



To: Public Works and Transportation Committee **Date:** April 21, 2026
From: Roeland Zwaag **File:** 10-6125-01/2025-Vol
General Manager, Engineering and Public 01
Works
Re: **Mitchell Island Environmental Stewardship Initiative Update**

Staff Recommendation

That the report titled “Mitchell Island Environmental Stewardship Initiative Update”, dated April 21, 2026, from the General Manager, Engineering and Public Works, be received for information.

Executive Summary

This report provides Council with an update on the Mitchell Island Environmental Stewardship Initiative, including program development and implementation from 2019 to 2025. The Initiative was endorsed by Council in 2019 in response to ongoing environmental concerns such as hazardous spills originating from local business activities in the area.

Since then, the Initiative has evolved from a primarily outreach-focused program into an integrated framework that combines environmental monitoring, coordinated inspections, inter-agency collaboration, business engagement and future stormwater quality improvement measures.

Results from the City’s efforts demonstrate the value of an area-based, preventative and data-informed approach to environmental compliance in complex industrial areas with minimal impacts to existing staff and budgetary resources.

Staff Report

Origin

Mitchell Island (the Island) is a key industrial area within the City of Richmond that is connected to the ecologically sensitive Fraser River estuary through an extensive open and closed drainage network. In response to persistent environmental concerns on the Island including spills, sediment accumulation, contaminated stormwater runoff and localized drainage system blockages, Council endorsed the Mitchell Island Environmental Stewardship Initiative (the Initiative) in 2019.

The Initiative supports compliance with the City's *Pollution Prevention and Clean-up Bylaw No. 8475* as well as regional, provincial and federal regulations. Efforts also promote environmental stewardship among local businesses and landowners, while improving coordination between municipal and senior government agencies within this complex industrial setting.

This report provides an update on the Mitchell Island Environmental Stewardship Initiative, including program development and implementation from 2019 - 2025.

This report supports Council's Strategic Plan 2022-2026 Focus Area #5 A Leader in Environmental Sustainability:

Leadership in environmental sustainability through innovative, sustainable and proactive solutions that mitigate climate change and other environmental impacts.

Analysis

Mitchell Island is a human-made island located in the North Arm of the Fraser River that has been zoned for industrial use since 1949. The City's Official Community Plan recognizes the Island's ongoing industrial role and economic importance, due in part, to its location adjacent to the Fraser River. The Fraser River supports a number of regionally significant species, including salmon and sturgeon, that are sensitive to habitat impacts such as spills and excess sediment.

Mitchell Island supports a range of industrial uses including materials storage and handling, vehicle and equipment repair, recycling and waste processing, food processing and manufacturing operations. Industrial operations on the Island are subject to various regional, provincial and federal permitting and approvals. Locally, activities on Mitchell Island are also subject to municipal regulatory requirements including the City's *Pollution Prevention and Clean-up Bylaw No. 8475*, *Fire Protection and Life Safety Bylaw No. 8306* and *Building Regulation Bylaw No. 7230*. Staff work collaboratively to manage environmental risks and support regulatory compliance including inspections, enforcement and oversight. This coordinated approach strengthens regulatory oversight, reduces duplication and supports environmental protection.

Properties on Mitchell Island are serviced by an open and closed drainage network that collects and conveys surface runoff to the Fraser River via a pumpstation located at the end of Mitchell Road. This infrastructure requires more routine maintenance than other industrial areas in the City due to elevated sediment accumulation associated with industrial activities.

If not managed properly, excess sediment can reduce drainage capacity, contribute to blockages within the system and increase the risk of localized flooding and impacts to downstream receiving environments.

Stewardship Initiative Framework and Implementation

To address overlapping jurisdiction and better understand the cumulative risks associated with industrial activity on Mitchell Island, the City coordinated a multi-agency meeting in 2018 to help define the Initiative's framework and implementation approach. This engagement created a shared understanding of environmental risks, clarified regulatory roles and responsibilities and identified opportunities for stronger coordination and proactive risk management, marking a shift away from complaint-driven enforcement toward a more integrated and preventative approach.

The Initiative is delivered through a proactive, risk-based approach that includes targeted outreach, coordinated inspections and ongoing collaboration with regional, provincial, and federal regulators. Activities are prioritized based on environmental risk, complaint history, and monitoring and inspection data, with particular focus on industrial areas along Mitchell Road and Twigg Place where higher-risk activities such as material handling, equipment washing, outdoor processing and waste and recycling operations are concentrated. This approach enables staff to direct resources toward locations with the greatest potential to impact the Fraser River and City infrastructure including flood conveyance capacity.

Joint inspections are conducted with applicable regulatory agencies to provide consistent, cross-jurisdictional messaging to businesses. Information gathered through inspections, spill reports, and monitoring is used to identify recurring issues, inform compliance efforts and refine priorities over time.

Collectively, these efforts have established a coordinated, data-informed approach that supports improved environmental compliance, strengthened regulatory alignment, enhanced protection of City infrastructure and contributed to improved stormwater management and environmental stewardship on Mitchell Island.

Key Achievements

Staff have delivered a range of monitoring, inspection, infrastructure planning and stewardship activities supporting environmental protection and pollution prevention. Key achievements are summarized in Table 1, with additional details provided in Attachment 1.

Table 1: Key Achievements of the Mitchell Island Environmental Stewardship Initiative

Principle	Objective	Key Outcomes
Environmental Monitoring and Sampling	Improve understanding of stormwater conditions to inform inspections and infrastructure planning.	Implementation of a comprehensive stormwater and sediment monitoring program, including targeted sampling across the Island. Establishment of baseline data to identify contaminants and support targeted inspections and infrastructure planning.
Interagency Collaboration	Strengthen coordination among regulatory agencies and improve compliance outcomes.	Coordination of a multi-agency meeting to define the Initiative's framework and approach. Delivery of joint inspections with provincial and federal regulators, including 12 coordinated inspections (2018–2023) and 16 coordinated inspections (2024–2025).
Environmental Stewardship and Stormwater Management	Support pollution prevention and improve stormwater quality through business practices and infrastructure planning.	Delivery of environmental stewardship outreach and engagement activities, including a multi-agency information session with industry stakeholders. Delivery of site-based education and guidance to businesses during inspections and follow-up visits to support pollution prevention and regulatory compliance.
Stormwater Improvements	Improve stormwater quality and drainage system performance through infrastructure and source control measures.	Completion of a Green Stormwater Infrastructure Feasibility Study. Identification of a preferred treatment-train approach to improve stormwater quality and support drainage system performance.

Key Findings and Next Steps

Experience gained through delivery of the Initiative demonstrates that a targeted, area-based approach provides an effective framework for managing environmental risks in complex industrial areas. Program implementation has improved understanding of stormwater conditions and industrial operations through monitoring and data collection, enabling more strategic, risk-based inspections and earlier identification of potential issues. Coordinated inspections and ongoing collaboration with provincial and federal regulators have strengthened regulatory alignment, reduced duplication and supported more consistent expectations for businesses.

The Initiative has also demonstrated the value of proactive engagement in reducing reliance on complaint-driven enforcement, while supporting pollution prevention and improved environmental compliance.

Continued coordination with regulatory partners and the use of monitoring and inspection data will support ongoing refinement of program delivery. Staff will continue to monitor outcomes and identify opportunities to improve environmental protection, infrastructure resilience and drainage system performance on Mitchell Island.

Budgetary Implications

There are no new financial impacts associated with this report. The Initiative is delivered within existing operating budgets and staff resources.

Conclusion

The Mitchell Island Environmental Stewardship Initiative was originally endorsed by Council in 2019 as a proactive response to persistent environmental concerns in a sensitive industrial area directly connected to the Fraser River. Since its implementation, the Initiative has evolved into a coordinated and data-informed environmental risk management framework that integrates monitoring, inspections, regulatory collaboration and business engagement.

Program delivery demonstrates the value of targeted outreach, coordinated inspections, environmental monitoring and cross-jurisdiction collaboration in supporting pollution prevention and improving environmental compliance. The Initiative has strengthened regulatory alignment, improved early identification of environmental risks and reinforced environmental stewardship among businesses operating in a complex industrial setting. This approach also supports continued proactive engagement with businesses to guide improvements in site operations, as well as the design, construction and maintenance of facilities. Staff recommend that this report be received for information.

Respectfully submitted,

Chad Paulin, Director, Climate & Environment

Report Contributors

This report was prepared by Nadia Chan, Manager, Environment and reviewed by Community Bylaws & Licencing, Richmond Fire-Rescue, Building Approvals and Engineering.

Endorsed by Serena Lusk, CAO

Att. 1: Mitchell Island Stewardship Initiative 2019-2025

Mitchell Island Environmental Stewardship Initiative 2019–2025



A coordinated initiative to improve stormwater quality and strengthen environmental protection in a complex industrial area connected to the Fraser River.

MARCH 2026



BACKGROUND

Mitchell Island is a key industrial area within the City of Richmond located in the North Arm of the Fraser River. The Island supports a wide range of industrial businesses and is directly connected to the Fraser River through an extensive drainage network that conveys stormwater runoff to the river.

Over time, environmental concerns were observed on the Island, including spills, sediment accumulation, and contaminated stormwater runoff associated with industrial activities.

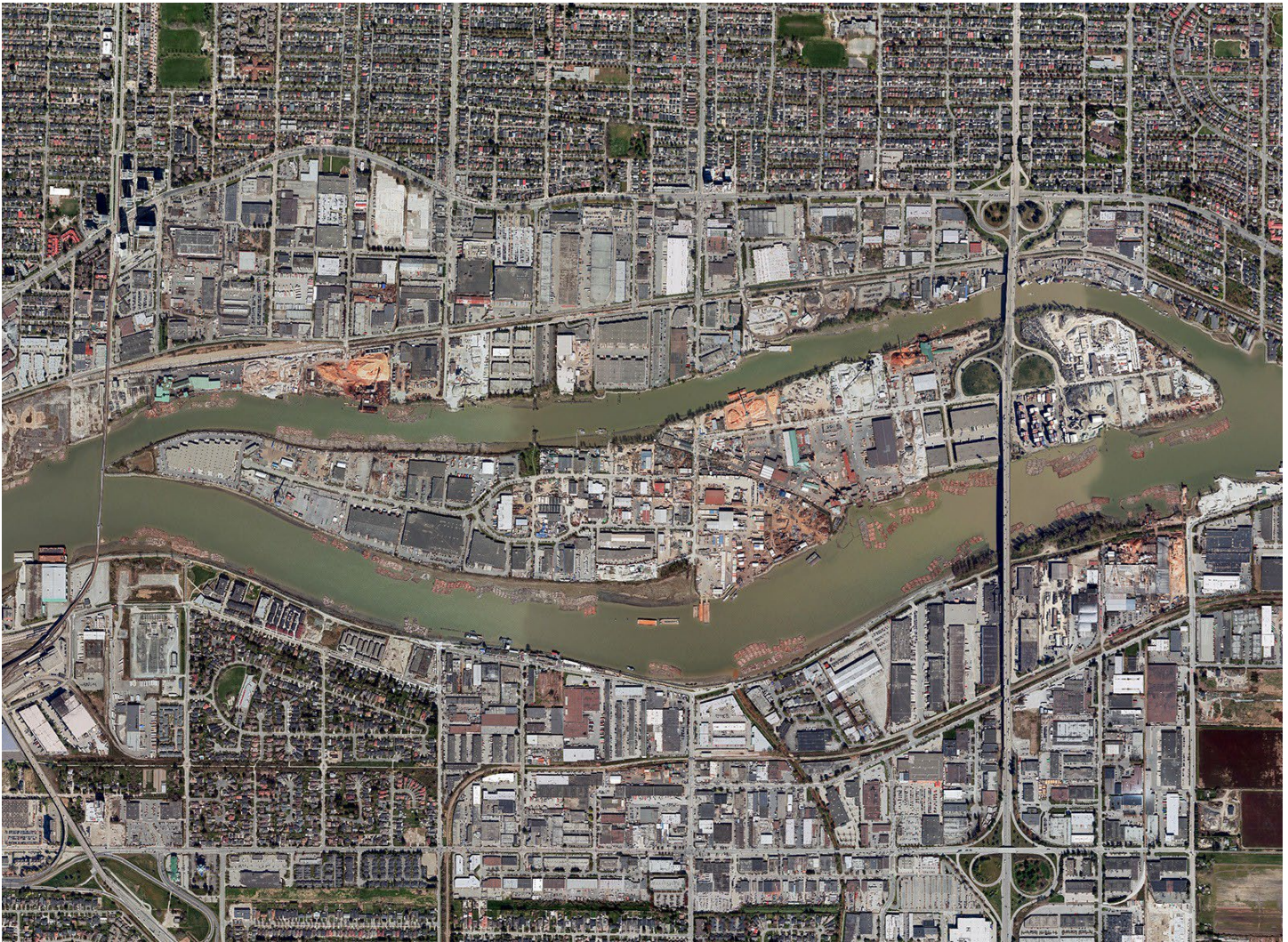
In response, the City of Richmond convened a multi-agency workshop in 2018 with municipal, provincial, and federal regulators to review environmental conditions on the Island and identify opportunities to

improve coordination and environmental outcomes.

The workshop used a structured “Now, Wow, How” approach to:

- Review existing conditions
- Identify improved environmental outcomes
- Develop practical actions to achieve those outcomes

The outcomes of this engagement informed Council endorsement of the Mitchell Island Stewardship Initiative in 2019, which included three stewardship principles. A fourth principle was added in 2021 as monitoring results identified ongoing stormwater quality challenges.



Mitchell Island in the Fraser River is occupied by many heavy industrial businesses such as auto wreckers, materials salvage and metal recyclers, repair shops, metal fabrication shops, food processing plants, concrete plants, and timber mills.

MITCHELL ISLAND STEWARDSHIP INITIATIVE

The Mitchell Island Stewardship Initiative uses a coordinated and preventative approach to manage environmental risks associated with industrial activities in a sensitive area connected to the Fraser River.

The initiative focuses on four principles that support improved monitoring, regulatory coordination, business engagement, and stormwater quality improvements.

Principle 1

Environmental Monitoring and Sampling
Monitoring programs provide data on stormwater conditions and help identify potential sources of contamination.

Principle 2

Collaboration Among Environmental Regulators
Joint inspections and information sharing strengthen regulatory oversight and improve coordination among agencies.

Principle 3

Environmental Stewardship with Businesses
Outreach and engagement encourage businesses to adopt best management practices that reduce environmental risks.

Principle 4

Stormwater Quality Improvements
Infrastructure planning and source control measures support long-term improvements to stormwater quality before discharge to the Fraser River



Sediment sampling from the north shore riverbank of Mitchell Island (October 2021).

Initiative Timeline

- 2018** **Now–Wow–How Workshop**
The City convenes municipal, provincial, and federal regulators to review environmental conditions on Mitchell Island and identify opportunities for coordinated action.
- 2019** **Council Endorsement**
Council endorses the Mitchell Island Stewardship Initiative and its three initial stewardship initiatives.
- 2019** **Joint Regulatory Inspections**
Federal, provincial, and municipal regulators conduct 12 coordinated site inspections on Mitchell Island to improve oversight, share information, and address environmental risks (2019 – 2022).
- 2020** **Environmental Monitoring Program**
A comprehensive stormwater monitoring program is implemented, including continuous water quality monitoring and sampling across the Island.
- 2021** **Stormwater Infrastructure Planning**
A Green Stormwater Infrastructure feasibility study is completed to identify options to improve stormwater quality before discharge to the Fraser River.
- 2024– Expanded Initiative Delivery 2025**
Inspection activity increases, with 31 inspections, and 16 joint inspections completed in 2025. A formal engagement tracking system is introduced to improve data tracking and coordination.



Now, Wow, How Regulator Collaboration at Richmond City Hall (November 2018).

PRINCIPLE 1

Create an environmental monitoring and sampling program

The City implemented a comprehensive monitoring program to better understand stormwater conditions on Mitchell Island and identify potential sources of contamination entering the storm drainage system.

Monitoring activities include continuous water-quality monitoring, grab sampling during wet and dry weather conditions, and sediment sampling at more than 25 sites within the storm system and adjacent areas of the Fraser River.

Monitoring results have identified contaminants associated with industrial runoff, including:

- Elevated pH levels
- Metals exceeding water quality guidelines
- High concentrations of suspended solids
- Petroleum hydrocarbons and PAHs
- PCBs detected in storm sewer sediments
- Detection of the compound 6PPD-quinone

This monitoring data supports targeted inspections, improved operational practices, and planning for future stormwater treatment infrastructure.



Sampling of Fraser River water near Mitchell Island (October 2019).



Oil sheen on water discharging from a stormwater outfall on Mitchell Island.

PRINCIPLE 2

Increase collaboration among environmental regulators

The initiative strengthened collaboration among municipal, provincial, and federal regulators responsible for environmental protection on Mitchell Island. Early activities focused on establishing coordination among regulatory agencies and improving understanding of environmental conditions on the Island. In 2019, a water-side foreshore inspection was conducted in collaboration with federal and provincial partners to support inter-agency coordination and improve understanding of shoreline conditions.

Historically, inspections and enforcement activities were conducted independently by multiple agencies. The initiative introduced coordinated inspections, improved information sharing, and consistent messaging to businesses regarding environmental requirements. Between 2018 and 2023, twelve joint federal–provincial–municipal inspections were conducted on Mitchell Island. These coordinated site visits strengthened regulatory alignment, reduced duplicated efforts, and established consistent messaging to businesses regarding spill prevention, drainage management, and hazardous materials handling.

Initiative delivery has expanded in recent years, supported by improved tracking and a more structured, risk-based approach. In 2024, staff conducted 15 inspections. In 2025, inspection activity increased to 31 inspections, including 16 joint inspections with regulatory partners.



Water-based inspection of Mitchell Island Foreshore with local environmental regulators (October 2019).

PRINCIPLE 3

Work with businesses to nurture environmental stewardship

The stewardship program also emphasizes engagement with businesses to support pollution prevention and improved environmental management practices.

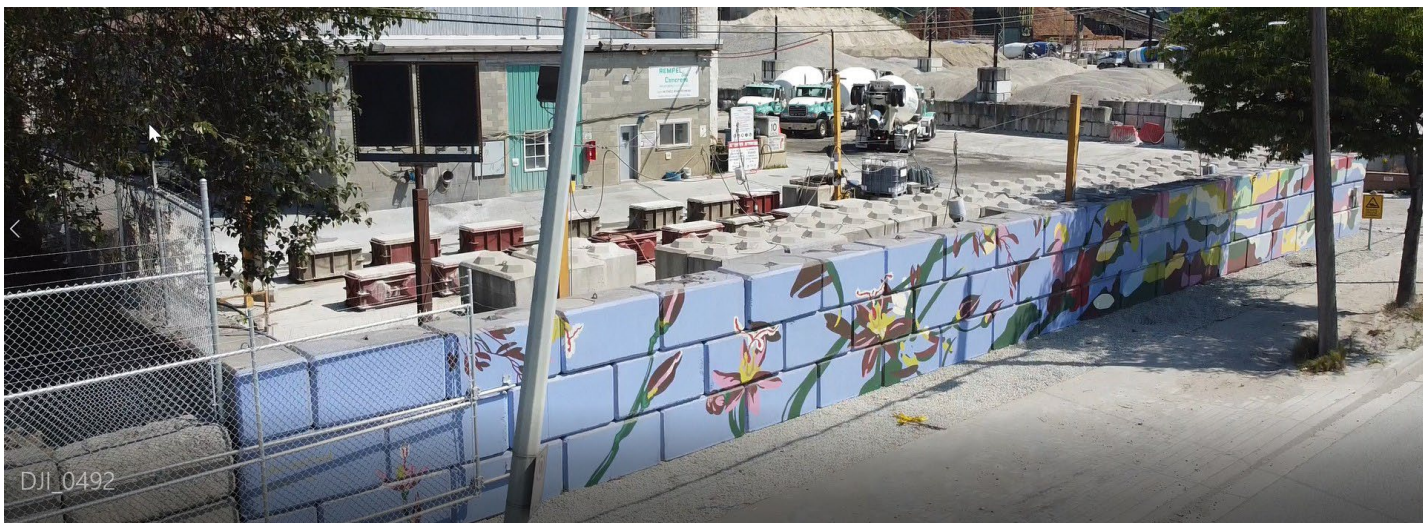
In 2019, the City hosted an Environmental Stewardship Information Session on Mitchell Island that brought together business operators, government regulators, and City staff to discuss stormwater best management practices and environmental challenges.

In 2021, the City partnered with local artists and a Mitchell Island business to install an environmental stewardship mural highlighting the connection between industrial activities and the Fraser River ecosystem.

Mural by artists Karen Yurkovich and Tristesse Seeliger is titled “Metamorphosis” and celebrates the cycles of nature and, metaphorically, the transformations of industry back to nature (June 2021).



Mitchell Island Environmental Stewardship Info Session (May 2019).



Mural by artists Karen Yurkovich and Tristesse Seeliger is titled *Metamorphosis* and celebrates the cycles of nature and, metaphorically, the transformations of industry back to nature (June 2021).

PRINCIPLE 4

Improve stormwater management on the Island

The City completed a feasibility study exploring options to improve stormwater quality on Mitchell Island through both source control measures and green stormwater infrastructure. The study, supported through a \$75,000 grant from the Federation of Canadian Municipalities, evaluated potential locations, treatment volumes, and infrastructure options to reduce suspended solids, maintain appropriate pH levels, and reduce contaminant discharges to the Fraser River.

The preferred approach is a treatment-train system combining:

- Source control measures
- Oil-grit separation
- Bio-infiltration features

Together, these components improve stormwater filtration prior to discharge to the Fraser River while supporting long-term environmental protection.

To support ongoing monitoring and spill response, the City also installed a continuous water-quality monitoring sensor at the Mitchell Road Pump Station. This system collects data for pH, conductivity and temperature prior to discharge and will support baseline trend analysis and future integration with the City’s Supervisory Control and Data Acquisition network.



Solids and litter clogging a catch basin on Mitchell Island.



Example of bio-infiltration.

INITIATIVE OUTCOMES

The Mitchell Island Stewardship Initiative demonstrates the value of a coordinated and preventative approach to managing environmental risks in complex industrial areas.

Through monitoring, regulatory collaboration, business engagement, and infrastructure planning, the initiative has strengthened environmental oversight and supported pollution prevention efforts that protect the Fraser River and surrounding ecosystems.

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INITIATIVE RECOGNITION

- Finalist – UBCM Community Excellence Award
- Environmental Managers Association of BC – Discharge Control Award
- Federation of Canadian Municipalities Green Municipal Fund grant recipient



Working with businesses to improve environmental stewardship.