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SERVICES AND SOLUTIONS FOR A LIVABLE REGION

METRO VANCOUVER REGIONAL DISTRICT
WATER COMMITTEE

MEETING

Wednesday, March 12, 2025
1:00 pm
28th Floor Committee Room, 4515 Central Boulevard, Burnaby, British Columbia
Webstream available at https://www.metrovancouver.org

A G E N D A

A. ADOPTION OF THE AGENDA

1. March 12, 2025 Meeting Agenda
That the Water Committee adopt the agenda for its meeting scheduled for March 12, 2025 as circulated.

B. ADOPTION OF THE MINUTES

1. January 15, 2025 Meeting Minutes *Pg. 5*
That the Water Committee adopt the minutes of its meeting held January 15, 2025 as circulated.

C. DELEGATIONS

D. INVITED PRESENTATIONS

E. REPORTS FROM COMMITTEE OR CHIEF ADMINISTRATIVE OFFICER

1. Water Supply Area Fisheries Initiatives Annual Update *Pg. 9*

Executive Summary
Metro Vancouver Water Services, Liquid Waste Services, and Regional Parks collectively contribute to Pacific Salmon conservation and restoration in the region. The Greater Vancouver Water District (GVWD) / Water Services manages and participates in fisheries management and restoration initiatives both upstream and downstream of the primary water supply dams in each of the Capilano, Seymour, and Coquitlam River Watersheds. In 2024, adult Salmon returns were successful due to the adequate late summer – fall river flows that supported migration. Metro Vancouver strives to continually improve fisheries protection and enhancement initiatives for the recovery of Pacific Salmon populations, while collaborating with stewardship groups, First Nations, and provincial and federal fisheries management agencies.

Recommendation
That the Water Committee receive for information the report dated February 28, 2025, titled "Water Supply Area Fisheries Initiatives Annual Update".

2. Climate Impacts on the Water Supply Areas *Pg. 98*

Executive Summary
This report highlights the increasing influence of climate change on local weather patterns. Extreme weather events in 2024 caused significant disruption within the region. Record-breaking low temperatures in January across western Canada, including the Lower Mainland, impacted transportation, agriculture, and the power grid. Stormy fall weather, including the October 18-20 atmospheric river, also caused extensive damage to areas of the North Shore and Coquitlam.

Looking forward, climate resilience is crucial for regional water resource and supply management. Intense climate driven precipitation events have the potential to impact our source water quality through landslides and other erosion events resulting in increased frequency of turbidity events. Water Services invests in climate monitoring programs and technology innovations to inform water supply decisions and mitigate climate change impacts.

Recommendation
That the Water Committee receive for information the report dated February 27, 2025, titled "Climate Impacts on the Water Supply Areas".

3. Award of RFP No. 23-155 for Construction Services for Newton Pump Station No. 2 *Pg. 125*

Executive Summary
Pomerleau, Inc.'s proposal ranked highest overall, had the highest technical score and demonstrated best value overall for Metro Vancouver.

Metro Vancouver requires Construction Services to construct and commission the Newton Pump Station No. 2 which is required to both replace the existing Newton Pump Station and to increase water supply to south Surrey. Work has already started on the construction of Newton Pump Station No. 2 with the successful trenchless installation of new outlets on the existing Newton Reservoir in 2024.

RFP No. 23-155 was issued on July 18, 2024 to the prequalified respondents of RFQ No. 22-483 and the procurement was executed in accordance with the terms and conditions of Metro Vancouver's Procurement Policy. RFP No. 23-155 evaluation team have considered the proposals received, and on that basis recommend that the GVWD Board award RFP No. 23-155 to Pomerleau, Inc.

Recommendation
That the GVWD Board:
a) approve the award of RFP No. 23-155 for Construction Services for Newton Pump Station No. 2 in the amount of up to $49,810,018.94 (exclusive of taxes) to Pomerleau, Inc., subject to final review by the Commissioner; and
b) authorize the General Manager, Procurement and Real Estate to execute the required documentation once the General Manager, Procurement and Real Estate is satisfied that the award should proceed.

4. Manager's Report *Pg. 129*

Recommendation
That the Water Committee receive for information the report dated March 4, 2025, titled "Manager's Report".

F. INFORMATION ITEMS

G. OTHER BUSINESS

H. 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 meeting scheduled for March 12, 2025 pursuant to section 226 (1) (a) of the *Local Government Act* and the *Community Charter* provisions as follows:

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

- (g) litigation or potential litigation affecting the municipality;
- (m) a matter that, under another enactment, is such that the public may be excluded from the meeting; and

90 (2) A part of a council meeting must be closed to the public if the subject matter being considered relates to or is one or more of the following:

- (b) the consideration of information received and held in confidence relating to negotiations between the regional district and a provincial government or the federal government or both and a third party.

I. ADJOURNMENT

That the Water Committee adjourn its meeting of March 12, 2025.

Membership:

West, Brad (C) – Port Coquitlam
Sager, Mark (VC) – West Vancouver
Albrecht, Paul – Langley City
Bell, Don – North Vancouver City
Cassidy, Laura – sc̓əw̓aθən məsteyəxʷ (Tsawwassen First Nation)
Guichon, Alicia – Delta
Hodge, Craig – Coquitlam
Keithley, Joe – Burnaby
Little, Mike – North Vancouver District
MacDonald, Nicole – Pitt Meadows
Meiszner, Peter – Vancouver
Rindt, Rob – Langley Township
Stutt, Rob – Surrey

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SERVICES AND SOLUTIONS FOR A LIVABLE REGION

METRO VANCOUVER REGIONAL DISTRICT
WATER COMMITTEE

Minutes of the Regular Meeting of the Metro Vancouver Regional District (MVRD) Water Committee held at 1:00 pm on Wednesday, January 15, 2025 in the 28th Floor Committee Room, 4515 Central Boulevard, Burnaby, British Columbia.

MEMBERS PRESENT:
Chair, Director Brad West, Port Coquitlam*
Vice Chair, Director Mark Sager, West Vancouver
Director Paul Albrecht, Langley City
Councillor Don Bell, North Vancouver City
Director Laura Cassidy, sc̓əw̓aθən məsteyəxʷ (Tsawwassen First Nation)*
Councillor Alicia Guichon, Delta
Director Craig Hodge, Coquitlam
Councillor Joe Keithley, Burnaby
Mayor Mike Little, North Vancouver District
Director Nicole MacDonald, Pitt Meadows* (arrived at 1:04 pm)
Councillor Rob Rindt, Langley Township
Director Rob Stutt, Surrey

*denotes electronic meeting participation as authorized by the *Procedure Bylaw*

MEMBERS ABSENT:
Director Peter Meiszner, Vancouver

STAFF PRESENT:
Marilyn Towill, General Manager, Water Services
Nikki Tilley, Supervisor, Legislative Services, Board and Information Services
Heather McNell, Deputy Chief Administrative Officer, Policy and Planning
Jessica Hayes, Program Manager, Regional Planning and Housing Services, Regional Planning and Housing Services

A. ADOPTION OF THE AGENDA

1. January 15, 2025 Meeting Agenda

It was MOVED and SECONDED
That the Water Committee adopt the agenda for its meeting scheduled for January 15, 2025 as circulated.

CARRIED

B. ADOPTION OF THE MINUTES

1. November 6, 2024 Meeting Minutes

It was MOVED and SECONDED
That the Water Committee adopt the minutes of its meeting held November 6, 2024 as circulated.

CARRIED

C. DELEGATIONS

No items presented.

D. INVITED PRESENTATIONS

No items presented.

E. REPORTS FROM COMMITTEE OR CHIEF ADMINISTRATIVE OFFICER

1. 2025 Water Committee Meeting Schedule and Work Plan

Report dated December 23, 2024, from Marilyn Towill, General Manager, Water Services, providing the Water Committee with the 2025 Work Plan, Terms of Reference, and the Annual Meeting Schedule.

1:04 pm Director MacDonald arrived at the meeting.

It was MOVED and SECONDED
That the Water Committee:

a) receive for information the Water Committee Terms of Reference and the 2025 Annual Meeting Schedule, as presented in the report dated December 23, 2024, titled "2025 Water Committee Meeting Schedule and Work Plan"; and
b) endorse the 2025 Work Plan, as presented in the report dated December 23, 2024, titled "2025 Water Committee Meeting Schedule and Work Plan".

CARRIED

2. 2025 Water Committee Orientation

Report dated December 23, 2024, from Marilyn Towill, General Manager, Water Services, providing the Water Committee with an orientation to Metro Vancouver's Water Services.

Marilyn Towill provided members with a presentation titled "Metro Vancouver Water Services" that walked the committee through the department's regulatory and strategic framework, its organizational structure, the operating and capital costs of the regional drinking water system, and current projects.

It was MOVED and SECONDED
That the Water Committee receive for information the report dated December 23, 2024, titled "Water Committee Orientation".

CARRIED

3. Consideration of Updating Development Cost Charge Waivers to Include Inclusionary Housing Units

Report dated December 20, 2024, from Jessica Hayes, Program Manager, Regional Planning and Housing Services, providing the Water Committee with the opportunity to provide feedback on proposed changes for Metro Vancouver's development cost charge (DCC) waiver framework, including extending DCC waivers for privately developed inclusionary housing units.

Heather McNell, Deputy CAO, Policy and Planning, and Jessica Hayes provided a members with a presentation titled "Consideration of Updating Development Cost Charge Waivers to Include Inclusionary Housing Units", which outlined Metro Vancouver's current development cost charge waiver framework, and a possible extension of the DCC waiver to privately developed inclusionary housing units.

Members discussed the financial impact of the proposed waiver extensions to Metro Vancouver and tax payers.

It was MOVED and SECONDED
That the Water Committee receive for information the report dated December 20, 2024, titled "Consideration of Updating Development Cost Charge Waivers to Include Inclusionary Housing Units".

CARRIED

4. Manager's Report

Report dated January 7, 2025, from Marilyn Towill, General Manager, Water Services, informing the Water Committee that the Metro Vancouver – Quality Control Laboratory was awarded a Certificate of Performance from Proficiency Testing Canada.

It was MOVED and SECONDED
That the Water Committee receive for information the report dated January 7, 2025, titled "Manager's Report".

CARRIED

F. INFORMATION ITEMS

No items presented.

G. OTHER BUSINESS

No items presented.

H. RESOLUTION TO CLOSE MEETING

It was MOVED and SECONDED

That the Water Committee close its meeting scheduled for January 15, 2025 pursuant to section 226 (1) (a) of the *Local Government Act* and the *Community Charter* provisions as follows:

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

(m) a matter that, under another enactment, is such that the public may be excluded from the meeting.

CARRIED

I. ADJOURNMENT

It was MOVED and SECONDED

That the Water Committee adjourn its meeting of January 15, 2025.

CARRIED

(Time: 1:51 pm)

Nikki Tilley,
Supervisor, Legislative Services

Brad West,
Chair

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SERVICES AND SOLUTIONS FOR A LIVABLE REGION

To: Water Committee

From: Jesse Montgomery, Division Manager, Watersheds and Environment, Water Services

Date: February 28, 2025 Meeting Date: March 12, 2025

Subject: **Water Supply Area Fisheries Initiatives Annual Update**

RECOMMENDATION

That the Water Committee receive for information the report dated February 28, 2025, titled "Water Supply Area Fisheries Initiatives Annual Update".

EXECUTIVE SUMMARY

Metro Vancouver Water Services, Liquid Waste Services, and Regional Parks collectively contribute to Pacific Salmon conservation and restoration in the region. The Greater Vancouver Water District (GVWD) / Water Services manages and participates in fisheries management and restoration initiatives both upstream and downstream of the primary water supply dams in each of the Capilano, Seymour, and Coquitlam River Watersheds. In 2024, adult Salmon returns were successful due to the adequate late summer – fall river flows that supported migration. Metro Vancouver strives to continually improve fisheries protection and enhancement initiatives for the recovery of Pacific Salmon populations, while collaborating with stewardship groups, First Nations, and provincial and federal fisheries management agencies.

PURPOSE

To provide the Committee with an annual update on fisheries initiatives and activities associated with the Capilano, Seymour, and Coquitlam River Watersheds.

BACKGROUND

The Board, through its 2022 – 2026 Strategic Plan, is committed to "Work with First Nations and fisheries agencies to support the restoration of fish populations in the water supply areas while maintaining the delivery of high-quality water". The GVWD collaborates with First Nations, Fisheries and Oceans Canada (DFO), Ministry of Water, Land and Resource Stewardship, BC Hydro, and stewardship groups on various fisheries restoration and conservation initiatives. The initiatives described in this report are typically based on interagency collaboration and scientific assessment aimed at restoring or enhancing many of the Pacific Salmon species that occur in the Capilano, Seymour, and Coquitlam River Watersheds, namely Coho Salmon, Pink Salmon, Chum Salmon, and Sockeye Salmon, as well as Steelhead and Cutthroat Trout. Project updates are now available for fisheries management initiatives undertaken in 2024; this report provides the Committee with an update on activities as identified in the Committee's 2025 Work Plan.

WATERSHED FISHERIES INITIATIVES

Capilano Watershed

DFO's Capilano River Hatchery is located immediately downstream of Cleveland Dam to supplement commercial and recreational fisheries and contribute to federal Pacific Salmon restoration objectives. The GVWD has a long-standing collaborative agreement to support water supply and operational aspects of the hatchery. The hatchery is currently in the early construction phase of a comprehensive redevelopment of the 50-year-old facility. Staff are working with DFO to support this project, primarily in improvements of existing and new water supply configurations associated with GVWD infrastructure.

The Capilano River Hatchery annually transports up to 7,500 adult Coho Salmon plus surplus Steelhead Trout upstream of the Capilano Reservoir for spawning. On an annual basis, Metro Vancouver staff capture out-migrating juvenile Coho Salmon and Steelhead Trout smolts for release downstream of Cleveland Dam in an effort to improve fish survival rates. Staff successfully captured and transported 30,618 Coho Salmon and 534 Steelhead Trout smolts from upstream of the dam to the Capilano River Estuary at Burrard Inlet in 2024. Smolt capture numbers in 2024 were slightly above average, with inter-annual variability typically attributed to environmental factors. Staff worked collaboratively with DFO and Sḵwxwú7meshn̲ Úxwumixw (Squamish Nation) to monitor river flow conditions through the summer and fall although no strategic dam releases were required this year as the fall rains returned in September. Adult fish returns to the hatchery were above average through the spawning season.

Seymour Watershed

The Seymour Salmonid Society (SSS) operates the Seymour River Hatchery immediately downstream of Seymour Falls Dam. Adult Coho Salmon and Steelhead Trout returning to the Seymour River will naturally spawn in the river downstream of the dam, be captured and transported to the hatchery for processing, or moved to the Seymour River upstream of the dam for natural spawning. In 2024, 331 adult Coho Salmon were released in the Seymour River upstream of Seymour Falls Dam. In addition, 32,800 Coho Salmon fry (juveniles) raised at the hatchery were transported upstream of Seymour Falls Dam to rear in wild habitat and out-migrate to the ocean as one or two year olds.

Seymour River Hatchery operations are funded by MV, DFO, community grants, and private donors. In November 2023, the GVWD Board approved renewal of the long-standing Contribution Agreement with the SSS for 2024 – 2026. Annual funding provided by MV forms the primary contribution for core hatchery operations with a provision of $156,500 in 2025 and $160,000 in 2026. The SSS successfully fulfilled their obligations of the contribution agreement in 2024. A requirement of the agreement is for the SSS to provide an annual report summarizing the year's activities to the GVWD Board. A link to the 2024 Seymour Salmonid Society Annual Report is provided in the references section of this report.

The Seymour River Hatchery has occupied a one-hectare parcel of land just south of the base of the Seymour Falls Dam since the 1970's. A licence agreement for the lands was finalized in 2024 with an initial five-year term (with five-year renewal) at a nominal fee. The licence agreement delineates responsibilities of both parties and formally recognizes the land tenure of the hatchery facility.

Coquitlam Watershed

Staff continue to participate in the Kwikwetlem Sockeye Restoration Program (KSRP), in collaboration with BC Hydro, kʷikʷəƛ̓əm (Kwikwetlem First Nation) and provincial and federal fisheries representatives. Typically, a very low number of adult Sockeye return to the base of the Coquitlam Dam and only a few of those prove to be of Coquitlam origin. During 14 years of prior trapping, a total of 23 adult Sockeye were captured, of which only 9 were of Coquitlam origin. In 2024, however, crews captured 13 Sockeye which were all confirmed by genetic testing to be of Coquitlam origin; an unexpected result that was celebrated by all involved with the program.

Over the past few years, staff have worked with the KSRP partnership to support the construction of the BC Hydro funded Coquitlam Sockeye Hatchery. The GVWD support included providing a site for the hatchery construction which has been licensed to BC Hydro for a ten-year term, as well as facilitating the primary water supply connection from the GVWD raw water supply line. The GVWD will also ensure access to the facility along the water supply area road network and provide limited after-hours site security in conjunction with the GVWD facilities in the immediate area.

The hatchery was completed in late 2024 and named the kʷikʷəƛ̓əm ɬáḵʷ (*Sockeye Return Home*) Hatchery by the First Nation. The hatchery is currently operating with a trial of Coho Salmon broodstock prior to bringing Sockeye Salmon into the facility in the fall of 2025. Staff will be working with kʷikʷəƛ̓əm and BC Hydro consultants in the fall of 2025 to capture Kokanee Salmon (the freshwater variant of Sockeye Salmon) in Coquitlam Reservoir which will be artificially spawned for hatchery rearing prior to release to the Coquitlam River.

The Coquitlam River Watershed Roundtable (CRWR) was formed in 2011 with roots back to a Coquitlam River Watershed Strategy (2007) developed by local stakeholders and area interest groups. The CRWR registered as the Coquitlam River Watershed Society under the *Societies Act* in 2020. Priorities of the CRWR pertain to advocacy and actions contributing to improvements in development practices, anti-littering and dumping, storm water management, and invasive species management. The GVWD has financially contributed through a Contribution Agreement to the Coquitlam River Watershed Roundtable since 2015 and staff continue to participate in the organization's activities. Annual funding provided by MV for the last two years of the agreement will be $36,070 in 2025 and $37,150 in 2026. Other financial contributors to the organization include the cities of Port Coquitlam and Coquitlam and kʷikʷəƛ̓əm. The CRWR successfully fulfilled their obligations of the contribution agreement in 2024. A requirement of the agreement is for the CRWR to provide an annual report summarizing the year's activities to the GVWD Board. A link to the 2024 Coquitlam River Watershed Roundtable Annual Report is provided in the References section.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

The initiatives described in this report have been funded from the Watersheds and Environment Program budget as well as through partnerships with other organizations.

CONCLUSION

Metro Vancouver continues to proactively participate in Pacific Salmon restoration initiatives both upstream and downstream of the dams in the Capilano, Seymour, and Coquitlam River Watersheds. Staff continue to collaborate with provincial and federal fisheries managers, First Nations, and stewardship groups to troubleshoot and solve complex fisheries restoration matters. Metro Vancouver is committed to consistently meet or exceed regulatory requirements in the protection and restoration of fish populations, while continuing to provide high-quality drinking water for the region.

ATTACHMENTS

1. 2024 Seymour Salmonid Society Annual Report for Greater Vancouver Water District.
2. Coquitlam River Watershed Roundtable 2024 Annual Report.

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2024

Seymour Salmonid Society's Annual Report For Greater Vancouver Water District

Seymour Salmonid Society
PO Box 52221, North Vancouver, V7J 3V5
December 2023

SEYMOUR
SALMONID
SOCIETY

Mission Statement

To enhance Seymour River salmon and educate the public about the importance of the river as a resource for drinking water, wildlife and the forest.

SEYMOUR SALMONID SOCIETY

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SEYMOUR SALMONID SOCIETY

Executive Summary

Acknowledgements

The Seymour Salmonid Society (SSS) would like to recognise the significant annual contribution of $153,500 by Greater Vancouver Water District (GVWD) to support enhancement and education efforts at the Seymour Hatchery. The money that GVWD contributes to the hatchery operations allows the SSS to leverage monies from other sources, including Fisheries and Oceans Canada (DFO) and other external funding sources. These contribute a significant proportion of our annual operating budget.

We would also like to thank significant financial contributions from Pacific Salmon Strategy Initiative (PSSI), the Pacific Salmon Foundation (PSF), District of North Vancouver Firefighters Charity (DNV Firefighters), Habitat Conservation Trust Foundation (HCTF) and Royal Bank of Canada in 2024. These funds were generously provided for habitat enhancement and monitoring, education, hatchery operations and infrastructure improvements. We are also extremely grateful for the ongoing support by the Port of Vancouver (PoV), North Shore Community Foundation, District of North Vancouver (DNV), the Ocean Film Festival (OFF) and for the many community donations provided by local individuals and stakeholders.

We wish to thank GVWD for their ongoing support with in-kind staff and material contributions for ongoing hatchery operations and restoration activities in the watershed. We would also like to thank our DFO Community Advisor and the DFO Habitat and Restoration group for their support and technical guidance. We would also like to acknowledge the Ministry of Land, Water, and Resource Stewardship (LTSA) for their ongoing support of our steelhead program.

We are most grateful for the contribution by our over 750 registered volunteers, who are an integral part of our operations. Without the significant community involvement, our staff would be unable to accomplish a fraction of what is completed in the watershed.

Habitat Conservation and Enhancement

The SSS and our partners continued to work hard to mitigate the effects of the rockslide and move into a post-rockslide restoration strategy. We confirm that adult coho and chinook salmon and steelhead successfully migrate through the canyon to spawn within the river upstream, albeit at certain flow conditions. The additional restoration works at the Junior Creek enhancement area were completed through the sediment pond maintenance and works to temporarily stabilise the outlet channel bank, with significant input from GVWD and DFO. GVWD has provided significant in-kind support for materials and machinery operator time for restoration works in 2024 and the years prior. Without this in-kind support the Junior Creek site could not be maintained.

Broodstock Collection and Production

We released the following into the watershed as part of our enhancement program:

- 288,200 chum fry (23,200 of which were Seymour River origin) in the lower river
- 157,700 pink salmon fry (100% Seymour River origin) in the lower river
- 48,000 coho smolts released from the hatchery into Hurry Creek
- 32,800 fed fry above Seymour falls Dam
- 24,000 summer run steelhead smolts ocean released at West Vancouver laboratory
- 7,600 coho smolts released to seapens at Port Moody
- 3,500 winter run steelhead smolts ocean released at West Vancouver laboratory

SEYMOUR SALMONID SOCIETY

This year saw our broodstock anglers out regularly during the summer and fall periods for steelhead and chum salmon. This was in addition to the hatchery pool seines to collect adult coho and steelhead broodstock. We spawned 49 pairs of Seymour chum by the end of November and anticipate spawning up to 65 pairs of coho by the end of December. In addition, we spawned 94 pairs of Alouette chum. We have completed our or summer run steelhead adult collection and will begin winter run collection early next year in preparation for spring 2025spawning. We are also continuing the egg incubation activities to ensure sufficient fry and smolt production for the coming year ahead.

Environmental Monitoring

Hatchery staff undertook mark and recapture activity during broodstock collection, along with carcass recovery surveys between October and December. A total of 713 coho captured during hatchery pool seines had their left operculum punched before being released back to the river. This mark and recapture process is then used during carcass recovery activity to estimate the total number of adult coho returning to the river in 2024. To date we have identified 366 coho carcasses during surveys, of which 46 had the LOP (i.e., 12% of those found), with an estimate >5,000 coho adults returning in 2024.

Community Outreach and Education

We successfully operated the chum fry release at Heritage Park, our Open House at the Seymour hatchery, the Family Fishing Day at Rice Lake, and our World River Day event at the Seymour Estuary. The SSS also attended community events organised by others including the annual fishing derby, DNV Firefighters Fishing Derby and the Blueridge Community event.

Our chum release at Heritage Park was undertaken in April with the support of DNV Firefighters. Hatchery staff and volunteers helped to fill each bucket with chum salmon fry for the kids to release an estimated 17,400 chum fry on the day. We hosted our annual Open House in September to allow the public to visit the hatchery and learn about the work we do and learn more about the Society's enhancement, education, and restoration activities. GVWD also attended and provided information about the watershed, our drinking water, and the dam. For World Rivers Day we organised an estuary clean-up and replanting at the river mouth in the fall, with help from GVWD staff and SSS volunteers.

The District of North Vancouver Firefighters, a major financial supporter of our education program, also held their annual Fishing Derby in September. The derby was a great success and resulted in a significant donation from the Firefighters of $45,000 towards our education program. Given this, we could operate GDS program during spring and fall, with a total of 1,368 students and 390 parents and teachers enjoyed the program.

Hatchery Infrastructure Upgrades and Maintenance

We continued our ongoing facility infrastructure and maintenance upgrades, including rearing weir repairs, building envelope and site drainage upgrades, construction of a new awning for spawning and fin clipping procedures. We undertook structural repairs to the signage structures and electrical connections (ATV shed, aquarium, groundwater pumps). We also designed and installed a dual-purpose flow data logger and low flow alarm in the aeration tower, which is wirelessly connected to our computers and phones via Starlink.

SEYMOUR SALMONID SOCIETY

Human Resources

The following provides an overview of the hatchery facility staffing and governance for the Seymour Salmonid Society.

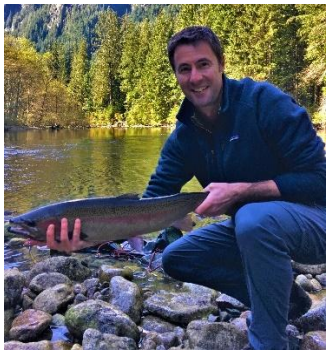
Board of Directors

President	Shaun Hollingsworth
Treasurer	Darren Radons
Secretary	Graeme Budge
Directors	Stephen Vincent
	Nick Martinovic
	Naomi Yamamoto
	Mardy Grossman
	Kate Keogh
	Glen Parker
	Mark Whorrall
	Sean Ramsden
	Mardy Grossman
	Justin Henry
	Daryl Brown

Hatchery Staff

Marc Guimond: Executive Director & Hatchery Manager

Marc grew up in Toronto and attended the University of Guelph, earning a degree in Biological Sciences in 1995. In 1997 he moved to Vancouver and volunteered at the Vancouver Aquarium teaching students about marine invertebrates. The following year, Marc joined the SSS and has been overseeing all aspects of salmonid production and monitoring for over 25 years.



Reece Fowler: Environmental Manager

Reece was born and raised on the banks of the Whanganui River in New Zealand. He attended Massey University in Palmerston North (NZ), gaining a Bachelor of Science (BSc) in 1995, before completing a Doctorate in Freshwater Ecology in 2000. After university, Reece went on to work in the environmental consultancy sector for over 16 years, before volunteering at the hatchery in 2017 and joining the SSS in May 2018.

SEYMOUR SALMONID SOCIETY

Megan Samson: Program Coordinator & Fisheries Technician

Megan was born in Vancouver and raised in White Rock before pursuing her interest in science at BCIT. She completed her diploma in Fish, Wildlife and Recreational Management in 2021 and worked for Freshwater Fisheries Society of BC at the Nechako White Sturgeon Conservation Centre in Vanderhoof (BC) following her diploma, before joining the SSS in August to assist with hatchery operations and radio telemetry monitoring education and volunteer coordination.

Sean Nightingale: Seasonal Fisheries & Monitoring Technician

Sean was born and raised in Deep Cove, BC. He completed the Fish and Wildlife and Recreation Diploma program at BCIT in 2019, followed by undergraduate degree (BSc) in Ecological Restoration in 2023 also at BCIT. Sean joined the SSS in May to assist with hatchery operations, salmonid production, and environmental monitoring.

SEYMOUR SALMONID SOCIETY

Habitat Conservation and Enhancement

Hatchery staff supported by GVWD, DFO along with our engineers Northwest hydraulics (NHC) and Global Rope Access (GRA) undertook a series of habitat activities within the watershed during 2024. The following provides an overview of activities undertaken based on habitat area.

Seymour Rockslide Remediation Project

The objective of the 2024 work was separated into two parts as follows.

Monitoring and Observations

The rockslide area monitoring to confirm ongoing fish passage through the Seymour Canyon. Subsequent monitoring of adult capture during hatchery pool seines and as part of carcass recovery monitoring. Although we are yet to confirm the actual number of fish that moved through the canyon in 2024 (i.e., as carcass recovery counts continue into January 2025), we successfully seine netted or broodstock fished 1,213 coho, 15 chinook and 52 steelhead above the rockslide this year. Our coho carcass recovery monitoring is ongoing, and our estimate thus far suggests >5,000 adult coho may have moved through the rockslide in 2024.

Lowering Rockslide Crest

Following the spring observations and monitoring engineers and the SSS identified there was a 1.5m drop that prevented pink salmon migration during late summer low flows, and for winter run steel head during winter low flows through the rockslide (Figure 1).

Works focused on changing the profile at the rockslide lip to reduce the drop at the crest and improve passage during low flow conditions. Work completed in late August and early September by Global Rope Access Inc. (GRA), with technical oversight provided by Northwest Hydraulic Consultants Ltd. (NHC). A GRA crew of three workers was on site for two-weeks, while NHC had one staff member onsite daily as the technical point of contact. After setup the aim was to remove slide material to reduce the blockage and destabilise the slide mass by splitting or displacing rocks anchoring the blockage. Destabilising the slide sought to increase the likelihood that high flow rates expected through the winter and freshet further mobilise slide material and reduce the crest elevation. Rocks were moved using a two-ton tirfor, rigging, and handwork. Demobilisation followed the active works program.

Following project completion on September 9, a survey was taken of the elevation of the ponded water behind the slide and the elevation of subsurface rocks acting as a control for the ponded water. The survey showed that the average crest elevation within the main flow area has been reduced and the crest widened to create a lower flow area downstream of the crest. Please note that it is difficult to quantify the crest drop given the highly variable nature of the riverbed at this location, along with the variable river flow volumes.

NHC will revisit the slide area during and after large flow events in fall 2024 and freshet 2025 to complete a visual inspection of the slide area. The SSS will also undertake additional fish passage monitoring during late winter and late summer to further define the low flow hydraulics and potential barrier issues.

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FIGURE 1 SEYMOUR ROCKSLIDE MITIGATION WORKS DURING SUMMER LOW FLOWS 2024

Fish Above Seymour falls Dam Project

The agreement with GVWD and DFO allows the release of up to 400 adults above the dam each year (i.e., 200 pairs). This figure is based on the Bradford's bio-standard of 85 smolts/female and a target of producing 17,000 wild smolts from natural habitat above dam each year. Annual wild spawned fry releases will be augmented by up to 40,000 hatchery fed fry above the dam. This will continue until it is possible to release more than 200 adults (i.e., 100 pairs) above the dam each year. After which the plan would be to reduce hatchery fed fry releases accordingly.

Transporting adult coho above the dam partially mitigates the historic impact of dam construction and re-establish wild salmonid stocks in a pristine area that is more resilient to future stressors such as climate change given the lower water temperatures in the upper watershed. The number of adult coho transported above the dam annually is determined by the number of adult fish returning to the river, the number of fish we can collect as part of our broodstock program, and the number of transportation trips we can undertake.

During October and November with the assistance of GVWD staff, the SSS transported a total of 331 adult coho salmon (i.e., 150 pairs) and released these into the Seymour River above the dam. These fish were captured during river seines at the hatchery pool and were released at the 21km mark in the upper watershed at a location known locally as Rustad Branch (Figure 2). We also transported and released 19 adult (hatchery origin) summer run steelhead above the dam in 2024.

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FIGURE 2 ADULT COHO SALMON RELEASE ABOVE THE DAM AT RUSTAD BRANCH

River Fertilisation Project

The program was originally initiated by LTSA to mitigate impact from the Seymour Falls dam on the downstream habitat of summer-run juvenile steelhead. The prevailing thought is that the over-wintering period and ocean survival for juvenile steelhead is a population concern for the Seymour River. Thus, making the fry bigger and (presumably) healthier during the summer/fall months because of greater food availability, would improve over-winter survival of the juvenile steelhead population, resulting in a greater number of larger smolts that would then out-migrate to the ocean in the spring (with the assumption that sending more and larger fish to the ocean would result in lower predation and more fish coming back).

The fertilisation program, now overseen by GVWD and SSS continued in 2024. Hatchery staff and volunteers filled burlap bags with fertiliser pellets and placing them in three locations in the river each spring. Fertiliser bags were deployed between 14 and 20 June by hatchery staff. Loading rates was 1,350kg of fertiliser total: 27 bags at Bear Island Bridge, 54 bags at Hatchery Pool, and 54 bags at Spur 4). The pellet fertiliser was supplied by Ostara (Ostara.com) and the product is called Crystal Greene, with a pellet size of SGN 300. Concurrent with this fertiliser installation, GVWD performed bi-weekly water quality sampling during the summer growth period (June to October) at locations upstream and downstream of the fertiliser release sites as described in the monitoring section of this report.

Junior Creek Enhancement Area

The Junior Creek enhancement area comprises a man-made channel that flows between Paton Creek downstream via an inlet channel to the juvenile rearing ponds of the enhancement area. Water flows downstream of the rearing ponds via an approximately 150m long outlet channel. Both the inlet and outlet channels provide spawning habitat for coho, especially the outlet channel.

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Following winter and spring visual surveys of the system, both the inlet and outlet channels required further remediation works.

The Junior Creek project is being led by DFO with GVWD support, along with advice and input from SSS. GVWD provided significant in-kind support for materials and machinery operator time for the remediation works at the inlet channel in 2024, while DFO staff provided significant in-kind support for both the inlet and outlet channel works. The primary focus including the following:

- **Inlet Channel** - the bank along a small section of this man-made inlet channel has degraded over time and additional work to ensure it maintains sufficient flow to the Junior Creek ponds repairs to the ponded area using a mechanical excavator and operator from GVWD and DFO habitat specialists to clear fines and sand materials form the settling pond in the inlet channel. Works were undertaken during spring to provide additional bank protection and rock sill flow control at the inlet pond. In addition, during the summer additional log debris clearance and bank protection was undertaken within the inlet channel a short distance downstream of the inlet pond. Both works sought to maintain flows into the habitat ponds (Figure 3)
- **Outlet Channel** – a section of the bank along the outlet channel is being eroded by the Seymour River and resulting in significant risk of failure and a loss of approximately 150m of spawning and rearing creek habitat within the Junior Creek system. Furthermore, the elevation drop at the new exit would be too great to allow adult salmon passage into the Junior Creek habitat area at all. Temporary remediation works were undertaken during October 2024 by DFO staff (Figure 4, Figure 5), involving the installation of willow spiling bank protection to reduce erosion potential of the bank by the Seymour River. Further design work is being discussed to provide a longer-term solution to the outlet channel erosion risk

SSS Staff undertook regular visual inspections of the Junior Creek system during the fall as part of spawning population monitoring. The results of visual surveys confirm that the habitat ponds are receiving sufficient water flows to continue spawning and rearing habitat for returning salmonids. The outlet channel bank is still intact, and the channel is being used by good numbers of spawning coho. We will continue to monitor the outlet channel during winter and spring to ensure the bank repairs remain intact.

FIGURE 3 JUNIOR CREEK INLET FOLLOWING COMPLETION OF REPAIR WORKS

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FIGURE 4 JUNIOR CREEK OUTLET DURING INSTALLATION OF WILLOW SPILING

FIGURE 5 JUNIOR CREEK OUTLET COMPLETED WILLOW SPILING BANK PROTECTION STRUCTURE

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Mid-Valley Enhancement Area

The Mid-Valley enhancement area is man-made and was established over 20 years ago to provide significant salmonid juvenile rearing and adult spawning habitat. This enhancement area supplements for aquatic habitat lost in the upper watershed via historical human activities. The area also benefits the watershed by providing valuable habitat for other aquatic species such as amphibians, birds, insects and invertebrates.

The aim of the habitat works during 2024 was to visually monitor the enhancement area to confirm the habitat area is being utilised by both juvenile salmonids and returning adult spawners. We also performed population monitoring during the fall as part of the carcass recovery program. Thew inlet channel also remained clear of fine sediment, although over the +20 years since the habitat area was established there is a paucity of spawning gravels in the channel. Thus, we suggest that additional spawning gravel should be introduced during summer low flow conditions into the inlet channel to augment spawning gravel presence. Nonetheless, carcass recovery surveys during fall 2024 confirmed that good numbers of coho were spawning in the habitat area, including the inlet channel.

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Broodstock Collection and Production

The following provides an overview of the broodstock collection and production activities undertaken in the Seymour watershed during 2024. Please note that the summer run steelhead spawned in 2024 were collected during late 2023 and held onsite over winter. Table 1 provides a summary of the fish collected from broodstock activities for the enhancement program.

TABLE 1 BROODSTOCK COLLECTION FOR THE SEYMOUR RIVER HATCHERY IN 2024

Species	Pairs Spawned	Eggs Collected
Coho salmon (early and late run) 2024	55	110,000
Steelhead (2024 summer run brood year)*	8	27,000
Steelhead (2024 winter run brood year)**	3	11,800
Chum salmon (Seymour River) 2024	49	118,600
Chum salmon (Alouette River) 2024	94	220,900

***Note**: * - summer runs spawned in May 2024 were collected between October – December 2023 and held onsite over the winter. ** - winter runs spawned in May 2024 were collected between January – May 2024.*

Hatchery Pool Seines

During the summer period early coho salmon began congregating in the Hatchery pool. The SSS undertook five seine events between September 12 and October 17, and captured 1,213 adult coho, with 713 of these captured fish having their left operculum punched (LOP) and released back to the river for the carcass recovery program (i.e., to provide an estimate of the total coho return for 2024). A total of 169 captured adults were transported to the hatchery for our broodstock program, while 331 adults were released above Seymour Falls dam (Figure 6, Figure 7, Figure 8) A total of 29 summer run steelhead and 15 chinook were also captured during the Hatchery pool seines. The summer run steelhead and chinook were released with a LOP mark back to the river. Greater numbers of adult chinook were also observed in Hurry Creek and the nearby Bear Island habitat area, although in fewer numbers compared to 2023.

FIGURE 6 HATCHERY POOL SEINE EVENT DURING OCTOBER 2024

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FIGURE 7 ADULT COHO SALMON DURING HATCHERY POOL SEINE IN OCTOBER 2024

FIGURE 8 SOCIETY PRESIDENT ASSISTING DURING HATCHEYR POOL SEINE IN OCTOBER 2024

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Broodstock Angling

Our broodstock anglers were out regularly during January to May 2024 period for winter run steelhead, along with the October and November period for summer run steelhead and chum salmon. The aim of the broodstock program was to capture as many returning adult chum salmon from the lower river for spawning at the hatchery in fall 2024, and begin capturing the summer run steelhead in preparation for spawning in spring 2025 (Table 1). The winter run steelhead captured in January to May were spawned in May 2024 and we will begin angling in 2025 for next years broodstock.

Egg Transplants

Further to our ongoing broodstock collection within the Seymour River, each fall hatchery staff visit the Alouette River with DFO to collect additional eggs to continue rebuilding the chum salmon population in the Seymour River. During fall we collected an additional 94 of chum (220,900 eggs) from the Alouette River for this purpose (Table 1). Fecundity was estimated at 2,350 eggs per adult Alouette female in 2024. As part of GDS we also support DFO's Salmon in the Classroom program. Approximately 4,200 fertilised chum salmon eggs were transported from the Seymour hatchery and delivered to schools in Vancouver. Each school receives approximately 100 eggs that are then housed in an aquarium in the classroom, so that students can see the eggs hatch in spring, before the children release them to a local creek.

Hatchery Broodstock Production

The SSS is contracted by DFO to produce three salmonid species: coho and chum annually, and pink salmon every odd numbered year. The SSS also has an agreement with the LTSA to produce summer and winter run steelhead smolts. The SSS's goal is to enhance and maintain salmonid populations within the Seymour River to historical levels. The 2023 brood were incubated at the hatchery over winter 2023/24, with coho fry released above the Seymour Reservoir and chum released near heritage park in the lower river in spring 2024.

Whereas the current 2024 coho and chum brood year eggs will be incubated at the hatchery over winter 2024/25 and be released as fry in the same locations in 2025. All fry releases augment the numbers of adult coho that spawn in the watershed during each fall to maintain fry numbers to historical wild production levels. We released coho fry above the Seymour Falls dam on 6 June and chum fry near Heritage Park in the lower river on multiple occasions during April. Table 2 illustrates the fry and smolts released in 2024.

TABLE 2 SMOLT AND FRY RELEASES FROM THE SEYMOUR HATCHERY IN 2023

Species	Brood year	Number
Coho salmon fry (above dam)	2023	32,800
Coho salmon smolts	2022	55,600
summer Steelhead smolts	2023	24,000
winter Steelhead smolts	2023	3,500
Chum Salmon fry (Seymour River)	2023	23,200
Chum Salmon fry (Alouette River)	2023	255,000
Pink Salmon fry (Seymour River)	2023	157,700

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Environmental Monitoring

Coho Escapement, Mark and Recapture

Hatchery staff began carcass recovery monitoring in October 2024 and will continue through until January 2025. During seines at the Hatchery pool, adult coho were given a visualised mark (i.e., a left operculum hole punch (LOP)) and released to remix with the population. Once adults begin to spawn in the tributaries and enhancement sites, staff and volunteers regularly walk these waterways to find carcasses to examine whether they are marked or not. Data such as date, location, sex, origin (W or H), LOP observed or not, the percent spawn of females are recorded, and the carcass is cut in half to avoid recounting. The data from marking and carcass recovery are used to formulate an adult return population estimate.

Carcass recovery monitoring was undertaken at least three times per week to maximise the number of fish identified. This data enables us to formulate an estimate of coho numbers that migrated through the rockslide during fall 2024. A total of 713 coho were LOP marked and released during our hatchery pool seine events. To date we have identified 366 coho carcasses during surveys, of which 46 had the LOP (i.e., 12% of those found). Our current estimate for the number of adult coho that returned in 2024 is >5,000 adults.

Water Quality Monitoring

GVWD continues to lead the water quality sampling during the summer growth period downstream of the dam. These samples are collected as part of the fertiliser release project on the river as presented in the Habitat Conservation and Enhancement section of this report. Background water quality samples were collected on June 9th prior to fertiliser installation on June 7, while eight post-installation sampling sessions were undertaken every second Friday thereafter (i.e., June 21, July 5 and 19, August 2, 16 and 30, September 13 and 27). Samples were processed at ALS Labs. The Seymour Hatchery, as part of hatchery operations, also monitors water temperature from several sources including reservoir, groundwater seepage, chilled and boiler water, and dissolved oxygen regularly. Water from the Seymour Reservoir feeds into an aeration tower on the hatchery site and maintenance and flow levels are regularly monitored.

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Community Education Programs

Gently Down the Seymour (GDS)

A field trip to the Seymour Hatchery expands student learning of the salmon life cycle to include experience and observation of salmon habitat and the surrounding watershed ecosystem. Students, teachers and parents have an opportunity to connect with their local ecosystem and gain a greater understanding of how urban development impacts natural resources. We hope visitors become greater stewards for salmon, ensuring there will be salmon in our region for generations to come.

The Gently Down the Seymour (GDS) program has a lasting impact on participants as shown by the considerable volume of thank you letters received from the students, along with teachers regularly commenting on how students recall details and experiences from the field trip many years later. The BC Wildlife Federation (BCWF) was contracted to provide the educators to implement GDS for 2024 (Figure 9).

Overall, a total of 1,368 students and 390 parents and teachers enjoyed the GDS during 2024, with 52 classes operated in the spring and an additional 13 classes during the fall. We were unable to provide the usual 20 fall classes this year due to insufficient funds. The following provides a summary of the 2024 program.

FIGURE 9 SPAWNING CHECK BY HATCHERY STAFF DURING A GDS EDUCATION DAY

Spring 2024

A total of 55 classes were booked for spring GDS program, with 52 classes going ahead. One class had to be cancelled due to closure of the watershed by a Metro Vancouver Watershed Travel Advisory, but the class was able to reschedule their trip to a later date in June. The other class cancellations at the last minute due to being unable to secure a bus to transport the students to the hatchery. Bookings for the spring program filled up in less than one week. The classes

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hosted at the hatchery came from 38 schools within six school districts (i.e., West Vancouver, North Vancouver, Vancouver, Burnaby, Delta, and Independent). A total of 1,108 visiting students were accompanied by 317 teachers and parents between March and June (

Figure 10).

Teachers were emailed a link to a feedback form at the conclusion of their field trip. Feedback was submitted by 48% of teachers and showcased strong support for GDS. Overall, all responding teachers strongly agree the GDS program met expectations. All participating teachers strongly agree this program supports their Salmonids in the Classroom experience. The teacher feedback confirms the following:

- ***Overall*** – 24 out of 25 teachers strongly agreed when asked if the GDS program met expectations. All participating teachers strongly agree that this program supports their Salmonids in the Classroom experience
- ***Program Design*** - teachers strongly agree the GDS program has grade appropriate content and activities and supports current school curriculum
- ***Field Trip Delivery*** - teachers reported that the students were engaged and learning at field trip stations, with 24 out of 25 strongly agreeing that the educators were informative and worked well with students
- ***Supporting Materials*** - teachers surveyed the teacher resource provided by the GDS program for the field trip, with 23 out of 25 teachers used the resource
- ***Application of Learning*** – 25 out of 25 teachers strongly agreed that students will apply the GDS program experience to classroom studies. 23 out of 25 teachers strongly agreed that students will apply the GDS program experience outside the classroom. 23 out of 25 teachers strongly agreed they will use the techniques from the GDS field trip to assess their stream during the salmon fry releases.
- ***Community Reach*** – 22 out of 25 teachers strongly agreed that they will share the GDS program experience with their school and parent community.

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FIGURE 10 STREAM SURVEYS DURING THE GDS DAY

Fall 2024

A total of 13 classes were booked for the fall GDS program. Unfortunately, due to funding constraints we were unable to perform the usual 20 fall classes this year. One class was cancelled at the last minute by the school as the school could not secure a bus to transport the students to the hatchery. Bookings for the fall program filled up in less than five days. The 13 classes hosted at the hatchery came from 10 schools within five districts (i.e., North Vancouver, Vancouver, Burnaby, First Nations and Independent). A total of 260 visiting students were accompanied by 73 teachers and parents during October (Figure 11).

Teachers were emailed a link to a feedback form at the conclusion of their field trip. Feedback was submitted by 39% of teachers and showcased strong support for GDS. The teacher feedback during the fall program confirms the following:

- ***Overall*** - all responding teachers strongly agree that the GDS program met expectations. All participating teachers strongly agree that this program supports their Salmonids in the Classroom experience
- ***Program Design*** - teachers strongly agree that the GDS program has grade appropriate content and activities and supports the current school curriculum
- ***Field Trip Delivery*** - teachers recorded that the students were engaged and learning at field trip stations, with all agreeing that the educators were informative and worked well with students
- ***Supporting Materials*** - teachers surveyed the teacher resource provided by the GDS program for the field trip, with 4 out of 5 teachers used the resource
- ***Application of Learning*** – all teachers strongly agree that students will apply the GDS program experience to classroom studies. All teachers strongly agree that students will apply

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the GDS program experience outside the classroom. 4 out of 5 teachers agree they will use the techniques from the GDS field trip to assess their stream during the salmon fry release.

- ***Community Reach*** - all teachers strongly agree to share the GDS program experience with the school and parent community

FIGURE 11 KIDS GETTING INTO HURRY CREEK DURING GDS

Salmonids in the Classroom

As part of the GDS program we also support DFO's Salmon in the Classroom program. In 2024 produced and provided over 4,200 fertilised chum salmon eggs for delivery to schools in Vancouver. Each school receives approximately 100 eggs that are then housed in an aquarium in the classroom, so that students can see the eggs hatch in spring. The hatched fry and then transported to a local creek and the children release these as part of their learning program.

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Community Outreach

Visitors

The hatchery was open for access to the public and volunteers throughout 2023 and we had significant volunteer support from the community, high school students and the board of directors (Figure 12). In addition, over 2,000 people were estimated to have visited the hatchery facility during the year via the hiking and cycle trails of the LSCR. The community outreach visitor figures do not include the 1,758 students, teachers and parent attendees for our GDS education program.

Volunteers

Volunteers are an integral aspect of the operation of the hatchery and SSS. Without the high level of public involvement, the staff would not be able to accomplish a fraction of what is completed at the Hatchery or SSS events. The SSS currently has over 750 volunteers registered to assist with the ongoing activities at the hatchery or within the watershed. Our hatchery and conservation activities were supported by over 1,000 volunteer working hours during 2024 (Figure 12). Student participation also improved as we were able to provide volunteer opportunities for high school students during the summer and fall periods. We are most grateful for the volunteer assistance we receive each year and would not be able to undertake all the work we do in the watershed without their help. The following provides a summary of the types of activities that volunteers and students assisted hatchery staff and Board of Directors during 2024:

- Community event table participation
- Community event set-up/breakdown and general support
- Fin clipping our coho and steelhead fry
- River seine events for adult salmon and steelhead capture
- Broodstock angling for adult broodstock, specifically pink and chum salmon, along with summer and winter run steelhead
- Hatchery grounds maintenance and cleaning activities, including wood chopping, painting, general maintenance and repairs
- Assistance with fry releases in the upper watershed, along with smolt and fry releases into the lower watershed, or at West Vancouver laboratories
- Assistance with maintenance activities at the habitat enhancement areas throughout the watershed
- Technical input into education information for GDS, information signage, along with engineering input into maintenance activities

Community Events

We successfully operated the chum fry release at Heritage Park, the Family Fishing Day at Rice Lake, our Open House at the Seymour hatchery, and our World River Day event at the Seymour Estuary. The SSS also attended community events organised by others including the Blueridge Days Community Event, the P&E Community Event, the annual Firefighters Fishing derby, along with attendance at the Ocean Film Festival. In addition, hatchery staff and Board of Directors attended numerous community events in relation to North Shore Tourism Association, North Vancouver Chamber of Commerce and Ocean Film Festival, among others as follows.

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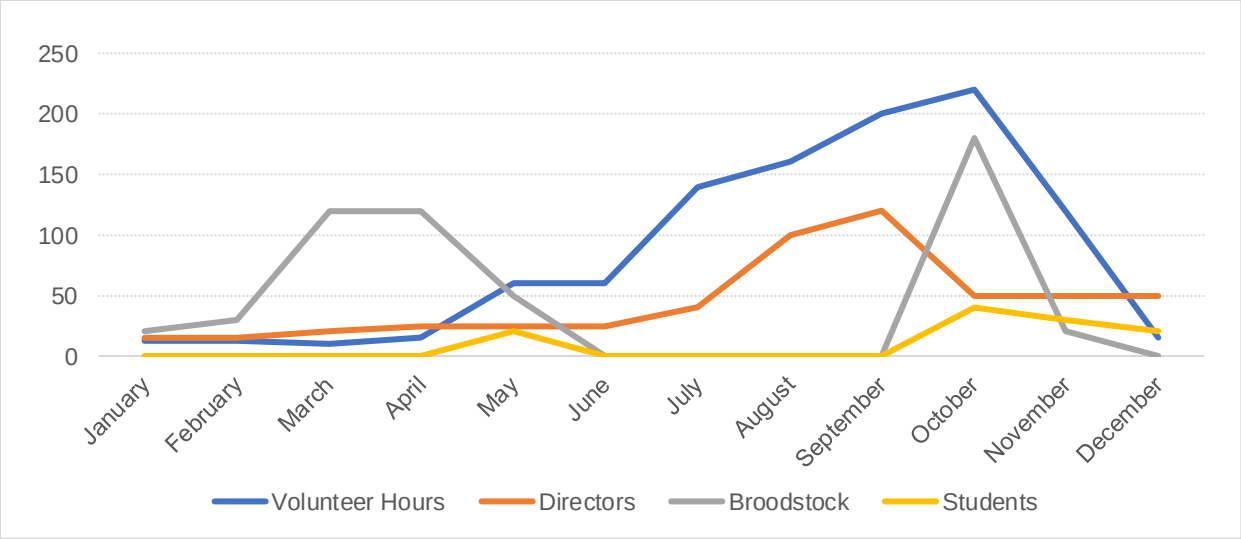

FIGURE 12 ESTIMATED NUMBER OF VISITORS TO THE SEYMOUR RIVER FISH HATCHERY IN 2024

Heritage Park Chum Fry Release

Our annual chum release at Heritage Park was undertaken on 20 April with the support of the District of North Vancouver Firefighters Charitable Society (DNV Firefighters). Heritage Park is approximately 800m upstream from the Seymour Estuary (Figure 13). People of all ages were welcome to come and help release chum salmon into the nearby Maplewood Creek. Hatchery staff, DNV Firefighters and volunteers helped to fill each bucket with chum salmon fry for the kids to then release and watch them swim downstream as they start their journey to the sea. We estimated that approximately 17,400 chum fry were released on the day.

FIGURE 13 MAPLEWOOD FARM CHUM RELEASE ON 20 APRIL 2024

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Blueridge Days Festival

Blueridge community event was held on Sunday June 15th and was well attended by the local community (https://blueridgeca.org/blueridge-good-neighbor-day/). We enjoyed hosting our community event table and interacting with the local community on all thing's salmon and our wild places. Our event table was hosted by the Society's Board of Directors, along with hatchery staff on the day.

Family Fishing Day

Our annual Family Fishing day event was operated again at Rice Lake, with the support of Metro-Vancouver at Rice Lake on Sunday June 16th Despite the wet weather the event was very well attended by the local community and we had hundreds of kids able to learn how to fish at Rice Lake (Figure 14). We also operated our community events tent and GDS education tent for visitors, along with other community organisations such as Go Fish BC, the British Columbia Wildlife Federation (BCWF), local MLA's such as Susie Chant, the Black Bear Society among other attendees. A great day at Rice Lake was had by all attendees.

FIGURE 14 FAMILY FISHING DAY JUNE 16

Seymour Hatchery Open House

We hosted our annual Open House on September 15 to allow the public to visit the hatchery and learn about the work being undertaken at the hatchery (Figure 15). Hatchery tours operated throughout the day and enabled guests to learn more about the Society's enhancement, education, and habitat restoration program. GVWD's education team also attended and provided information about the watershed, our drinking water, and the dam. This year's event was an amazing opportunity to come and visit the hatchery and see dedicated conservation in action.

Shuttle buses started running from 10am from Rice Lake gatehouse and left every half hour until 3pm. For those looking to learn more about the dam, there will be a bus stop prior to coming to the hatchery. Some of the festivities include a concession, live music, a fin clipping demonstration, among other community outreach tables such as GVWD, Susie Ghant MLA, the Coho Society, North Shore Black Bear Society, among others. We were also lucky to have Backspin Bluegrass band for entertainment and DNV Firefighters set-up fun activities and games for the kids.

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FIGURE 15 SEYMOUR HATCHERY OPEN HOUSE SEPTEMBETR 17

Firefighters Fishing Derby

The District of North Vancouver Firefighters, a major financial supporter of our education program, were able to hold their annual Fishing Derby on September 20, and we were able to set-up our community events table for the day at the Lions Gate Marina and attend the weigh in event at the end of the day. The fishing derby was a great success, attended by many boat fishing entries, the significant support and prize donations from local businesses, along with the organisational support from Highwater Tackle. The fishing derby resulted in a significant donation from the District of North Vancouver Firefighters of $45,000 towards our education program for 2025 (Figure 16).

FIGURE 16 FISHING DERBY WEIGH IN AT LIONS GATE MARINA

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Coho Festival

We attended the Coho Society's annual Coho festival at Ambleside Park on September 8 to support the celebration of nature's annual miracle of salmon returning to North Shore Rivers and Streams (Figure 17). The Coho Festival is organised by the Coho Society (https://www.cohosociety.com) and features food vendors, the coho garden, stewardship zone, kids park, music stage and the Squamish Nation Village. The ongoing focus of the festival is the education on the protection of fish and their environment, which is a great fit for the SSS and our aspirations.

FIGURE 17 BUSY DAY AT THE COHO FESTIVAL IN AMBLESIDE PARK

World Rivers Day

For World Rivers Day we organised an estuary clean-up and replanting at the river mouth on September 22. With help from GVWD staff and volunteers from the SSS, we were able to undertake considerable replanting and cleanup work at the Seymour Estuary (Figure 18). A significant amount of invasive plant species was removed and replaced with native shrubs and tree species, while many bags of trash were also removed from the site. We would also like to acknowledge the District of North Vancouver for collecting and disposing of the invasive plants and trash from the day.

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FIGURE 18 WORLD RIVERS DAY AT SEYMOUR ESTUARY SEPTEMBER 24

Ocean Film Festival

The Society was a recipient of the inaugural Ocean Film Festival event held at the Centennial Theatre in North Vancouver on November 7. The Ocean Film Festival was created in Australia ten years ago with the aim to inspire the world to explore and enjoy our oceans, protect, and respect them, promote ocean conservation, and unite people to celebrate its wonders. In just ten years, the Film Festival worldwide has hosted nearly 1,000 screenings, with over 300,000 audience members.

The Ocean Film Festival evening included a unique selection of films of varying lengths and styles covering topics such as ocean adventure and exploration, the oceanic environment, marine creatures, ocean related sports, coastal cultures and ocean lovers. It was at the event that the Society had our event table in the foyer to allow us to showcase the vital work we do in the Seymour watershed. The event was sold out again in 2024, with 600 people attending and enjoying an evening of ocean related films, along with presentations from VIPS.

Social Media

The SSS continues to operate our website (www.seymoursalmon.com), with the assistance of Rudy Kehler (The Simplify Company). The SSS also continues to communicate though social media via our Instagram and Facebook internet platforms. The SSS Facebook page has gone from 747 followers in 2018 to 1,100, while our Instagram site has increased from 256 followers in 2018 to 1,241 followers in 2024. These social media platforms are two effective ways for members of the community to see what we are doing on a weekly basis.

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Marketing and Fundraising

BCIT Business Management Consulting has been assisting the Society annually since 2021 on a range of marketing advice to improve our media presence and exposure. Each year BCIT business students undertake a project to better understand the Society's current approaches to marketing and provide guidance on improvements for subsequent years. The ultimate endpoint in this program is to identify how we can enhance our fundraising capabilities by optimising and identifying strategies and exploring a new effective approach to engage more dynamically with potential contributors.

The 2024 students on the project were Saida Farahani and Simon Wang, with supervisory support from BCIT faculty member Germain Tanoh. We are most grateful for Saida, Simon and Germain's' professionalism and informative review of our marketing strategy. Following a review of our social media presence by BCIT management students (i.e., as part of a 2024 student project), we decided to analyse the Society's current fundraising system and develop a successful fundraising strategy to improve its overall financial stability.

Key Findings

- ***Current Financial Strain*** - SSS is challenged by a limited budget primarily sourced from government organisations and require at least $250,000 of additional funds to cover our operations
- ***Under Utilised Donor List*** - A significant number of potential donors have either not been approached effectively or remain entirely untapped
- ***Opportunities in Digital Outreach*** - There is a clear opportunity to improve donor engagement through professional digital communication platforms like Mailchimp, which can offer more impactful and measurable marketing strategies

Recommendations

- ***Donor Diversification*** - By examining similar organizations like The Pacific Salmon Foundation and Watershed Watch Salmon Society, SSS should actively explore new donor groups including corporate sponsors from eco-conscious industries, individual donors passionate about environmental causes, and foundations that align with SSS's mission
- ***Enhanced Digital Communication*** - Transition from Microsoft Word to a more sophisticated email marketing platform such as Mailchimp. This would allow SSS to send professional, engaging, and informative newsletters to both existing and potential donors monthly. Also, it helps to elevate the professional quality of the content and know how the email campaigns perform
- ***Improvement of 'Case for Support'*** - Streamline and enhance the existing 'Case for Support' document to ensure it is concise, emotionally compelling, and effectively communicates the value and impact of contributing to SSS.

Marketing Implemented

- ***Case-For Support*** - we have updated our Case-for-Support document as suggested by the BCIT management students. The revised document is now four pages long including photos and a more easily digestible document for potential sponsors/donors
- ***Print Media Advertising*** - we issued two separate adverts in the North Shore News as part of the "Giving Tuesday' advertising campaign to highlight the work the Society is undertaking and seek donations from the community

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- ***Legacy Giving and Wills*** - we have set-up a Will Power website that connect people with charities in Canada with the aim of leaving a charitable gift in a will (https://www.willpower.ca/charities/the-seymour-salmonid-society/). Will Power is a public awareness campaign inspiring Canadians to think differently about the way they donate to charity and use wills to make a powerful contribution. The campaign is led by the Canadian Association of Gift Planners and the CAGP Foundation, in collaboration with the country's leading charities, financial advisors, and legal professionals
- ***Multimedia Advertising*** - We have produced a one-minute funding request video for release on our social media platforms in early 2025. This video has been generously produced by Looma Media (https://loomamedia.ca/) as an In-Kind donation
- ***Multimedia Marketing & Awareness*** - we have produced an eight-minute overview video for the release in early 2025 (https://loomamedia.ca/seymour-salmonid-society). This video has been generously produced by Looma Media as an In-Kind donation
- ***Ocean Film Festival*** – we have been involved in the film festival again this year, which has enabled us to increase our exposure to the community. We hope to continue this exposure at the 2025 event
- ***North Shore Like a Local*** – we have been involved in the North Shore Tourism Associations 'North Shore Like a Local' marketing campaign during 2024 (https://northshorelikealocal.com/). This campaign seeks to promote tourism on the North Shore, by promoting exploration of the great outdoors safely and responsibly, respecting and acknowledging the rich cultural history and promoting sustainable choices
- ***Community Events*** – we have continued annual community outreach with our involvement in the events we operate, along with attendance at events organised by others in the community
- ***Social Media*** – we continue our strong social media presence highlighting the work we do each week within the watershed
- ***Podcasts*** – hatchery staff have been involved in highlighting the work we do in the watershed and aspirations for the future as part of the Ocean Film Festival. It is our desire to continue this in 2025 where possible
- ***TV Interviews*** - hatchery staff were interviewed by local TV news as part of our hatchery Open house, where we highlighted the work we do in the watershed. It is our desire to continue this in 2025 where possible

SEYMOUR SALMONID SOCIETY

Hatchery Infrastructure Upgrades and Maintenance

We continued our ongoing facility infrastructure and maintenance upgrades during 2024 as summarised as follows.

Rearing Pond Headwall and Weir Repairs

As part of annual reviews of the rearing ponds we noticed that the headwall weirs to many of the ponds were leaking between the concrete block structures. These weirs were installed over two decades ago, so it was necessary to undertake a process of repairs to the weirs to ensure their operation for the future. The weir repairs included sealing the leaking block joins with expanding grout and/or waterproof concrete and the work was generously funded by PSSI. (Figure 19).

FIGURE 19 CONTRACTORS UNDERTAKING WEIR AND HEADWALL REPAIRS

Building Envelope Upgrade

The outer walls of the hatchery building are timber clad down to ground level and required replacement given the 30 years of snow loads accumulating around and against the outer wall of the building. The external wall repairs were required to prevent water ingress into the building and cause further damage to the walls, insulation and wall studs and wider structural posts. The repairs will ensure that the hatchery building can continue its use for fisheries operations and community outreach and educational purposes for the next 20 or more years. The lower one metre of approximately 70 linear metres of the existing main building external was replaced with a new waterproof membrane, wall insulation and external metal cladding to bring it up to appropriate standard and achieve a watertight building. This upgrade is in line with what we undertook for the workshop two years ago. This project was generously funded by PSF (Figure 20).

SEYMOUR SALMONID SOCIETY

FIGURE 20 COMPLETED WATERPROOF SIDING ON THE HATCHERY BUILDING

Site Drainage - Perimeter of Building

As part of our ongoing facility upgrades, we replaced some of the perimeter drainage pipes and connects for the hatchery building. Drainage works included installing a new perimeter drain along the northeast wall of the facility from the office along the trough room and down to the connection point immediately upstream of the coho rearing ponds. As part of the spawning awning construction a new drain was installed into the concrete pad to provide efficient cleaning and draining of the area following fin clipping or spawning procedures. In addition, a new drainage channel was cut and a strip drain installed into the trough room to prevent water ingress into the building. This project was generously funded by PSF (Figure 21).

FIGURE 21 PERIMETER DRAINAGE WORKS AROUND HATCHERY BUILDING

SEYMOUR SALMONID SOCIETY

Spawning Awning

As part of upgrades to our biosecurity protocols and to separate different operations into separate areas (i.e., spawning, rearing, incubation etc.), we established a new awning on the outside of the hatchery building. This awning provides a separate standalone spawning area that is protected from inclement weather conditions during our spawning and fin clipping activities. The awning will avoid the use of our incubation or rearing areas during spawning (i.e., to further improve our biosecurity protocols, as it removes spawning activities from areas that are used for different fish life stages (e.g., egg, fry). We Installed an open sided roof structure connected to the existing hatchery building for rain protection, along with a new a concrete pad under the awning with an appropriate strip drain to ensure effective cleaning (biosecurity) and drainage of the area post-spawning. This project was generously funded by PSF (Figure 22).

FIGURE 22 COMPLETED AWNING FOR SPAWNING AND FIN CLIPPING

Building and Information Signage Roof Flashings

We installed waterproof flashings to the perimeter roof of each information sign kiosk as weather/water protection. This project was generously funded by PSF (Figure 23).

SEYMOUR SALMONID SOCIETY

FIGURE 23 ROOF FLASHINGS FOR THE INFORMATION SIGNAGE

Structural Upgrades for Signage Structures

The existing information signs were not installed by the contractors in accordance with the approved engineering drawings. As such, further design iterations by the engineer were required to stabilise the structural integrity of each sign. We installed additional metal bracket and concrete footings to the base of each information sign to the satisfaction of the design engineer. This project was funded directly by the SSS in conjunction with In-Kind time by the Great Canadian Landscaping Company (Figure 24).

FIGURE 24 STRUCTURAL FOOTINGS AND BRACKETS FOR THE INFORMATION SIGNAGE

SEYMOUR SALMONID SOCIETY

Electrical Connections - ATV Shed, Aquarium, Groundwater

We installed exterior electrical outlets around the property to supply power to the aquarium, groundwater pumps and sockets when using electrical appliances outside. In addition, power supply and lighting were installed in the ATV shed. This project was generously funded by PSF (Figure 25).

FIGURE 25 EXTERNAL ELECTRICAL BOX CONNECTIONS FOR THE SITE

Dual Purpose Flow Data Logger and Low Flow Alarm

We installed an automatic flow meter in the aeration tower to provide continuous flow monitoring of water arriving to the hatchery from the dam and a warning alarm for low flow issues. The equipment was designed and installed by NHC and has direct connection to staff laptops and cell phones via our Starlink internet. This project was generously funded by GVWD and PSSI funds via DFO (Figure 26).

SEYMOUR SALMONID SOCIETY

FIGURE 26 FLOW METER INSTALLED IN THE AERATION TOWER PIPE ROOM

SEYMOUR SALMONID SOCIETY

Financials

The following sections provide an overview of the funding proposals, revenue and expenditure for the SSS during 2024. Please note that the SSS's fiscal year runs between April 1, 2024 to March 31, 2025.

Significant 2023 Funding Approvals

Multiple funding proposals were prepared and submitted for consideration of funding for the hatchery and education centre, along with our conservation activities within the watershed. Successful funding agreements outside of our annual contribution agreements from DFO and GVWD are summarised in the following sections.

Pacific Salmon Strategy Initiative (PSSI)

We were generously awarded $70,000 from the PSSI to support the ongoing capital maintenance and repairs program and the Seymour Hatchery and Education Centre. These funds were instrumental in undertaking repairs to the steelhead and coho rearing pond weirs, installation of flow data loggers in the aeration tower, along with electrical upgrades to the ATV shed, aquarium and groundwater pump system. Additional maintenance works are being developed for 2025 to utilise the remaining PSSI funds, including but not limited to design and installation of a closed-circuit Parasite-S eggs fungal treatment system. These generously provided funds were critical to our ongoing maintenance and repair operations and our work would not have been possible without these funds.

Pacific Salmon Foundation

We were successful in receiving $63,000 within the spring 2024 funding round from the Pacific Salmon Foundation, for renovations to the hatchery building, including building envelope upgrade, site drainage, spawning awning, along with building and Information signage roof flashings. We were also very grateful for emergency funds totalling $30,000, which contributed to the additional instream works for the Seymour rockslide mitigation project, including changing the profile at the rockslide lip to reduce the drop at the crest and improve passage during low flow conditions. PSF also generously provided $20,000 towards our disabled access project at the hatchery, which enables us to renovate our washroom to include disabled access.

We decided to not submit a fall 2024 funding application to the PSF since we had already been generously funded for the rockslide as part of an emergency application. We are most grateful to the Pacific Salmon Foundation for the $113,000 funding to support our ongoing capital maintenance program at the Seymour River Hatchery and Education Centre and restoration activities in the watershed, without which our ongoing operations would not have been possible.

DNV Fire Fighters Charitable Society

The DNV Firefighters Charitable Society again continue to generously contribute towards our education program, as part of their annual Firefighters Fishing Derby, which was held in September 2024. Funding from the firefighters has been an annual funding contribution and this year the contribution was $45,000. The SSS have allocated these funds to help operate the GDS education program and we are most appreciative for this funding support, without which the GDS education program would not be possible.

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HCTF Emergency Funds

We were successful in receiving emergency funds totalling $30,000, which contributed to the additional instream works for the Seymour rockslide mitigation project. Works included changing the profile at the rockslide lip to reduce the drop at the crest and improve passage during low flow conditions. Without the generous emergency funds from the HCTF this fish passage restoration work would not have been possible.

Royal Bank of Canada (RBC)

We hosted staff from RBC Vancouver at the hatchery and education for a day of volunteering as part of their corporate team building activities. We are most grateful to the group of volunteers from RBC Bank for assisting us release our steelhead smolts during May and were also most grateful for the generous $1,500 donation to the hatchery operations.

RBC Bank also generously provided $25,000 towards our disabled access project at the hatchery, which enables us to renovate our bathroom to include disabled access. RBC also provided a generous $2,500 donation via the Ocean Film Festival for our ongoing activities in the watershed. The total donations from RBC Bank in 2024 was $29,000, without which many of our facility maintenance and operations would not have been possible

North Shore Community Foundation

We were very grateful to receive $10,000 from the North Shore Community Foundation through their Community Prosperity Fund, which was used to provide funds towards our gently Down the Seymour education program, along with ongoing operations at our facility (i.e., insurances, heating, etc.). We are most grateful for the generous support provided by the North Shore Community Foundation.

Port of Vancouver

We were successful in our application to the Port of Vancouver for additional $10,000 that will contribute towards completion of the Seymour Estuary restoration Masterplan project. This donation follows funds provided in previous years from PoV towards the masterplan project and this generous support has enabled the estuary project to be undertaken.

Ocean Film Festival

We were very excited at the prospect of partnering with the Ocean Film Festival as part of their inaugural event in Canada during November 2024. The Ocean Film Festival Canada showcases exceptional ocean-related cinematic works but also creating positive change in society and raising awareness for environmental issues. As part of our partnership the Ocean Film Festival Canada committed to donate 25% of the festival's ticket sale proceeds directly to the Society. Following a very successful and sold-out event we received a donation of $3,125 form the Ocean Film Festival to go towards our facility operations and is very much appreciated.

Canada Summer Jobs Fund

We were very grateful to receive funding support from Canada Summer Jobs fund to support employment of our seasonal fisheries technician. The $5,500 contributed towards wages for our seasonal staff and employment would not have been possible without this support.

SEYMOUR SALMONID SOCIETY

Nature Canada Work-to-Grow Program

We were very grateful to receive funding support from Nature Canada's Work-to-grow program to support employment of our seasonal fisheries technician. The $4,600 contributed towards wages for our seasonal staff and employment would not have been possible without this support.

DNV Sustainability Grant

We were very grateful to receive $3,420 from the District of North Vancouver through their sustainability grant program, which was used to provide personal protection equipment for hatchery staff. Our facility staff are most grateful for the waders and down jackets provided as part of this program.

Seymour Salmonid Society 2024 Revenue

Table 3 provides a summary of the SSS revenue for 2024.

TABLE 3 SEYMOUR SALMONID SOCIETY OPERATIONS REVENUE 2024

Funding Partner	Allocations	Funding Amount
GVWD	Hatchery Operations	$153,500
Fisheries & Oceans Canada	Hatchery Operations	$115,000
Additional Revenue (from Table 4)	Hatchery Operations / Projects / Education	$339,445
	Total Revenue	**$607,945**

Additional 2024 Revenue Summary* (from 'Additional Revenue' in Table 3)

The funds provided by DFO enabled SSS staff to accrue supplementary monies for specific projects and programs. Table 4 provides a summary of these amounts and allocations.

TABLE 4 SEYMOUR SALMONID SOCIETY ADDITIONAL REVENUE 2024

Source	Project	Amount
Pacific Salmon Strategy Initiative (PSSI)	Capital Operations - Renovations	$70,000
Pacific Salmon Foundation (PSF)	Capital Operations - Renovations	$63,000
DNV Fire Fighters Charitable Society	Education Programs	$45,000
Pacific Salmon Foundation (PSF)	Emergency Funds – Rockslide	$30,000
Habitat Conservation Trust Foundation (HCTF)	Emergency Funds – Rockslide	$30,000
Royal Bank of Canada	Disabled Access Upgrade (Bathroom)	$25,000
Pacific Salmon Foundation (PSF)	Disabled Access Upgrade (Kitchen)	$20,000
Donations, GDS Registrations, Memberships	Education / General Society Business	$14,800
North Shore Community Foundation	General Society Business	$10,000
Port of Vancouver	Restoration Project (Estuary)	$10,000
Canada Summer Jobs Fund	Seasonal Staff Wage Contribution	$5,500
Nature Canada Work-to-Grow Program	Seasonal Staff Wage Contribution	$4,600

SEYMOUR SALMONID SOCIETY

DNV Sustainability Grant	General Society Business	$3,420
Ocean Film Festival	General Society Business	$3,125
Royal Bank of Canada	General Society Business	$3,000
Nicola Wealth Foundation	General Society Business	$2,000
	Total Revenue	**$339,445**

***Note**: Funds are not a detailed reflection of our Financial Statement of accounts. Some received are allocated within different tax year dates (i.e., January – December, or April – March).*

Seymour Salmonid Society 2024 Expenditures

Table 5 provides a summary of the SSS expenditure for 2024.

TABLE 5 SEYMOUR RIVER HATCHERY OPERATIONAL EXPENDITURE 2024

Expenditure Type	Expenditure
Wages (including monitoring technician wages)	$225,000
Hatchery Operations / Maintenance	$41,000
Overhead (includes WCB, health benefits)	$15,000
Insurances (commercial, volunteer)	$10,400
Vehicle Maintenance / Fuel / Mileage / ICBC	$9,380
Fish Food	$4,050
Safety and Training	$440
Additional 2023 Expenditure (from Table 6)	$284,810
Total Expenditure	**$590,080**

Additional 2024 Expenditure Summary (from 'Additional Expenditure' in Table 5)

Table 6 provides a summary of the additional expenditure incurred by the SSS that is secured via external funding applications.

TABLE 6 SEYMOUR SALMONID SOCIETY ADDITIONAL EXPENDITURE 2023

Expenditure Type	Expenditure
Operational Infrastructure (building envelope, drainage, spawning awning, pond weirs, flow data loggers, electrical etc.)	$89,700
Habitat Restoration (rockslide, estuary masterplan)	$97,700
Environmental Education (GDS)	$79,800
Website and IT	$4,610
Signage Structural Repairs	$10,000
Fundraising Costs	$3,000
Total Additional Expenditure	**$284,810**

SEYMOUR SALMONID SOCIETY

Looking Forward

The year ahead is expected to be as busy as the last, with the most significant major projects we will be focusing on are as follows:

- **Disabled Access work** – we are working on building and site upgrades to incorporate disabled access provisions for the facility, including but not limited to accessible toilet and kitchen, electric opening doors and accessible door fittings
- **Fungal Egg Treatment System** – we have remaining PSSI funds to continue our upgrades, which includes but is not limited to design and installation of a closed-circuit Parasite-S eggs fungal treatment system
- **Seymour River Canyon (Rockslide) Monitoring** – above-water review in spring 2025 following freshet will be undertaken to identify fish passage constraints during all flow conditions
- **Juvenile Coho Salmon and Steelhead Smolt Releases** - juvenile steelhead and coho will continue rearing in the ponds over the winter and released directly to Hurry Creek during spring 2025
- **Juvenile Coho Salmon Fry Releases** – release of coho fry upstream of the dam during spring 2025. However, given the 150 pairs of coho adult released above the dam this season, we anticipate there may be a reduced number of fry released above the dam in 2025 to account for the greater natural fry production in the upper watershed
- **Juvenile Chum Salmon fry Releases** - The chum salmon fry will also be released to the lower river during spring 2025
- **Adult Carcass Recovery Monitoring** - within the river and tributaries to better understand the number of coho migrating through the rockslide to spawn naturally. We have been undertaken carcass recovery monitoring since October 2024 and aim to complete this work during January 2025. The 2025 monitoring will begin again during October 2025
- **Habitat Restoration Activities** – for existing and new aquatic habitat for both juvenile rearing and adult spawning activities, along with ongoing monitoring of our existing habitat restoration sites to ensure they continue to operate as designed, with some remediation required. DFO undertook temporary remedial works at the Junior Creek outlet channel, so that the channel will continue it's use for spawning, juvenile rearing and outmigration in 2025. DFO are planning a more permanent solution to the 2024 works
- **GDS Education Program** – we have secured sufficient funding to operate a spring and fall GDS program in 2025. This will include on-site education days and has been contracted to BCWF to undertake the education program
- **Community Events and Enhancement Program** – we would welcome the ability to host and/or attend community events in 2025 and will continue at least with involvement at the following events: Heritage Park chum release, Blueridge Days Festival, Family Fishing Day, Hatchery Open House, the World Rivers Day Estuary Cleanup, Firefighters Fishing Derby and the Ocean Film Festival
- **Ongoing Hatchery Infrastructure Renewal** – to secure the hatchery and education facility for the next generation of community volunteers, elementary school children and fisheries

2024 ANNUAL REPORT

Coquitlam River Watershed Roundtable

Engaging the Community in Watershed Health

coquitlamriverwatershed.ca

Prepared By

Coquitlam River Watershed Society

February 15, 2025

Our Mission

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

Table of Contents

EXECUTIVE SUMMARY

In 2024, the Coquitlam River Watershed Society (CRWS) navigated a year of significant growth, transition, and collaboration. With the generous financial and in-kind support of our partners—including the City of Coquitlam, Metro Vancouver, Kʷikʷəƛ̓əm First Nation, Fisheries and Oceans Canada, Jack Cewe Construction, the City of Port Coquitlam and numerous community organizations—the Society continued its mission to preserve and enhance the health of the Coquitlam River Watershed through collaboration, education, and advisory action.

A major milestone was the successful transition to a formalized Society structure. Following extensive planning, consultation, and governance restructuring, the Interim Society Board finalized new bylaws, elected its first official Board of Directors, and implemented a framework to guide the organization into the future. This shift ensures long-term financial and operational sustainability, while maintaining the inclusive, multi-sector representation that has been the foundation of our organization.

Key Achievements in 2024

- **Governance & Organizational Transition:** The CRWS completed its transition to a Society, culminating in the adoption of new bylaws at the October AGM and the election of a new Board of Directors. The Board will provide leadership in financial and strategic planning while continuing to engage Core Committee members in decision-making.

- **Rain Garden Renewal & BC Rivers Day Event:** The revitalization of the Rain Garden at Lions Park was a standout initiative, combining ecological restoration, public engagement, and artistic expression. Volunteers, community groups, and municipal staff collaborated on native plant restoration, drainage improvements, and the creation of a mural by artist Laura Kwok. The mural unveiling at the BC Rivers Day event was attended by 42 community members, including representatives from Kʷikʷəƛ̓əm First Nation, local governments, and environmental organizations.

- **Watershed Plan Implementation:** Several initiatives addressed key pressures on the watershed, including stormwater management, illegal dumping, and salmon habitat conservation. Notable efforts included video productions on stormwater management, clean-up initiatives led by QMC Metering Solutions, and ongoing advocacy for fish-friendly floodgate infrastructure at ƛ́éxətəm Regional Park.

- **Expanded Outreach & Communications:** CRWS significantly increased its digital presence, doubling website engagement and launching new educational video content. Outreach activities at festivals and community events, including Canada Day and Salmon Come Home, allowed us to connect with a broad audience and reinforce watershed stewardship messaging.

- **Financial Management & Sustainability:** In-kind contributions for the year totaled $12,0462, with approximately 390.3 volunteer hours generously contributed by Society Members, staff from partner organizations, and engaged community members. Despite a reduction in operational funding, CRWS secured new grants and increased contributions from existing partners. Revenue totaled $110,332, and careful financial stewardship allowed the Society to enter 2025 with a stable financial outlook. The successful transition of financial management from Watershed Watch Salmon Society to CRWS marks an important step in long-term independence.

Looking Ahead to 2025

As CRWS moves into 2025, the organization remains committed to strengthening watershed stewardship through targeted initiatives and collaborative partnerships. With a renewed focus on outreach and education, early efforts will include updating our outreach display with a salmon theme. CRWS members and supporters will meet to collaboratively develop in a Work Plan for the coming year on February 26. This session will shape the year's priorities, exploring new opportunities in stormwater management, habitat restoration, invasive species control, and responsible recreation. With continued engagement from sector representatives, local governments, and community partners, CRWS is well-positioned to implement impactful projects that align with the Lower Coquitlam River Watershed Plan and advance the long-term health of the watershed.

ACKNOWLEDGEMENTS

Throughout 2024, the Coquitlam River Watershed Society was fortunate to receive generous financial support from several key partners, including the City of Coquitlam, the Greater Vancouver Water District (Metro Vancouver), Kʷikʷəƛ̓əm First Nation, the Government of Canada, Jack Cewe Construction Ltd., Fisheries and Oceans Canada, the Port Coquitlam Community Foundation, the Pacific Salmon Foundation, and QMC Metering Solutions.

We extend our sincere gratitude to these organizations for their continued commitment to supporting our work in 2024.

Invaluable in-kind contributions of staff and resources were provided by the following partners:

- City of Coquitlam
- City of Port Coquitlam
- Tri-City Green Council
- Kʷikʷəƛ̓ə́m First Nation
- Arts Connect
- Allard Contracting Ltd.
- Vancity Savings
- Maple Creek Streamkeepers
- Watershed Watch Salmon Society
- Jack Cewe Construction Ltd.
- Fisheries and Oceans Canada
- Heidelberg Materials
- BMP Engineering and Inspection
- North Fraser Salmon Assistance Project
- Morguard Corporation
- Hoy/Scott Watershed Society

We extend our deepest gratitude to the dedicated stewards, organizations, businesses and volunteers who generously contributed their time and effort to support the Society's events and activities throughout 2024. Their commitment and hard work continue to be instrumental in advancing our mission.

Thank you!

CORE COMMITTEE

The Core Committee is made up of representatives who generously contribute their time in-kind to support the Society's work. Their involvement includes attending Core Committee and Community Society meetings, serving on standing and project committees, and participating in outreach events. Their dedication and collaboration are essential to the Society's success. While members serve 18 to 24-month terms, many continue their contributions well beyond their official tenure.

In 2024, the Core Committee included 18 voting members representing 13 sectors. Under the new Society Bylaws, adopted in 2024, voting members are responsible for electing Board Directors and voting on Special Resolutions. They also play an active role in committees, information exchange relevant to the Lower Watershed, work planning, and providing advisory support to the Society Board. Their leadership and engagement help shape the direction of the Society and its initiatives.

Sector Representatives

Local Government

Cllr. Trish Mandewo

City of Coquitlam

Local Government

Caresse Selk

City of Coquitlam

Local Government

Cllr. Nancy McCurrach

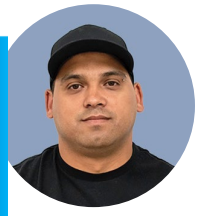
City of Port Coquitlam

Local Government

Scott Walmsley

City of Port Coquitlam

First Nations Gov.



Lance Meyers

Kʷikʷəƛ̓ m First Nation

First Nations Gov.

Cllr. George Chaffee

Kʷikʷəƛ̓ m First Nation

Regional Government

Jesse Montgomery

Greater Vancouver Water District

Utilities

Katy Jay

BC Hydro

Photo not available

Federal Government

Elan Park

Fisheries and Oceans Canada

Industrial

Jim Allard

Allard Contracting Ltd.

Industrial

Kirsten Wilson

Jack Cewe

Real Estate

Geoff Nagle

Morguard Corporation

Stewardship

Anne Woosnam

Hoy-Scott Watershed Society

Stewardship

Eve Gauthier

Tri-City Green Council

Stewardship

Tony Matahlija

North Fraser Salmon Assistance Project

Arts & Culture

Sherry Carroll

ArtsConnect

Community

Pardeep Grewal

Vancity

In late March 2024 Tony Matahlija of the North Fraser Salmon Assistance Project, and Eve Gauthier of the Tri-Cities Green Council resigned their Stewardship sector seats.

In April, new representatives for Fisheries and Oceans Canada joined the Society. Catriona (Cat) Day is a Stewardship Program Officer in the Fraser & Interior Area. Elan Park is a Partnerships Coordinator in the Fraser & Interior Area, and is the official sector representative for Fisheries and Oceans. Catriona and Elan have both been very active in sharing knowledge, networking among partners and community members within the watershed, and supporting the project work of the CRWS. Their primary responsibilities include supporting and renewing connections with organizations and individuals involved in stewardship, serving as primary DFO contacts for non-enhancement related stewardship work, including grant agreements and support requests outside of salmon enhancement. Elan is the representative representing the Federal Government on the Core Committee.

For several years now, the Education and Provincial Government seats on the Core Committee have remained vacant. Efforts to fill these seats, as well as 2 vacant seats in the Stewardship sector are in progress at the time of writing this report.

This year, the Core Committee met 5 times:

- January: Presentation by Layne Myhre, PhD, on water quality and bacterial salmon pathogens.
- March: Nina Bader of Foresight discussed collaborative networks for sustainable water solutions in British Columbia.
- May: CRWS Coordinator provided updates on organizational changes.
- September: Metro Vancouver staff presented a Coquitlam Water Main update.
- November: A presentation by CRWS Coordinator Georgia Ohm to review the Lower Coquitlam River Watershed Plan, the strategies it proposes, and our work to implement these strategies over the past year and new direction for future years.

SECTOR ALTERNATES

Like sector representatives, alternates play a valuable role participating on committees, exchanging information relevant to the Lower Watershed, contributing to work planning and advising the Society Board.

- Cllr. Steve Kim, City of Coquitlam
- Jenny Tough, City of Coquitlam
- Theo Mahdi, City of Port Coquitlam
- Glen Joe, Kʷikʷəƛ̓ə m First Nation
- Catriona Day, Fisheries and Oceans Canada
- Cathy McClean, Fisheries and Oceans Canada
- Dan Allard, Allard Contracting
- Sophie Mullen, Heidelberg Materials
- Manfred Kraus, Arts Connect
- Dianne Ramage, stewardship (non-affiliated)
- Sandy Budd, Maple Creek Streamkeepers
- Paul Lambert, Tri-City Green Council

STAFF AND SUPPORT

The following individuals provide vital services to the Society in communications, administration, financial management and creative services.

Financial Trustee

Dawn Roumieu

Watershed Watch Salmon Society

Coordinator

Georgia Ohm

Coquitlam River Watershed Society

Communications

Jacqueline Chan

Coquitlam River Watershed Society

Videographer

Grant Holt

Coquitlam River Watershed Society

Project Support

Margaret Birch

Coquitlam River Watershed Society

Outreach

Melissa Plisic

Coquitlam River Watershed Society

INTERIM SOCIETY BOARD

Throughout 2023, a Terms of Reference and Society Bylaws Task Force met several times to fulfill a commitment stated in the Society Terms of Reference to conduct an annual review of the Terms of Reference. This also provided an opportunity to review and clarify our organizational structure, which now included a Society. In December of 2023, sector representatives passed a motion that the "Coquitlam River Watershed Society will operate as one entity which is a society, and that the society board shall provide financial, legal, governance and stewardship knowledge and oversight."

With this decision in place, the Coquitlam River Watershed Society's legal name was formalized as the "Coquitlam River Watershed Society", although the organization continues to operate publicly as the Coquitlam River Watershed Society.

Through 2024, an interim Society Board considered how to integrate a decision-making Board into the existing Society organization, while preserving the diverse representation and guidance provided by the Core Committee.

The Interim Board in 2024 included the following directors:

Kirsten Wilson

Interim Board Chair, January - December

Caresse Selk

January – October

Tony Matahlija

January – April

Sherry Carroll

January – June

Eve Gauthier

January – April

Jim Allard

January – December

Scott Walmsley

January – October

Over the course of 2024 the Interim Board met 6 times.

The Interim Society Board of 2024 considered financial reports provided by the Financial Trustee, reviewed funding applications and advised on funding and partnerships for projects.

During these meetings the Board considered new models for an organizational structure and operational procedures that would be reflected in a new set of Society Bylaws. Rhys Volkenant of DeJager Volkenant Barristers and Solicitors was hired to assist the Interim Board with the development of a new set of Bylaws. Hazel Postma, a board governance coach, provided guidance to assist with the establishment of a well-functioning Board.

By September 2024, the Interim Board established the following:

- A revised organizational structure
- A new set of draft bylaws
- An orientation package for new directors
- Board Roles and Responsibilities and best practices
- A board application and appointment process
- Outreach to several candidates willing to stand for election to the Board during our AGM.

Coquitlam River Watershed Society Organizational Chart

Board
- Provide Fiduciary oversight
- Arrange accounting and financial reconciling
- Supervision and management of Coordinator
- Board recruitment
- Approve major expenses and budget
- Approve Annual work and strategic planning

Society Members (Sector Representatives)
- Elect/remove board directors according to Bylaws
- Amend Bylaws or Constitution, pass resolutions
- Participate in annual work planning
- Receive and share information relevant to CR Wateshed

Core Committee and Sub-Committees
- Includes Society members as well as other community members.
- Make recommendations to Board but does not have legal power to direct acts and operations
- Implement strategies of Watershed Plan
- Reports to Board

ANNUAL GENERAL MEETING AND NEW BOARD OF DIRECTORS

With the establishment of the new Draft Bylaws, the Interim Board convened an Annual General Meeting (AGM) on October 9, 2024. The meeting was held online and attended by nine of the twelve sector representatives, along with nine community supporters and four administrative supports. During the AGM, the Draft Bylaws were unanimously approved by the sector representatives of the Core Committee, officially putting the new organizational structure into effect.

Additionally, a new Board was elected in accordance with the procedures outlined in the newly adopted Bylaws. The newly formed Board included two returning members from the Interim Board, alongside community members with expertise in governance, law, finance, and environmental stewardship.

SOCIETY BOARD

The Board of Directors of the Coquitlam River Watershed Society (CRWS) consists of up to 11 seats, ensuring diverse representation and expertise to guide the organization. Of these, three seats are designated for key partners:

- One seat is reserved for a council appointee from the City of Coquitlam.
- One seat is reserved for a council appointee from the City of Port Coquitlam.
- One seat is reserved for a representative from Kʷikʷəƛ̓əm First Nation.

The remaining seats are filled by community members who bring valuable experience in governance, finance, legal matters, environmental stewardship, and project management. Directors serve one- or two-year terms, with the option for renewal, ensuring continuity while allowing for fresh perspectives on the Board. Elections take place at the Annual General Meeting (AGM), and staggered terms are implemented to maintain institutional knowledge and stability.

Following each AGM, the newly elected Board held its first meeting to assign key executive roles, including Chair, Vice-Chair, Treasurer, and Secretary, as needed. While Board members are primarily responsible for overseeing the Society's governance and strategic direction, they are also invited to participate in committees and initiatives that support the Society's ongoing projects and priorities.

By maintaining a balanced mix of municipal, Indigenous, and community leadership, the CRWS Board of Directors plays a crucial role in advancing the mission of preserving and enhancing the health of the Coquitlam River Watershed.

SUB-COMMITTEES

With the Interim Society Board assuming many of the standard duties of a Society Board, several Sub-committees were not required to meet in 2024.

The Interim Society Board of 2024 reviewed financial reports provided by the Financial Trustee and considered funding opportunities and applications and advised on funding and partnerships for projects. This work was previously assigned to the Resilience and Capacity Building Committee.

The Society Board and Coordinator also took on the work of the Public Event Planning Committee. The Board advised on topics and outcomes for the Annual General Meeting and advised on public events and meetings to attend.

Other work on Communications and Stormwater was carried out by support staff with the help of Society members and partners as needed. Margaret Birch has been instrumental in advising on communications efforts on the Society webpage, social media, and print materials.

Efforts to raise awareness and public support for stormwater management received strong support from staff at both the Cities of Coquitlam and Port Coquitlam, in cooperation with CRWS staff. Municipal staff donated 6 hours of time to advise on, and appear in, 2 videos produced about Stormwater and watershed management plans. Municipal staff from the City of Port Coquitlam were also instrumental in advising on and supporting the work of the Rain Garden Renewal Project in Lions Park.

COMMUNITY SUPPORTERS

Riverside Secondary School (RSS) student volunteers and teacher Brian Chan met with the Coordinator and Margaret Birch to discuss the potential to install a Rain Garden at RSS. Brian and several students from RSS provided strong support and participation at meetings and volunteered during work party events at our Rain Garden in Lions Park, and later in December to assist with drainage improvements in the Garden.

Langara Research Chair, Yue-Ching Cheng met with the Coordinator to discuss potential project partnerships in 2025. Langara has several programs which may support potential projects in 2025, including student projects that may contribute education or outreach materials for responsible riverside recreation.

Canada Water Agency's Ian Rogalski leads the development and implementation of the Freshwater Ecosystem Initiative for the Fraser River Basin under the Canada Water Agency's Fresh Water Action Plan. As a Senior Ecosystems Analyst with Environment and Climate Change Canada, he is responsible for advancing national freshwater management strategies and funding programs, including the EcoAction Community Funding Program. Ian has attended several Core Committee meetings and also met separately with Margaret Birch and Georgia Ohm. He is eager to collaborate with the Coquitlam River Watershed Society to explore opportunities for engagement and potential funding support for watershed initiatives as the Fund develops.

OPERATIONS

Throughout most of 2024, Georgia Ohm continued in her full-time role as Coordinator, focusing on supporting the Society Board through the organization's transition. Her key responsibilities included:

- Coordinating legal and governance advice for the Society Board.
- Scheduling, facilitating, recording and implementing the decisions of the Interim Board at 6 meetings.
- Managing financial statements and reports provided by the Financial Trustee for Board review.
- Organizing presentations and meetings for Core Committee sessions.
- Hiring and supervising a videographer, funded through Canada Summer Jobs, to support the Society's outreach efforts.
- Coordinating between the CRWS' various partners, members and supporters to facilitate the implementation of projects and communication.

Margaret Birch provided valuable support in drafting several grant applications. As one of the Society's founding members, Margaret continues to provide much valued knowledge and guidance to the Coordinator. While some of her assistance to the Society has been in a paid capacity, much of Margaret's time was generously contributed in-kind in both 2023 and 2024. As Margaret has assumed a role on the Board of Directors beginning in October 2024, she will no longer be paid for her services.

Jacqueline Chan continued in her role as Communications Coordinator. Jacqueline was brought on board in May 2023, and quickly proved indispensable, efficiently addressing the effects of malware that had persistently disrupted the website. Through 2024, Jacqueline has reliably maintained the CRWS website and social media accounts on a part-time basis. She has also assisted at several outreach events in 2024.

An outreach coordinator, Melissa Plisic was brought on board from September to December of 2024. Melissa Plisic led and facilitated multiple events for the Rain Garden renewal project (September–December 2024). A passionate advocate for the project, Melissa helped strengthen relationships with youth volunteers, community partners, and kʷikʷəƛ̓əm First Nation members.

With Melissa's support, Georgia was able to reduce her hours from September to December, allowing her to focus on personal goals while dedicating her part-time work to coordinating the Annual General Meeting and Core Committee Meetings, onboarding the newly elected Society Board and preparing funding applications for 2025.

With the help of a Canada Summer Jobs grant from the Government of Canada, the CWRS was able to hire Grant Holt as a videographer for a total of 270 hours from June through August. Grant produced several videos with support from our partners to raise awareness of pressures on the watershed and strategies to preserve it.

For several years, Watershed Watch Salmon Society has served as the Coquitlam River Watershed Society's Financial Trustee. Over the course of 2023, WWSS worked with CNC accounting, who provided book-keeping services, and reviewed our 2023 finances.

Beginning in 2025, WWSS will conclude their service as a Financial Trustee to CRWS. Through the end of 2024, Dawn Roumieu of WWSS has been working with the Coordinator to transition financial management under the purview of the CRWS. In 2024, the CRWS established its own chequing and savings accounts with Vancity Savings, and the Society hopes soon to have its own credit card with Vancity. In 2025 all deposits will be made directly to CRWS. Reflecting the change in accounts, all contracts will be amended to be held by CRWS rather than by Watershed Watch Salmon Society.

WATERSHED PLAN IMPLEMENTATION

Developed in 2014-2015 with input from Society members and the public, the Lower Coquitlam River Watershed Plan (LCRWP) continues to guide efforts to protect watershed health a decade later.

The plan identifies key pressures, their effects on ecological and human well-being, and strategies to mitigate impacts. Challenges such as urban development, stormwater runoff, and invasive species remain priorities for action.

Through collaboration, education, and advisory efforts, the Society advances sustainable practices that enhance water quality, biodiversity, and ecosystem resilience. This section outlines key progress and ongoing initiatives in implementing the LCRWP.

Stormwater Management

Stormwater is a high-rated pressure in the watershed. As surface water runs off the built environment, foreign and excess material is introduced, degrading water quality and aquatic habitats. With increased frequency and intensity of Climate Change related storms, flooding and associated erosion increase damage to riparian areas and streambeds.

As part of the Watershed's plan to address this pressure through communication, Canada Summer Jobs student, Grant Holt, created 2 videos on the subject, relevant to each municipality in the watershed:

- City of Coquitlam: Water Quality Monitoring
- Stormwater Management in Port Coquitlam

The videos were produced with the help and support of staff from each municipality, who contributed their time to advise on the content, provide supplemental footage and images and appeared on camera. The videos are available on our website as part of a growing library of resources.

Grant created an additional video on our Rain Garden to encourage volunteers to sign up to water the garden over summer 2024. The video was widely shared, and we received support from 5 new volunteers to keep our Garden watered over the summer. From May to September, volunteers contributed over 40 hours of volunteer time to water the garden.

Rain Garden Renewal Project

The Rain Garden Renewal Project at Lions Park in Port Coquitlam was a significant initiative in 2024, focused on restoring plant health, improving drainage, and enhancing community engagement. Volunteers and partner organizations played a crucial role in revitalizing the garden, ensuring its continued function as an effective stormwater management feature.

Over the summers of 2023 and 2024, more than 80 hours of volunteer time went into weeding, removing dead plants, soil amendment, and adding drought-tolerant native species. The project team collaborated with City of Port Coquitlam engineers and environmental staff, who assessed the site and provided recommendations for improving drainage, with implementation scheduled for fall and winter 2024.

A major highlight of the renewal project was the creation of a 150-square-foot mural on the decommissioned washroom building adjacent to the Rain Garden. Local artist Laura Kwok was commissioned for the project, with input from kʷikʷəƛ̓əm First Nation and Core Committee members to ensure cultural and ecological significance were incorporated. The mural features native plants found in the Rain Garden, including Red Osier Dogwood, Deer Fern, Serviceberry, and Nootka Rose, alongside a subtle Sockeye Salmon silhouette, symbolizing the meaning of Kwikwetlem – “Red Fish Up the River.” The design also pays tribute to local conservation efforts, particularly the work of the Port Coquitlam and District Hunting and Fishing Club, which supports salmon enhancement in the Coquitlam River.

The mural's public unveiling took place during the BC Rivers Day event on September 22, 2024. The event was attended by 42 participants, including kʷikʷəƛ̓əm First Nation drummers, community members, and local dignitaries from the City of Port Coquitlam, the Port Coquitlam Community Foundation, and Fisheries and Oceans Canada. The event also included a community planting session, where volunteers added new plants, mulch, and soil to the Rain Garden, reinforcing its role in stormwater filtration and watershed health.

In preparation for BC Rivers Day and to complete the Rain Garden renewal, three work parties were held in September and October 2024, engaging volunteers in key restoration activities. On September 15, four volunteers participated in painting the background of the mural, laying the foundation for the final artwork. On September 19, another four volunteers helped remove unwanted plants from the garden, ensuring that only beneficial native species remained. Finally, on October 13, two volunteers applied a final coat of anti-graffiti varnish to the mural, protecting it from weather and vandalism. These hands-on efforts played a crucial role in maintaining the Rain Garden and fostering community stewardship.

The success of the Rain Garden Renewal Project was made possible through the generous support of several key funding partners and community collaborators. The Port Coquitlam Community Foundation provided essential financial support, enabling key project components such as plant renewal, soil amendments, and mural development. Additional contributions came from Fisheries and Oceans Canada, which provided late-summer funding to help cover project costs. The City of Port Coquitlam played a crucial role in supporting site assessments, logistics, and event planning. Further in-kind and financial support was provided by kʷikʷəƛ̓əm First Nation, which actively participated in the project's cultural and ecological integration. Volunteers from the Coquitlam River Watershed Society, Riverside Secondary's Environmental Club, and community members dedicated their time to ensuring the garden's sustainability. Their collective efforts have strengthened community connections and reaffirmed the importance of urban green spaces in stormwater management and watershed health.

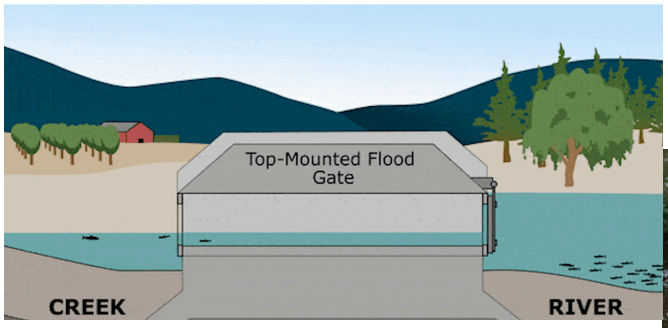
The Rain Garden Renewal Project successfully strengthened community involvement, enhanced watershed education, and improved the long-term sustainability of this key urban green space. Looking ahead to 2025, continued engagement and stewardship will ensure the Rain Garden remains a thriving demonstration site for rainwater management and native plant conservation.

Finally, on December 15, additional work on the Rain Garden was completed to improve drainage. With the help of BMP Engineering and Inspection, Heidelberg Materials, and City of Port Coquitlam staff, staff from BMP Engineering and Inspection, Society Members and volunteers from Riverside Secondary School installed perforated drainage pipe and gravel to improve the function of the Rain Garden.

Anti-littering and dumping

Illegal dumping along the Coquitlam River poses a significant threat to both environmental and human health, as identified in the Lower Coquitlam River Watershed Plan. Discarded waste—including plastics, construction debris, and hazardous materials—can leach pollutants into the water, degrading water quality and aquatic habitat. This contamination affects salmon populations, a keystone species in the watershed, as well as other fish and wildlife that depend on clean water for survival. Additionally, litter and debris along the riverbanks contribute to erosion and habitat destruction, further destabilizing the watershed's delicate ecological balance. Beyond the environmental impact, illegal dumping undermines community efforts to maintain a healthy and accessible riverfront, discouraging recreational use and cultural connections to the land. Addressing this issue requires stronger enforcement, increased public awareness, and active stewardship programs to protect the Coquitlam River for future generations.

For the second year in a row, QMC Metering Solutions brought staff to a clean-up day at Gates Park on July 30, 2024. 14 staff from QMC worked through a very rainy morning, removing a significant amount of garbage from the Riverside. This was also an opportunity for Grant Holt to create a short informative video on the Clean-up effort. After several successive clean-ups in this location, the amount of garbage appears to be declining year-over-year. QMC has expressed their interest in continuing with this annual event.



Salmon and Habitat Conservation

Salmon is recognized in the Lower Coquitlam River Watershed Plan (LCRWP) as a key Ecological Component, significantly impacted by multiple pressures in the watershed, including invasive species, stormwater runoff, water extraction, recreation, and mining. The Watershed Plan outlines strategic actions to mitigate these impacts and enhance salmon and aquatic habitat health.

Efforts to support salmon, fish populations, and habitat conservation are also strengthened through ongoing outreach and education initiatives, which help raise awareness and promote stewardship within the community.

One example of these efforts is Grant Holt's video, "Fish-Friendly Floodgates". The video communicates how salmon habitat at ƛ̓éxətəm Regional Park (formerly Colony Farm) could be improved with infrastructure upgrades that would facilitate fish passage while also enhancing flood risk. The video was developed with the support of University of British Columbia Ph.D. candidate Zackary Sherker and Lina Azeez from Watershed Watch Salmon Society.

In 2024, the Coquitlam River Watershed Society (CRWS) received funding from the Pacific Salmon Foundation (PSF) to renew its outreach display, with a particular focus on salmon conservation in the watershed. Consultation with partners began in December 2024 and will continue into the spring of 2025 to finalize the project.

OUTREACH EVENTS

In 2024, the Coquitlam River Watershed Society (CRWS) continued its strong presence at festivals and community events, engaging the public on topics of watershed stewardship, salmon conservation, and invasive species. These events provided valuable opportunities to connect with residents, share information, and inspire action to protect the Coquitlam River Watershed.

In 2024, CRWS returned to several events, including: Canada Day at Coquitlam's Town Centre Park. A short video was produced as part of the event. CRWS was also at the Salmon Come Home Festival on October 27. A highlight of the fall season, this event at Hoy Creek Linear Park drew large crowds eager to witness returning salmon and learn about conservation efforts. For the second year in a row, we attended Salmon Day at ʔéxətəm Regional Park (formerly Colony Farm), on October 6, organized by Watershed Watch Salmon Society.

New Events this year included Earth Day at Lions Park, Port Coquitlam, an event highlighting the environmental initiatives of the City of Port Coquitlam and their partners. And finally, we brought our outreach display to Lions Park, Port Coquitlam for our own BC Rivers Day & Rain Garden Renewal event. This event at Lions Park in Port Coquitlam coincided with the Rain Garden Renewal Project, bringing together community members, local dignitaries, and volunteers to learn about the importance of rainwater management and riparian restoration. Attendees participated in planting activities, mural unveiling, and educational games on salmon and invasive species.

SOCIAL MEDIA AND COMMUNICATIONS

Throughout 2024, Jacqueline Chan continued to play a key role in managing and optimizing CRWS's digital presence, ensuring both the website and social media platforms remained functional, engaging, and up to date. She enhanced the website's mobile compatibility, resolved technical issues, and collaborated with Georgia and Margaret to update content, including meeting agendas, event listings, and sponsor acknowledgments.

On social media, Jacqueline promoted events, shared educational videos, and engaged with the community, increasing visibility for CRWS initiatives such as Salmon Day, rain garden volunteer opportunities, and watershed conservation efforts. She also designed custom graphics, managed volunteer registrations, and maintained active communication across multiple platforms, strengthening CRWS's outreach and public engagement throughout the year.

Website

The website shows a notable increase in use from 2023 to 2024:

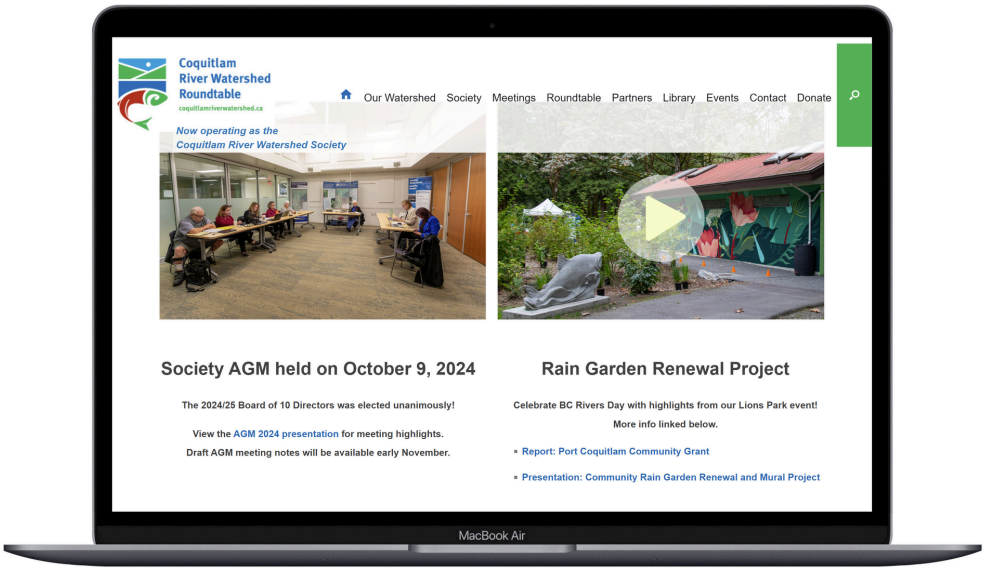
Website	2023	2024
Total Views	6,556	16,786
Total Users	3,146	3,903
Views Per User	2.08	4.30
Average Engagement Time (seconds)	44	86
Total downloads	53	181
Users who downloaded documents	36	89
Average number of downloaded files/user	1.5	2.0

This may be attributable to much of the work that was completed on the website through late 2023. Through 2024, the website benefited from consistent maintenance, as well as content updates and alignment with our Social Media platforms.

Website analytics for 2024 reveal key insights into user behavior and engagement patterns. The 'History' and 'Coquitlam Lake Dam' pages showed notably high engagement, with visitors spending an average of one minute on these pages. Meanwhile, the 'Meetings and Agendas' page emerged as the most frequently visited section after the homepage, recording the highest number of views per active user (5 views), compared to 1-2 views per user on other pages. Given that this page is regularly updated with meeting information and presentations, it makes sense that users frequently revisit it.

While the homepage remains the most visited page, users typically do not stay on it for extended periods, with an average engagement time of under 10 seconds, suggesting that visitors quickly navigate to other sections of interest.

File downloads saw a significant increase in 2024, with 181 downloads from 89 users, compared to 53 downloads from 36 users in the previous year. This growth in downloads per user (2 files per user in 2024, up from 1.5 in 2023) indicates greater engagement with downloadable resources, likely due to an overall increase in website traffic and improved content accessibility.

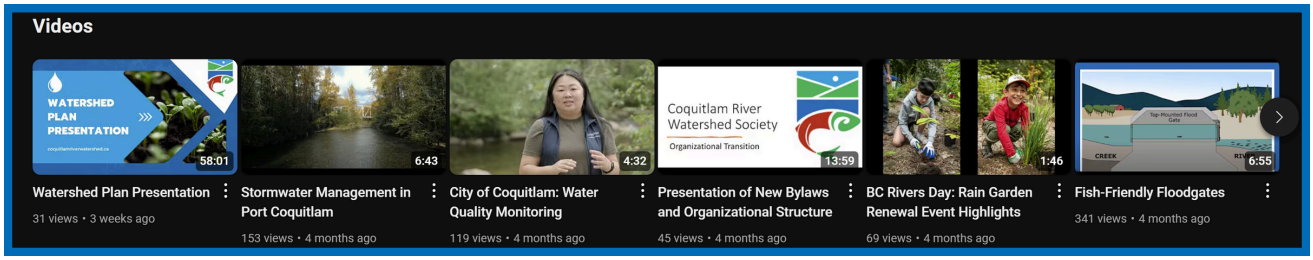


Social Media

Social media engagement trends in 2024 remained consistent with those observed in 2023, with Facebook continuing to have a significantly larger audience base than Instagram. Over the course of the year, Facebook recorded 1,100 total visits, while Instagram saw 316 visits. Engagement was evenly distributed throughout the months, with a few small spikes, likely corresponding to the posting of key content. The top-performing Facebook posts were primarily focused on current events, such as BC Rivers Day and extreme weather alerts affecting the Coquitlam River Watershed.

On Instagram, the Linktree (link in bio) served as a central hub for event registrations and other key links. The most-clicked URL in 2024 was the volunteer sign-up link for the Rain Garden project, followed closely by the Board Member information page on the CRWS website and the BC Rivers Day event link hosted by the Outdoor Recreation Council of BC (ORCBC). Like Facebook, Instagram's top posts were Call-to-Action driven, encouraging users to volunteer, attend events, or take action related to watershed conservation and local environmental issues. Outdated links were regularly removed from Linktree to keep content relevant and accessible.

This year also saw a major increase in CRWS's YouTube presence, following the hiring of a Canada Summer Jobs Videographer in the summer of 2024. With no new videos posted in 2023, there was no direct comparison to previous years, but YouTube content in 2024 reached over 3,000 video views. Community feedback on these videos was overwhelmingly positive, with users expressing appreciation for the educational content and accessibility of meeting recordings. Key additions to CRWS's YouTube channel included recordings of community meetings for those unable to attend, educational content on watershed health, and videos highlighting the Rain Garden project. These efforts significantly expanded CRWS's digital outreach, making valuable information more widely available to the public.



FINANCIALS AND IN-KIND CONTRIBUTIONS

The Society's achievements in 2024 were made possible through the invaluable contributions of time, staff resources, and donations of venues, event support, and refreshments. In-kind contributions for the year totaled $12,0462, with approximately 390.3 volunteer hours generously contributed by Society Members, staff from partner organizations, and engaged community members. Volunteers played a crucial role in various stewardship efforts, including supporting the maintenance and renewal of the Rain Garden, and participating in Core Committee meetings, all of which strengthened the Society's commitment to watershed health and community collaboration.

The financial outlook for 2024 was significantly different from 2023. Revenue for 2024 was $110,332.00, significantly less than $127,911.00 in 2023. We began the year with a smaller carryover amount than we have in recent previous years. While it is common, and in fact ideal for non-profits to end the year at net-zero, the reduced carry-over left us with reduced operational funds in 2024. Additionally, the valuable contribution to CRWS Operation Funds from the City of Port Coquitlam was unavailable in 2024. Despite these constraints, the CRWS was able to adapt and to reduce expenditures, allowing us to complete the year with a modest carryover of $8,731.

The positive financial news for 2024 was that we received several new grants for project work. Port Coquitlam Community Foundation, Pacific Salmon Foundation, and QMC Metering Solutions provided new partnerships and sources of funding. The Government of Canada, Canada Summer Jobs Program, and Fisheries and Oceans continued to offer support through valuable funding that ensured that we maintained capacity to implement projects related to our Lower Coquitlam River Watershed Implementation Plan (LCRWP). Further, Jack Cewe Construction increased their contribution this year to help off-set the shortfall in operational funds.

Recognizing our reduced operational funds, we were able to reduce our expenditures in 2024. This was partly facilitated in part by the Coordinator reducing her hours through in the final quarter of the year. Other administrative expenses included $5,352.77 in legal fees associated with the development of new Bylaws, and the organizational transition. Increased expenses toward Communications, as well as Outreach and Events, reflect the grant funding for projects, and the matching funds provided by the Society.

Overall, with Revenue of $101,600.36, the CRWS enters 2025 with a $8,731 carryover in available funds.

Since 2020, the Coquitlam River Watershed Society has made an annual contribution of $10,000 to a Contingency Fund. With our last contribution made at the end of 2023, the fund is now worth $40,000. With a smaller carryover in 2025, the Society Board will consider the contribution to be made for 2024.

Coquitlam River Watershed Society
Comparative Statement Dec 2023 & Dec 2024
As at February 10 , 2025

REVENUE	2024
Source	**Amount**
Carryover	3,217.17
City of Coquitlam	35,000.00
BC Hydro FWCP	
Metro Vancouver	35,020.00
City of Port Coquitlam	
Kwikwetlem First Nation	14,000.00
Fisheries and Oceans Canada	2,250.00
Jack Cewe	7,500.00
Government of Canada - CSJ	5,345.00
PSF	2,250.00
Port Coquitlam Community Foundation	5,000.00
QMC	750.00
Total Revenue Recieved by WWSS	**110,332.17**

EXPENDITURES	
Payroll Expenses	75,301.14
Communications	1,900.12
Outreach and Events	7,506.26
Mileage	733.73
Insurance	519.00
Professional Fees	1,231.40
Photography	1,407.57
Misc. Fees & Disbursements	477.75
Office, Admin & Refreshments	997.99
Legal Fees	5,006.52
WWSS Admin Fee (5% of total expenditures)	5,000.00
Locker	1,518.88
Total Expenditures Processed by WWSS	**101,600.36**

FUNDS AVAILABLE (Remainder - Payables before trasferring to contingenc	8,731.81
Contingency	-
FUNDS AVAILABLE (Remainder - Contingency)	**8,731.81**

ASSETS	
Kwikwetlem Funds 2025-2026	28,000.00
Contingency Fund	40,000.00
	68,000.00

MOVING FORWARD

As CRWS embarks on 2025, the organization is set to build on the momentum of the past year with a renewed focus on outreach, education, and collaborative action. A key early initiative will be the renewal of our outreach display, featuring a salmon theme, made possible through a grant from the Pacific Salmon Foundation. Additionally, on February 26, CRWS will host a Work Planning Session, bringing together Sector Representatives, Core Committee Members, Community Members, and Board Members to identify and prioritize projects that align with the Lower Coquitlam River Watershed Plan. The session will explore a wide range of initiatives, from expanding stormwater solutions and addressing invasive species to fostering responsible recreation and enhancing salmon habitat. With continued community engagement and strategic partnerships, CRWS is well-positioned to advance its mission of preserving and enhancing the health of the Coquitlam River Watershed in the year ahead.

On February 26, 2025, the CRWS will host a Work Planning Session, inviting Sector Representatives, Core Committee Members, Community Members and available Board members to prioritize projects and activities in 2025 that align with Strategies in the Lower Coquitlam River Watershed Plan. Some suggestions that have already been proposed and will be considered include the following:

Stormwater

- Consider installing a Rain Garden along a boulevard or roadside
- Install tamper-proof upgrades and repairs to Rain Garden rain barrels.
- Reach out to businesses to participate in Stormwater solutions such Rain Gardens or Rain Barrels
- Promote the City of Port Coquitlam's Rain Barrel Program

Invasive Species

- Develop an invasive Species Walking tour for High School Students.
- Partner with municipalities Adopt-a-trail program

Development

- Re-establish Development Committee
- Share Low Impact Development Research with a wider audience by providing short, succinct summaries and press releases.

Vandalism and Illegal Activity

- Continue riverside clean-ups with QMC Metering Solutions and reach out to other potential companies and partners.
- Host more clean-up activities with youth
- Partner with municipalities Adopt-a-trail program

Recreation

- Develop a workshop or communications materials such as videos or printed or digital content that respond to recent public inquiries about the impact of rock dams, handling salmon during spawning, dogs in rivers and other behaviour along the river.

Salmon and Habitat

- Re-establish the Habitat Committee
- Ensure that new restoration sites are included in the Watershed Atlas - https://cmnmaps.ca/coquitlamwatershed/

Communications

- Provide a presentation of the Watershed Atlas to members and the community.
- Catalogue resources and develop a searchable database for the website to enable the public to search and access watershed related resources more easily.
- A Canada Summer Jobs application has been submitted for a graphic designer to assist with renewal of education and outreach materials.

Partnerships

- Langara College has expressed interest in partnering with us. They have a capstone project for recreation. There are other more complex problems such as Development where faculty could be involved.
- Catalogue resources and develop a searchable database for the website to enable the public to search and access watershed related resources more easily.

YEAR IN REVIEW

Navigating Growth, Transition, and Impact in 2024

The Coquitlam River Watershed Society experienced a year of transformation and achievement in 2024, building on its legacy of collaboration, education, and advisory action. The organization took a significant step forward, completing the formal transition to a Society, solidifying its governance structure while continuing to engage its diverse network of partners and volunteers in advancing watershed health initiatives.

Strengthening Governance and Organizational Resilience

One of the most pivotal milestones of the year was the adoption of new Society Bylaws and the election of the first Board of Directors at the Annual General Meeting (AGM) in October. This transition from an interim to a permanent board ensures financial stability, strengthens governance, and enhances CRWS's ability to secure funding and implement long-term initiatives. The new Board, composed of community leaders with expertise in governance, finance, and environmental stewardship, will guide the Society into the future while maintaining the Society's collaborative spirit.

With this transition, CRWS also assumed direct financial management, marking the end of its long-standing trustee relationship with Watershed Watch Salmon Society. This shift represents a key step toward operational independence and greater financial autonomy.

Implementing the Watershed Plan: Key Initiatives and Accomplishments

Throughout 2024, CRWS remained steadfast in its commitment to implementing the Lower Coquitlam River Watershed Plan (LCRWP). Several initiatives targeted the most pressing challenges facing the watershed, including stormwater management, illegal dumping, and habitat conservation:

- Rain Garden Renewal at Lions Park: A major restoration effort saw volunteers, municipal staff, and community members come together to improve plant health, address drainage concerns, and install new signage. The project culminated in a BC Rivers Day celebration featuring the unveiling of a mural by local artist Laura Kwok, reflecting the natural and cultural significance of the watershed.
- Stormwater Awareness and Education: With climate change intensifying weather events, stormwater management remained a priority. Two educational videos—produced with support from municipal staff—highlighted water quality monitoring and local stormwater management strategies.
- Community-Led Cleanups and Stewardship: Illegal dumping continues to pose a challenge along the Coquitlam River. Thanks to QMC Metering Solutions, staff volunteers removed significant amounts of waste from Gates Park during a dedicated cleanup day. The Society also produced a video to raise awareness about the impact of litter on the watershed.
- Salmon and Habitat Conservation: Outreach efforts expanded to promote fish-friendly infrastructure solutions, particularly at ƛ́éxətəm Regional Park, where improved floodgate management could enhance salmon passage. Additionally, CRWS secured funding from the Pacific Salmon Foundation to update its outreach materials, reinforcing its commitment to protecting aquatic habitats.

Expanding Public Engagement and Digital Outreach

CRWS strengthened its presence in the community through participation in key festivals and events, including Canada Day, Earth Day, and Salmon Come Home. The organization also hosted its own BC Rivers Day event at Lions Park, engaging 42 participants in hands-on rain garden restoration and educational activities.

On the digital front, CRWS's website saw a significant increase in engagement, with total views jumping from 6,556 in 2023 to 16,786 in 2024. The organization's growing YouTube presence, fueled by new video content, provided an accessible platform for watershed education, while social media engagement remained steady, reinforcing connections with the community.

Financial Stewardship and Sustainability

While 2024 presented financial challenges, CRWS successfully diversified its funding sources. New grants from the Port Coquitlam Community Foundation and the Pacific Salmon Foundation helped offset the shortfall, and additional contributions from Jack Cewe Construction provided critical operational support. In-kind contributions for the year totaled $12,0462, with approximately 390.3 volunteer hours generously contributed by Society Members, staff from partner organizations, and engaged community members.

Revenue for the year totaled $110,332, with a carryover of $8,731 into 2025. While expenses were carefully managed—including a reduction in Coordinator hours in the final quarter—the Society will continue exploring funding efficiencies to ensure long-term stability. The Board will also review the annual $10,000 contribution to the Contingency Fund, which currently stands at $40,000.

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SERVICES AND SOLUTIONS FOR A LIVABLE REGION

To: Water Committee

From: Peter Marshall, Field Hydrologist, Watersheds and Environment, Water Services

Date: February 27, 2025 Meeting Date: March 12, 2025

Subject: **Climate Impacts on the Water Supply Areas**

RECOMMENDATION
That the Water Committee receive for information the report dated February 27, 2025, titled "Climate Impacts on the Water Supply Areas".

EXECUTIVE SUMMARY
This report highlights the increasing influence of climate change on local weather patterns. Extreme weather events in 2024 caused significant disruption within the region. Record-breaking low temperatures in January across western Canada, including the Lower Mainland, impacted transportation, agriculture, and the power grid. Stormy fall weather, including the October 18-20 atmospheric river, also caused extensive damage to areas of the North Shore and Coquitlam.

Looking forward, climate resilience is crucial for regional water resource and supply management. Intense climate driven precipitation events have the potential to impact our source water quality through landslides and other erosion events resulting in increased frequency of turbidity events. Water Services invests in climate monitoring programs and technology innovations to inform water supply decisions and mitigate climate change impacts.

PURPOSE
This report is intended to provide the Committee with a summary of the annual Water Supply Areas Climate Report for 2024. This includes information on weather and climate conditions in the water supply areas, and how these conditions relate to regional climate projections and historical norms.

BACKGROUND
Water Services manages a network of automated hydro-meteorological stations and conducts annual field sampling programs. These monitoring programs provide reliable and timely information on source water quality and quantity which assists in managing source reservoirs and optimizing water treatment. The annual Water Supply Areas Climate Report for 2024 summarizes key weather parameters including air temperature, precipitation, snowpack, and stream flow.

WEATHER AND CLIMATE HIGHLIGHTS
Climate Change Projections
Climate Projections for Metro Vancouver (2016) describes expected changes in temperature, precipitation, and other parameters in Metro Vancouver by 2050 and 2080. All models from these projections anticipate an increase in daytime high and nighttime low temperatures resulting in reduced peak spring snowpack levels and reduced late spring and summer river inflows. For precipitation, the region can expect more intense and frequent rainfall events in the fall and winter

months, leading to increased frequency of water quality impacts from turbidity. Longer summer dry spells extending into fall droughts are also more likely in the future. Recent years have given a glimpse of what conditions may consistently be like in the coming decades. These observations illustrate how quickly the climate is changing, and how hard it is becoming to predict the severity of weather events based on historical conditions.

2024 Weather Summary

The information below provides an overview of key weather patterns and highlights significant deviations from historical norms.

Temperature Trends

The year 2024 was the third warmest year on record at the Vancouver Airport since 1936 (behind 2015 and 2023). Despite being a mild El Niño year, the coldest temperatures ever recorded occurred during the January deep-freeze. The Orchid Lake weather station in the Seymour Water Supply Area dropped to a low of -22.7°C on January 12. Similar to 2023, December was an exceptionally warm month, averaging 2.7 degrees warmer than normal.

Precipitation Patterns

Annual precipitation totals were well above normal in 2024. At the Vancouver Airport, this was the wettest year since 2000, and among the top 10 wettest years since records began in 1936. October was an exceptionally wet month, largely due to the October 18-20 atmospheric river event. The summer months were quite dry, but each month saw at least one moderate rainfall event.

Snowpack

The winter was very slow to arrive, and there was almost no mountain snowpack until the end of February. Conditions did improve in March, but average snow water equivalent values were only half of the historical average at the start of the melt season. Fortunately, relatively cool and damp spring weather slowed snowmelt and kept reservoirs full for longer than first expected.

Drought and Wildfire Risk

Despite being one of the warmest years on record, drought was less of a concern in 2024 with the Lower Mainland basin remaining at drought level 3 for most of the summer. The Province uses a six-level classification to rate the severity of drought conditions (0-5). At level 3, Adverse impacts to socio-economic or ecosystem values are possible. Several well-timed storms that occurred before conditions deteriorated resulted in fewer days of high or extreme fire danger than in the previous three years.

Environmental Flows

Water temperatures and river flows remained within normal parameters throughout the region in 2024. Metro Vancouver continues to collaborate with Fisheries and Oceans Canada and local First Nations to monitor river conditions and supplement environmental flows below its dams on the Capilano and Seymour Rivers when conditions warrant. No supplemental releases were requested or conducted in 2024. Overall, Salmon returns were above average in the region again in 2024.

Comparisons with Previous Years

Conditions in 2024 reflected continued recent weather trends with notable deviations from historical norms. Similar to 2023, 2024 was among the warmest on record, with warmer winters and hot summers in both years. Precipitation mirrored climate projections with a drier summer followed by a very wet fall with intense rainfall events. Low initial snowpack, due to warm early winter temperatures, was partially offset by late season accumulation and spring rain. A somewhat milder summer drought resulted in lower wildfire risk conditions than previous years. This combination of extremes continues to be a challenge for traditional forecasting that relies on past weather patterns to predict future conditions.

Current Conditions

As of the February 1, 2025 snow surveys, the snow water equivalent (snowpack) was 58 per cent of the historical average. While it's still too early to tell what impact current conditions will have on the summer water supply, Metro Vancouver is continuing to monitor snow levels and weather patterns in advance of the high-demand season and will continue to adjust operations of its reservoirs and summer watering restrictions based on this information. Metro Vancouver also continues to work with its members to encourage them to proactively take water conservation measures including public education campaigns and robust local enforcement of the summer watering restrictions.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

Data collected and used in this report is funded by the Watersheds and Environment program budget as well as through partnerships with other organizations including Environment and Climate Change Canada and BC Hydro.

CONCLUSION

The annual Water Supply Areas Climate Report for 2024 continues to highlight the need for climate resilience in managing Metro Vancouver's water resources. The climate is changing rapidly, making it difficult to predict conditions based on historical conditions alone. By leveraging data-driven insights and embracing innovative technologies, Water Services is poised to navigate the challenges posed by a changing climate, and manage available summer water supply to meet the needs of the region's residents and the fisheries resources downstream of the water supply areas.

ATTACHMENTS

1. Report titled "Water Supply Areas Climate Report for 2024", dated, January 2025.
2. Presentation re: Climate Impacts on the Water Supply Areas.

REFERENCE

1. Climate Projections for Metro Vancouver (2016)

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SERVICES AND SOLUTIONS FOR A LIVABLE REGION

WATER SUPPLY AREAS - CLIMATE REPORT

2024 ANNUAL WEATHER AND CLIMATE SUMMARY

WATERSHEDS & ENVIRONMENT
WATER SERVICES
January 2025

Cover images: Snow survey crew at the Orchid Lake weather station in the Seymour Water Supply Area (P. Marshall)

Report prepared by:
Peter Marshall
Field Hydrologist
Water Services / Watersheds and Environment
Peter.Marshall@metrovancouver.org

About this Document

This report summarizes weather, climate, and water supply conditions in Metro Vancouver's Capilano, Seymour, and Coquitlam Water Supply Areas (WSA) in 2024. It also highlights some of the most impactful local and regional weather events of the year. Data for this report were collected from the network of hydro-meteorological stations in all three WSAs, supplemented by data from Environment and Climate Change Canada (ECCC), and BC Hydro. These stations monitor temperature, precipitation, stream flow, snowpack, and many other parameters. Data records for these stations vary from 10 years to over 100 years. Most plots and maps have been created specifically for this report but some are from other organizations. Credit is given to figures and images that are not original.

There is also a supplementary Water Supply Areas Climate Summary webpage summarizing weather conditions in the WSAs with additional charts and images. This provides a much more detailed look at weather and climate conditions in 2024.

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Executive Summary

Globally, the year 2024 was the warmest year on record – eclipsing 2023 by 0.12°C (ECMWF, 2025). It was also the first calendar year that was more than 1.5°C above the pre-industrial level. Many extreme and devastating weather events occurred around the globe, including typhoons, hurricanes, landslides, heat waves, and wildfires. The Metro Vancouver region was not exempt from extreme weather events in 2024. Below is a snapshot of conditions this past year.

Temperature Trends:

- This year was the third warmest year on record at the Vancouver Airport since 1936 (behind 2015 and 2023). Despite being a warm El Niño year, the coldest temperatures ever recorded occurred during the January deep-freeze. The Orchid Lake weather station in the Seymour WSA dropped to a low of -22.7°C on January 12. December was a stand out month, averaging 2.7 degrees warmer than normal.

Precipitation Patterns:

- Annual precipitation amounts were well above normal in 2024. At the Vancouver Airport, this was the wettest year of this century, and among the top 10 wettest years since records began in 1937. October was an exceptionally wet month, which included the record-breaking October 19-20 atmospheric river. The summer months were quite dry, but each month saw at least one moderate rainfall event. July was the driest month, with no rainfall recorded until July 29.

Snowpack:

- This was a very poor snowpack year. There was almost no mountain snowpack until the end of February. Conditions did improve in March, but average snow water equivalent values were only half of the historical average at the start of the melt season. Fortunately, relatively cool and damp spring weather slowed snowmelt and kept reservoirs full for longer than expected.

Drought and Wildfire Risk:

- Drought was a concern again in 2024, but it was not as exceptional as the previous few seasons. The Lower Mainland basin was at drought level 3 (adverse impacts *possible*) for most of the summer. There were fewer days in high and extreme fire danger this year than the previous few years. Fire danger was high for most of July; however, well timed storms provided relief when conditions were becoming very dry.

In summary, 2024 was a warm and wet year. Standout weather events included the January deep-freeze, and the relentlessly stormy fall, especially the October 18-20 atmospheric river. These were truly exceptional events. Again, local trends observed in 2024 align with broader climate projections, emphasizing the importance of continued monitoring and adaptation efforts to address the evolving climate dynamics in Metro Vancouver. These findings highlight the importance of proactive climate management strategies, adaptation measures, and community preparedness to mitigate the potential impacts of a changing climate.

Overview Map

The map below highlights some of the monitoring stations used in this report. One of the main reference stations is the lower Capilano fire weather station on the east side of the Capilano Reservoir. For river flows, Capilano River above Lakehead (08GA010) is primarily used. Orchid Lake (Seymour WSA) and Palisade Lake (Capilano WSA) are also highlighted.

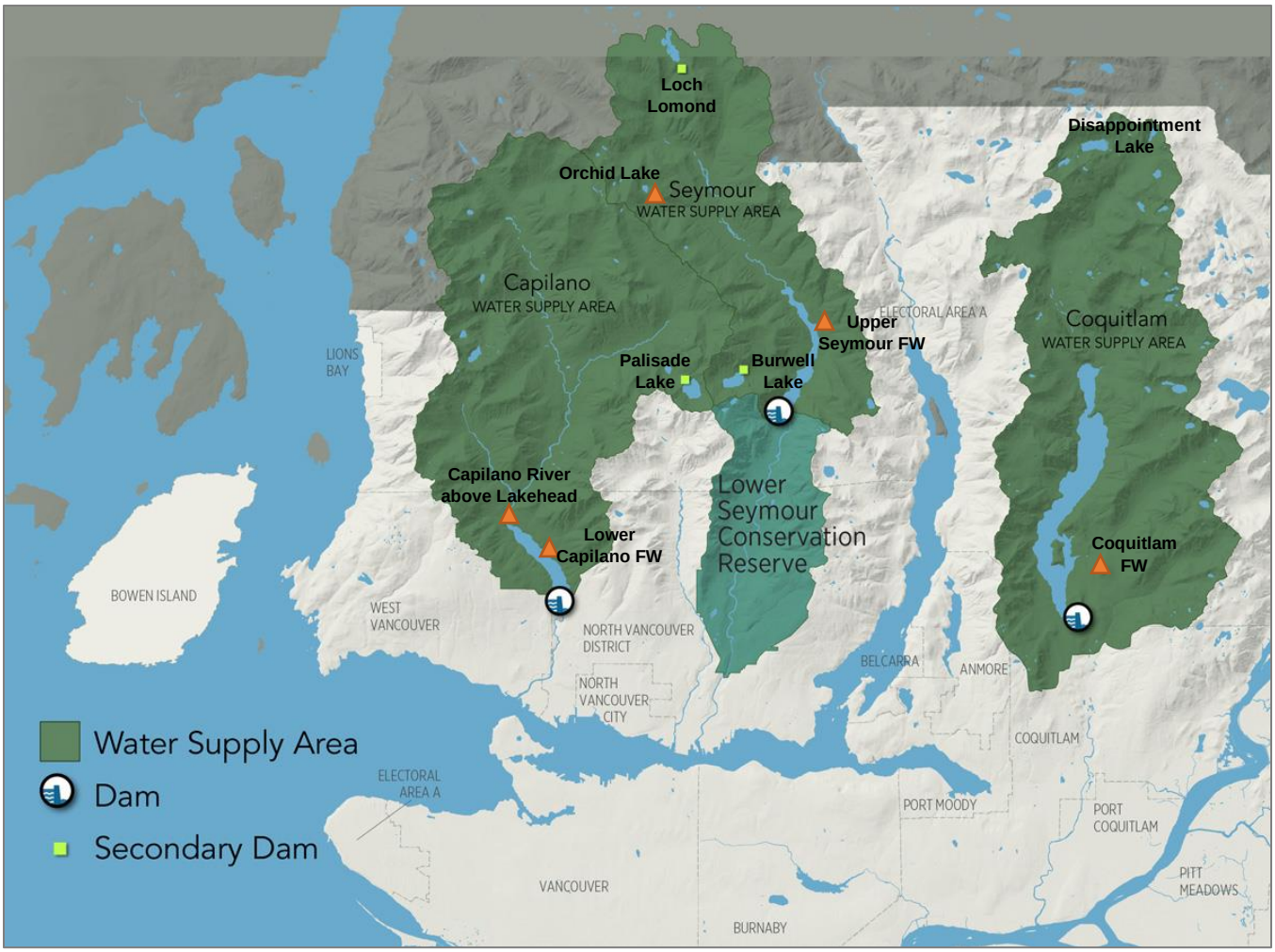

Figure 1: Map of Metro Vancouver and the water supply areas (Metro Vancouver)

Weather Conditions

The following sections describe the weather conditions in the WSAs in 2024, including summaries of air temperatures, precipitation, snowpack, and streamflow. This year's conditions are shown in relation to climate norms. Climate projections for each weather parameter are also highlighted. The table below shows monthly average air temperatures and total precipitation, and the departure from historical average.

Month	2024 Temp (°C)	Average Temp (°C)	Temp Anomaly (°C)	2024 Precip (mm)	Average Precip (mm)	Percent of Normal (%)
January	2.3	2.7	-0.4	605	458	132
February	4.1	2.8	+1.3	273	239	114
March	5.0	4.7	+0.3	208	323	64
April	7.5	7.4	+0.1	217	196	111
May	11.4	11.9	-0.5	164	127	128
June	14.3	14.6	-0.3	136	97	141
July	19.4	17.9	+1.5	36	54	68
August	17.8	17.7	+0.1	88	64	137
September	14.9	14.1	+0.8	100	167	60
October	9.2	9.2	0.0	534	337	158
November	5.2	4.5	+0.7	389	452	86
December	4.8	2.1	+2.7	435	381	114
Annual	**9.66**	**9.13**	**+0.53**	**3186**	**2896**	**110**

Table 1: 2024 monthly temperature and precipitation summaries for the lower Capilano WSA (data from Lower Capilano fire weather station near the base of Grouse Mountain - 2003-2024).

The table below highlights some of the weather extremes experienced in the watersheds in 2024, and compares these values to recent years. Many of these extremes were similar to conditions seen over the past couple years. The notable standouts were the record-breaking cold temperatures recorded in mid-January, and the phenomenal 24 and 48-hour rainfall totals during the October 19-20 atmospheric river event. In some areas, this was a 1-in-50 to 1-in-100-year event.

Parameter	2024 value	*2023 value*	*2022 value*	Location	Date
Hottest temperature	**34.3°C**	*35.3°C*	*36.0°C*	Upper Capilano, 300m	July 9
Coldest temperature	**-22.7°C**	*-16.0°C*	*-18.7°C*	Orchid Lake, 1170m	January 12
High temperature records	**28 days**	*28 days*	*29 days*	Lower Capilano, 250 m	~
Low temperature records	**10 days**	*10 days*	*21 days*	Lower Capilano, 250 m	~
Highest river inflow	**346 m^3/s**	*398 m^3/s*	*385 m^3/s*	Capilano Lakehead	October 19
Highest river inflow	**107 m^3/s**	*113 m^3/s*	*132 m^3/s*	Seymour Lakehead	October 20
Greatest 24-hr rainfall	**232 mm**	*129 mm*	*130 mm*	Lower Capilano, 250 m	October 19
Greatest 48-hr rainfall	**311 mm**	*167 mm*	*154 mm*	Lower Capilano, 250 m	October 19-20
Highest hourly rainfall	**20.3 mm**	*26.5 mm*	*21.4 mm*	Capilano Lakehead, 160m	October 19
Longest dry spell	**29 days**	*33 days*	*27 days*	Lower Capilano, 250m	June 30 – July 29
Longest wet spell	**18 days**	*19 days*	*21 days*	Lower Capilano, 250m	December 14-31

Table 2: Highlighted extreme weather values from within the water supply areas in 2024

Air Temperatures

Climate Projections – Air Temperatures:

Climate change is driving warmer temperatures. There will be an increase in both daytime and nighttime temperatures, and there will be more hot days and fewer days with sub-zero temperatures. We can expect milder winters and hotter summers.

Globally, the year 2024 was the warmest year on record – eclipsing 2023 by 0.12°C (ECMWF, 2025). It was also the first calendar year that was more than 1.5°C above the pre-industrial level. Heat was a major player in 2024.

At the Vancouver International Airport (YVR), this was the third warmest year since 1936 with a mean temperature of 10.74°C. The only warmer years were 2023 (11.0°C) and 2015 (11.08°C). The chart below shows the average annual temperature at YVR, with a 5-year running average. The warming trend of the past several decades is very clear, especially the past decade.

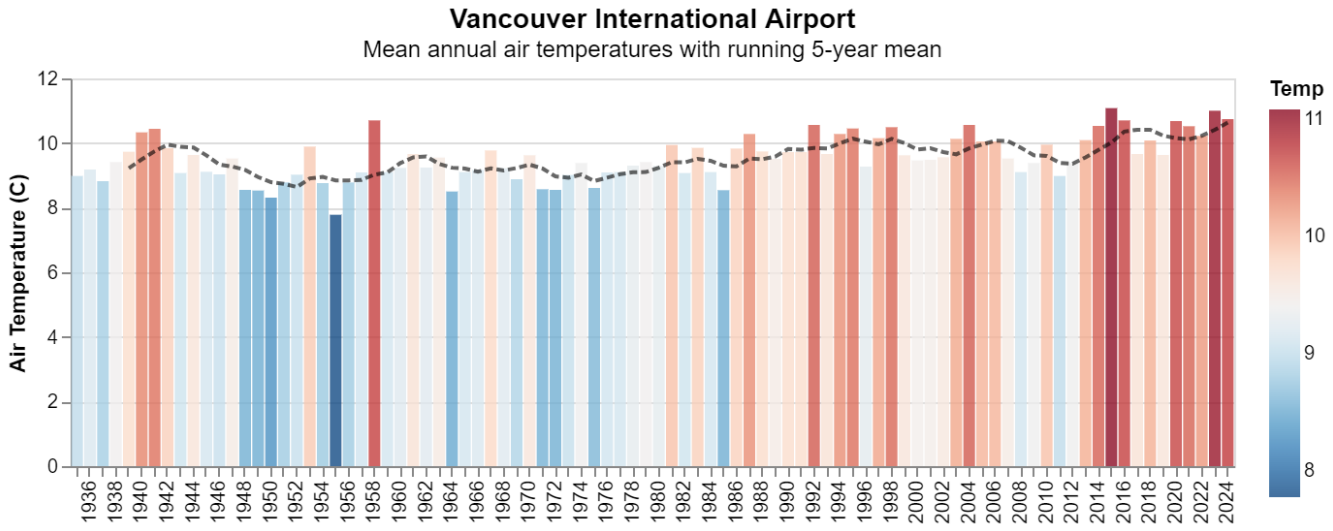

Figure 2: Mean annual air temperatures for the Vancouver International Airport from 1936-2023 (data: ECCC)

The number of days with temperatures below freezing (frost days) was much lower than average in 2024. In the WSAs, the temperature only dipped below freezing on 34 days. The 20-year average is 56 days. Years with the fewest number of frost days are typically El Niño seasons.

This year there were 38 days with high temperatures exceeding 25°C (heat days), which was very close to the 20-year average of 37 days. There were far fewer heat days this year than the past few years. Interestingly, there were more warm nights this year than last. For this report, warm nights are defined as nights where the overnight low temperature does not drop below 15°C. Figure 3 highlights the dramatic increase in warm nights over the past 20 years.

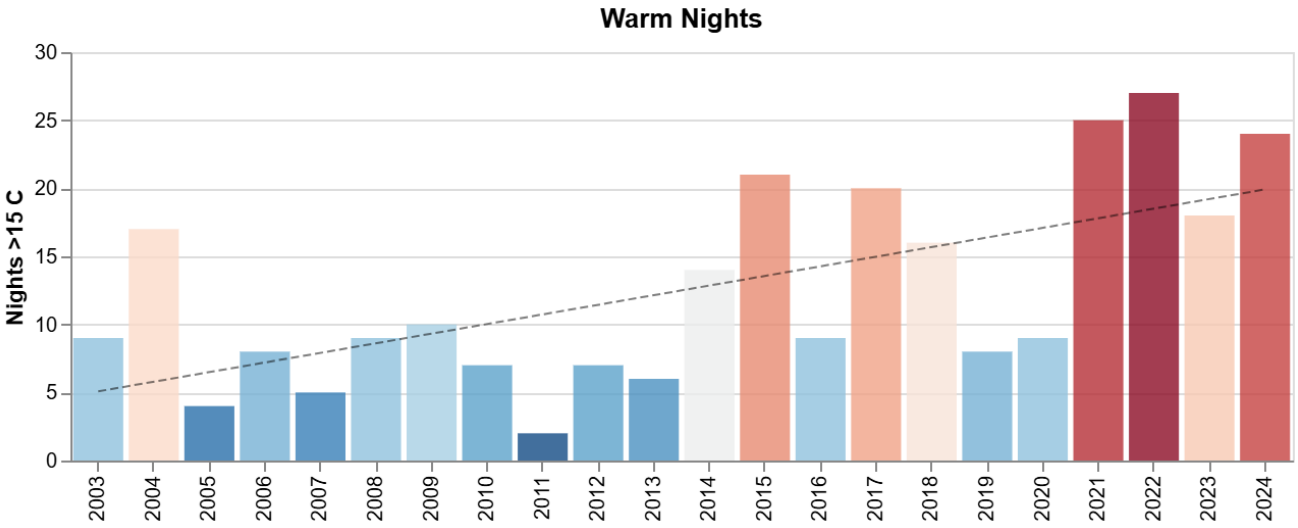

Figure 3: Number of days with low temperatures exceeding 15 degrees (Lower Capilano WSA)

All-time cold temperatures were set throughout the Lower Mainland in January. This weather event will be discussed in more detail *Notable Events and Weather Stories* section. This extreme cold weather event took place in the middle of an otherwise mild El Niño winter. Weather whiplash was on display in January!

The hottest day this year was around 8 degrees cooler than the highest temperatures recorded during the 2021 heat dome event. It was also cooler than the hottest days of 2023 and 2022.

Precipitation

Climate Projections – Precipitation:

Climate change is increasing the frequency and intensity of extreme weather events. There will likely be an increase in rainfall in the fall and winter, and more rain will fall during the wettest days. We can also expect longer and drier summers, with an increased likelihood of extended drought periods.

This past year was wet. The primary reference station in the Lower Capilano WSA saw 110% of normal annual precipitation. At the Vancouver airport, where records are much longer, annual precipitation was 120% of normal. January and October were very wet months, both with impactful atmospheric river events. The spring months were also wetter than normal, which helped to keep reservoirs full for longer, despite having a very shallow snowpack.

It was dry for almost the entire month of July. Rain finally arrived on July 29, halting a 29-day dry spell. This was a substantial amount of rain. Enough to lower local fire danger and provide some drought relief. The remainder of the summer saw 2-week dry periods, broken up by moderate rainfall events. This kept fire danger and drought in-check for the latter half of the summer.

The fall was exceptionally wet and stormy. Rain fell on almost 80% of the days between October 14 and December 31. The most extreme rainfall event was the October 19-20 atmospheric river (AR). This was a strong AR with significant impacts to the region. This weather event will be discussed in more detail *Notable Events and Weather Stories* section.

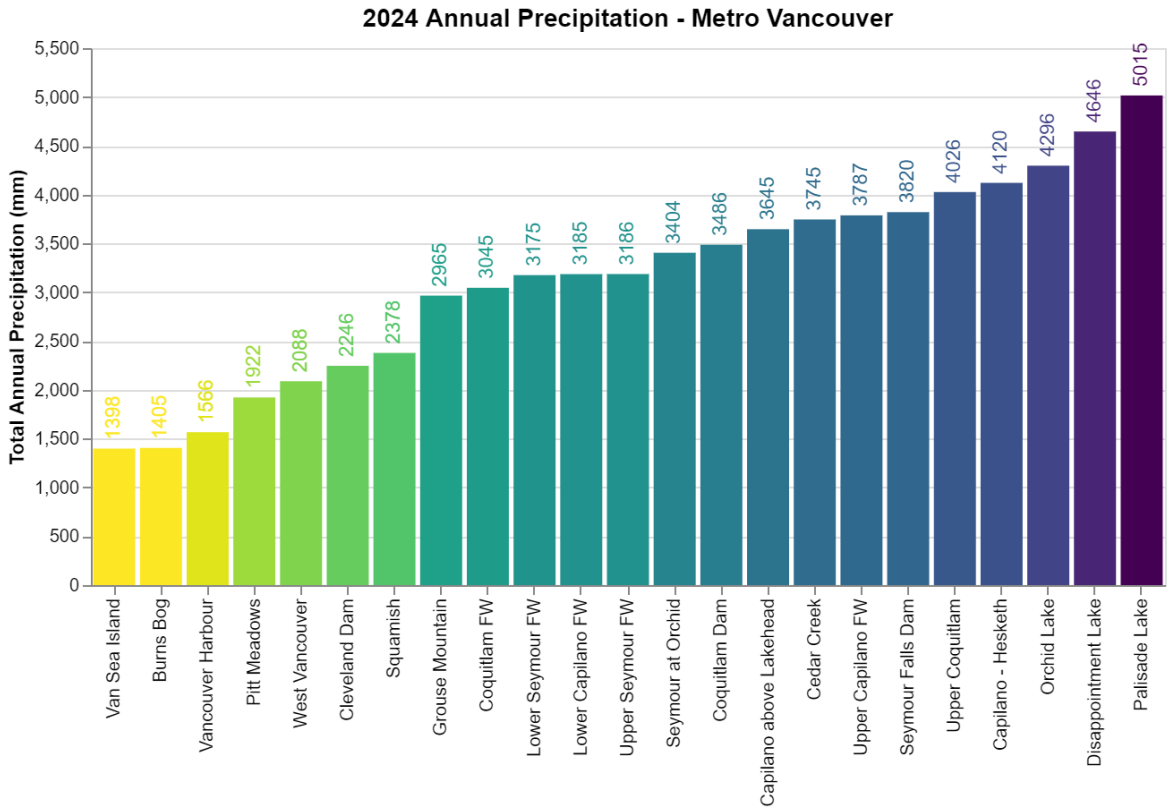

Figure 4: Annual total precipitation throughout Metro Vancouver and the water supply areas

Snowpack

Climate Projections – Snowpack:

Warmer winters will result in reduced snowpack in Metro Vancouver's water supply areas, which may affect water storage capabilities and potentially increase wildfire danger. Rapidly melting snowpack can also lead to springtime flooding and lower river and reservoir levels in the late summer.

It was not expected to be a good snow year this season, given the forecasted strong El Niño conditions for the winter. The snowpack started to build in early November, but only at higher elevations. Palisade Lake (900 m) had 75 cm of snow on the ground in early December, but by January 1, this had all melted. The snowpack rebounded to 100 cm by mid-January, but melted away again, and Palisade was essentially snow-free for most of February.

The season finally changed on February 25 with the arrival of a series of cool weather systems. Over 2 metres of snow fell over the next two weeks. Snow depth peaked in mid-March, but was slow to melt with cool and damp spring weather. Most weather stations in the WSAs were snow-free on almost the same day this year as in 2023, despite having significantly less snow at the start of the melt season. In 2023, it was a near-normal snowpack on May 1 with very warm and dry spring weather and rapid snow melt. This past year, the snowpack was 50% of normal on May 1, but the snowpack melted more gradually.

Figure 5: Looking south at Cathedral Mountain in the Seymour WSA

The plot below shows the combined average snow water equivalent for snow course sites in the WSAs (red dashes). The boxplots show the distribution of values for each snow survey period (quartiles). The percent of normal for each period is also shown on the right.

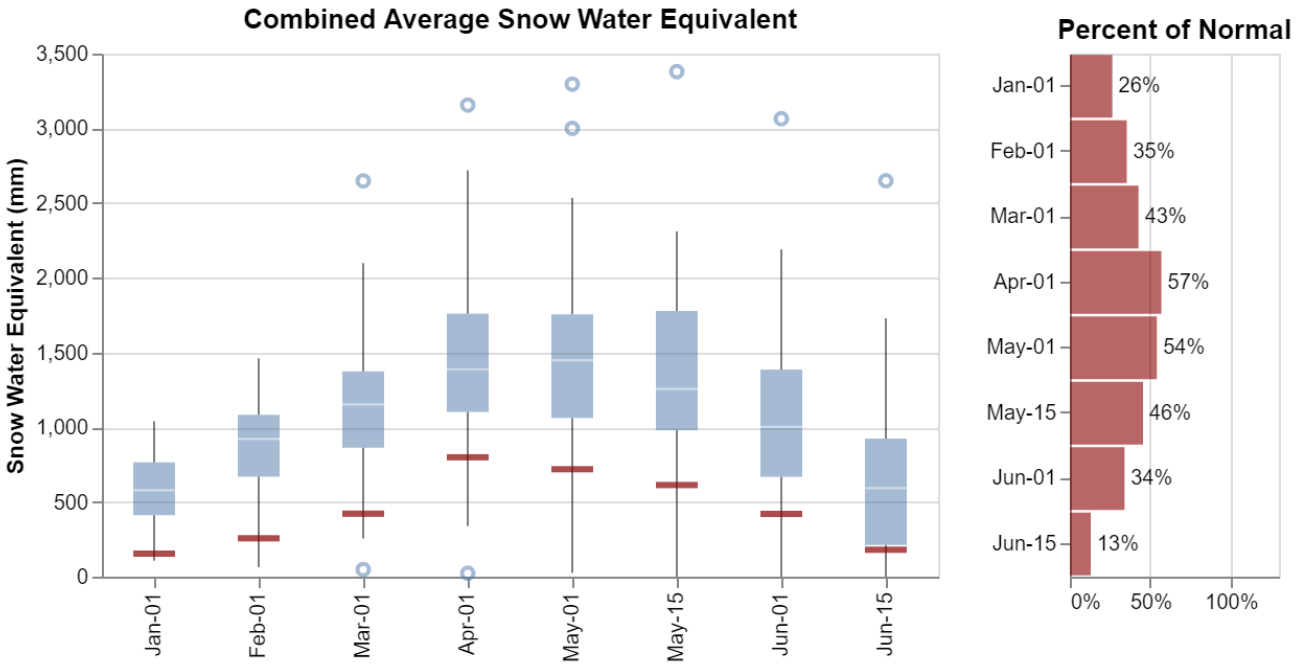

Figure 6: Combined average snow water equivalent for WSA snow course sites in 2024

Streamflow

Climate Projections – Streamflow:

More intense precipitation may lead to more frequent high streamflow events and flooding, increasing the possibility of landslides in the water supply areas. Longer and drier summers may result in lower river inflows in the late summer and early fall.

Cumulative annual river inflows at Capilano River above Lakehead gauge were approximately 97% of the historical average during the 2024 water year (Oct. 1 – Sep. 30).

Inflows were lower than normal to start the calendar year, but a series of warm storms at the end of January resulted in record-breaking 7-day average inflows. This shot monthly cumulative river flows up to 156% of historical average for the month. River flows were near normal in February and March, but below normal for most of the spring due to low snowpack levels. Summer inflows were also well below normal. Rainfall events during the summer helped to relieve wildfire danger, but they had little impact on river flows. River inflows stayed low until the middle of October.

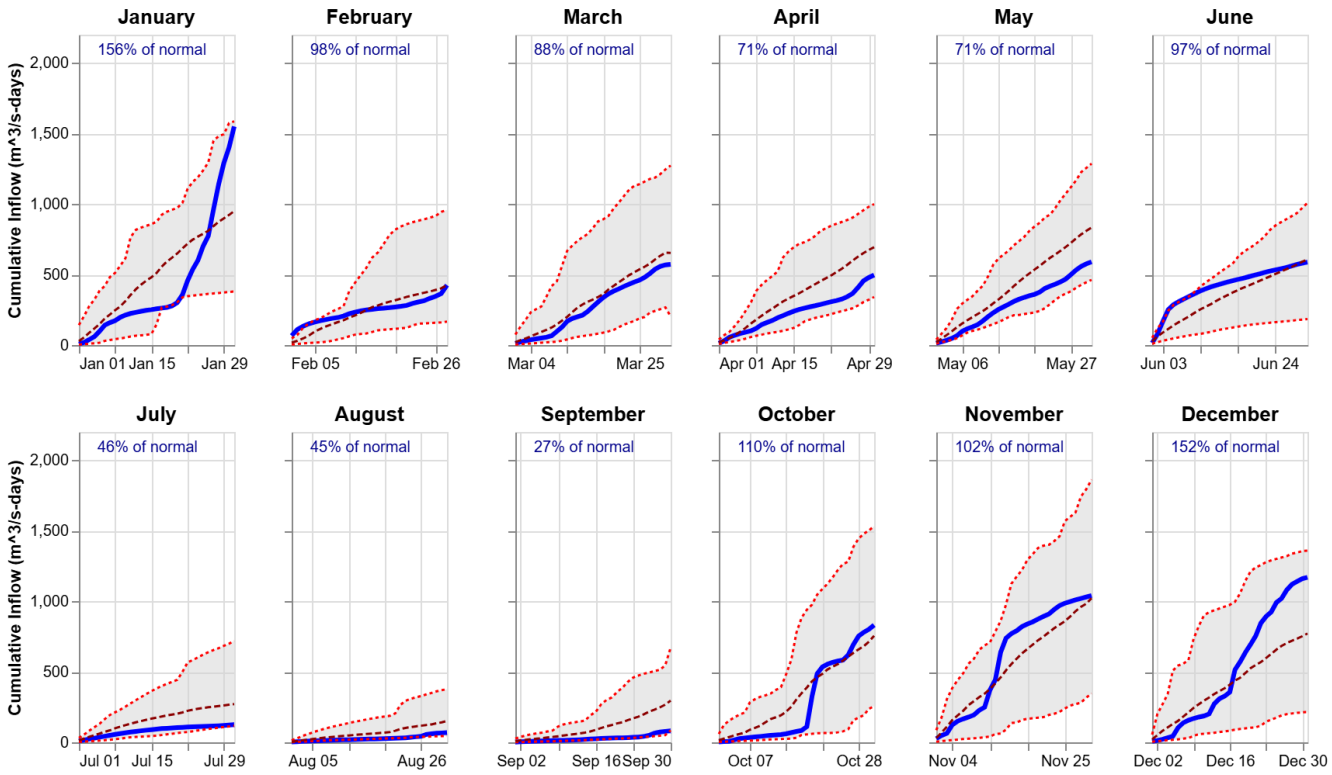

Figure 7: Monthly cumulative river inflows for Capilano River above Lakehead for the 2024 water year (blue line). Dark red dashed line is the mean, and lighter red dashed lines are the 5th and 95th percentiles. (Data: 2000-2024)

The Cleveland Dam (CLD) stopped spilling on July 2, which was two weeks later than the stop-spill date in 2023. It started spilling again on October 8. The duration of the reservoir drawdown was around 98 days this year, which is similar to last year (102 days) and well above historical average of 70 days.

Wildfire Season Summary

Provincially, 2024 was the fourth largest wildfire season in B.C.'s history having burned just over 1.08 million hectares. The vast majority of the area burned occurred in the northeastern parts of the province, in the Prince George Fire Center. During the past two years, wildfires in the northeast have burned 10 per cent of the land base in the region, which is more than the previous 60 years combined.

It was a quieter season in the Coastal Fire Center and within Metro Vancouver. A total of 158 wildfires were reported in the Coastal Fire Center, accounting for just under 2,800 hectares burned. By comparison, there were 365 wildfires reported and a total of 90,000 hectares burned in the Coastal Fire Center in 2023. The fire danger in the WSAs was rated moderate or higher for 63 days this year (109 days in 2023).

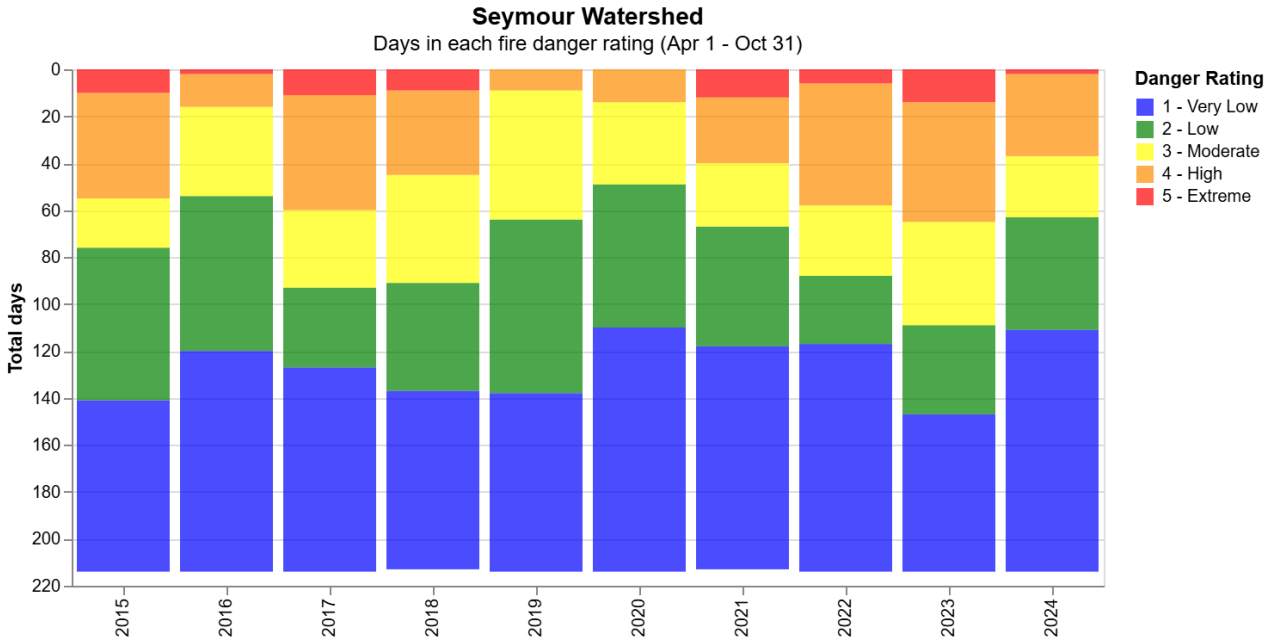

Figure 8: Number of days in each fire danger level per season

Two fires were reported within Metro Vancouver's response area. On July 23, a small fire was reported in the Kanaka Creek Regional Park in Maple Ridge. Watershed Protection crews responded early in the morning and were able to contain the fire quickly. The second fire was a small abandoned campfire just above the parking lot in Grouse Mountain Regional Park. Again, Watershed Protection staff were able to quickly extinguish the fire.

While the 2024 wildfire season was slower in Metro Vancouver, Watershed Protection crews maintained a high level of preparedness and were on standby for 94 consecutive days from May 10 until September 16. Through a mutually beneficial resource sharing agreement, Watershed Protection crews were deployed to assist the BC Wildfire service, providing coverage for the Fraser Fire Zone. While on deployment, crews responded to seven incidents.

Notable Events and Weather Stories

This section highlights notable local or regional weather events in 2024. The three selected weather events this year include:

- January Weather Whiplash
- October Atmospheric River
- A Phenomenal Bomb Cyclone

All three of these events were record-breaking and very impactful. You can read more about some of these weather stories in Environment and Climate Change Canada's top 10 weather stories of 2024.

January Weather Whiplash

Weather whiplash is a term used to describe rapid shifts in weather conditions. In the winter, these shifts are usually temperature related. This past January we experienced such an event.

In the middle of January, frigid Arctic air surged south causing temperatures to plummet across much of North America. Bitterly cold air seeped through the mountain barriers, reaching the BC South Coast on January 11. Many weather stations in the Water Supply Areas recorded all-time cold temperatures. A low of -22.7°C was recorded at the Orchid Lake weather station in the Seymour WSA on January 12. This was three degrees colder than the previous low temperature observed at this site on December 26, 2021.

The impacts from this Arctic Outbreak were felt throughout western Canada. All-time provincial power demand records were set on January 11 and 12. British Columbia also attributed 36 deaths to this extreme cold weather event. This was a costly climate event. Burst pipes and broken heat systems resulted in significant personal property damage. Several other sectors, like agriculture and transportation were also impacted. The extreme cold temperatures were even enough for several BC ski areas to temporarily close.

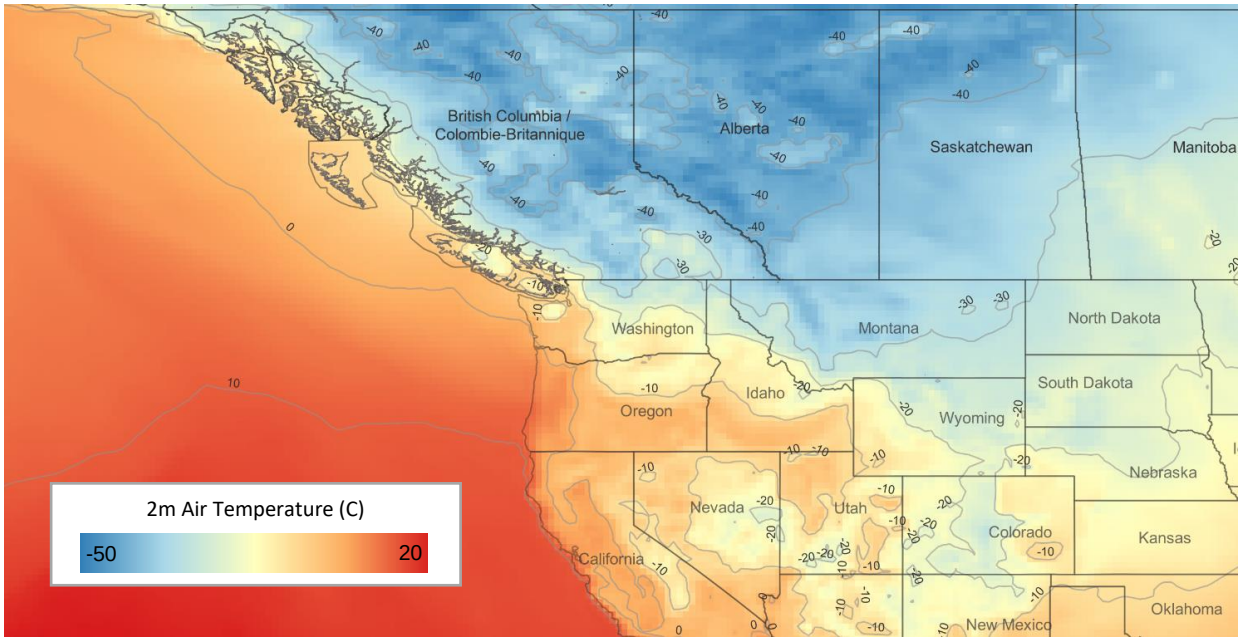

Figure 9: Surface air temperatures over western North America on January 12, 2024

The deep freeze ended with heavy snowfall on January 17. The Vancouver Airport recorded almost 30 cm of snow with this storm, while other parts of the region saw new all-time snowfall records. This heavy snowfall shut down schools and businesses, and wreaked havoc on the roads and the public transit system.

By January 19, the weather pattern shifted to moist and mild southwesterly upper level flow. This directed a series of relatively warm weather systems onto the BC Coast. This stormy period culminated with a prolonged atmospheric river event on the final few days of the month. Over 400 mm of rain was recorded at the Orchid Lake station in the Seymour WSA between January 19 and 31. New daily high temperature records were also set on the last few days of the month. Temperatures at 900 m reached a record high of 13°C on January 29. During this warm and wet period, the snowpack decreased by 70-100 cm. This heavy rainfall and snowmelt resulted in very high river levels for the final week of January.

October Atmospheric River

The fall rainy season was slow to materialize this year, but this changed dramatically with the arrival of a strong atmospheric river (AR) event on October 18. For some parts of the Lower Mainland, this was likely a 1 in 50-year, or even 1 in 100-year event in terms of total precipitation and river flows. Parts of the water supply areas did see record-breaking rainfall, but river flows and overall impacts were somewhat muted compared to neighbouring communities.

The storm arrived with relatively cool initial conditions, and a northwesterly upper level flow. Light precipitation fell until the afternoon of October 18. This resulted in 10-15 cm of new snow at upper elevations. Rain intensified in the afternoon on the 18th as the AR took full aim on the BC South Coast. This AR came onshore under a west-southwesterly upper level flow and did not originate super far south. This slightly westerly steering flow resulted in heavier rainfall on the south side of the North Shore Mountains, and the front-side of the WSAs.

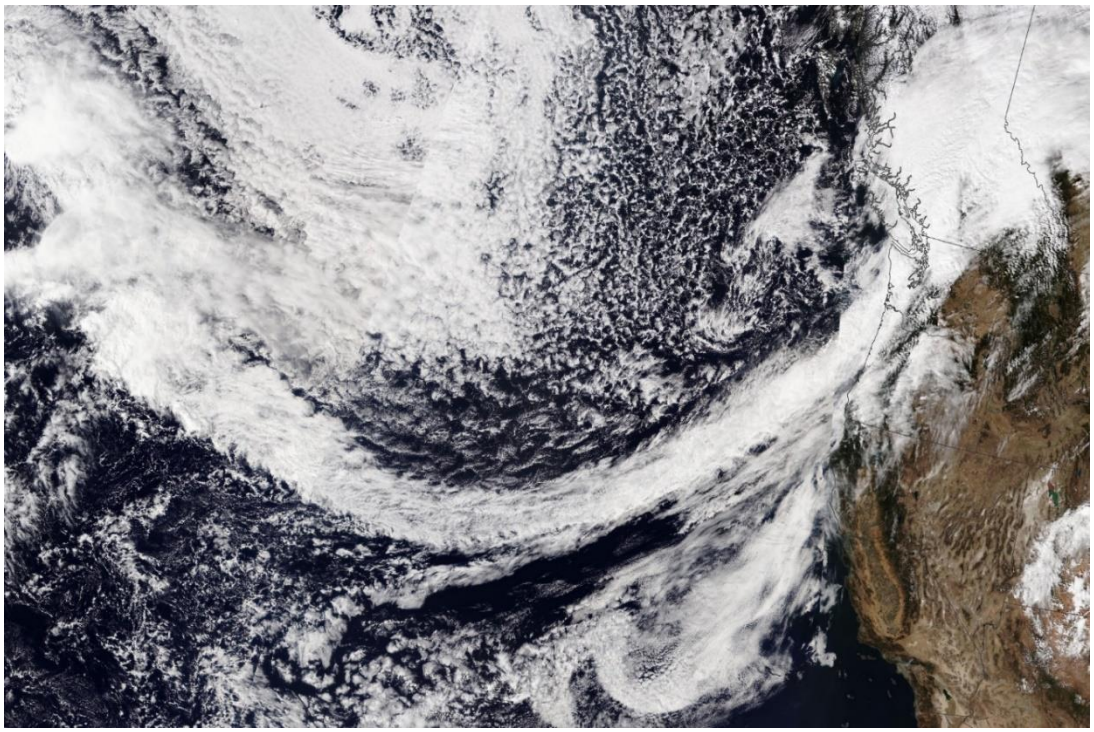

Figure 10: Satellite image of the October 19-20 atmospheric river (ESA Copernicus)

Weather stations near the Capilano Reservoir and Coquitlam Lake recorded the heaviest precipitation amounts during this event. The Capilano River at Lakehead station recorded 355 mm and the Coquitlam Dam station received 353 mm of rain. This all came in just over two days. Both of these stations saw new record 24-hour and 48-hour rainfall totals.

Four lives were lost during this storm event, two in Coquitlam, and two on Vancouver Island. Many creeks and streams overfilled, flooding streets, homes, and businesses. Both storm and sanitary sewer systems overflowed. A ‘Flood Warning’ was issued in Coquitlam when the downstream flows exceeded 140 m^3/s. Heavy rains also resulted in a washout on Pipeline Road, just south of the Coquitlam WSA.

Turbidity increased significantly in both the Capilano Reservoir and Coquitlam Lake. Capilano was at a very low level when this storm arrived. Shoreline erosion was part of the reason for high turbidity, but there was also a landslide in Cameron Creek on the northwest end of the lake. In Coquitlam, a landslide occurred in Beaver Creek, right on the shore of Coquitlam Lake. Turbidity levels in the lake rose to 20-40 NTU on Oct 19.

Phenomenal Bomb Cyclone

An extraordinary cyclone developed in the northeastern Pacific on November 18, 2024. A 'Weather Bomb', or bomb cyclone, is defined as a mid-latitude storm that intensifies rapidly, with surface pressure dropping more than 24 millibars in 24 hours or less. This storm dropped more than 50 millibars in less than 24 hours. It bottomed out at 943 millibars, which tied for the lowest surface pressure recorded in the northeast Pacific (tied with Oct. 21, 2021). This surface pressure is similar to what might be seen with a category 4 hurricane. It was truly phenomenal explosive cyclogenesis!

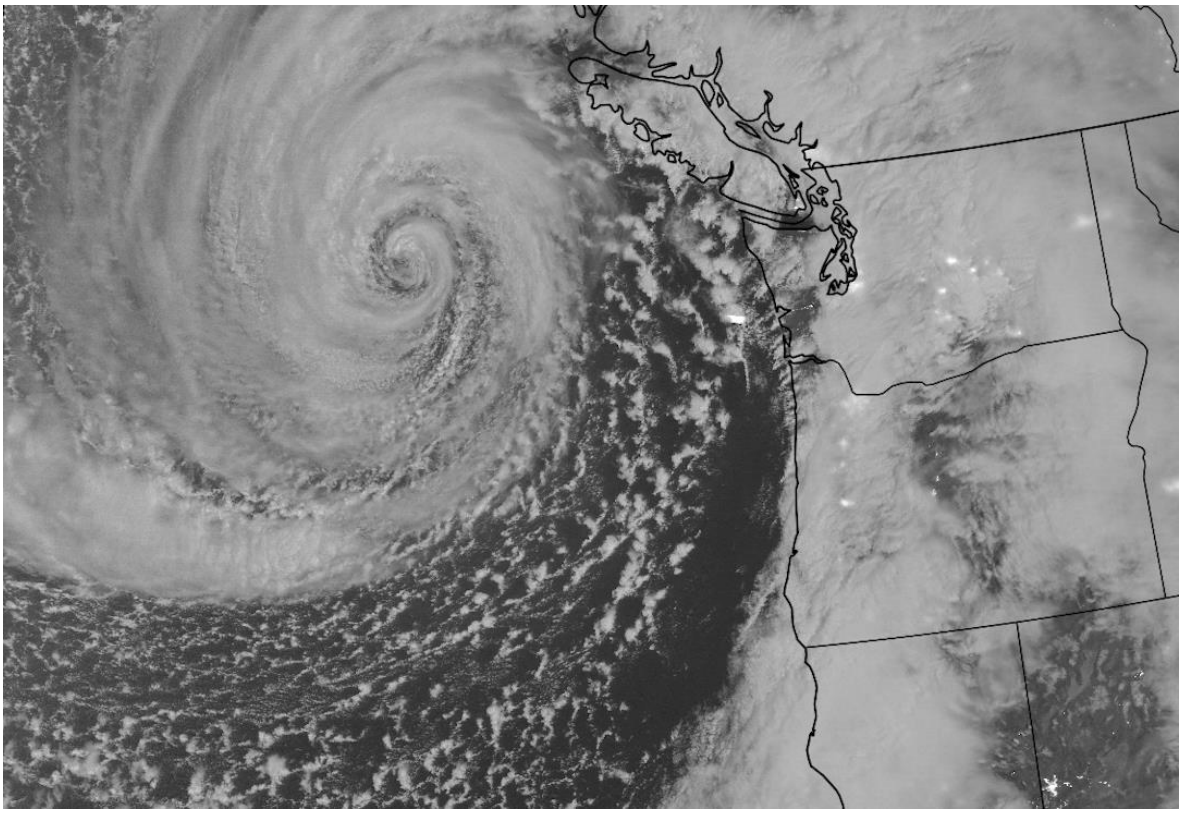

Figure 11: Satellite image of the November bomb cyclone offshore from Vancouver Island (ESA Copernicus)

Sartine Island, off the tip of Vancouver Island, recorded wind gusts of up to 170 km/h. In the WSAs, the Loch Lomond weather station recorded peak a wind speed of 75 km/h on November 19.

The impacts from this storm were felt all along the BC South Coast, and much of the Pacific Northwest. Locally, Vancouver Island was certainly the hardest hit. Several highways were closed due to downed trees and debris. Up to 300,000 people lost power during this storm, some for several days. BC Ferries also had to cancel sailings on many routes.

The Lower Mainland was hit by another significant wind storm on December 14. This storm was not as spectacular as the November weather bomb, but it caused more damage to areas in Metro Vancouver. It also resulted in up to 300,000 power outages. At least one person was killed by a falling tree during this event. The strong winds and heavy rain during this event also triggered a deadly landslide in Lions Bay that killed two residents when their home was destroyed.

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Capilano Lakehead, September 2024

Climate Impacts on the Water Supply Areas

2024 ANNUAL WEATHER AND CLIMATE SUMMARY

Peter Marshall
Field Hydrologist, Watersheds and Environment, Water Services

Water Committee - March 12, 2025
74174605

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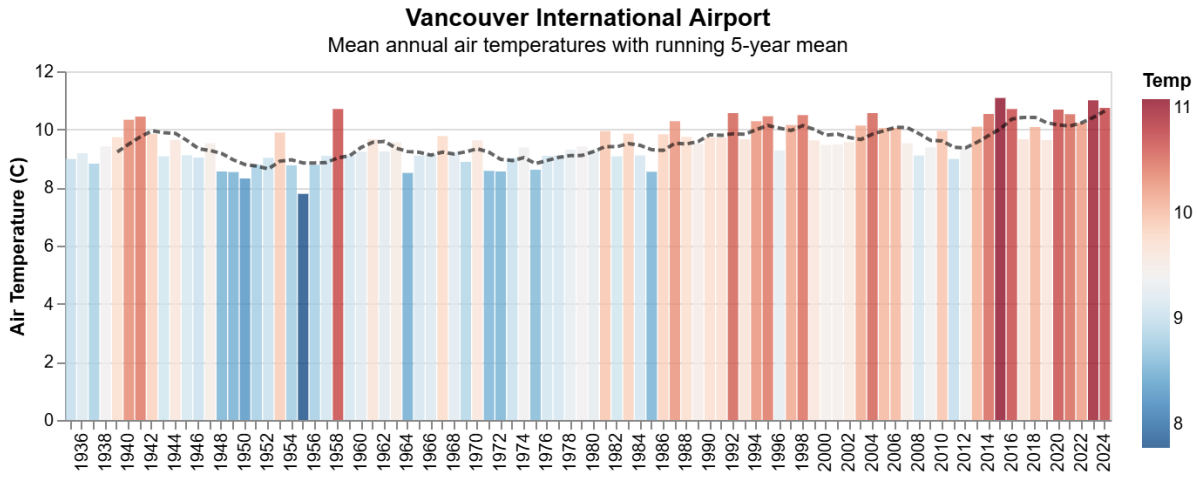
CLIMATE CHANGE PROJECTIONS

Key projections for the 2050's:

- An average rise of approximately 3°C
- Doubling the number of summer days >25°C
- Drier summers and longer dry spells
- Warmer winters, meaning fewer frost days and a decrease in the mountain snowpack
- More extreme rainfall events – 30% increase in rainfall on the wettest days

2024 WEATHER CONDITIONS

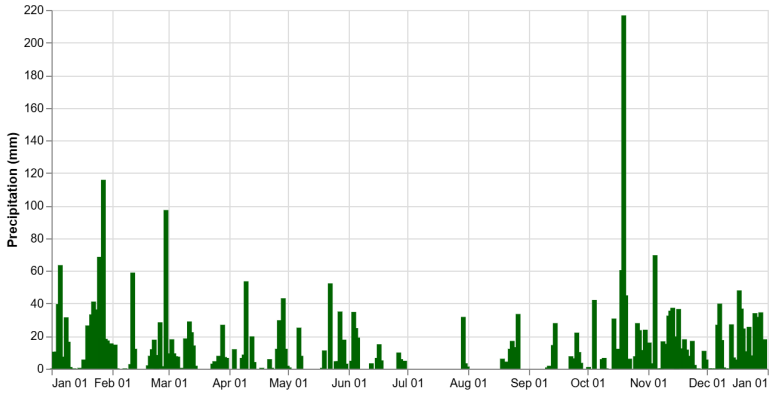
Air Temperatures



2024 WEATHER CONDITIONS

Precipitation

- Water supply areas received 110% of normal precipitation
- 29 dry days in July
- Summer rainfall helped minimize drought and wildfire danger
- October atmospheric river resulted in record rainfall



2024 Daily Precipitation Capilano Water Supply Area

2024 WEATHER CONDITIONS

Snowpack

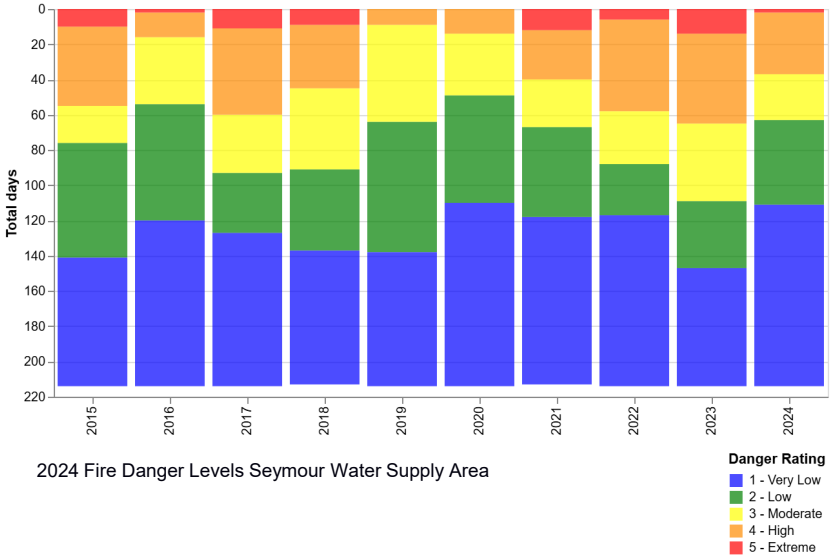
- Snowpack was well below average for the entire snow season
- Cool and damp spring resulted in slower snow melt

Manual snow surveys, Seymour WSA

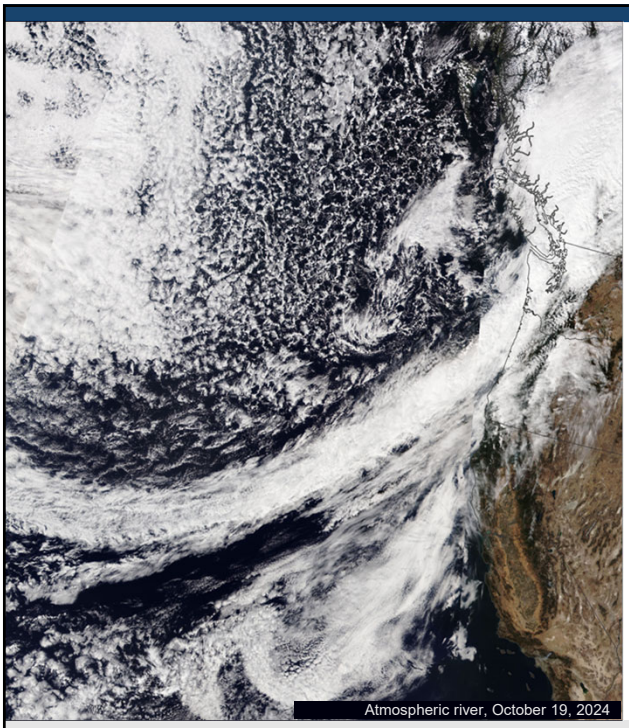
2024 WEATHER CONDITIONS

Wildfire

- Challenging forest fire season in the province
- Local areas less affected
- Fewer days in high or extreme than in previous seasons
- Fire crews on standby for 94 consecutive days



2024 Fire Danger Levels Seymour Water Supply Area



STORMY FALL

- Cat 4 atmospheric river, Oct. 18–20
- Rare ‘bomb cyclone’, Nov. 18
- Major wind event, Dec. 14

Impacts:

- significant damage to property and infrastructure
- extensive power outages
- several deaths
- turbidity concerns in both Coquitlam and Capilano

CLIMATE CHANGE ACTIONS - WATER SERVICES

Preparing for impacts from climate change

- Adjust annual supply operations based on weather conditions
- Continue to promote water conservation initiatives
- Continue system expansion and upgrades
- Continue to enhance monitoring programs for Water Supply Areas
- Continue to reduce wildfire risk through interface fuel reduction
- Progress the Coquitlam Water Supply project

Coquitlam Glacier, Coquitlam Water Supply Area

Questions?

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SERVICES AND SOLUTIONS FOR A LIVABLE REGION

To: Water Committee

From: Joel Melanson, Division Manager, Engineering & Construction, Water Services
George Kavouras, Director, Procurement, Procurement & Real Estate Services

Date: February 18, 2025 Meeting Date: March 12, 2025

Subject: **Award of RFP No. 23-155 for Construction Services for Newton Pump Station No. 2**

RECOMMENDATION

That the GVWD Board:

a) approve the award of RFP No. 23-155 for Construction Services for Newton Pump Station No. 2 in the amount of up to $49,810,018.94 (exclusive of taxes) to Pomerleau, Inc., subject to final review by the Commissioner; and
b) authorize the General Manager, Procurement and Real Estate to execute the required documentation once the General Manager, Procurement and Real Estate is satisfied that the award should proceed.

EXECUTIVE SUMMARY

Pomerleau, Inc.'s proposal ranked highest overall, had the highest technical score and demonstrated best value overall for Metro Vancouver.

Metro Vancouver requires Construction Services to construct and commission the Newton Pump Station No. 2 which is required to both replace the existing Newton Pump Station and to increase water supply to south Surrey. Work has already started on the construction of Newton Pump Station No. 2 with the successful trenchless installation of new outlets on the existing Newton Reservoir in 2024.

RFP No. 23-155 was issued on July 18, 2024 to the prequalified respondents of RFQ No. 22-483 and the procurement was executed in accordance with the terms and conditions of Metro Vancouver's Procurement Policy. RFP No. 23-155 evaluation team have considered the proposals received, and on that basis recommend that the GVWD Board award RFP No. 23-155 to Pomerleau, Inc.

PURPOSE

Pursuant to the *GVWD Officers and Delegation Bylaw No. 247, 2014* (Bylaw) and *Board Policy No. FN-031*, procurement contracts which exceed a value of $10 million require the approval of the GVWD Board.

BACKGROUND

To help ensure the continued delivery of high-quality drinking water to a growing population in the City of Surrey, Water Services is replacing the existing Newton Pump Station with the proposed Newton Pump Station No. 2. The new pump station is to be located northeast of Newton Reservoir Park near the intersection of 128 Street and 63 Avenue in the City of Surrey, adjacent to the existing

Newton Reservoir, Newton Rechlorination Station, and South Surrey Main No. 1, as shown in Attachment 1.

Work has already started on the construction of Newton Pump Station No. 2 with the successful micro-tunneling installation of new outlets on the existing Newton Reservoir in 2024. The Newton Pump Station No. 2 will connect to these new outlets to supply water through the existing South Surrey Main No. 1. The Newton Pump Station No. 2 was also thoughtfully designed to allow for future integration with the proposed future South Surrey Main No. 2, Newton Rechlorination Station No. 2, and Newton Reservoir Unit No. 3.

PROCUREMENT SUMMARY

RFQ No. 22-483 was issued on November 8, 2022 to prequalify proponents to participate in RFP No. 23-155. Ten proponents responded to RFQ No. 22-483, of those five were shortlisted and invited to respond to RFP No. 23-155.

RFP No. 23-155 Submissions

Proponents	Pricing (excluding taxes)
Maple Reinders Constructors Ltd.	$49,283,000.00
Pomerleau, Inc.	$49,810,018.94
Graham Infrastructure LP	$49,999,500.00
Kenaidan Contracting Ltd.	$50,792,500.00
North America Construction (1993) Ltd.	$51,636,030.00

Metro Vancouver received five proposals. All proposals submitted by the Proponents were in compliance with the submission requirements. The compliant proposals were evaluated against Technical requirements 35 per cent and Commercial requirements 65 per cent. Technical requirements were evaluated by Water Services EC Civil Mechanical Division and Commercial requirements were evaluated by PRS, Procurement Division.

After a comprehensive and detailed evaluation of the compliant proposals the evaluation team concluded that the proposal submitted by Pomerleau, Inc. ranked highest overall, had the highest technical score, and demonstrated best value overall for Metro Vancouver.

Pomerleau, Inc.'s proposal demonstrated a thorough understanding of the scope of work and included innovative solutions for site access and traffic management that will limit impacts on the community. The proposal also included thoughtful consideration of the environment and included a settlement, vibration and noise monitoring program that will help ensure protection of existing infrastructure and minimize disturbance of the surrounding area. Their tie-in, testing, and commissioning methodology demonstrated a comprehensive understanding of the intricacies of this phase of work and the challenges associated with working around Metro Vancouver's existing water infrastructure. Pomerleau, Inc. also demonstrated that they are capable of managing equipment procurement, sub-contractors and suppliers, and employing strategies to ensure the completion dates are met.

Negotiations with Pomerleau, Inc. were completed on January 17, 2025 and the terms of the contract were agreed to and finalized. The contract value agreed to is $49,810,018.94.

ALTERNATIVES

1. That the GVWD Board:
   a) approve the award of RFP No. 23-155 for Construction Services for Newton Pump Station No. 2 in the amount of up to $49,810,018.94 (exclusive of taxes) to Pomerleau, Inc., subject to final review by the Commissioner; and
   b) authorize the General Manager, Procurement and Real Estate to execute the required documentation once the General Manager, Procurement and Real Estate is satisfied that the award should proceed.

2. That the GVWD Board receive the report dated February 18, 2025, titled, "Award of RFP No. 23 - 155 for Construction Services for Newton Pump Station No. 2" for information.

FINANCIAL IMPLICATIONS

The 2025 approved capital budget for the Newton Pump Station No. 2 project is $82,550,000 which includes the design and construction to complete the project and has $20,894,527 spent to date. The award of RFP No. 23-155 for Construction Services for Newton Pump Station No. 2, in the amount of up to $49,810,018.94 (exclusive of taxes) is within the approved capital budget.

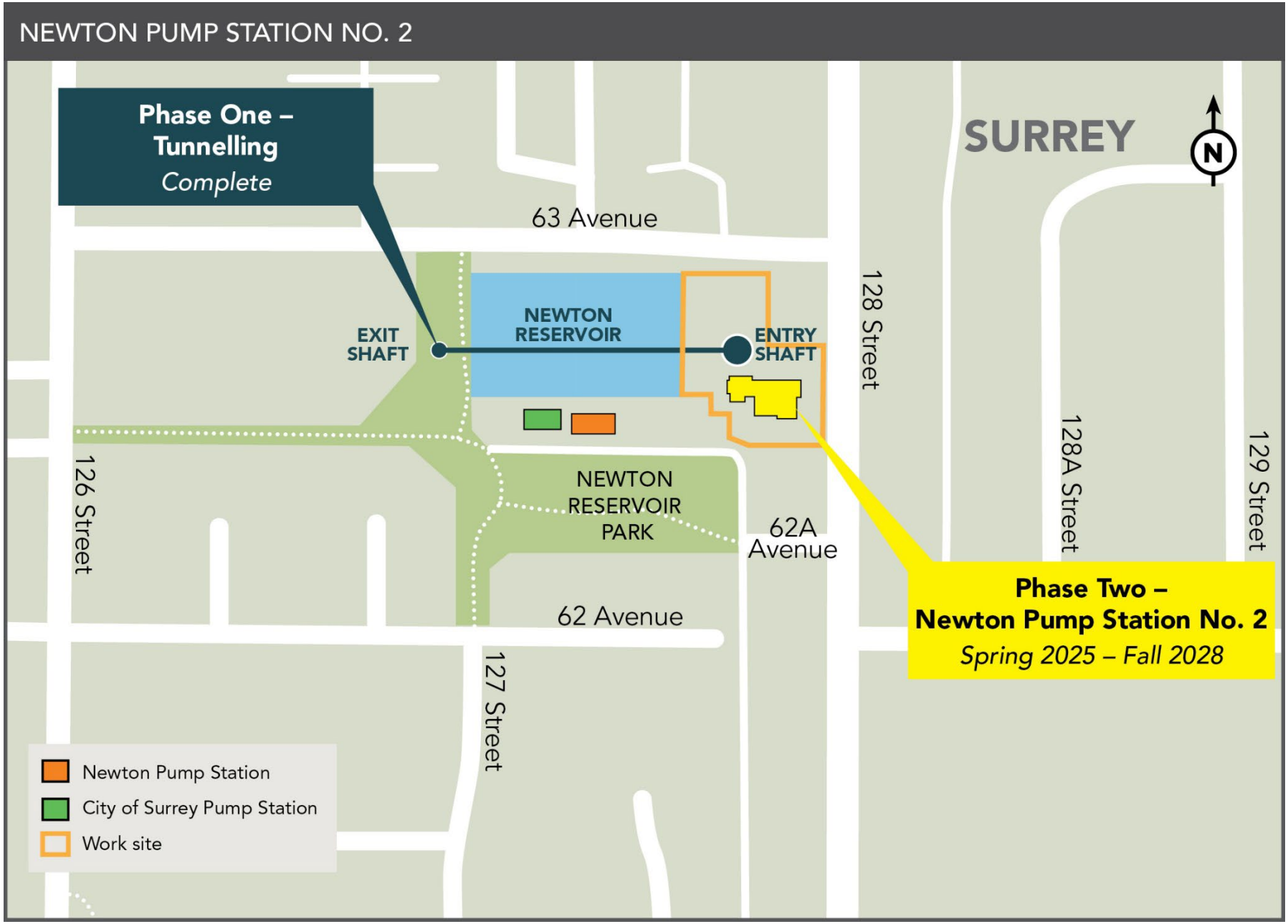
CONCLUSION

It is recommended that the GVWD Board approve the award of RFP No. 23-155 for Construction Services for Newton Pump Station No. 2, in the amount of up to $49,810,018.94 (exclusive of taxes) to Pomerleau, Inc. and authorize the General Manager, Procurement and Real Estate to execute the required documentation once the General Manager, Procurement and Real Estate is satisfied that the award should proceed.

ATTACHMENT

1. Newton Pump Station No. 2 – Map

73690444


NEWTON PUMP STATION NO. 2
Phase One – Tunnelling
Complete
SURREY
N
63 Avenue
EXIT SHAFT
NEWTON RESERVOIR
ENTRY SHAFT
128 Street
128A Street
129 Street
126 Street
NEWTON RESERVOIR PARK
62A Avenue
62 Avenue
127 Street
Phase Two – Newton Pump Station No. 2
Spring 2025 – Fall 2028
Newton Pump Station
City of Surrey Pump Station
Work site

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SERVICES AND SOLUTIONS FOR A LIVABLE REGION

To: Water Committee

From: Marilyn Towill, General Manager, Water Services

Date: March 4, 2025 Meeting Date: March 12, 2025

Subject: **Manager's Report**

RECOMMENDATION
That the Water Committee receive for information the report dated March 4, 2025, titled "Manager's Report".

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1. 2025 Snowpack Considerations for Water Supply Planning
A series of strong storms through the fall and early winter delivered above-average precipitation amounts to the region and helped with the seasonal refill of the source reservoirs. Despite a significant improvement in early season conditions compared to 2024, the warmer-than-normal early January temperatures and dry conditions in February resulted in below-average snowpack accumulation in the local mountains. See Table 1 on next page.

By March 1, 2025, water supply area snow course sites recovered slightly following a series of snowfall events and sat at a combined average of 63 per cent of the historical average snow water equivalent (SWE). By comparison, data from March 1, 2024, showed a SWE of only 39 per cent of the historical average. See Table 2 on next page.

Although early snowpack measurements are an important indicator of the water supply year to come, significant snowpack accumulation often occurs through March and early April. Despite the currently below-average snowpack, the conditions are a good start to the 2025 water supply season. Optimistically, the presently weak La Niña climate signal holds as it typically indicates cooler weather favourable for additional snow accumulation. However, long-range forecast models predict a chance of change to slightly warmer-than-normal temperatures on the BC South Coast for the remainder of the winter. These mixed indicators lead to uncertainty in climate models and the resultant weather for the remainder of the winter and early spring.

Snowpack conditions will be closely monitored through June 15, 2025, with data collected during this period informing critical operational decisions, such as reservoir refill timing and the activation of *Drinking Water Conservation Plan* stages.

Table 1

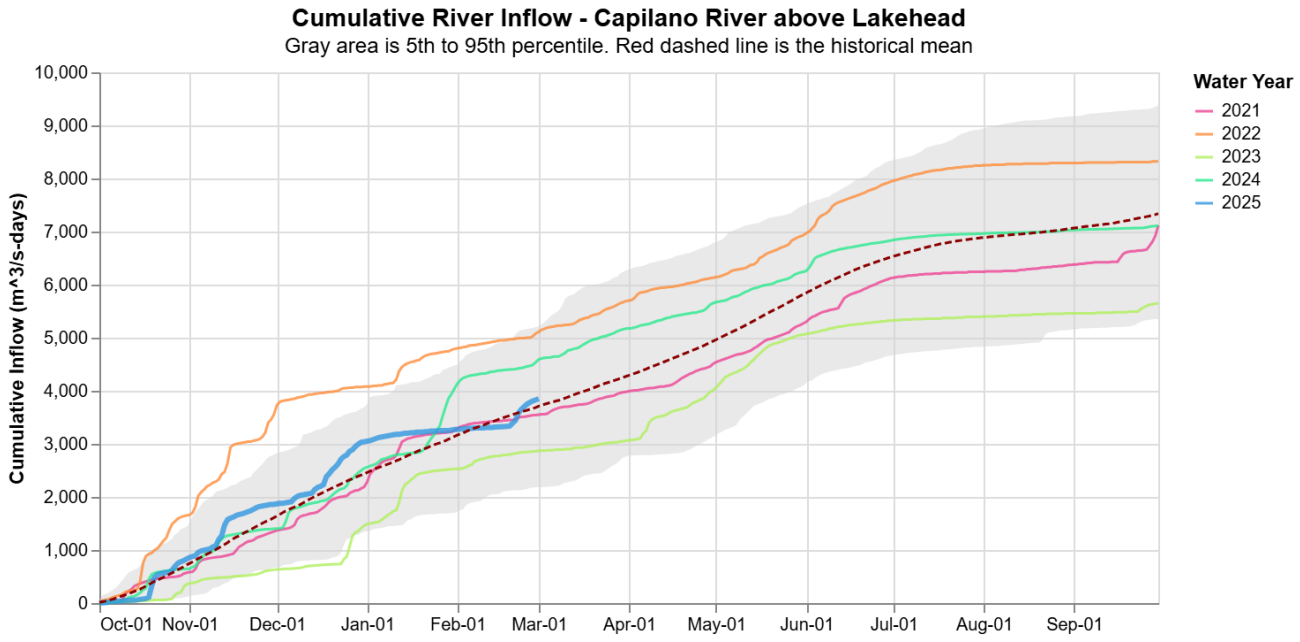
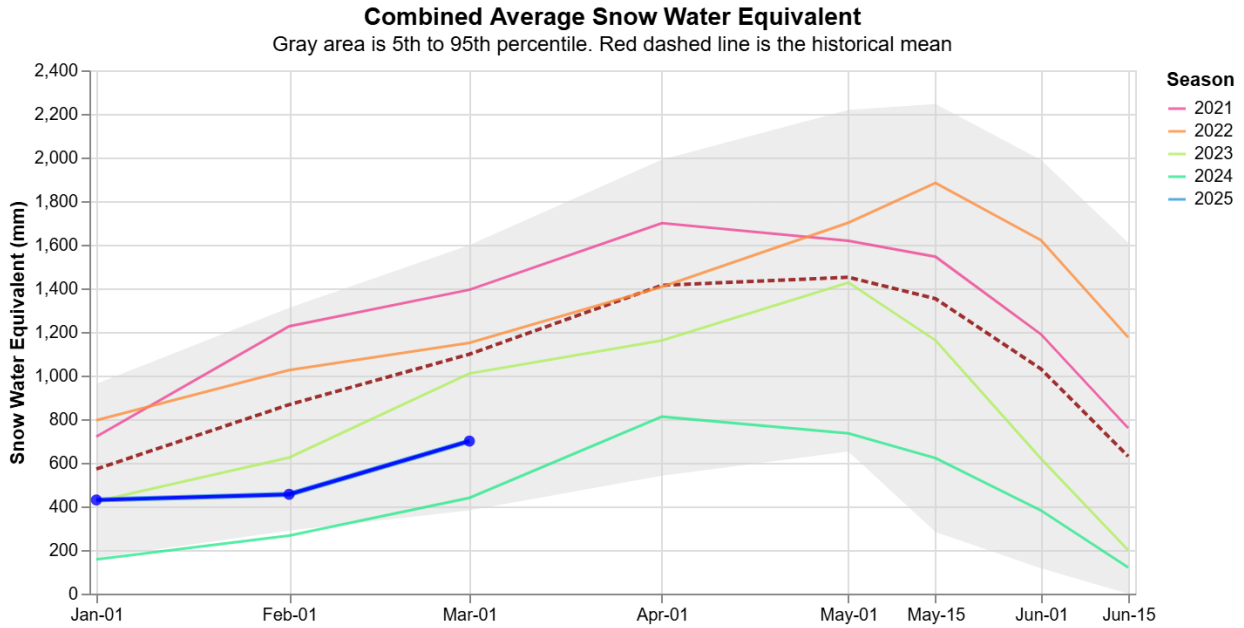


Table 2 (March 1, 2025 - 63 per cent of historical average SWE)



2. Metro Vancouver Watershed Wildfire Readiness – from a Los Angeles Wildfires Perspective

In January 2025, California experienced devastating mega-wildfires across the entire Los Angeles County. The reasons for the devastation are still under investigation and are undoubtedly complex, however, from the lens of the Metro Vancouver water supply areas, the conditions for extreme fire weather and ignitions are quite different than what was recently seen in California.

Contrasting Conditions Between Los Angeles and Metro Vancouver:

- **Vegetation:** Metro Vancouver's coastal coniferous forests are less prone to ignition and fire spread than the chaparral, coastal sage scrub, and pine forests surrounding Los Angeles. Early analysis indicates that vegetation type was the primary driver of fire spread in California, accounting for 57–75% of burned areas due to fuel characteristics and drought susceptibility.
- **Weather:** The extreme conditions during California's wildfires (160+ km/h winds and <10% relative humidity) are not typical in Metro Vancouver.
- **Urbanization:** Heavy urbanization in Los Angeles' interface areas significantly contributed to fire destruction. In contrast, Metro Vancouver's water supply areas are largely undeveloped, with only limited urban interface near protected lands.
- **Fire Origins & Prevention:** Most California wildfires were human-caused. Metro Vancouver mitigates this risk through a strict Watershed Access Policy and Wildfire Guidelines, ensuring controlled access, reduced ignition potential, and rapid response readiness.

The unprecedented Los Angeles event resulted in thousands of homes and structures being destroyed, dozens of fatalities, over 100,000 displaced residents, and a lengthy expected recovery. There is broad consensus amongst experts that the underlying causes include fuel build-up resulting from two wet growing seasons, followed by prolonged drought, and extreme fire weather conditions fueled by the intense annual Santa Ana winds. Researchers also agree the factors which precipitate this increased fire danger were amplified against the backdrop of climate change.

Metro Vancouver Watershed Protection continues to protect the water supply areas through a program of wildfire prevention, planning, fire weather monitoring, interagency partnerships, and a coordinated, rapid response. Further, Metro Vancouver works to ensure the transmission system is fully operational during the drier summer months when water demands peak, planning instead to do any higher risk work in the fall and winter low demand months.

Strategic wildfire fuel treatment is planned for fall 2025 to reduce the risk of wildfires around critical Water Services infrastructure in the Capilano water supply area and the adjacent British Properties interface. A potential LiDAR mapping project is also being explored to enhance vegetation analysis and fire behavior modeling, guiding future fuel management and response strategies. Watersheds and Environment staff continue to monitor the health of the water supply area and the impacts of climate change on our forests. Further details on Watershed Protection's approach will be presented to the Water Committee in May as part of the 2025 Work Plan.

3. Overview of the Non-Potable Water Project

In Metro Vancouver, most of the water used by residents and businesses is high-quality drinking water, however the reality is that many activities do not require treated drinking water. Non-potable water is water that is not of drinking-water (potable) quality but can be used for other purposes, such as toilet flushing, irrigation, and laundry, if the quality is suited to the intended use. Non-potable water systems can help address climate and population growth-related challenges by saving the region's precious drinking water for potable water purposes, helping ensure the region will have enough drinking water today and for future generations.

Through the Non-Potable Water Use Project in 2022, Metro Vancouver collaborated with industry stakeholders to identify and investigate solutions to region-specific challenges associated with building-scale non-potable water systems. The project culminated in the following key findings document to support industry overcome barriers to non-potable water system adoption, and guidebook to support an increase in the installation and longevity of non-potable water systems in the region:

1. *Overcoming Barriers to Non-Potable Water Use in the Metro Vancouver Region*
2. *Non-Potable Water Systems: A Guidebook for the Metro Vancouver Region* and *Non-Potable Water Systems: Companion Document*

While significant adoption of non-potable water would help conserve drinking water throughout the year, rainwater harvesting, which is the most common form of non-potable water use, does have seasonal limitations in the region. Metro Vancouver's climate typically sees very little rainfall during the warm, dry summers when the demand for water is at its highest, making rainwater harvesting an unreliable source during the time of greatest need. To make a meaningful impact, widespread adoption of non-potable water use would be necessary, requiring significant public participation, improved regulations for implementation, and sometimes expensive infrastructure.

There are many effective and efficient water conservation strategies that the region can prioritize. However, their success relies on the presence of water meters, which are essential for accurately measuring usage and ensuring these strategies achieve their full potential. Additional information on the benefits of water metering and some of the new motivators that are driving member jurisdictions to adopt or advance water metering in their jurisdictions will be provided to the Water Committee in Q2 2025.

4. 2025 Water Committee Work Plan

ATTACHMENT

1. 2025 Water Committee Work Plan.

72898387

Water Committee 2025 Work Plan

Report Date: March 12, 2025

Priorities

1st Quarter	**Status**
Advancing Water Metering in the Region	Pending
Water Supply Area Fisheries Initiatives Annual Update	In Progress
Contract Approvals as per the *Procurement and Asset Disposal Authority* Policy	In Progress
Transaction Approvals as per the *Real Estate Authority* Policy	In Progress
Water Policies (as applicable)	In Progress
2nd Quarter	
2024 Year End Financial Performance Results Review	Pending
Coquitlam Water Main Project Update	Pending
GVWD 2024 Dam Safety Program Annual Update	Pending
GVWD 2024 Water Supply System Annual Update	Pending
GVWD 2024 Water Quality Annual Report	Pending
Implications of Increased Population on Water Utility Planning	Pending
Water Supply Update for Summer 2025	Pending
Wildfire Preparedness Update	Pending
Contract Approvals as per the *Procurement and Asset Disposal Authority* Policy	Pending
Transaction Approvals as per the *Real Estate Authority* Policy	Pending
Water Policies (as applicable)	Pending
3rd Quarter	
Drinking Water Customer Service Guide	Pending
GVWD Electrical Energy Use, Generation, and Management	Pending
Health Canada PFAS Guidelines	Pending
Palisade Lake: Outlet Works Rehabilitation	Pending
Water Supply Tunnels Projects Update	Pending
Contract Approvals as per the *Procurement and Asset Disposal Authority* Policy	Pending
Transaction Approvals as per the *Real Estate Authority* Policy	Pending
Water Policies (as applicable)	Pending
4th Quarter	
Coquitlam Lake Water Supply Project Update	Pending
Drinking Water Management Plan Update	Pending
GVWD Annual Budget and 5-Year Financial Plan	Pending
Water Communications and Public Outreach Results	Pending
Water Supply Performance for Summer 2025	Pending
Water Use by Sector Report	Pending
Contract Approvals as per the *Procurement and Asset Disposal Authority* Policy	Pending
Transaction Approvals as per the *Real Estate Authority* Policy	Pending
Water Policies (as applicable)	Pending