

SUSTAINABILITY AND ENVIRONMENTAL ADVISORY COMMITTEE

DATE: Tuesday, April 8, 2025

TIME: 7:00 p.m. to 9:00 p.m.

PLACE: Council Committee Room, Coquitlam City Hall

CALL TO ORDER AND TERRITORIAL ACKNOWLEDGEMENT

ADOPTION OF MINUTES

1. **Minutes of the Sustainability and Environmental Advisory Committee Meeting held on Tuesday, February 11, 2025**

Recommendation:

That the Minutes of the Sustainability and Environmental Advisory Committee Meeting held on Tuesday, February 11, 2025 be approved.

NEW BUSINESS

2. **Stormwater Treatment Facility Update (Presentation by the Director Utilities and Grayson Barke, Committee Member)**
7:05 – 7:35 p.m. (30 minutes)
3. **Inflow and Infiltration (I&I) Update (Presentation by the Utility Planning Engineer and Engineering Technologist 1)**
7:35 – 8:05 p.m. (30 minutes)
4. **Committee Members' Roundtable / Emerging Issues (Standing Agenda Item)**
8:05 – 8:45 p.m. (40 minutes)

OTHER BUSINESS

NEXT MEETING DATE – Tuesday, June 11, 2025

ADJOURNMENT



SUSTAINABILITY AND ENVIRONMENTAL ADVISORY COMMITTEE
Tuesday, February 11, 2025

A Regular Meeting of the Sustainability and Environmental Advisory Committee convened on Tuesday, February 11, 2025 at 7:01 p.m. in the Council Committee Room, City Hall, 3000 Guildford Way, Coquitlam, BC, with the following persons present:

**Indicated Virtual Attendance*

COMMITTEE MEMBERS: Councillor Brent Asmundson, Chair
Councillor Steve Kim, Vice Chair
Mark Ashton, Citizen Representative
Grayson Barke, Citizen Representative
Reza Berry, Citizen Representative*
Craig Busch, Citizen Representative*
Daryoush M. Hassani, Citizen Representative
Edward Lau, Citizen Representative
Hasina Razafimahefa, Citizen Representative
Nadia Springle, Citizen Representative

ABSENT: Linton Chokie, Citizen Representative (Regrets)
Sarah Ramji, Citizen Representative (Regrets)
Azar Varasteh, Citizen Representative (Regrets)

STAFF: Caresse Selk, Senior Manager Environment
Jenny Tough, Manager Environmental Education and Enforcement
Jennifer Mills, Manager Legislative Services
Thomas Thivener, Manager Transportation Planning
Natasha Lock, Planner 3
Kerry Thompson, Planner 2
Tara Slater, Planner 1
Madeleine Lemaire, Acting Solid Waste Programs Specialist
Meghan Malkowich, Committee Clerk

CALL TO ORDER

The Chair called the meeting to order at 7:01 p.m.

The Chair conducted roundtable introductions of Committee members and attending Staff.

ADOPTION OF MINUTES

1. Minutes of the Sustainability and Environmental Advisory Committee Meeting held on Tuesday, November 26, 2024

The Minutes of the Sustainability and Environmental Advisory Committee Meeting held on Tuesday, November 26, 2024 were approved.

NEW BUSINESS

2. Committee Welcome

The Committee Clerk gave a presentation entitled “2025 Advisory Committee Orientation Session” and referred to slides contained in the Agenda package.

3. Review and Adoption of the 2025 Sustainability and Environmental Advisory Committee Work Plan

The Senior Manager Environment provided introductory comments relative to the 2025 Draft Work Plan.

The Chair thanked the Staff Leads for their work on the 2025 Draft Work Plan and discussion ensued relative to the following:

- Including an Educational Awareness Presentation on Urban Wildlife Management in relation to animal migration through Coquitlam and Item 6 on the Work Plan.
- The possibility of a new hiking pathway to connect Lafarge Lake to the new North East Community Centre and Park.

COMMITTEE RECOMMENDATION

That Council approve the 2025 Sustainability and Environmental Advisory Committee Work Plan.

4. 2025 Environmental Volunteer Celebration – Establish Event Planning and Implementation Sub-committee

The Manager Environmental Education and Enforcement gave introductory comments and the Solid Waste Programs Specialist gave a presentation entitled “2025 Environmental Volunteer Celebration” and referred to slides contained in the Agenda package.

The following Sustainability and Environmental Advisory Committee members volunteered to for the 2025 Environmental Volunteer Celebration Sub-committee:

- Mark Ashton
- Grayson Barke
- Reza Berry
- Daryoush M. Hassani

Discussion ensued relative to the following:

- Entertainment and food options for the event.
- Inviting stewardship groups to the event and space restrictions at the venue that may impact the number of possible attendees.

The Solid Waste Programs Specialist advised that a Sub-committee meeting will be convened in late-April.

5. Active Transportation Project Engagement

The Manager Transportation Planning gave a presentation entitled “Transportation Updates” and referred to slides contained in the Agenda package.

Discussion ensued relative to the following:

- Guildford Way and Nelson Street active transportation and road safety improvements, including information about improved micromobility and cycling facilities that physically separates users from vehicles and pedestrians.
- Opportunities for connectivity of Coquitlam’s existing and planned trails with neighbouring municipalities trail systems.
- Incorporating pollinator gardens along construction roads and corridors and creating a program for residents to care for the gardens and potentially reduce maintenance costs.
- Integrating stormwater management projects in road construction and upgrades to provide opportunities for research and experiments.
- The existing infrastructure and pathways that can be accessed by users to get over Highway 1 when traversing Nelson Street.
- Different methods of communication that are available for the City to update

citizens on new bicycle paths and infrastructure throughout Coquitlam and encourage the use of cycling as a transportation method.

- The need for signage and other information systems to assist cyclists in wayfinding and route planning.
- The availability of data related to an increase in use due to construction and upgrades of streets and multi-use pathways.
- The feasibility of the use of permeable pavement for planned new construction and upgrades to streets and corridors.

The Manager Transportation left the meeting at this point and did not return – 7:57 p.m.

6. Small-Scale Multi-Unit Housing Implementation and Transit-Oriented Areas Update

Planner 1, Planner 2 and Planner 3, Community Planning gave a presentation entitled “Small-Scale Multi-Unit Housing Implementation and Transit-Oriented Areas Update” and referred to slides contained in the Agenda package.

Discussion ensued relative to the following:

- The impact of Provincial housing legislation on urban forests, resulting in increasing urban heat effects and flooding and the role of an adequate urban tree canopy in climate change mitigation.
- Potential creative solutions that adhere to the Provincial housing legislation, such as the reduction of small-scale multi-unit housing sizes in the City to increase green spaces.
- Incorporating green and blue roofs in new construction and ensuring new building plans have considered the necessary infrastructure to support roof gardens.
- Utilizing existing infrastructure, such as high-rise apartment buildings, to provide shade to shorter buildings and public spaces.
- Adding trees and other vegetation to bare parking lots to increase the tree canopy and assist with heat reflection.
- Exploring financial incentives for green infrastructure and environmentally friendly practices, like tree planting.
- The potential population increase from small-scale multi-unit housing and its impact on municipal infrastructure and planning.
- Possible ways to demonstrate the risks that the Provincial housing legislation may have on the City of Coquitlam to Provincial Legislators.
- The effects small-scale multi-unit housing may have on drainage infrastructure and integrated watershed management plans,
- The effects small-scale multi-unit housing may have on drinking water demand and available fire flow.

- Opportunities for new construction to support the sewage, inflow and infiltration, and stormwater management issues in older residential areas.
- Interest in Metro Vancouver’s sanitary sewer system planning and how it may assist the City of Coquitlam to address stormwater concerns.
- The effectiveness of the City of Coquitlam’s new stormwater treatment facility (often referred to as “The Jellyfish”) which treats stormwater in the Stoney Creek drainage catchment.
- The role of the City’s Stormwater Management Policy and Design Manual in guiding how developers determine infrastructure size and how parameters utilized in the intensity-duration-frequency curve are reviewed to include climate change.

Planners 1, 2 and 3 left this meeting at this point and do not return - 8:43 p.m.

7. Committee Members’ Roundtable / Emerging Accessibility Issues

The Chair invited Committee members to share emerging sustainability and environmental issues and events in their communities.

Discussion ensued relative to the following:

- World Bee Day on May 20, 2025 and the opportunity to highlight the bee at Town Centre Park’s Inspiration Garden and educate the public on pollinators.
- Concern about how foreign politics may impact environmental and sustainability issues going forward.

OTHER BUSINESS

NEXT MEETING DATE – Tuesday, April 8, 2025

ADJOURNMENT

The meeting adjourned at 8:47 p.m.

Minutes – Sustainability and Environmental Advisory Committee
Tuesday, February 11, 2025

MINUTES CERTIFIED CORRECT:

Councillor Brent Asmundson, Chair

Meghan Malkowich, Committee Clerk



SEAC April 8, 2025

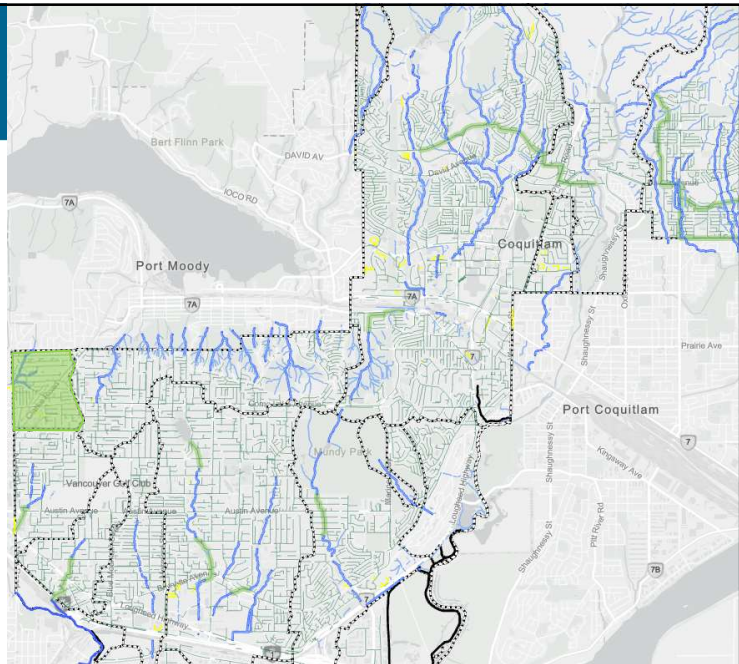
Stoney Creek Treatment

[f](#) [t](#) [i](#) [y](#) [i](#) | coquitlam.ca

Coquitlam

Agenda

1. Drainage System Background
2. Stoney Creek Treatment
3. Next Steps



Coquitlam

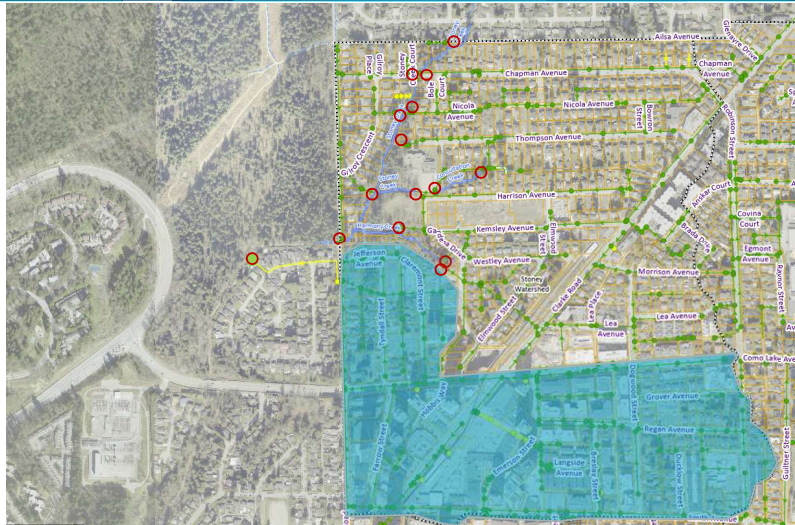
Water Quality Monitoring

- Adaptive management framework
- Live in-creek water quality monitoring
- Real-time monitoring and discharge control on construction sites



Stoney Creek Treatment

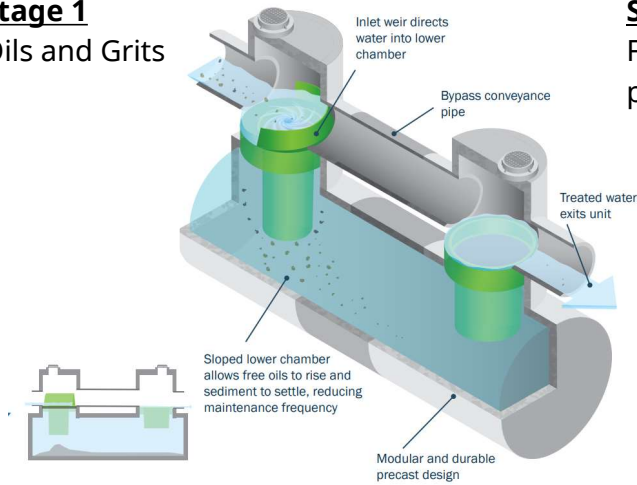
- Discharge point (15)
- Real-time monitoring point
- Stoney Creek catchment



Stoney Creek Treatment

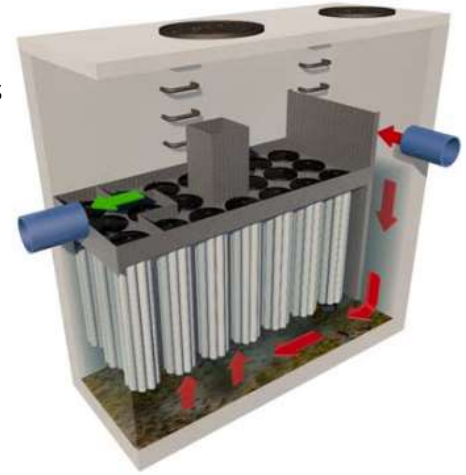
Stage 1

Oils and Grits



Stage 2

Fine particulates



Coquitlam

4

Stoney Creek Treatment



Coquitlam

5

Next Steps

Water Quality Monitoring

- Grab sampling program (AMF)
- Live in-creek monitoring



Operations & Maintenance

- Cleaning
- Filter replacement
- Costs

Coquitlam

6



BONUS

- BCWWA Student Design Competition
- UBC Sustainability Scholar

Coquitlam

7



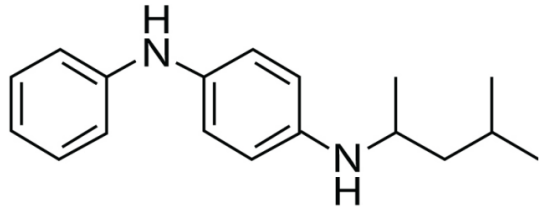
Questions?

[f](#) [t](#) [i](#) [y](#) [in](#) | coquitlam.ca

Coquitlam

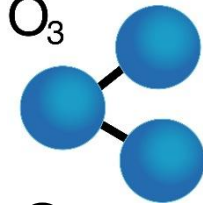
How can Municipal Governments in Metro Vancouver Reduce the Amount of 6PPD-Q Entering Fish-Bearing Watercourses?

6PPD



SCS Engineers

O₃

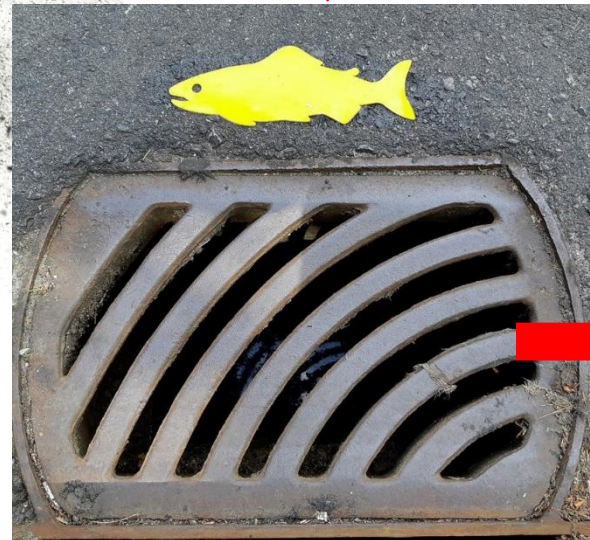
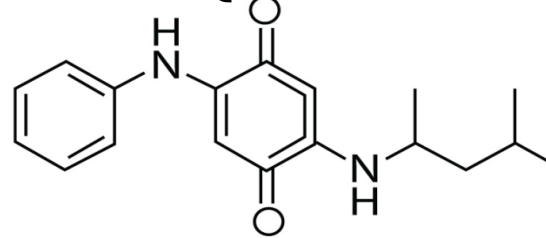


Ozone



Tire Wear
Particles

6PPD-Q



Hoy Scott Watershed Society



6PPD-Q

LC50: 41 ng/L

Lo et al. 2023



B.C. stream watchers link 'unprecedented' coho salmon kill to tire toxin and drought



Jen McIntyre, WSU



Adobe Stock



1980s

Coho Salmon - fish kill
events and
decreasing
populations observed
in Pacific Northwest



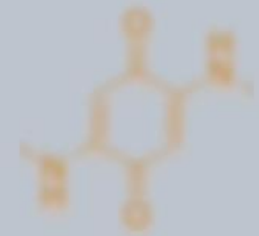
2011

Road runoff
suspected as the
cause of fish kills



2018

Research into
chemicals identified
in tire wear leachate

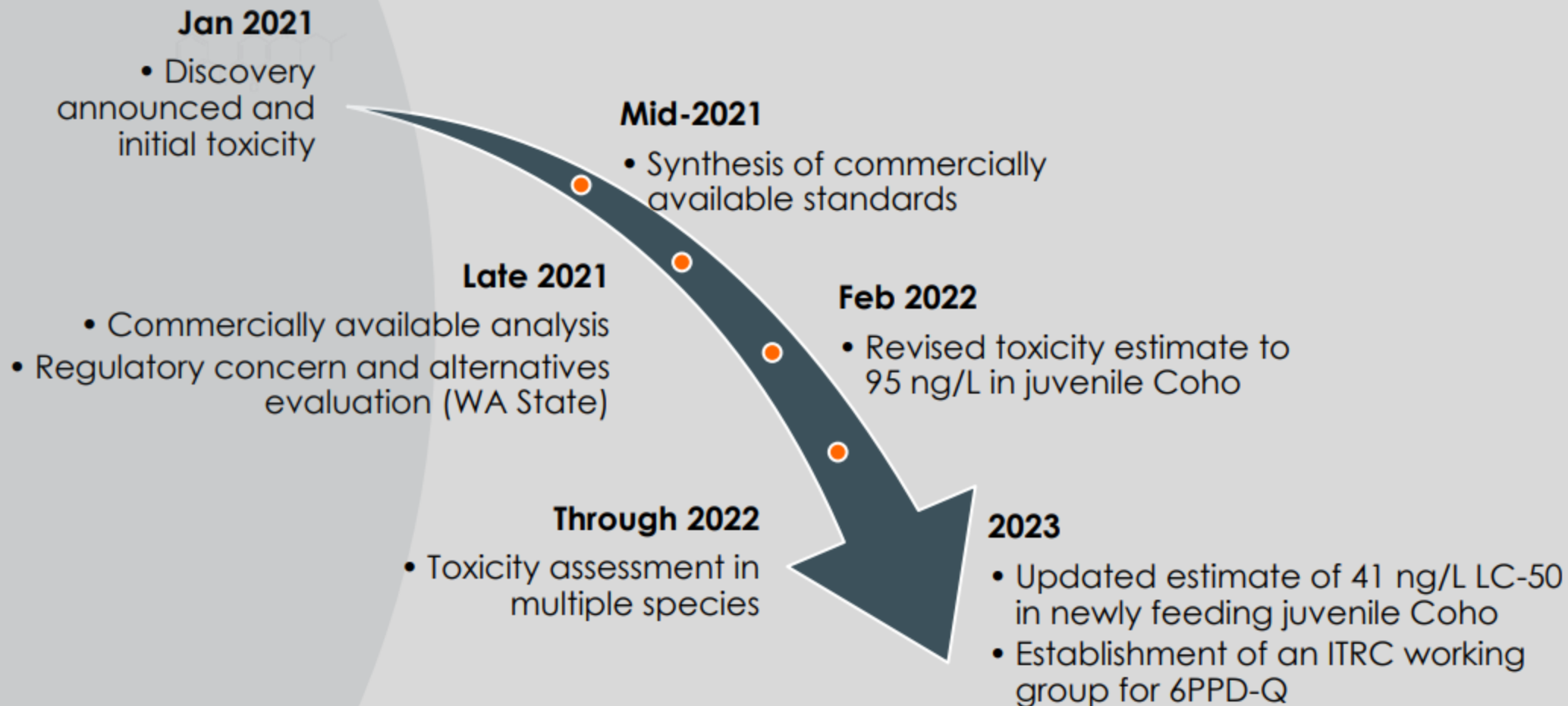


2020

A previously unknown
chemical determined
to be the cause of
acute pre-spawn
mortality



THE EXTREMELY RAPID TIMELINE OF 6PPD-Q



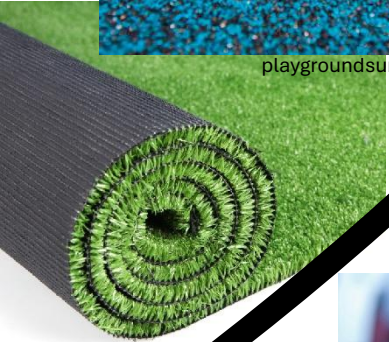
TERRAPEX



AVOID



playgroundsurfacing.com



expressgrass.us



bridgestoneamericas.com



lemoyne.com

REDUCE



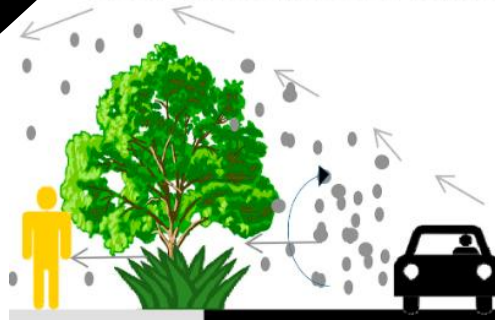
TransLink

CONTAIN

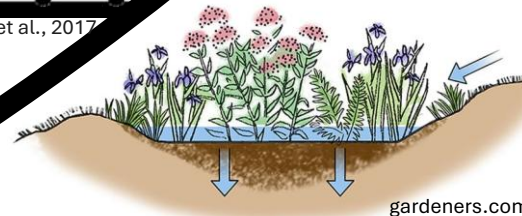


epa.gov

Road with vegetation barrier



Abhijith et al., 2017



gardeners.com

FILTER

99% Effective Removing
6PPDQ



nssk.ca



ecology.wa.gov

Co-Benefits of Green Infrastructure

- 99% Effective Removing 6PPDQ ✓
- Oil ✓
- Metals ✓
- Road Salt ✓
- Microplastics ✓
- Flood Management ✓
- Urban Heat Management ✓



- Support Biodiversity ✓
- Reduce Air Pollution ✓
- Sequester Carbon ✓
- Cost Savings! ✓



Protecting Salmon From Tire Wear Toxicants: 6PPDQ Workshop 2025

May 8 - 9, 2025

Nanaimo, BC

(Location & program details to follow once registered)

May 8

01

Policy Overview

This session will provide an overview of where Canada and the United States are with regulations and/or actions towards regulations.

02

Engineering & Solutions

This session will describe current science with regards to the most effective solutions at removing 6PPD/6PPDQ from stormwater runoff.

May 9

01

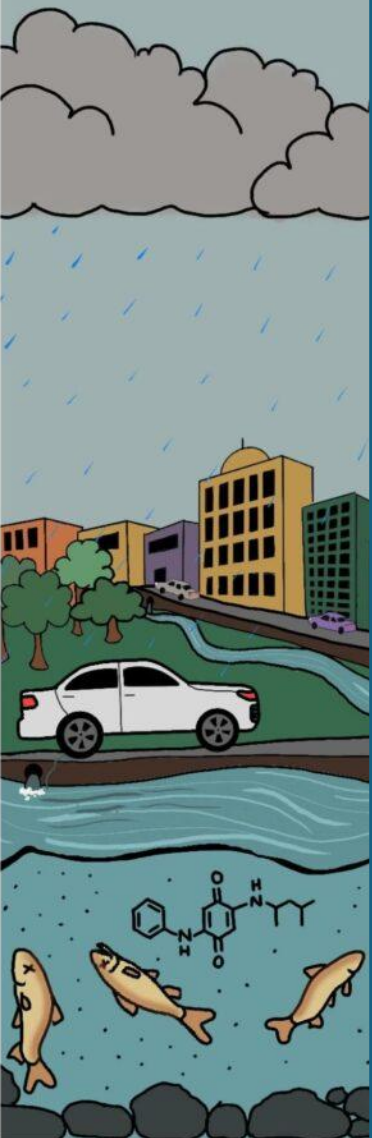
Monitoring & Lessons Learned

This session is meant to discuss current 6PPD/6PPDQ monitoring efforts. Speakers will discuss preliminary findings, trends, and challenges faced.

02

Toxicology

This session will provide an overview of some of the most current toxicology studies.



Hosted by:



Funded by:



Fisheries and Oceans
Canada Pêches et Océans
Canada



Protecting Salmonids from Tire Wear Toxicants: 6-PPDQ Workshop 2024 Post-Workshop Summary





Home

About ITRC

Navigating this Website

1 Introduction >

2 Effects Characterization and Toxicity >

3 Chemical Properties >

4 Occurrence, Fate, Transport, and Exposure Pathways >

5 Measuring, Mapping, and Modeling >

6 Mitigation Measures and Solutions >

7 Policies, Regulations, and Laws >

8 Information Gaps and Research Needs >

9 References

Focus Sheet

Acronyms

Glossary

1 Introduction

This section introduces the concerns arising from the 2020 discovery of [6PPD-q](#). It summarizes the discovery of [6PPD-q](#) and its toxic effects, the identification of vehicle tires as the source of [6PPD-q](#) and reasons for the continued use of [6PPD](#), transport and exposure pathways, the impacts to both fish and human populations, detection of [6PPD-q](#) in the environment, and solutions and approaches for mitigation. This section also provides an overview of topics for which information is lacking and a summary of how decision-makers might address [6PPD-q](#) and use this document as a resource.

1.1 Summary: What Is 6PPD-q and What Is the Concern?

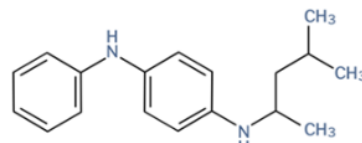
1.1.1 Overview

For decades, adult coho salmon (*Oncorhynchus kisutch*) in the Pacific Northwest have been dying en masse in urbanized areas when storms coincide with their migration upstream to spawn. Because of the correlation with rain events and a series of insightful investigations, the mortality seemed linked to contamination in [stormwater](#) runoff from roads ([McIntyre et al. 2018](#) ^[67QW7P5D] > [Chow et al. 2019](#) ^[7RMZ3UNQ] > [Spromberg et al. 2016](#) ^[GI97QYN4] >). Researchers named the phenomenon [urban runoff mortality syndrome \(URMS\)](#) ([McIntyre et al. 2021](#) ^[MVL2LKBM] > ; [Huang et al. 2021](#) ^[EZEWIV8E] > [Jin et al. 2023](#) ^[P9WXQJUR] >). According to the Washington State Department of Ecology ([WA Ecology](#)), "...for over 20 years, scientists faced a mystery: coho salmon (also known as silver salmon) returning to urban streams and rivers in the Puget Sound region were dying before they could lay their eggs. The culprit was unknown, but it seemed linked to toxic chemicals running off our roads and highways" ([Flores 2023](#) ^[KYFH4S96] >). In some cases, 90% mortality of returning coho salmon was observed ([Huang et al. 2021](#) ^[EZEWIV8E] > [Jin et al. 2023](#) ^[P9WXQJUR] >).

In 2020, Z. Tian et al. (2021) identified a transformation product of [6PPD](#) ([Figure 1-1](#)), [6PPD-q](#) ([Figure 1-2](#)), as a causative toxicant of [URMS](#) observed in coho salmon in Washington State. [6PPD](#) supports the durability and safety of tires and is used as the primary anti-degradant that prevents the breakdown of rubber resulting from reactions with atmospheric ozone ([Rossomme et al. 2023](#) ^[AXGUT6MJ] > ; [Tian et al. 2022](#) ^[BICQHLBC] >), oxygen ([Santoso, Giese, and Schuster 2007](#) ^[GZL3D5KN] >), and free radicals ([Scott 1985](#) ^[6SJ7VVGU] >). [6PPD](#) is used in every tire on the road ([USTMA 2024](#) ^[372BNAEP] >), creating the possibility of widespread contamination by [6PPD](#) and [6PPD-q](#) in every area impacted by roads.

6PPD

1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl-

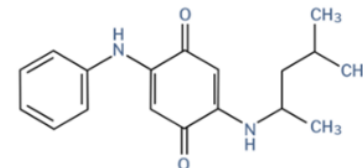


CASRN 793-24-8

Figure 1-1 Chemical structure of 6PPD

6PPD-quinone

2-anilino-5-[(4-methylpentan-2-yl)amino] cyclohexa-2,5-diene-1,4-dione



CASRN 2754428-18-5

Figure 1-2 Chemical structure of 6PPD-quinone

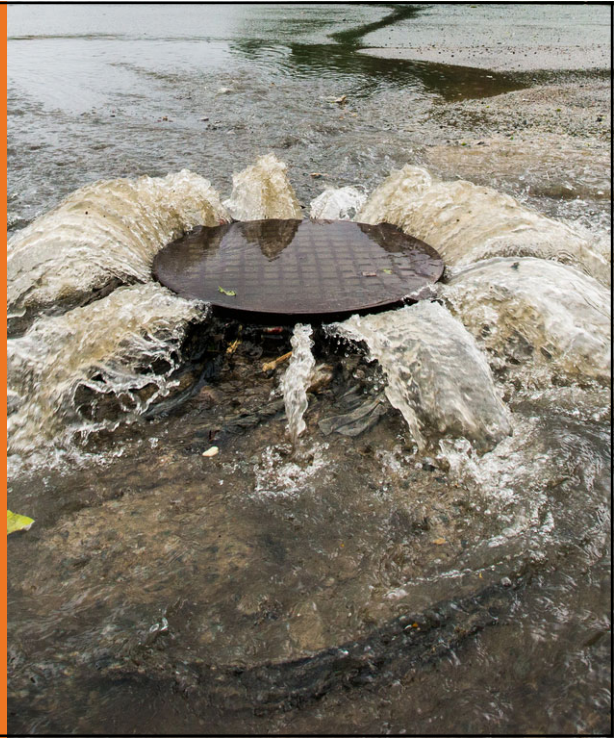
City of Coquitlam
Engineering and Public
Works

Inflow and Infiltration Update

April 8, 2025


coquitlam.ca/

Coquitlam



Agenda

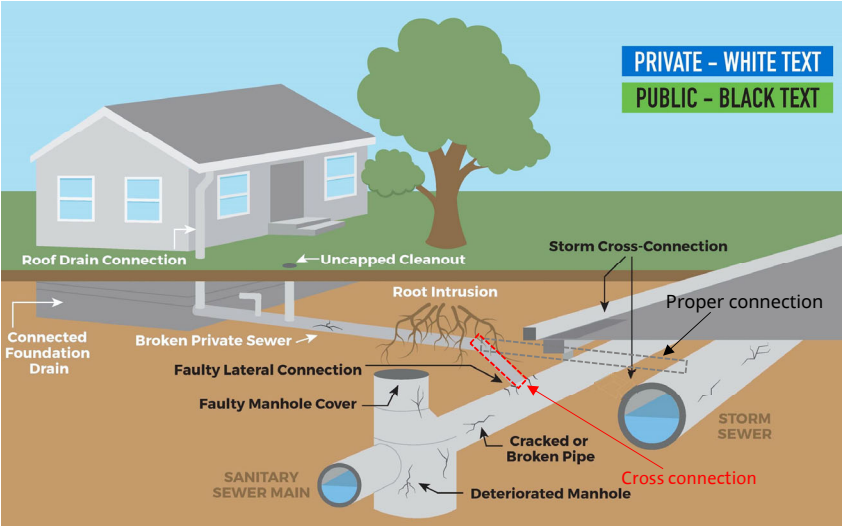
1. What is I&I?
2. I&I in Coquitlam
3. Coquitlam's
Dashboard
4. Preliminary results
5. Next Steps
6. Discussion



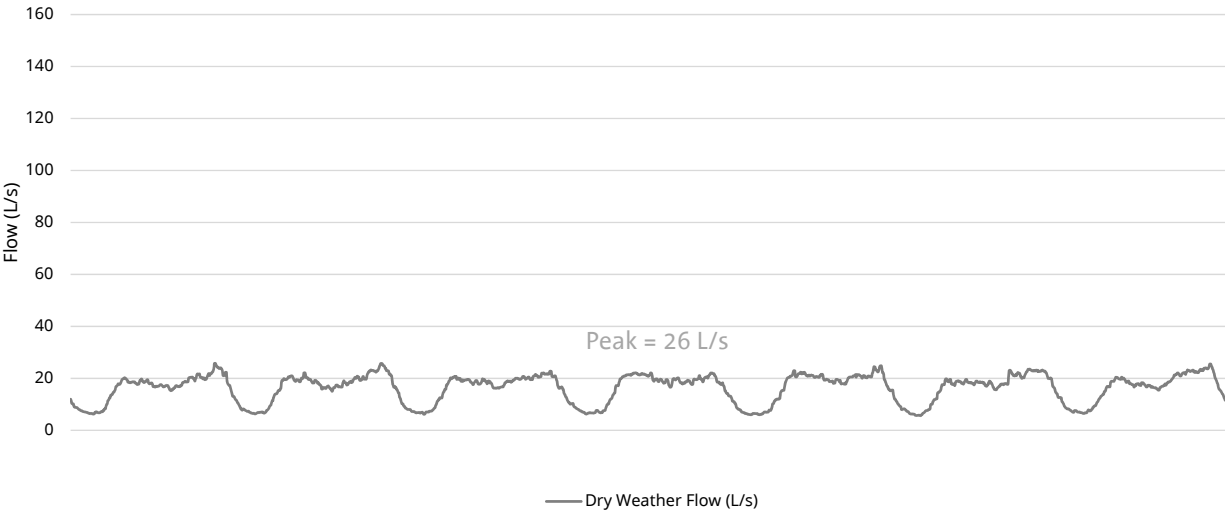
Dye Testing – Sanitary Manhole

Coquitlam

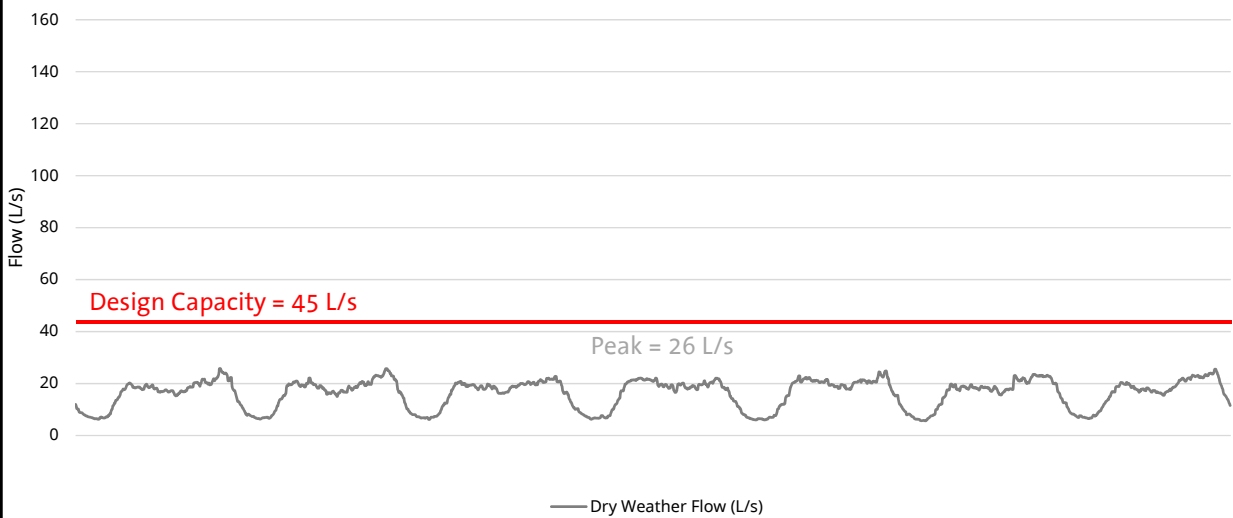
What is I&I?



I&I in Coquitlam

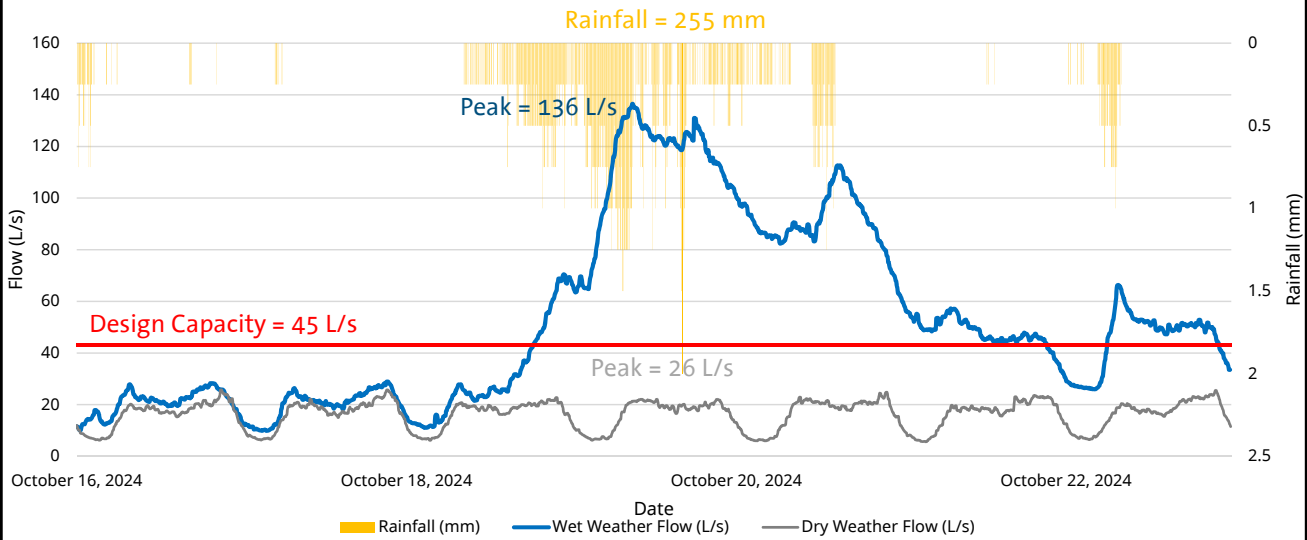


I&I in Coquitlam



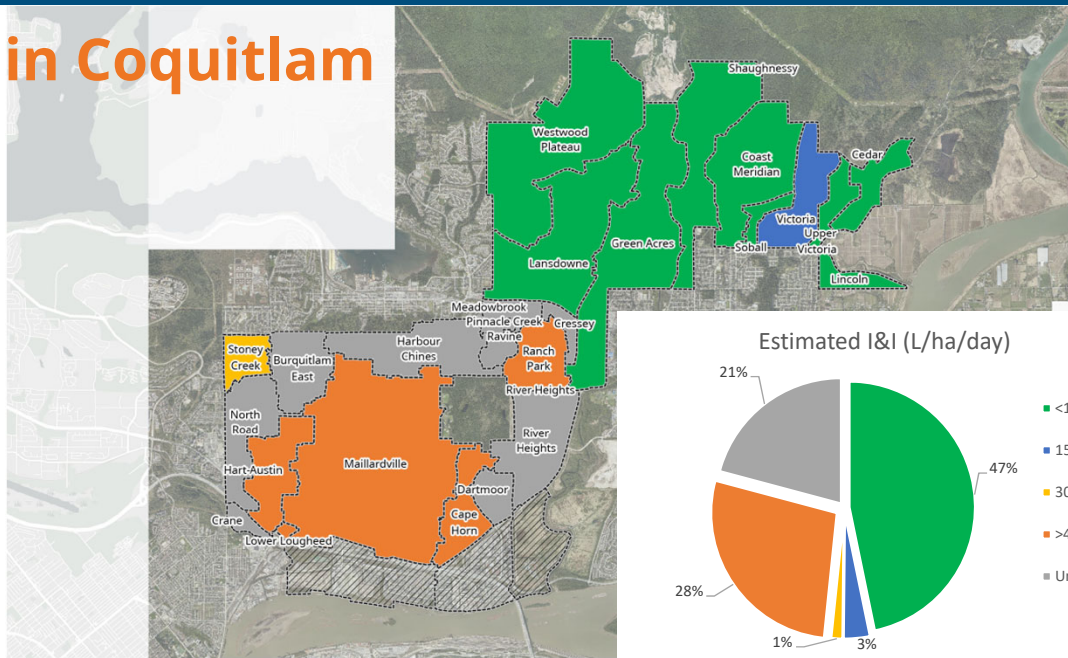
Coquitlam

I&I in Coquitlam



Coquitlam

I&I in Coquitlam



Coquitlam

6

I&I in Coquitlam

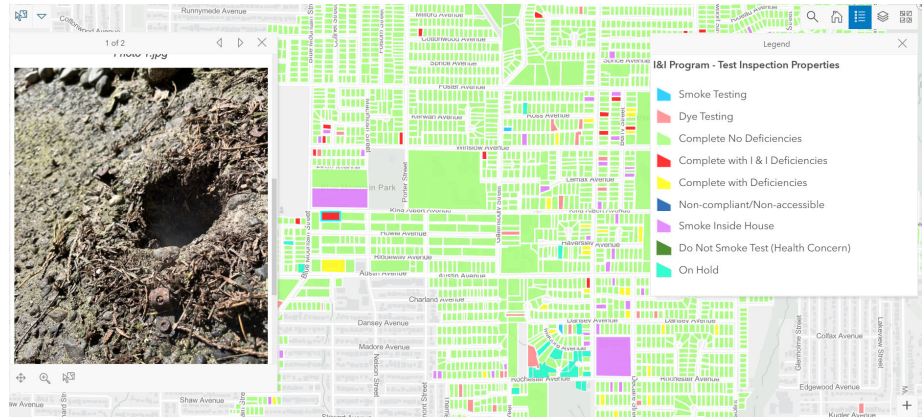
Only accounts for 50% of our system!

50% is private lateral connections

- Inspections
- Point repairs
- Asset replacement
- Monitoring
- Lateral grant
- Smoke testing
- Redevelopment

Coquitlam's Dashboard

- Data management & consistency
- City collaboration
- Real-time monitoring
- Reference for MV's regional tool

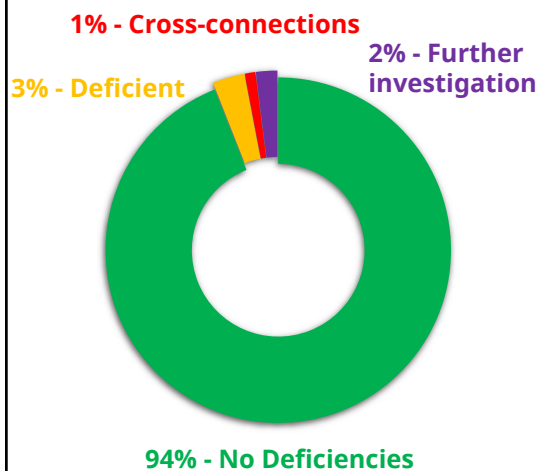


Coquitlam

8

SC15

Preliminary Results



Each cross-connection could discharge 50x the volume during light rain and 500x during an atmospheric river!

Coquitlam

9

Next Steps



Questions?

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Utility Planning Technologist

604-927-6080

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