copper Pipes Protection	Complete
Long Term Financial Plan	Pending
Residential Water Metering – Overview of Local Experience	Pending
Water Meter Replacement Program	Complete
Contract Approvals – Contracts > \$5 Million (as applicable)	Complete
Water Policies (as applicable)	Complete
<b>2nd Quarter</b>	
Coquitlam Lake Water Supply Project Update	Pending
Drinking Water Customer Information Guide	Pending
Drinking Water Management Plan Update	Complete
First Nation Engagement Updates	Complete
GVWD Water Quality Annual Report	Complete
Lawn Water Regulations Communication & Regional Water Conservation Campaign	Complete
Seymour Salmonid Society 2020 Annual Report	Complete
Status of GVWD Capital Expenditures	Complete
Water Services Wildfire Preparedness Update	In Progress
Water Supply Update for Summer 2021	In Progress
Water Use-by-Sector Report	Pending
Contract Approvals – Contracts > \$5 Million (as applicable)	Pending
Water Policies (as applicable)	Pending
<b>3rd Quarter</b>	
Annual Dam Safety Program Update	Pending
Status of GVWD Capital Expenditures	Pending
Quality Management System for Drinking Water Update	Pending
Contract Approvals – Contracts > \$5 Million (as applicable)	Pending
Water Policies (as applicable)	Pending
<b>4th Quarter</b>	
Annual Budget and 5-year Financial Plan – Water Services	Pending
Environmental Management Framework	Pending
Regional Water Conservation Campaign and Water Regulations Communications 2021	Pending
Regional Water Supply System Seismic Resiliency Study	Pending
Status of GVWD Capital Expenditures	Pending
Summer 2021 Water Supply Performance	Pending
Watershed Fisheries Initiatives Annual Update	Pending
Contract Approvals – Contracts > \$5 Million (as applicable)	Pending
Water Policies (as applicable)	Pending

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To: Water Committee

From: Marilyn Towill, General Manager, Water Services

Date: May 7, 2021 Meeting Date: May 13, 2021

Subject: **Project Delivery Department – Governance Transition**

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The attached report dated May 3, 2021 titled “Project Delivery Department – Governance Transition” was considered by the Finance and Intergovernment Committee at its meeting of May 12, 2021 and is presented to the Water Committee for its information only.

**Attachment**

“Project Delivery Department – Governance Transition”, dated May 3, 2021

45496840

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To: Finance and Intergovernment Committee

From: Cheryl Nelms, General Manager, Project Delivery

Date: May 3, 2021 Meeting Date: May 12, 2021

Subject: **Project Delivery Department - Governance Transition**

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**RECOMMENDATION**

That the Finance and Intergovernment Committee receive for information the report dated May 3, 2021 titled "Project Delivery Department - Governance Transition."

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**EXECUTIVE SUMMARY**

The Finance and Intergovernment Committee is now the Metro Vancouver Board standing committee providing oversight for highest value, risk, consequence projects. This report serves to support this transition of governance by providing an overview of two of these projects being delivered by the Project Delivery Department on behalf of Liquid Waste and Water Services respectively.

**PURPOSE**

To provide an overview of two projects being delivered by the Project Delivery Department as part of the governance transition of oversight for the highest value, risk, consequence projects to the Finance and Intergovernment Committee.

**BACKGROUND**

Metro Vancouver is in the process of planning for, and implementing, a number of significant capital infrastructure projects related to Liquid Waste and Water Services for the region. These projects are the highest value, highest risk, complex in nature and represent a significant portion of the capital expenditures for Metro Vancouver for the next several years. Two of these significant capital projects are the Northwest Langley Treatment Plant Program and the Second Narrows Crossing project.

Oversight of these projects has historically been the responsibility of the Liquid Waste Committee (Northwest Langley) and Water Committee (Second Narrows). The Finance and Intergovernment Committee is now providing oversight of highest value, risk, consequence capital projects as per its recently revised terms of reference. This allows the MV Board to provide integrated and coordinated oversight of these projects and related expenditures.

The Iona Wastewater Treatment Plant program has already transitioned to the Finance and Intergovernmental Committee. A verbal report was provided in April with a further update scheduled for July, 2021.

**GOVERNANCE TRANSITION - MAJOR PROJECTS OVERVIEW**

In order to facilitate this transition, this report provides an overview of the two above noted projects:

- Northwest Langley Wastewater Treatment Plant Program (Liquid Waste Services)
- Second Narrows Crossing Project (Water Services)

The overview outlines the drivers for the projects, the delivery model, funding sources, a progress update, and key upcoming milestones for these projects.

### **Northwest Langley Wastewater Treatment Plant Program (Liquid Waste)**

The Northwest Langley Wastewater Treatment Plant, which currently serves a population of 30,000 in the Township of Langley, will be expanded on the same site to serve 230,000 by 2041. The plant will then also serve both Maple Ridge and Pitt Meadows. The program will consist of a new pump station in Maple Ridge and a dual pipe crossing of the Fraser River using horizontal directional drilling to convey the flows to the new plant. A new storage tank will be sited with the pump station to reduce overflows to the Fraser River during high rainfall events, and ground improvements and a new outfall will be constructed on the treatment plant site.

The Northwest Langley Wastewater Treatment Program was developed after the completion of the long-term servicing plan for the Fraser Sewerage Area in 2015, which recommended that the plant be upgraded to a regional plant to accommodate the growth expected in Maple Ridge, Pitt Meadows, and Langley. This delays upgrades to the Annacis Island plant and along 25km of sewer network, offering environmental and social benefits, greenhouse gas reductions, and a cost savings of ~\$300M<sup>1</sup> over 85 years.

To date<sup>2</sup>, \$111M has been spent on the program, representing 8% of the \$1.35B budget. Projects that are currently under construction include the Pump Station and Storage Tank, which is 11 months into construction and approximately a third complete; and the second phase of Ground Improvements, which is currently 70% complete, but delayed due to archaeological findings. The Forcemain and River Crossing project and Ground Improvement Phase 3 projects are both currently in construction procurement (RFP and RFQ stage respectively). The remaining projects are currently in design and include the Treatment Plant, which is approximately at 60% design; the final phase of Ground Improvements; and the Outfall.

As the Northwest Langley Wastewater Treatment Program is required to accommodate population growth, the program is funded through the GVS&DD Development Cost Charge Program. 99% of the project will be funded through DCC's, while the remaining 1% and debt interest will be funded through the LWS Levy.

Construction has been ongoing on portions of the project since 2018 and target completion of the projects is scheduled at the end of 2026. Major milestones include the completion of treatment plant design in mid-2022 and the completion of the pump station, storage tank, and river crossing in late 2022. The program will support 24,000 jobs throughout its lifetime and will accommodate regional growth and protect the river environment.

The cost estimate for the Program is currently being revised using Project Delivery's new Best Practice Project Estimating Framework, with a cost saving identification initiative being undertaken in parallel. An update will be provided to the Committee at the July Committee meeting.

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<sup>1</sup> 2016 dollars

<sup>2</sup> As of April, 2021



## **Second Narrows Crossing Project (Water)**

The Second Narrows Crossing Project will replace existing marine crossings of Burrard Inlet and provide improved seismic resiliency for the GVWD's water transmission system, increased capacity to meet future demand, and long term scour protection. The existing Second Narrows Crossings No. 1, 2 and 3, constructed in 1948, 1954 and 1978, respectively, cross under Burrard Inlet between North Vancouver and Burnaby and are generally buried in relatively shallow trenches, covered with riprap scour protection. Previous seismic vulnerability studies found that the existing crossings are vulnerable to failure during a moderate earthquake.

The Second Narrows Crossing project involves constructing a 6.5m diameter, 1100m long tunnel excavated using a pressurized face tunnel-boring machine (TBM), under high groundwater pressure, in variable and difficult soil and rock conditions. The project also includes construction of two deep vertical shafts, installation of three large diameter water mains within the shafts and tunnel, construction of two valve chambers, watermain connections to the existing GVWD system on either side of the crossing, and testing and commissioning of the constructed facilities.

The total project budget is \$463.3 million, including a contingency developed through a quantitative risk assessment. This project is part of the GVWD resilience program and is both debt financed and pay as you go. Funding is included in the annual water rate charged per M<sup>3</sup> to our member municipalities.

Construction began in 2019 and is now more than 50% complete, with an in-service date of 2024 anticipated. The project remains within budget but is several months behind schedule.

Future milestones include:

- Completing the tunnel and south shaft in summer 2021
- Commencing pipe installation in late summer 2021
- Commence north valve chamber construction in early 2022
- Complete crossing commissioning in early 2024.

## **ALTERNATIVES**

This is an information report. No alternatives are presented.

## **FINANCIAL IMPLICATIONS**

This is an information report. No financial implications are presented.

## **CONCLUSION**

The Finance and Intergovernment Committee is now the Metro Vancouver Board standing committee providing oversight for highest value, risk, consequence projects, including the Northwest Langley Wastewater Treatment Plant Program and the Second Narrows Crossing project. These projects are being delivered by the Project Delivery Department on behalf Liquid Waste and Water Services respectively. Transition of governance continues with an overview of two of these highest value, risk, consequence projects as described in this report. This allows the Metro Vancouver Board to ensure integrated and coordinated oversight of these projects and related expenditures.