

## SUMMARY

# A Scan of Natural Infrastructure Approaches

## Bright spots from the City of Nelson, Halifax Region Municipality, and EPCOR

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Local governments are responsible for delivering day-to-day services that their residents require, such as drinking water, wastewater treatment, stormwater management, flood protection, and rural drainage. These services are typically delivered with traditional grey infrastructure like dams, pipes, storm drains, and water treatment facilities. However, there is growing interest in natural infrastructure to enhance the delivery of these services, particularly with the growing threat of climate change.

While natural infrastructure is not yet considered mainstream, several jurisdictions across Canada are currently paving the way and successfully implementing it to help deliver municipal services. This review identifies bright spots—effective and positive examples of policy change—from three jurisdictions: the City of Nelson, Halifax Regional Municipality, and EPCOR. Each represents illustrative models for natural infrastructure implementation in various administrative, jurisdictional, and geographic contexts.

### Key Takeaways From This Report

- Climate change will strain the existing municipal infrastructure that provides the services we all need—flood and drought protection, drinking water, and wastewater treatment. Natural infrastructure, like wetlands, trees, grasslands, and rain gardens, can complement existing grey infrastructure to enhance the delivery of these services.
- No matter the size, region, or organization structure, jurisdictions across Canada are successfully implementing natural infrastructure, as shown by the report's featured bright spots—the City of Nelson leveraging local bylaws, the Halifax Regional Municipality embedding natural infrastructure across policy and planning documents, and EPCOR



collaborating across departments and partner organizations to combine natural and grey infrastructure to improve service delivery.

- There is no one-size-fits-all approach to natural infrastructure implementation, and each jurisdiction must develop solutions that enable meaningful progress on the ground and align with its municipal processes. In this report, the highlighted methods vary by jurisdiction, showcasing multiple routes undertaken, including a hybrid approach that combines natural infrastructure and grey infrastructure to reduce risk and improve service delivery.

## Featured Bright Spots

### City of Nelson, British Columbia

- Compared to large urban centres that tend to have greater staff capacity and detailed planning documents, the City of Nelson is successfully implementing natural infrastructure with the help of strong bylaws. The Subdivision and Development Servicing Bylaw, for example, promotes the use of natural infrastructure approaches, including rain gardens, bioretention swales, and constructed wetlands, for improved stormwater management.
- The City of Nelson currently has a Municipal Tree Bylaw that values and protects existing trees and has prioritized the need for an Urban Forest and Biodiversity Master Plan to acknowledge, value, and manage its tree canopy as a [natural asset](#).



### Halifax Regional Municipality, Nova Scotia

- The Halifax Regional Municipality embeds natural infrastructure across its suite of policy and planning mechanisms, specifically using terms like “natural assets” and “green infrastructure” in its Regional Plan, requiring it to be included in the lower-level plans. For example, HRM’s climate change plan, HalifACT (a lower-level plan), specifies the need to “protect, restore, maintain, and expand natural areas and green infrastructure assets.”



- Guided by the HalifACT plan, HRM received funding from the federal Natural Infrastructure Fund to restore 555 metres of cobble beach with native vegetation, a breakwater, and a raised permeable waterfront trail along Shore Road, which is prone to severe erosion, road washouts, and road closures. The natural infrastructure will be more resilient to these impacts caused by storms that are anticipated to become more severe and frequent with climate change.



## EPCOR, Edmonton, Alberta

- EPCOR is taking an integrated approach to stormwater management, dedicating approximately 59% of a CAD 1.6 billion investment toward natural infrastructure over 30 years. The cost savings are huge compared to exclusively grey infrastructure—the City of Edmonton’s previous plan was estimated to cost between CAD 2.2 billion and CAD 4.6 billion over 80 years and was less effective at reducing flood risk.
- By partnering with the City of Edmonton to share the cost, operation, and maintenance of natural infrastructure, EPCOR is helping to normalize it with increased knowledge, on-the-ground projects, and skilled professionals.



The full IISD report, *A Scan of Natural Infrastructure Approaches – Bright Spots from the City of Nelson, Halifax Regional Municipality, and EPCOR* (Rawluk & Methot, 2024), can be found at <https://www.iisd.org/publications/report/natural-infrastructure-approaches>

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