
To: Liquid Waste Committee

From: Andjela Knezevic-Stevanovic, Director, Environmental Management & Quality Control, Liquid Waste Services

Date: May 12, 2022 Meeting Date: June 8, 2022

Subject: **2021 GVS&DD Environmental Management & Quality Control Annual Report**

RECOMMENDATION

That the Liquid Waste Committee receive for information the report dated May 12, 2022 titled “2021 GVS&DD Environmental Management & Quality Control Annual Report”.

EXECUTIVE SUMMARY

Annual reporting of GVS&DD Environmental Management & Quality Control is a regulatory requirement under the *Integrated Liquid Waste and Resource Management Plan*. This report summarizes the performance, process control and regional environmental quality information gathered through various monitoring programs and other environmental management initiatives. In 2021, Metro Vancouver wastewater treatment plants met performance expectations with respect to reduction of contaminant loadings to the receiving environment. Regional liquid waste discharges were effectively managed in a manner that is protective of human health and aquatic life.

PURPOSE

To provide the Liquid Waste Committee with a summary of the 2021 GVS&DD Environmental Management & Quality Control Annual Report.

BACKGROUND

Annual reporting of GVS&DD Environmental Management & Quality Control (EMQC) is a regulatory requirement under the *Integrated Liquid Waste and Resource Management Plan* (ILWRMP).

The Executive Summary of the 2021 GVS&DD EMQC Annual Report (Attachment) summarizes the regulatory and operational information gathered through the various monitoring programs and other environmental management initiatives that are in place to meet GVS&DD’s commitments under the ILWRMP, including those for: wastewater treatment plant influent, effluent and process streams; effluent toxicity and biosolids quality; operation of the collection system; and environmental health of regional water bodies. The 2021 GVS&DD EMQC Annual Report will be submitted to the Ministry of Environment and Climate Change Strategy. Additionally, it will be made available to the public through Metro Vancouver’s web site and through the Metro Vancouver Library.

SUMMARY OF RESULTS

In order to assess wastewater treatment system efficiency, performance and reliability, and to perform biosolids and environmental quality monitoring, the EMQC Division laboratories alone performed about 210,000 analyses in 2021. Major conclusions are as follows:

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- a) The five wastewater treatment plants (WWTPs) treated about 451 billion litres of wastewater in 2021. The treatment process removed over 55,000 tonnes of biochemical oxygen demand (BOD₅) and over 57,000 tonnes of total suspended solids (TSS).
 - b) All WWTPs operated in accordance with the Operational Certificate requirements. All WWTPs also met the National Performance Standards specified in the Wastewater Systems Effluent Regulations (WSER), with one exception. The Transitional Authorization issued to the Lions Gate WWTP under WSER in 2014, expired on December 30, 2020. Due to a delay constructing the North Shore WWTP, the Lions Gate WWTP in 2021 did not meet the WSER biochemical oxygen demand and suspended solids limits, but it met the limits for total residual chlorine and un-ionized ammonia.
 - c) Almost 15,000 tests were performed on biosolids in 2021. Metal concentrations in weekly composite samples and fecal coliform counts in biosolids were generally well below the regulatory limits outlined in the Organic Matter Recycling Regulation.
 - d) Effluent samples from all WWTPs passed the required monthly acute toxicity test except for two samples from Annacis Island, one each from Lulu Island and Iona Island and three samples from Lions Gate. The toxicity of one of the Annacis Island samples was attributable to ammonia. The cause of toxicity in the other Annacis Island and the Lulu Island effluent sample could not be determined. The Iona Island effluent sample required oxygen in excess of that specified by the Environment Canada testing method. The toxicant in the three Lions Gate samples was attributed to anionic surfactants.
 - e) Water quality monitoring results in the vicinity of Iona Island WWTP Deep Sea Outfall indicated the applicable objectives or guidelines were met at the initial dilution zone (IDZ) boundary, except for dissolved oxygen and boron, for which results were consistent with typical concentrations in Canadian coastal marine waters. Methylmercury and PBDE (fire retardant constituent) concentrations in the effluent were elevated relative to guidelines but were consistent with previous monitoring studies indicating that water quality conditions are stable. Most of the sediment chemistry and bacteriology results were within their historical range with a few exemptions for bacteria and some organic substances which were elevated near the outfall.
 - f) Assessment of Burrard Inlet environment monitoring results indicated that water quality objectives at the IDZ for the Lions Gate WWTP were met with the exception of dissolved oxygen, boron, and minimal number of measurements for turbidity, TSS and temperature which were not attributed to the discharge from Lions Gate WWTP. Sediment monitoring results were similar to prior years. The analysis of findings suggests that both nutrient and contaminant distributions in Burrard Inlet are confounded by activities and sources other than the Lions Gate WWTP.
 - g) Concentrations of all parameters in the Fraser River met their corresponding applicable objectives or guidelines at the Annacis IDZ boundary and at ambient environment monitoring sites, with the exception of one anomalous dissolved aluminum result associated with the reference area.

- h) The bacteriological water quality for primary-contact recreation was met at bathing beaches from May through September, except for three beach locations. Swimming advisories were issued by the Health Authorities for English Bay, Wreck Beach and Deep Cove.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

Ongoing environmental management, monitoring and quality control works are proceeding as required under the GVS&DD *Integrated Liquid Waste and Resource Management Plan* and the associated costs are included in the Liquid Waste Services Environmental Management & Quality Control annual operating budget.

CONCLUSION

Annual reporting of GVS&DD Environmental Management & Quality Control is a regulatory requirement under the *Integrated Liquid Waste and Resource Management Plan*. This report summarizes the performance, process control and regional environmental quality information gathered through various monitoring programs and other environmental management initiatives that are in place to meet GVS&DD's commitments under the ILWRMP.

As illustrated by the 2021 GVS&DD Environmental Management & Quality Control Annual Report, Metro Vancouver's wastewater treatment plants continue to meet performance expectations with respect to reduction of contaminant loadings to the receiving environment and are consistently providing ongoing benefits to the region. Numerous monitoring programs continue to fulfill their role of confirming that the wastewater treatment plants are operating efficiently and with no adverse effects on human health or the environment. Findings of various environmental management initiatives confirm that regional liquid waste discharges continue to be effectively managed in a manner that is protective of aquatic life.

Attachment

2021 GVS&DD EM&QC Annual Report Executive Summary (52771609)

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EXECUTIVE SUMMARY

INTRODUCTION

Background and Purpose

The Greater Vancouver Sewerage and Drainage District (GVS&DD, or the District) operates five wastewater treatment plants (WWTPs) in the region. Three of the five plants provide secondary treatment (Annacis Island, Lulu Island and Northwest Langley) and discharge treated effluent into the lower Fraser River. The other two WWTPs (Iona Island and Lions Gate) provide primary treatment and discharge treated effluent to Strait of Georgia and First Narrows of Burrard Inlet, respectively.

The purpose of this report is to document the performance of the collection system and WWTPs in 2021 and to summarize the findings of numerous environmental management initiatives.

This report provides an overview of the information collected as a result of Environmental Management & Quality Control's environmental monitoring, modeling and assessment programs, including monitoring of the collection system, WWTP influent, effluent and biosolids quality, and environmental health of regional water bodies. Other programs and projects discussed in this report are in support of ongoing commitments under the Integrated Liquid Waste and Resource Management Plan (ILWRMP, or the Plan) or compliance with federal or provincial regulatory requirements.

Overview of the Liquid Waste Management Regulatory Framework and Monitoring Process

Under the provisions of the Environmental Management Act, the BC Minister of Environment and Climate Change Strategy approved Metro Vancouver's ILWRMP in May 2011. The Plan has three goals: protect public health and the environment; use liquid waste as a resource; and effective, affordable and collaborative management. Metro Vancouver manages its liquid waste in accordance with the ILWRMP and WWTP-specific Operational Certificates (OCs). These Certificates outline wastewater treatment and performance criteria and authorize the GVS&DD to discharge treated effluent from its WWTPs to the receiving waters. Treatment residuals are managed in accordance with Organic Matter Recycling Regulations.

The federal Wastewater Systems Effluent Regulations (WSER) under the Fisheries Act came into effect on July 18, 2012. The WSER contains provisions that authorize the deposit of treated wastewater into Canadian waters. GVS&DD is required to comply with WSER and monitor and report effluent quality on a quarterly basis.

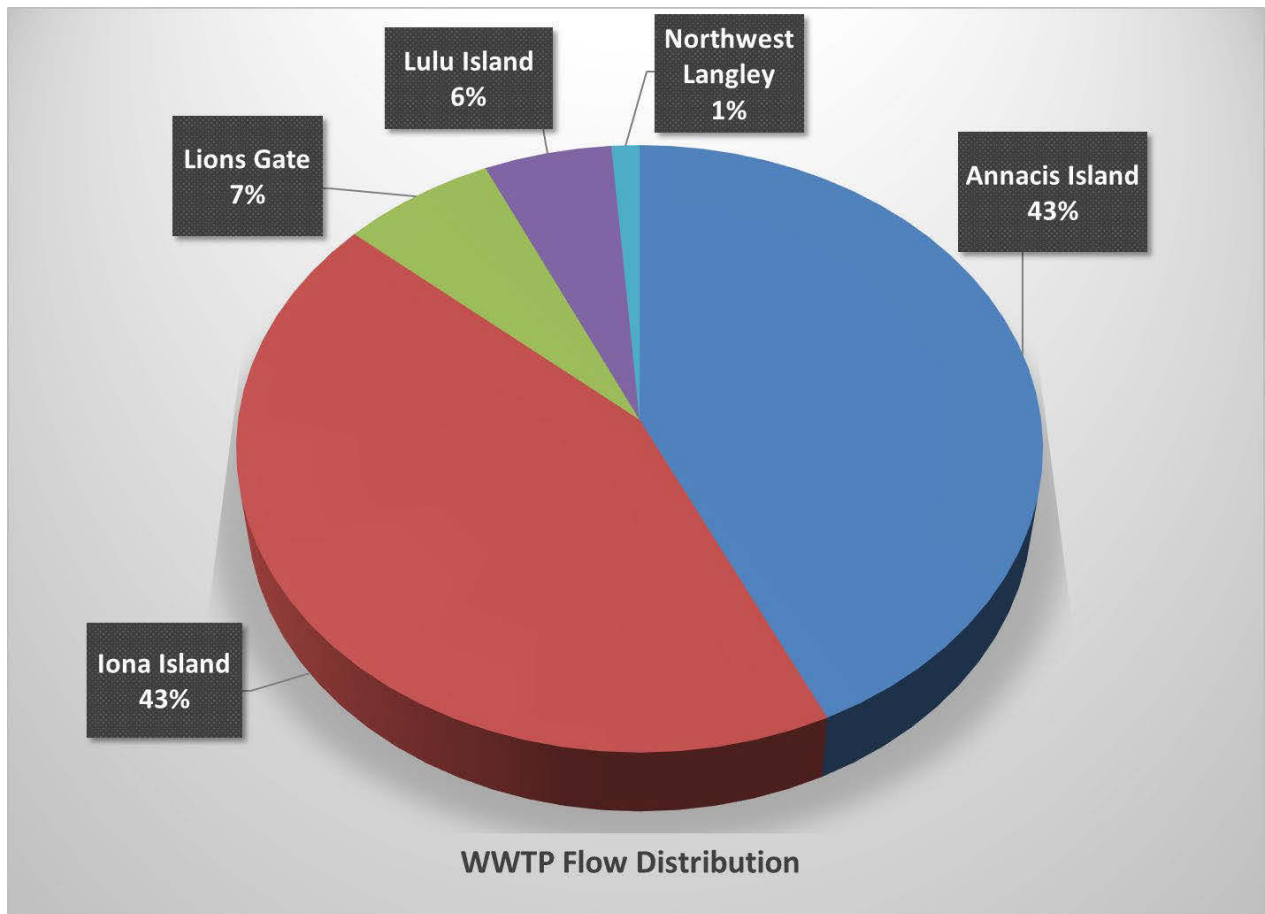
The District's objective is to maintain ongoing compliance with OCs, WSER and other applicable regulatory requirements, and by doing so continue to protect human health and the environment.

Most of the monitoring, laboratory analytical services and data analyses upon which WWTP performance is assessed were provided by the Environmental Management & Quality Control Division of Metro Vancouver Liquid Waste Services.

WASTEWATER TREATMENT PLANTS PERFORMANCE

In 2021, 451 billion litres of wastewater was treated at the GVS&DD's five WWTPs. Of this total, 224 billion litres received primary treatment at Iona Island and Lions Gate WWTPs, with the remaining 227 billion litres treated at the three secondary WWTPs at Annacis Island, Lulu Island and Northwest Langley, as shown in the graph below.

Distribution of Wastewater Treated in Metro Vancouver in 2021



Treatment Plant Performance Review

Metro Vancouver treatment plant performance is assessed annually to ensure:

- Plant operation is in accordance with design objectives and specifications; and
- All applicable regulatory requirements are met.

During 2021, the overall performance of the District's five WWTPs exceeded design performance expectations. Individual treated effluent flows for each WWTP and quantities of Biochemical Oxygen Demand (BOD₅) and total suspended solids (TSS) removed in 2021 are summarized in the table below.

Individual treated effluent flows for each WWTP and quantities of BOD₅ and TSS removed in 2021

Total for 2021	Annacis Island WWTP	Iona Island WWTP	Lions Gate WWTP	Lulu Island WWTP	Northwest Langley WWTP	Total
Effluent Flow, ML	196,180	194,045	30,204	25,526	5,777	451,732
BOD ₅ , Tonnes Removed	35,086	10,557	1,852	6,462	1,535	55,492
TSS, Tonnes Removed	31,657	15,106	3,961	5,356	1,360	57,439

Wastewater Treatment Plant Operational Certificates

The OCs issued by the Ministry of Environment and Climate Change Strategy (MOECCS) under the provisions of the Environmental Management Act include daily compliance levels for flow and daily loadings for BOD₅ (or Carbonaceous Biochemical Oxygen Demand (CBOD₅), where applicable) and Total Suspended Solids (TSS). The loading parameters listed as “maximum daily discharge loadings” are used to calculate the annual discharge authorization fees as required by the Permit Fees Regulation and are based on a calendar year.

Among other OC conditions, requirements are listed for disinfection of the effluent at all WWTPs except Iona Island, so that fecal coliform water quality objectives for the receiving water body are met at the edge of the Initial Dilution Zone (IDZ) as defined by the Municipal Wastewater Regulation. When chlorine is used for disinfection, it must be removed from the effluent before discharge to the receiving waters.

The OC requirements for BOD₅ and TSS were met throughout 2021. OCs require Metro Vancouver to report all treatment process interruptions to the MOECCS. In 2021, GVS&DD submitted reports for 16 environmental incidents and 1 missed sampling event to the regulators. Reported events can be generally grouped into 2 categories: Category 1 includes instances of disinfection or dechlorination system interruptions, plant bypasses and other unauthorized discharges. Category 2 events were the results of daily discharge loadings for TSS or CBOD₅ above the maximum load limits, as well as a daily rate of effluent discharge above the maximum limits. These events typically have no significant environmental impact.

Each event is carefully reviewed and a probable cause, mitigation measures and potential environmental effects are assessed based on dilution dispersion modeling of effluent plume transport and predicted downstream concentrations, or on field observations.

Integrated Liquid Waste and Resource Management Plan (ILWRMP)

The ILWRMP commits GVS&DD to operate the secondary WWTPs to meet the National Performance Standards for effluent specified by the Canada-wide Strategy for the Management of Municipal Wastewater Effluent (CWS-MMWE). These National Performance Standards for effluent quality are also included into the Wastewater Systems Effluent Regulation. The concentrations of CBOD₅ and TSS at all

secondary WWTPs stayed below the maximum average of ≤ 25 mg/L as specified by the National Performance Standards. Averaging periods for Annacis Island and Lulu Island WWTP are monthly, and for Northwest Langley WWTP, quarterly.

Wastewater Systems Effluent Regulations (WSER)

Quarterly monitoring reports were submitted through Environment and Climate Change Canada's (ECCC's) Effluent Regulatory Reporting Information System (ERRIS) in 2021. As required by WSER, the effluent monitoring data reported were: number of days that effluent was deposited; total volume of effluent deposited in m³; average effluent CBOD₅ in mg/L; and the average effluent concentration of suspended solids in mg/L. Reporting of effluent acute lethality for secondary treatment plants is required on a quarterly basis¹ for Annacis Island and Lulu Island WWTPs, and on an annual basis for the Northwest Langley WWTP.

In 2021, all District's secondary WWTPs met the applicable WSER requirements for all regulated parameters: TSS, CBOD₅, un-ionized ammonia and total residual chlorine. Non-acute lethality of effluent requirement was consistently met by the Northwest Langley WWTP but not throughout an entire year at the Annacis Island and Lulu Island WWTPs.

GVS&DD's primary treatment plants (Iona Island and Lions Gate WWTPs) were issued Transitional Authorizations (TA) under WSER on September 5, 2014. In 2021, the Iona Island WWTPs met the applicable WSER requirements for regulated parameters: TSS, CBOD₅ and un-ionized ammonia.

The Lions Gate TA expired on December 30, 2020. The monthly average limits of 115 mg/L CBOD₅ and 76 mg/L TSS specified in the TA for this WWTP were only applicable up to the end of 2020. Starting January 2021, the applicable monthly average limits defined in WSER are 25 mg/L CBOD₅ and 25 mg/L TSS. Due to a delay constructing the North Shore WWTP, the Lions Gate WWTP was not able to meet the CBOD₅ and TSS limits in 2021, although it met the limits for total residual chlorine and un-ionized ammonia. The requirement to report acute lethality results was met by the Lions Gate WWTP.

Effluent Toxicity Monitoring

In 2021, all effluent samples from all WWTPs passed the OC required Rainbow Trout acute lethality test using ECCC test protocols with the following exceptions: two Annacis Island WWTP samples; one Lulu Island WWTP sample, one Iona Island WWTP sample, and three Lions Gate WWTP samples. In the Annacis Island effluent samples, the toxicity in one sample was attributed to ammonia and in the other was undetermined. In the Lulu Island effluent sample, the toxicant was undetermined. The Iona Island effluent sample required oxygen in excess of that specified by the ECCC method. In all the three Lions Gate samples, toxicity was attributed to anionic surfactants.

In addition, acute toxicity testing of *Daphnia magna* was conducted monthly (or quarterly for Northwest Langley WWTP) as recommended by the CWS-MMWE. All samples from the secondary WWTPs passed the *Daphnia magna* acute toxicity test. For the primary WWTPs, all Iona Island and eleven Lions Gate

¹ Due to toxicity testing results, frequency was increased to monthly at Annacis Island WWTP in September and at Lulu Island WWTP in December.

WWTP samples passed the *Daphnia magna* test, and the toxicity in the remaining sample was attributed to anionic surfactants.

Some chronic toxicity was observed in effluent samples tested in 2021 for two freshwater and three marine test species; however, chronic toxicity was not predicted to occur at the initial dilution zone (IDZ) boundary except for the water flea, *Ceriodaphnia dubia*, in two of the five Lulu Island WWTP effluent samples tested in 2021. For all other WWTP effluent samples and test species chronic toxicity would not be predicted at the IDZ boundary.

Biosolids Monitoring Program

Process Requirements and Biosolids Management

The Organic Matter Recycling Regulation (OMRR) governs the management of biosolids and compost as soil amendments in the Province of British Columbia. Under this regulation, sampling frequencies and criteria values for fecal coliforms and metals as specified for Class A and Class B biosolids are based on several parameters including: type of treatment process (pathogen reduction requirements, vector attraction reduction); the amount of dry solids produced on a monthly basis; and the intended use of the biosolids. The GVS&DD's biosolids management program ensures that any biosolids not meeting class specifications are identified, tracked and managed appropriately.

Biosolids Quality

About 14,900 tests were performed on biosolids in 2021. Metal and fecal coliform counts in biosolids were generally well within the Class A criteria for Annacis Island WWTP, and within Class B criteria for Lions Gate and Lulu Island WWTPs. Iona Island WWTP land-dried biosolids met the Class B criteria. Thickened waste secondary sludge from Northwest Langley WWTP was trucked to Annacis Island WWTP for digestion.

ENVIRONMENTAL MANAGEMENT PROGRAMS

Environmental management programs form a major part of the Metro Vancouver's integrated approach to managing liquid waste. The purpose of these programs is to characterize environmental conditions of relevant water bodies in the region in order to understand the relative contribution and significance of discharges from the regional and municipal systems, determine if the applicable regulatory requirements are being met, and to warn of possible environmental issues. Environmental management programs include environmental monitoring, human health and ecological risk assessments, and environmental simulation and forecasting.

Overflow Quality Monitoring and Environmental Risk Assessments

Municipal wastewater in the region is conveyed and treated in the District's WWTPs. However, discharges of untreated wastewater into regional water bodies are sometimes unavoidable mostly due to insufficient system capacity during wet weather, power outages, and the legacy of combined sewer systems.

Combined Sewer Overflows

In 2021, the Combined Sewer Overflow (CSO) Monitoring Program characterized the overflow water quality at six selected CSO locations: Angus Drive, English Bay, MacDonald, Manitoba, New

Westminster Tank and Westridge. In addition, receiving environment monitoring program reports were completed for English Bay, Borden, Heather and South Hill CSOs and field work was completed for the Willingdon and Westridge CSOs receiving environment monitoring programs.

Sanitary Sewer Overflows

Metro Vancouver continued monitoring the receiving environment water quality after each sanitary sewer overflow and provided results to regulatory agencies and municipalities.

Environmental Monitoring in the Regional Waterbodies

Metro Vancouver monitors environmental health of the regional water bodies:

- near WWTP outfalls in the receiving environment, at the IDZ boundary, and
- in major water bodies within the ambient environment further away from WWTPs and other point source discharges to assess background conditions.

In previous annual reports, Metro Vancouver reported separately on WWTP receiving environment monitoring (REM) and ambient environment monitoring (AEM) programs. Metro Vancouver has modified its programs to a more holistic water body approach and in 2021 continued with amalgamated receiving and ambient environment monitoring programs for Burrard Inlet water and sediment quality, and for Fraser River water quality. A summary of the monitoring program findings for the regional water bodies is provided below.

Strait of Georgia

The 2020 Iona Island WWTP Deep Sea Outfall monitoring program included sediment and initial dilution zone monitoring. The assessment of the 2020 monitoring results completed in 2021 indicate that the applicable objectives or guidelines were met at the IDZ boundary, except for dissolved oxygen and boron, for which results were consistent with typical concentrations in Canadian coastal marine waters. Methylmercury and PBDE concentrations in the effluent were elevated relative to guidelines but were consistent with previous monitoring studies indicating that water quality conditions are stable. Work continued on a multi-year collaboration with UBC to better understand the transport and deposition of substances of interest in the Strait of Georgia.

Burrard Inlet

Burrard Inlet Environment Monitoring program included both water and sediment quality monitoring. The assessment of 2020 monitoring results completed in 2021 indicated that site specific water quality objectives at the boundary of the IDZ for the Lions Gate WWTP were met with the exception of dissolved oxygen, boron, and minimal number of measurements for turbidity, TSS and temperature which were not attributed to the discharge from Lions Gate WWTP.

The lower dissolved oxygen concentrations may be related to natural conditions and long-term regional changes, while boron concentrations are consistent with those in Canadian coastal waters. Turbidity, TSS and temperature were determined to be related to background conditions.

The results of the 2020 Sediment Effects Survey were similar to prior years. The Lions Gate WWTP discharges appear to have contributed to conditions more favourable for infaunal recruitment, growth, and reproduction. However, there was no correlation between wastewater quality indicators and biota results, suggesting that both nutrient and contaminant distributions in Burrard Inlet are confounded by activities and sources other than the Lions Gate WWTP.

Fraser River

In 2021, the report was completed for the 2021 Fraser River water quality monitoring program. As Metro Vancouver is transitioning to a more holistic integrated approach to its monitoring programs, what formerly were two separate monitoring programs, the Receiving Environment Monitoring Program (REM) for the Fraser River wastewater treatment plants (WWTP) (referred to as Annacis IDZ) and the Fraser River Ambient Monitoring Program (FRAMP), were operated in 2021 as a single program under the name of Fraser River Environmental Monitoring Program (FREMP). A new ambient monitoring site, upstream of the Metro Vancouver – Fraser Valley Regional District boundary, was added in the 2021 FREMP to characterize background water quality entering Metro Vancouver.

In 2021, the concentrations of all parameters met their corresponding applicable WQOs or guidelines at the Annacis Island WWTP IDZ boundary and Fraser River ambient environment monitoring sites, with the exception of dissolved aluminum in one of fifteen Annacis IDZ reference area samples.

Recreational Water Quality Monitoring Program

Metro Vancouver monitored the bacteriological quality of recreational waters in the region at 114 sampling sites from 41 locations. In 2021, the bacteriological water quality for primary-contact recreation was met for most bathing beaches from May through September. Swimming advisories were issued by the Health Authorities as a result of observed *E. coli* concentrations exceeding the single sample maximum water quality guideline at English Bay (4 days) and the exceedance of the 30-day geometric mean guideline at Wreck Beach Trail 7 – Oasis (10 days) and Deep Cove (12 days).

To: Zero Waste Committee

From: Brent Kirkpatrick, Lead Senior Engineer, Solid Waste Services

Date: June 8, 2022 Meeting Date: June 16, 2022

Subject: **Waste-to-Energy Facility 2021 Financial Update**

RECOMMENDATION

That the Zero Waste Committee receive for information the report dated June 8, 2022, titled “Waste-to-Energy Facility 2021 Financial Update.”

EXECUTIVE SUMMARY

This report provides the annual financial update for the Metro Vancouver Waste-to-Energy Facility. The Facility continues to be an environmentally sound, low-cost regional disposal option. In 2021, the Waste-to-Energy Facility processed 241,531 tonnes of municipal solid waste, at a net unit cost of \$66.60 per tonne for operation and maintenance. The Waste-to-Energy Facility net unit cost decreased as compared to 2020, primarily due to increased electrical and metals revenues, and reduced bottom ash disposal costs.

PURPOSE

The purpose of this report is to provide the Zero Waste Committee with the annual financial update for the Metro Vancouver Waste-to-Energy Facility located in Burnaby.

BACKGROUND

Annually, results of the operation of the Waste-to-Energy Facility and contract with Covanta Burnaby Renewable Energy, ULC (Covanta), including tonnages, expenditures, revenues, service level and performance, and unit costs, are provided to the Zero Waste Committee for information.

2021 WASTE-TO-ENERGY FACILITY FINANCIALS

Table 1 provides the past three years of expenditures for the Waste-to-Energy Facility. Total expenditures include operations and maintenance of the Waste-to-Energy Facility and ash management. Ash management costs were reduced in 2019 with the beneficial use of bottom ash in the construction of the United Boulevard Recycling and Waste Centre from October 2017 to August 2019, and increased to historic levels in 2020 and 2021 when bottom ash was again disposed in the landfill. In total, more than 75,000 tonnes of bottom ash were beneficially used as part of the construction of the United Boulevard Recycling and Waste Centre. A small amount of bottom ash was managed at the Coquitlam Landfill in the 2021 reducing costs compared to 2020.

Metro Vancouver has entered into a contract with Birco Environmental Ltd. to conduct a pilot project to process bottom ash for beneficial use as an input material to a local cement plant. If the process is successful it will result in a disposal reduction of approximately 40,000 tonnes per year of bottom ash or nearly 5% of all of the municipal solid waste requiring disposal in the region. The initiative will also reduce greenhouse gas emissions through reduced mining and transportation of raw materials for the cement plant.

Table 1: 3-Year Expenditures for the Waste-to-Energy Facility

	2019	2020	2021
Operating Cost	\$18,525,517	\$19,292,506	\$19,283,850
Fly Ash Disposal Costs	\$1,453,703	\$1,256,519	\$1,465,739
Bottom Ash Disposal Costs	\$559,382	\$2,016,633	\$1,560,862
Total Expenditure	\$20,539,052	\$22,565,658	\$22,310,451
Tonnage	253,148	244,362	241,531
Unit Cost / Tonne	\$81.13	\$92.35	\$92.37

Table 2 outlines Metro Vancouver's portion of offsetting revenues. Electrical revenue in 2020 was reduced due to scheduled turbine generator maintenance which occurs every six years. Metal revenue includes revenue from the non-ferrous metals recovery system that was installed in the fall of 2018 and commissioned in 2019. In 2021, electrical revenue was back to normal levels and metals revenue was significantly increased due to higher metals prices.

Table 2: Metro Vancouver's Portion of Electrical and Metal Revenues for the Waste-to-Energy Facility

	2019	2020	2021
Electrical Revenue	\$5,793,404	\$5,308,843	\$5,778,816
Metals Revenue	\$199,889	\$191,800	\$436,187
Tonnage	253,148	244,362	241,531
Unit Revenue / Tonne	\$23.68	\$22.51	\$25.73

Table 3 shows net cost per tonne for the Waste-to-Energy Facility from 2019 to 2021. An approximately \$10 per tonne increase in net costs were observed between 2019 to 2021. This increase is primarily due to the decrease in processed tonnage along with increased bottom ash disposal costs, and was offset by increased metals prices. The Waste-to-Energy Facility annual tonnage processed is impacted by waste quality, equipment availability, and boiler outages. Over the two past years, approximately 15% of the unscheduled downtime at the facility was due to tube leaks in the primary economizers. This has a direct impact on the waste processing capacity and electricity production of the facility. The Board approved replacement of the primary economizers in November 2021, and installation will start in the fall of 2022.

Table 3: 3-Year Net Unit Cost for Operation and Maintenance of the Waste-to-Energy Facility (including debt servicing)

	2019	2020	2021
Unit Cost / Tonne (from Table 1)	\$81.13	\$92.35	\$92.37
Unit Revenue / Tonne (from Table 2)	\$23.68	\$22.51	\$25.73
Net Unit Cost / Tonne	\$57.45	\$69.84	\$66.64

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

The Waste-to-Energy Facility net unit cost/tonne decreased slightly in 2021 relative to 2020 primarily due to increased electrical and metals revenue. Metro Vancouver continues to work with Covanta to minimize facility costs and, overall, the Waste-to-Energy Facility continues to be a cost-effective regional disposal option.

CONCLUSION

Expenditures in 2021 for the Waste-to-Energy Facility totaled \$22.3 million, resulting in an expenditure of \$92.37 per tonne. Metro Vancouver's portion of electrical and metals revenues totaled \$6.2 million or \$25.77 per tonne. Based on the plant processing 241,531 tonnes of municipal solid waste, the net unit cost per tonne for operation and maintenance of the Waste-to-Energy Facility in 2021 was \$66.64 per tonne. Tipping fee revenues are accounted for separately and are not included in this analysis.

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To: Zero Waste Committee

From: Adriana Velázquez, Senior Project Engineer, Solid Waste Services

Date: June 9, 2022 Meeting Date: June 16, 2022

Subject: **Summer 2022 Zero Waste Programs and Events**

RECOMMENDATION

That the Zero Waste Committee receive for information the report dated June 9, 2022, titled "Summer 2022 Zero Waste Programs and Events".

EXECUTIVE SUMMARY

Metro Vancouver continues working towards its zero waste and circular economy goals and is committed to increasing waste diversion. As part of its efforts to encourage and promote reuse, recycling and responsible disposal of materials, Metro Vancouver is supporting and hosting a variety of zero waste programs and events throughout the summer of 2022. Programs that will be implemented over the summer of 2022 include reuse days at Metro Vancouver recycling and waste centres, community repair events in collaboration with member jurisdictions, food recovery network online events, and the Electoral Area A barge clean-up event. These new and evolving programs focus on moving up the waste hierarchy towards a local circular, low carbon economy through collaboration and strategic partnerships.

PURPOSE

The purpose of this report is to update the Zero Waste Committee on Metro Vancouver's zero waste programs and events planned for the summer of 2022 to encourage waste reduction and recycling in the region.

BACKGROUND

Metro Vancouver continues to advance initiatives to promote reuse, reduction, recycling and responsible disposal. Most in-person community activities were put on pause in 2020/2021 due to COVID-19 restrictions. With in-person events resuming and the broader use of online communication tools, Metro Vancouver has identified various opportunities to reach and motivate residents to do their part to reduce waste and increase reuse and recycling in the region. Collaborating with community organizations and member jurisdictions allows Metro Vancouver to support innovation, and exchange perspectives. The programs were developed to support the Board Strategic Plan goals of advancing initiatives aligned with a transformation to a circular economy, increasing food security, supporting local economies, and reducing greenhouse gas emissions.

SUMMER 2022 ZERO WASTE PROGRAMS AND EVENTS

The following sections summarize the zero waste programs and events planned by Metro Vancouver occurring in the summer of 2022.

Reuse Days at Metro Vancouver Recycling and Waste Centres

Metro Vancouver hosted a trial reuse education day at the North Shore Recycling and Waste Centre in June 2019. The event was well received by residents and staff, now staff are working to expand on the trial with a new pilot program at the North Shore Recycling and Waste Centre, in partnership with Urban Repurpose. The aim is to host a monthly event throughout the summer during which Urban Repurpose collects items from customers that can be reused instead of recycled and disposed, providing not only a learning opportunity for customers but a service which diverts materials from disposal. If the pilot is a success, the long term goal will be to find more reuse partners and build capacity to expand the events to other recycling and waste centres.

Community Repair Café Events

Following a report on reuse and repair initiatives, at the September 10, 2021 Zero Waste Committee meeting, a Zero Waste Committee member suggested Metro Vancouver engage third parties to facilitate local repair events. Metro Vancouver initiated a new funding model to support member jurisdictions to hold repair and reuse events where attendees can bring in items such as clothing, electronic devices, and small appliances for free assistance to repair the items. Metro Vancouver's support will help grow more events throughout the region. The joint funding model consists of two options:

- A municipal funding agreement where member jurisdictions host the event and are reimbursed for 50% of eligible expenses; and
- A regional procurement where Metro Vancouver provides the service through a contractor and the municipality hosts the event at their venue.

Monitoring and reporting back to Metro Vancouver on lessons learned is a requirement of the funding support and will help inform the evolution of the program. Summary results of the reporting will be made available to the committee when they are available.

Electoral Area A Waste and Recycling Barge Clean-up Event

Metro Vancouver solid waste services staff collaborate with Electoral Area A staff to collect hard-to-manage waste for recycling and disposal from remote water access communities in Electoral Area A, for which Metro Vancouver is the local government. Electoral Area A staff seek approval from the MVRD Board every two years to run these clean-up events, which rotate through the three water access areas (Howe Sound, Indian Arm, and Pitt Lake). The most recent event was held on August 22 and 23, 2020 along the west side of Pitt Lake. With this arrangement, residents have access to a clean-up event approximately every 6 years. This year the clean-up event is planned for residents on Bowyer Island and Passage Island, plus a potential stop on Bowen Island. Through collaboration with Electoral Area A staff, Metro Vancouver continues to improve the ability to recycle materials collected.

Metro Vancouver Food Recovery Network Online Events

Following a procurement process, Metro Vancouver contracted FoodMesh to develop a regional food recovery network to help rescue and redistribute surplus food, to feed animals and people. As part of the efforts to promote the network which supports the goal of waste reduction, FoodMesh is currently exploring new engagement opportunities to share information about the Metro Vancouver Food Recovery Network and how to get involved. Planned events for the summer include:

- Food Recovery in Vancouver webinar organized by Vancouver Food Runners and Union Gospel Mission.
- How to Solve Our Food Waste Problem online event organized by the City of Vancouver Food Policy Council - Food Waste Working Group.

As more details become available for all of these events, the Zero Waste Committee will be updated.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

Metro Vancouver initiatives described in this report are accommodated within the annual Solid Waste Services budget.

CONCLUSION

Metro Vancouver, in partnership with community organizations and member jurisdictions, is working to encourage and promote reuse, recycling, and responsible disposal of materials through a series of in-person and online events. This report summarizes new and ongoing zero waste programs and events carried out or funded by Metro Vancouver occurring in the summer of 2022 to support the transition towards a local circular economy and lower greenhouse gas emissions through collaboration and strategic partnerships.

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To: Zero Waste Committee

From: Larina Lopez, Division Manager, Corporate Communications, External Relations
Jay Soper, Communications Specialist, External Relations

Date: June 8, 2022 Meeting Date: June 16, 2022

Subject: **2022 Regional Clothing Waste Reduction Campaign Results**

RECOMMENDATION

That the Zero Waste Committee receive for information the report dated June 8, 2022, titled “2022 Regional Clothing Waste Reduction Campaign Results.”

EXECUTIVE SUMMARY

Now in its fourth year, Metro Vancouver’s “Think Thrice About Your Clothes” (“Think Thrice”) behaviour change campaign performed strongly in terms of engagement and the number of Metro Vancouver residents reached. The campaign’s goal is to increase diversion of textiles from the waste stream by raising awareness of the textile waste problem and empowering residents to take action. While clothing donation and recycling options were encouraged, the campaign has put additional emphasis on reduction and reuse options. The campaign creative received significant updates for 2022, introducing a new platform that celebrates the lives of “caring owners”, focusing on clothing items clothing and the stories they collect. The promotional strategy included broad reach and targeted digital tactics and delivered over 33 million impressions. Post campaign research indicates that 55% of residents who saw or heard Metro Vancouver advertising say they are more likely to donate their unwanted clothing, 48% are more likely to buy clothing that lasts longer, 38% are more likely to repair clothing, and 35% are more likely to buy less clothing.

PURPOSE

To update the Committee on the results of the 2022 regional clothing waste reduction campaign, “Think Thrice About Your Clothes”, as identified in the 2022 Zero Waste Committee Work Plan.

BACKGROUND

Clothing is one of the fastest growing waste streams due to rapidly changing fashion trend cycles and low prices, leading to increased clothing consumption and disposal. Approximately 20,000 tonnes of clothing waste is disposed annually in Metro Vancouver, despite local options to swap, sell, or donate unwanted clothing. Metro Vancouver residents throw out an average of 8 kg of clothing per person per year, equivalent to the weight of 44 t-shirts per person per year.

2022 was the fourth year of the Think Thrice campaign, which supports Metro Vancouver’s commitment to zero waste. Overcoming barriers and effecting long-lasting behavior change can take several years to achieve and requires a long term commitment. While tangible results can also take several years to identify, they can be measured through campaign engagement, public attitudes research, and clothing disposal metrics identified through Metro Vancouver’s annual waste composition studies.

2022 REGIONAL “THINK THRICE ABOUT YOUR CLOTHES” CAMPAIGN

Campaign Timing

The campaign was in market February 28 to May 8, 2022, with some elements (e.g. Google Search) in-market all year long. This report covers results of the Think Thrice campaign from February 28 to May 8, 2022.

Campaign Approach

The campaign’s objectives are to raise awareness of the clothing waste issue and empower residents to take action to reduce their textile waste (reduce, repair, donate/recycle).

The 2022 campaign focused on hopeful and action-oriented messaging, while addressing associated barriers to adopting desired behaviours. The campaign creative has received significant updates for 2022, introducing a new platform that celebrate the lives of “caring owners” by focusing exclusively on items of clothing and the stories they collect. The new platform builds off the premise that if clothes are to be spared from the landfill, they require “caring owners.” Audiences were directed to a new campaign website URL, www.think-thrice.ca, to learn more about different ways they can reduce their clothing waste.

While the campaign targeted all Metro Vancouver residents, the primary audience was adults aged 18–64, with secondary segments consisting of women and parents. Additional emphasis has been put on reduce and reuse options for all audience demographics.

Website

The campaign website focuses on three main areas of messaging:

- Reduce – tips for identifying quality items when purchasing new or second-hand clothing, including rental options.
- Repair – tips for better care and repair of clothing, including laundry and stain removal, as well as clothing repair and alteration options and ideas.
- Donate/Recycle – what to do with unwanted clothing, including information on reselling, repurposing, recycling, and donating.

Promotional Strategy

A combination of digital and out-of-home targeted placements were employed to reach residents throughout Metro Vancouver. Tactics included digital (YouTube, Facebook, Instagram, search ads, interactive Facebook Live segments), a television PSA, radio host endorsements with Rock 101 and JRFM, out-of-home (digital billboards, super bus kings). New for 2022 was the addition of radio host endorsements. This change was done based on previous successes experienced on other Metro Vancouver campaigns, and provided a different approach to help increase awareness around textile waste by tapping into both stations' strong female listenership. Transit shelter ads (TSAs) were replaced with digital billboards and super bus kings with headlines to provide a more impactful presence in the market. All tactics drove residents to the campaign website (www.think-thrice.ca).

Community Outreach

While outreach events have been included as a tactic for this campaign in previous years, in-person events were not pursued this year due to COVID-19 and public health protocols.

Facebook Live Virtual Events

In lieu of outreach events, the Facebook Live events provided an opportunity to feature several guest speakers and subject matter experts to engage residents on clothing campaign related messaging and topics between March and April, 2022. In total, three events were executed virtually, including one broadcast from the Annacis Research Centre multimedia studio:

- March 10 – Tailoring Services. Guest speaker: Kristof, Modernize Tailors.
- March 24 – Brands Tackling Clothing Waste. Guest speaker: Lennard Taylor, Lennard Taylor Design Studio.
- April 7 – Donation Services. Guest speakers: Slav Gudelj, Big Brothers of Greater Vancouver; Tonny Colyn, The Salvation Army.

Each segment covered a different clothing waste reduction-related topic and provided opportunities for residents to engage with subject matter experts to ask questions in real time. The live stream videos were subsequently posted to Metro Vancouver's Facebook page after each segment, where they generated additional engagement.

Engagement of Metro Vancouver Members

Campaign materials were made available to all Metro Vancouver members, including social media content and co-branded assets like posters and digital transit shelters.

Results

Website Traffic

- The campaign webpages had over 19,000 page views (approx. 300 page views/day) from February 28–May 08, 2022.
- The majority of users (68%) accessed the campaign website via a mobile device.
- Besides the landing page, the most visited pages were within the donation and recycling section of the website (i.e. 'Where can I donate or recycle'), indicating there's still a need to focus campaign messaging on providing information about what clothing can be donated and where.

Media Performance

- The campaign delivered over 33 million impressions.
- The broad traditional tactics delivered over 22 million impressions across television, digital billboards and super bus kings. The television PSA aired 2,175 times.
- The targeted digital tactics delivered 5.7 million impressions across social media, YouTube, and Google Search, with a reach of 423,292.
- There were 818,600 video views on YouTube.
- The three Facebook livestream events generated over 10,000 video views.
- Radio delivered 5.3 million impressions (292 spots).

Earned Media

Print and online stories mentioning the campaign appeared in community newspapers and a CBC story that appeared on their website, Radio-Canada, Yahoo, and Municipal Info Net. Broadcast coverage included CBC radio and TV and Red FM, with Director Jack Froese, chair of the Zero Waste Committee,

and senior engineer Karen Storry as spokespeople. In total, print, online, and broadcast media reached nearly 17 million people, providing an ad value equivalent to more than \$146,000.

Post-Campaign Survey

A post-campaign survey was conducted in May 2022.

- Residents aged 18-34 were most likely to say they've seen or heard campaign advertisements.
- As a result of viewing Metro Vancouver's advertising, 55% of residents who saw or heard the advertising say they are more likely to donate their unwanted clothing.
- Just under one-half (48%) say they are more likely to buy clothing that lasts longer, while fewer (38%) will repair clothing to prolong its life, or buy less clothing (35%).
- Overall, four-in-ten (40%) residents who saw or heard Metro Vancouver's advertising say they discussed its message with others.
- Residents were most likely to have seen or heard the ads on social media, bus sides, and the public service announcement ad on television.

Plans for 2023 Regional Campaign

The campaign will run again in early 2023, and will continue to use the new "caring owners" platform, with continued evolution of messaging and ad creative. The target audience and key messages are to be determined, but will be based on insights from the 2022's campaign, post-campaign research and any additional data from Solid Waste Services.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

The 2022 clothing campaign was provided within a budget of \$150,000 supported under the Zero Waste Communications Program of the 2021 General Government budget, managed by the External Relations Department.

CONCLUSION

This is the fourth year of Metro Vancouver's clothing waste reduction behaviour change campaign using the "Think Thrice" platform. The campaign's objectives were to raise awareness of the clothing waste issue and empower residents to take action to reduce their textiles waste (reduce, repair, donate/recycle).

A range of indicators can be employed to measure campaign efficacy and behavior change over time, including engagement, public attitudes research, and changes in clothing disposal identified through Metro Vancouver's annual solid waste composition studies. The 2022 "Think Thrice About Your Clothes" campaign performed strongly in terms of engagement and the number of Metro Vancouver residents reached. These indicators, along with additional research, will inform future iterations of the Think Thrice campaign and provide the ability to measure behavior change over time.

Attachments:

1. Posters

2. Bus Kings
3. Digital Billboards
4. Social Media Ads
5. Facebook Live

References:

1. [Textiles Waste Reduction Website](#)
2. [Clothing Waste Reduction PSA](#)

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Posters
“THINK THRICE” SAMPLE CREATIVE

metrovancouver



1

THESIS
DEFENSE

24

BUSINESS
MEETINGS

3

PROMOTIONS

1

ENTERPRISING
OWNER

When we think thrice about our clothes not only do they last longer and collect more stories, we help minimize landfill waste.

THINK THRICE ABOUT YOUR CLOTHES
Reduce, Repair, Reuse.

think-thrice.ca

metrovancouver



26

CAMPFIRES

102

SUNSETS

8

SHOOTING
STARS

1

GRATEFUL
OWNER

When we think thrice about our clothes not only do they last longer and collect more stories, we help minimize landfill waste.

THINK THRICE ABOUT YOUR CLOTHES
Reduce, Repair, Reuse.

think-thrice.ca

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46

CONCERTS

10

TOURS

1

FIRST
DATE

3

DEDICATED
OWNERS



When we think thrice about our clothes not only do they last longer and collect more stories, we help minimize landfill waste.

THINK THRICE ABOUT YOUR CLOTHES
Reduce, Repair, Reuse.

think-thrice.ca

Super Bus Kings



Digital Billboards



Social Media Ads

Metro Vancouver
March 29 · 🌐

'These boots were made for walking'... a long way! Look for quality items that are made to last.
#ThinkThriceAboutYourClothes

WWW.THINK-THRICE.CA
Think Thrice About Your Clothes

Learn more

Metro Vancouver
March 29 · 🌐

When we think thrice about our clothes not only do they last longer and collect more stories, we help minimize landfill waste.

WWW.THINK-THRICE.CA
Think Thrice About Your Clothes

Learn more

ahhlease · Follow

ahhlease I'm back at it with Metro Vancouver for their Think Thrice campaign... talking about reducing, repairing and reusing our clothing to minimize landfill waste. This came as a SHOCK to me, but annually... 44 million lbs of clothing end up in the landfill just in metro Vancouver alone! So here's my humble brag, and tip! Buy quality items, and buy second hand!! I paid a decent amount for this leather jacket, but here's the thing, that was 10 years ago! Catch my drift?
For more tips head to www.think-thrice.ca
#ThinkThriceAboutYourClothes

Edited · 1h

buffaloroam.joshmaverick

5.2m · 1 like · Reply

Liked by richmhope and others

1 HOUR AGO

Add a comment...

Post details

Reported stats may be delayed from what appears on post

937 JR Country
March 23 · 🌐

Thrifting and repairing your clothes is the BEST way to help reduce clothing waste in our landfills. Follow this map to find the best thrift stores in Vancouver! Find out more at www.think-thrice.ca
-Kristen

DAILYHIVE.COM
This map takes you to East Vancouver's hidden thrift stores | Curated

0 People reached
0 Engagements

26 Comments 11 Shares

Like Comment Share

Performance for your post

0 People Reached

77 Reactions, Comments & Shares #

34 Like	27 On Post	7 On Shares
5 Love	3 On Post	2 On Shares
36 Comments	11 On Post	0 On Shares
11 Shares	11 On Post	0 On Shares

0 Post Clicks

0 Photo views	0 Link clicks	0 Other clicks #
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NEGATIVE FEEDBACK

0 Hide post
0 Report as spam

0 Hide all posts
0 Unlike Page

Reported stats may be delayed from what appears on posts

10:13

Instagram post showing a dog lying on a bed with clothes.

View insights

Liked by richmhope and 73 others

937country All the clothes I picked up from my clothing swap... thank my dog palmet! Such a great find and can't wait to wear them all! Thanks for the love

Post insights

74 Likes
2 Comments
0 Shares
0 Saves

Overview

Accounts reached	3,284
Accounts engaged	78
Profile activity	9

Reach

3,284 Accounts Reached

3,248 Impressions
30 New Followers

Impressions

From Home	3,293
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Facebook Live

REDUCE REPAIR REUSE

THINK THRICE ABOUT YOUR CLOTHES
Reduce, Repair, Reuse.

COMMUNITY ABOUT

1
THESIS
DEFENSE
24
BUSINESS
MEETINGS
3
PROMOTIONS
1
ENTERPRISING
OWNER



Reduce, repair, and reuse your clothes

When we think thrice about our clothes not only do they last longer and create more stories, we help to minimize landfill waste.

Metro Vancouver was live, March 10

Textiles Live Series: Tailoring Services
In this segment, Metro Vancouver Solid Waste Engineer, Karen Story, is joined by Kristof from Modernize Tailors to share tips to find clothes that last, fit well and make you feel good all while creating less waste.
See more

29 13 Comments 4.3K Views

8.4K People reached 51 Reactions, comments, and shares

4.4K 3-Second Video Views Retention curve

View more video details

Like Comment Share

Comments Hide

Metro Vancouver 1:45

Here's the Metro Vancouver textiles campaign website that Karen mentioned: www.think-thrice.ca

Like Reply 10w Edited

Metro Vancouver 3:39

Here's the link to Modernize Tailors: <https://www.modernizetailors.com/>

Like Reply 10w Edited



Metro Vancouver was live, March 10

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In this segment, Metro Vancouver Solid Waste Engineer, Karen Story, is joined by Kristof from Modernize Tailors to share tips to find clothes that last, fit well and make you feel good all while creating less waste.
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Like Reply 10w Edited

Metro Vancouver 3:39

Here's the link to Modernize Tailors:

Like Reply 10w Edited



Metro Vancouver was live, April 7

Textiles Live Series: Donation Services
Metro Vancouver Solid Waste Engineer, Karen Story is joined by representatives from The Salvation Army and Big Brothers to discuss clothing donation services in the region.
See less

24 10 Comments 3.7K Views

8.9K People reached 48 Reactions, comments, and shares

3.8K 3-Second Video Views Retention curve

View more video details

Like Comment Share

Comments Hide

Metro Vancouver 1:09

Here's our campaign website that Karen mentioned: <http://www.metrovancouver.org/thinkthrice>

Like Reply 0w

Metro Vancouver 2:19

Here's the link to where you can donate your items through The Salvation Army

Like Reply 0w

To: Zero Waste Committee

From: Larina Lopez, Division Manager, Corporate Communications
Alison Schatz, Senior Communications Specialist, Corporate Communications

Date: June 9, 2022 Meeting Date: June 16, 2022

Subject: **Update on Metro Vancouver's Participation in the Love Food Hate Waste Canada Campaign**

RECOMMENDATION

That the Zero Waste Committee receive for information the report dated June 9, 2022 titled "Update on Metro Vancouver's Participation in the Love Food Hate Waste Canada Campaign."

EXECUTIVE SUMMARY

As part of its commitment to waste prevention, Metro Vancouver successfully launched a regional Love Food Hate Waste (LFHW) campaign in 2015. LFHW inspires and empowers people to prevent household food waste. Building on the success of the regional campaign, the National Zero Waste Council (NZWC), an initiative of Metro Vancouver, launched a national campaign engaging audiences across Canada through a partnership arrangement. Metro Vancouver is one of eight partners in this cross-Canada, bilingual campaign to prevent food waste. As a partner, Metro Vancouver receives creative for regional activations, and benefits from national media buys, access to influencers, and press outreach. The campaign performed strongly regionally with close to four million total impressions, a reach of close to three million people, and close to 30,000 social media engagements. The national campaign delivered over 29.8 million impressions.

PURPOSE

To update the Committee on Metro Vancouver's participation in the Love Food Hate Waste Canada behaviour change campaign.

BACKGROUND

Metro Vancouver launched a regional Love Food Hate Waste campaign in May 2015. The objective was to prevent avoidable household food waste. The campaign was licensed from Waste and Resources Action Programme UK.

In July 2018, building on the success of the Metro Vancouver campaign, the National Zero Waste Council (NZWC) launched a national campaign, Love Food Hate Waste Canada (Reference 1). The NZWC holds the Canadian license and manages LFHW as a self-sustaining campaign available in English and French. Partnership fees cover the national expenses, and all partners commit additional resources for local activation. Metro Vancouver is a founding partner in the national campaign.

There are now eight campaign partners with LFW Canada: the cities of Toronto, Vancouver, and Winnipeg; Capital Regional District; Metro Vancouver; RECYC-QUÉBEC; Recycling Council of Alberta; and grocery retailer Walmart.

The LFHW campaign aligns with Metro Vancouver's "Food Scraps Aren't Garbage" campaign, which has the related but distinct objective of diverting food waste to the green bin (in support of the Organics Disposal Ban).

This report provides an update on the past year of Metro Vancouver's engagement with the Love Food Hate Waste Canada behaviour change campaign, as identified in the 2022 Zero Waste Committee Work Plan.

LOVE FOOD HATE WASTE CANADA (LFHW)

Regional Activation and Results

Metro Vancouver ran a regional version of the national campaign in summer and fall 2021 that included digital media (Facebook, Instagram, Pinterest, and Google Search). The campaign leveraged the "5 Ways With" creative platform (Attachment 1). This activation included three Metro Vancouver-based social media influencers, who created and shared content on Instagram. From March 7–13, 2022, the regional campaign participated in a nationwide social media activity during Food Waste Action Week (Reference 2) by sharing content on social media, running a paid promotion on Facebook and Instagram, and working with a social media influencer.

Performance highlights from the past year include close to four million total impressions across social media and Google Search, with a reach of close to three million. There were 5,500 video views, over 22,000 clicks to the "Five Ways With" website, and close to 30,000 likes, comments and shares on social media.

National Campaign Highlights and Results

Over the period of April 1, 2021 to March 31, 2022, the national campaign objectives were to continue to position Love Food Hate Waste Canada as the leading resource to prevent food waste at home, and to help residents take action with easy tips and recipes. Performance highlights include over 29.8 million impressions, 108,000 website visits, and 44 earned media hits.

The national campaign includes tactics that are "always on," which is complemented by several promotions throughout the year. The "always on" tactics act as prompts for residents, and ensures that they can find tips and recipes when they are looking for them. It includes social media, search engine marketing (Google Search ads), search engine optimization, and a monthly newsletter with over 2,500 subscribers (Reference 3). The content includes data, tips and recipes, and draws on the extensive resources created by Love Food Hate Waste Canada, like the A-Z Storage Guide, the Fridge Guide, and recipes to use up leftovers. A key differentiator of Love Food Hate Waste Canada is that all the content is fact-checked by a subject matter expert. The social media and newsletter also feature seasonal themes and holidays, notable days like Earth Day or "National Clean Out Your Fridge Day," and features like #FoodWasteFriday.

The "5 Ways With" promotion (Attachment 1) launched in May 2021. It features tangible and creative tips to use up commonly wasted foods. The promotion included eight social media influencers across Canada, a press release, and outreach. All tactics directed to the promotion landing page (Reference 4). Overall, there were 9.3 million impressions, over 50,000 website visits, and 10 earned media hits.

A second flight of “5 Ways With” ran in October and November 2021. The creative was updated to feature seasonal fall foods (Attachment 1), and Pinterest was piloted during this promotion. The fall promotion delivered over 14 million impressions, 38,000 website visits, and nine pieces of earned media.

The fall 2021 promotion also included a video featuring National Zero Waste Council Chair Jack Froese (Reference 5), which was posted during Thanksgiving weekend and viewed nearly 500 times.

From March 7–13, 2022, Love Food Hate Waste Canada joined WRAP, and the global LFHW community for the second annual Food Waste Action Week (Reference 2). The campaign aimed to drive home the message, “Food Waste Feeds Climate Change.” The promotion included social media, media outreach, and an amplification package sent to campaign partners and the food waste community. There were 6.5 million impressions, 20,000 website visits, and over 25 pieces of press pick up. There were over 100 organic amplifications from campaign partners and the food waste community, further expanding the campaign’s reach.

Finally, the data about household food waste in Canada was updated. The existing data was revisited to present the scope and scale of food waste in a way that is relatable to residents and updated to align with current food costs and changes in population. This updated data is being rolled out on the website, social media, and other touch points. Three new stats were featured in Earth Day 2022 (Attachment 2) promotions, including:

- The average Canadian household wastes 4.5 meals every week.
- We waste 785,000 grocery bags of edible food every day in Canada.
- (Updated) An average household wastes \$1,300 of edible food per year.

PLANS FOR 2022 / 2023

Metro Vancouver plans to continue amplifying the national Love Food Hate Waste Canada campaign with regional activations and participating in coordinated partner activity. Metro Vancouver is launching another regional amplification of the “5 Ways With” campaign in August 2022, which will leverage the national creative.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

The 2022 budget for Metro Vancouver’s participation in the Love Food Hate Waste Canada campaign is \$82,000, supported under the Zero Waste Communications Program of the 2022 General Government budget and managed by the External Relations department.

CONCLUSION

The Love Food Hate Waste Canada campaign aims to prevent household food waste across Canada. As a campaign partner, Metro Vancouver is included in national media buys and campaign activities. We also activate the campaign locally using materials created and provided by the National Zero Waste Council. Highlights from the past year of the campaign include the “5 Ways With” promotion” and Food Waste Action Week. Metro Vancouver plans to continue to participate in national

coordinated activities and activate the campaign regionally, with a regional "5 Ways With" promotion launching in August 2022.

Attachments:

1. "5 Ways With" Creative Samples
2. Earth Day 2022 Creative Samples

References:

1. [Love Food Hate Waste Canada Website](#)
2. [Food Waste Action Week Webpage](#)
3. [Love Food Hate Waste Canada Newsletter](#)
4. [5 Ways With Commonly Waste Foods Webpage](#)
5. [Food Saving Tips from National Zero Waste Council Chair Jack Froese Video](#)

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“5 WAYS WITH” CREATIVE SAMPLES

Spring 2021



Spring 2021 – Social Media Influencer Example





EARTH DAY 2022 CREATIVE SAMPLES

