

An aerial photograph of Vancouver, British Columbia, showing the city's dense urban core, the harbor, and the surrounding mountains. The city is built on a peninsula, with the harbor to the west and the mountains to the east. The water is a deep blue, and the city is a mix of green and grey. The mountains in the background are covered in green forest.

2022 GVS&DD Environmental Management and Quality Control

ANNUAL REPORT

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Liquid Waste Committee – September 13, 2023

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metrovancouver

ENVIRONMENTAL MANAGEMENT & QUALITY CONTROL

Annual Report

In brief:

- Wastewater treatment plants (WWTPs) met performance expectations
- Applicable water quality objectives and guidelines for receiving water bodies were mostly met
- Biosolids quality met regulatory requirements
- Health authorities posted swimming advisories at 5 beaches

METRO VANCOUVER'S WWTPS



3 secondary –
freshwater discharge

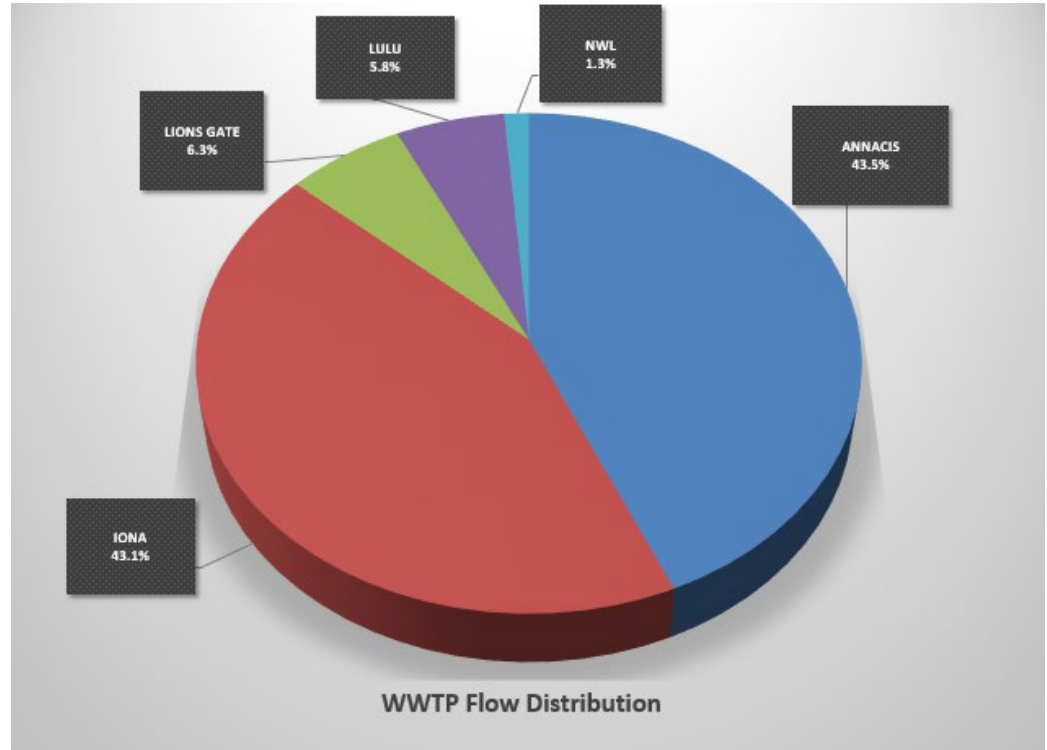


2 primary –
marine discharge



METRO VANCOUVER'S WWTPs

- About 435 billion litres of wastewater treated in 2022



WWTP REGULATORY AND TECHNICAL PERFORMANCE

- Over 210,000 analyses by Metro Vancouver laboratories alone
- Over 61,000 tonnes of suspended solids (TSS), and over 61,500 tonnes of biochemical oxygen demand (BOD) removed
- Treatment efficiency met or exceeded expectations
- Operational Certificate requirements met

WWTP	% TSS Reduction	% BOD Reduction
Iona Island	63	48
Lions Gate	74	54
Annacis Island	93	95
Lulu Island	97	97
Northwest Langley	94	95

BIOSOLIDS QUALITY MONITORING

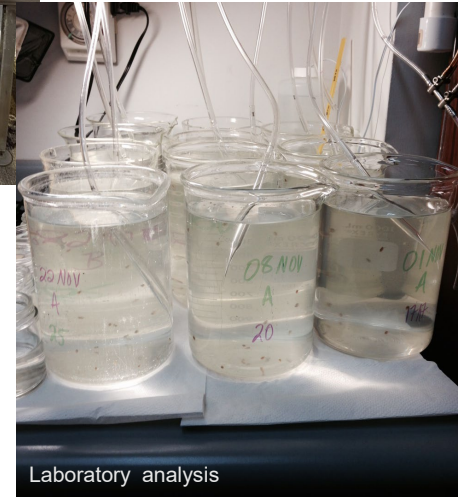
- Almost 15,000 laboratory analyses performed to determine biosolids quality
- Metal concentrations and fecal coliform counts in biosolids generally well below regulatory limits
- Produced over 67,000 bulk tonnes of biosolids and beneficially used 100%



Biosolids

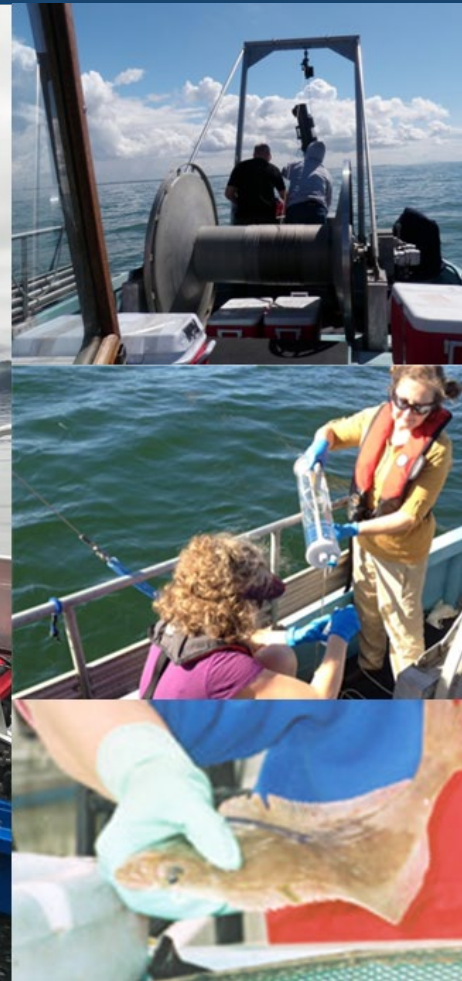
EFFLUENT TOXICITY MONITORING

- Effluent from secondary WWTPs generally passed acute toxicity tests
- Toxicity generally related to reduced oxygen



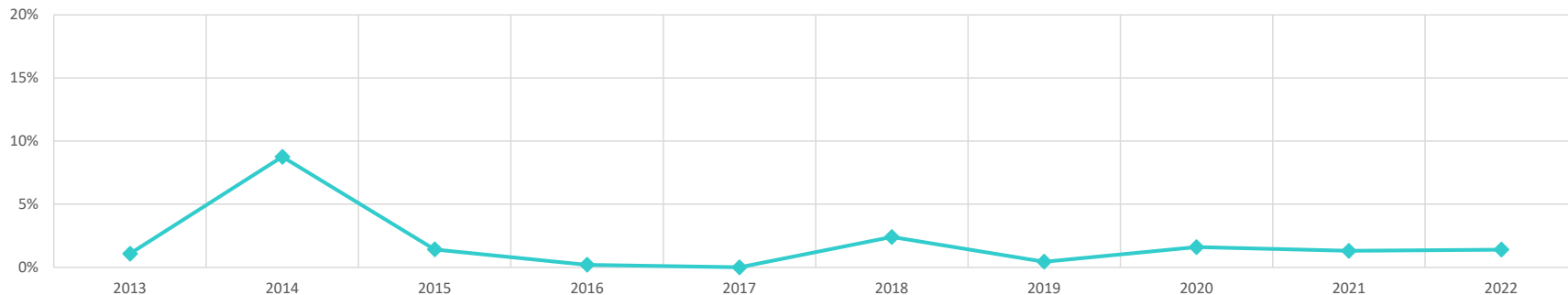
MONITORING OF RECEIVING BODIES

- Strait of Georgia
- Burrard Inlet
- Fraser River



BEACH MONITORING

C-05 Recreational Water Quality - Tests not Meeting Criteria



- Bacteriological water quality monitored at 41 beaches
- Most bathing beaches met the primary-contact recreation guideline except at 5 locations
- Swimming advisories were posted by the Health Authorities for a total of 51 days

CONCLUSIONS

- Metro Vancouver WWTPs meet performance expectations and operate in accordance with Operational Certificate requirements
- Treatment plants consistently provide an ongoing benefit to the region by reducing contaminant loading to the environment
- Regional liquid waste discharges are effectively managed in a manner that is protective of human and aquatic life



Laboratory analysis

Thank you

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Together we make our region strong