

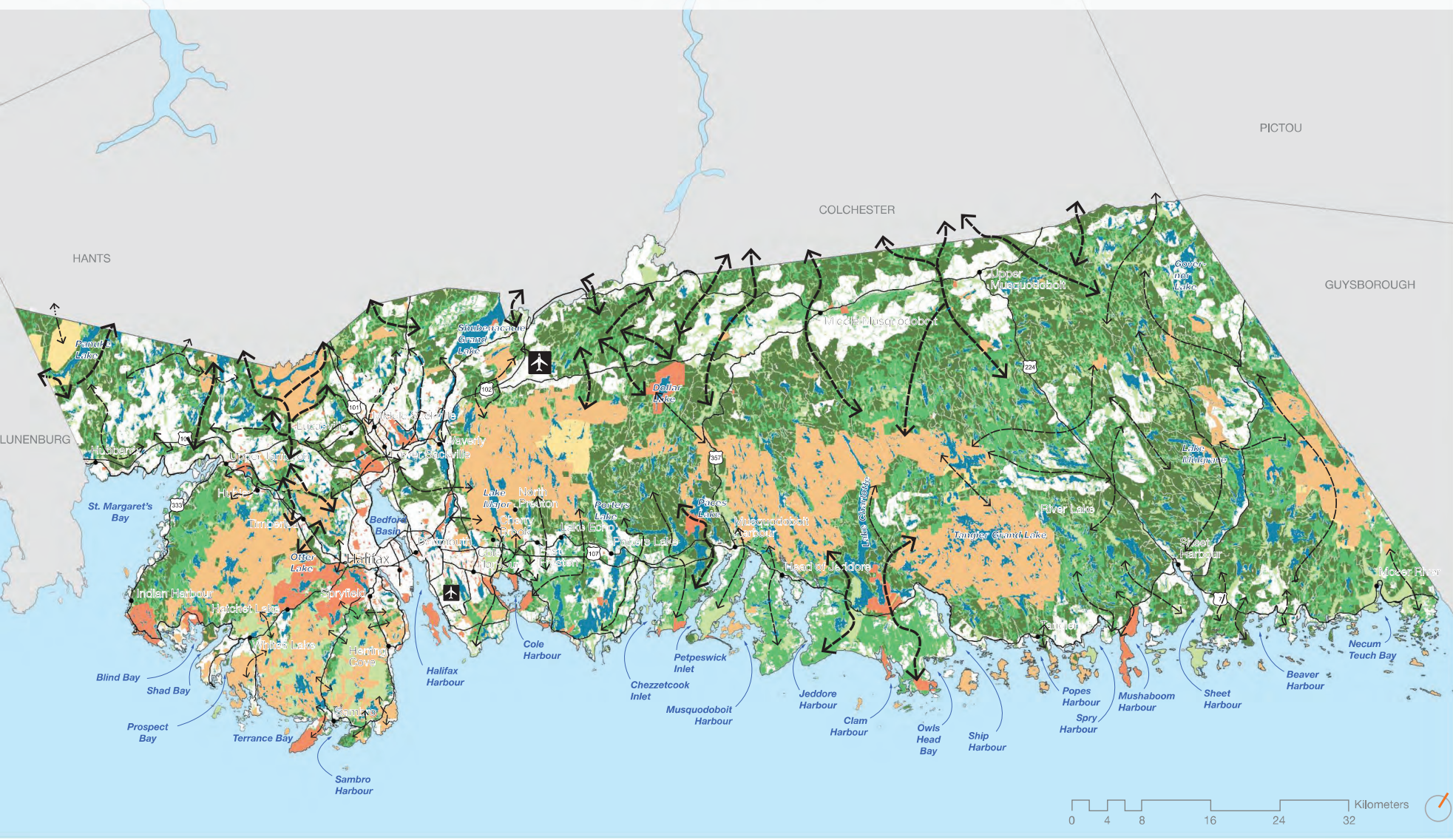
THEME 8

ENHANCING ENVIRONMENTAL PROTECTION

Open spaces and waterbodies are vital to maintaining a healthy, sustainable and desirable region. They provide important habitats and ecosystems, support economic activity, shape communities, provide opportunities for recreation, and reflect local culture and history. In 2018, Regional Council approved the Halifax Green Network Plan, which identifies ways the Municipality can better identify and protect these landscapes. This work was continued through HalifACT, which was adopted in 2020 and supports the preservation of open spaces and waterbodies as part of efforts to reduce emissions and help communities adapt to climate change.

LEGEND

-  Airports
-  Roads
-  Planned Roads
-  Lakes
-  Parks
-  Protected Areas
-  Proposed Protected Areas
-  Regulated Areas
-  Areas of High Environmental Value Overlap
-  Core Areas and Corridors
-  Minimal Value to Regional Green Network
-  Essential Corridor
-  Important Corridor



Halifax Green Network Plan: Green Network Ecology Map

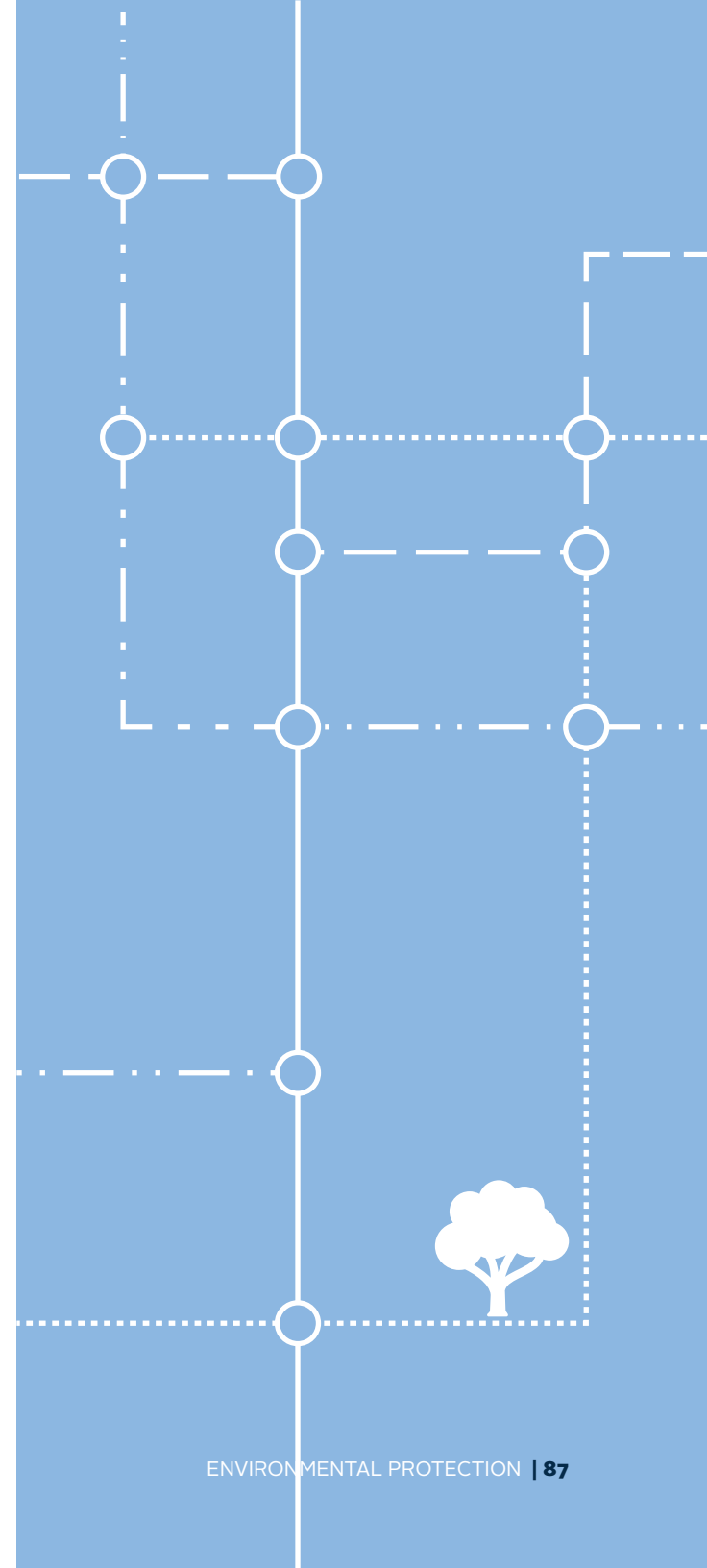
WHAT IS THE GREEN NETWORK ECOLOGY MAP?

Open spaces play an important role in shaping how communities look and feel. Policies must continue to be reviewed and updated to ensure that open spaces are properly protected when communities are being designed.

The [Halifax Green Network Plan](#) provides a high-level overview of the areas and features that contribute to the region's Green Network and health of our ecosystems. This information is summarized in the Green Network Ecology Map. This map was created using many layers of data from a variety of sources, rather than in-person fields surveys. As a result, it will be important that further studies and field work are completed when development is planned to confirm that mapped data accurately reflects conditions on the ground.

THE REGIONAL PLAN REVIEW WILL:

8.1 Adopt Regional Plan policy requiring that the Green Network Ecology Map is used to help guide regional planning decisions.



For more information on this topic, please read the issue paper titled: [Planning Tools for Protecting and Conserving Land](#).

PLANNING TOOLS FOR PROTECTING AND CONSERVING LAND

The protection of environmentally significant lands in HRM is vital to support the health of the region. The Regional Plan's Open Space and Natural Resource designation applies to government-owned and privately-owned lands including federal, provincial and municipal parks, protected wilderness areas and nature reserves, resource lands including for forestry, agriculture and fishing, private conservation areas, environmentally sensitive areas and similar. To help protect the region's Green Network, residential subdivision on new roads is prohibited in this designation.

The HRM Charter limits the Municipality's ability to completely prohibit development for environmental reasons, unless development is proposed in hazardous or contaminated lands including flood-prone areas, steep slopes, low-lying or unstable marshy areas, or development is prohibited by a Statement of Provincial Interest or enactment of the Province. While HRM cannot totally prohibit development unless the Charter permits the prohibition, HRM has some tools available to protect the environment:

Mitigating negative environmental effects of development: Land use by-laws can regulate development so that potential negative

impacts on the environment are reduced. This can include requiring the planting or retention of vegetation as buffers, establishing setbacks from watercourses, and regulating the excavation and filling of land to prevent erosion and sedimentation.

Protecting lands around drinking water sources: To protect municipal drinking water supplies, development may be limited within watersheds to only allow for water processing facilities and very large residential lots. A large watercourse buffer may also be applied from these waterbodies.

Purchasing lands for conservation: The Municipality, other levels of government and private conservation groups may purchase lands from private owners to ensure that development does not take place. While this is the most certain way to ensure environmentally significant lands are protected, it can be expensive, as this usually requires purchasing lands for market value. Such acquisitions also need to be balanced against settlement objectives of the Regional Plan.

Limiting sprawl through subdivision and road development controls: The Regional Plan currently prohibits the construction of new roads outside of the Urban Service Boundary. This reduces sprawling development as new lots generally cannot be created unless they have frontage on existing public roads.

THE REGIONAL PLAN REVIEW WILL:

- 8.2 Continue to apply the Open Space and Natural Resource designation to recognize the value of the Green Network and revise the designation's boundaries to reflect the core areas and corridors shown on the Green Network Ecology Map.
- 8.3 Review Regional Plan policy to ensure that secondary planning strategies and land use by-laws include appropriate development regulations in important ecological areas and corridors and directs development away from hazardous locations.
- 8.4 Provide guidance for environmental considerations during policy-enabled discretionary planning applications.



NATURAL CORRIDORS

Essential Corridors provide unique or critical connections between important core areas. Their loss would severely degrade connectivity throughout the Region and to adjacent Municipalities. Important Corridors provide local connections between natural habitats.

PROTECTING NATURAL CORRIDORS

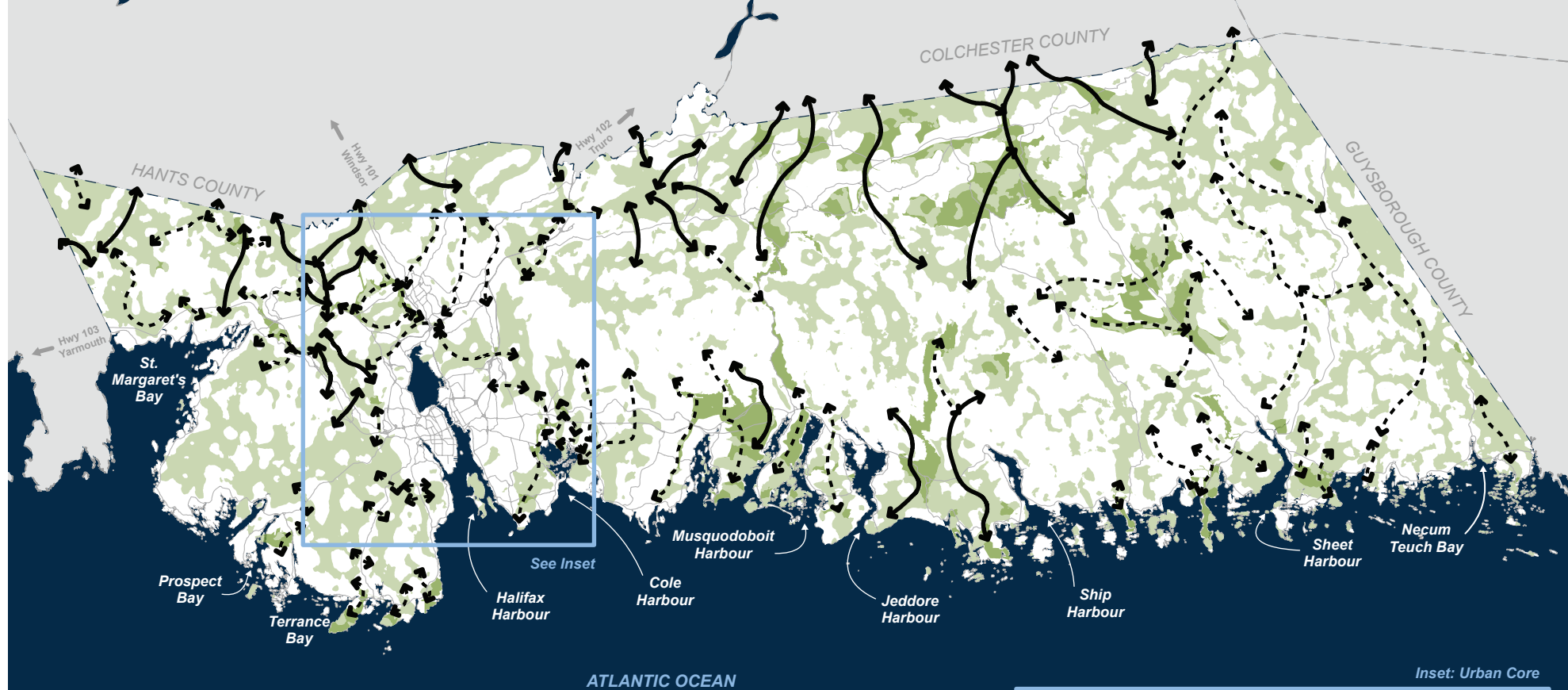
Natural corridors are undeveloped areas that provide linear connections between larger patches of wilderness. These corridors are extremely important as they connect habitats and help to maintain healthy and diverse wildlife populations. Corridors allow wildlife to move easily through the landscape when seeking shelter, food, water, space and mates. Corridors can be threatened, damaged or lost as a result of new development, natural resource extraction, highway and road construction, removal of vegetation and other human activities.

The [HGNP](#) identified the need for a clear approach for protecting natural corridors as the region grows and develops. It also identified areas where natural corridors are particularly important, such as the Chebucto Peninsula, which is home to many important species and is at risk of being completely disconnected from mainland Nova Scotia by development. Additional study is needed to understand how we can best protect these corridors at a regional scale while managing the impact of individual developments.

THE REGIONAL PLAN REVIEW WILL:

8.5 Develop a regional approach to the protection of natural corridors which:

- **Directs how natural corridors should be delineated at the regional and individual site level;**
- **Prioritizes wildlife connections to the Chebucto Peninsula;**
- **Includes clear policy direction for developing wildlife crossings through major infrastructure like highways and utility corridors and coordinating this work with the provincial government, utilities and other relevant stakeholders.**



MAP 15 Green Network Corridors

Conceptual Corridor Representation

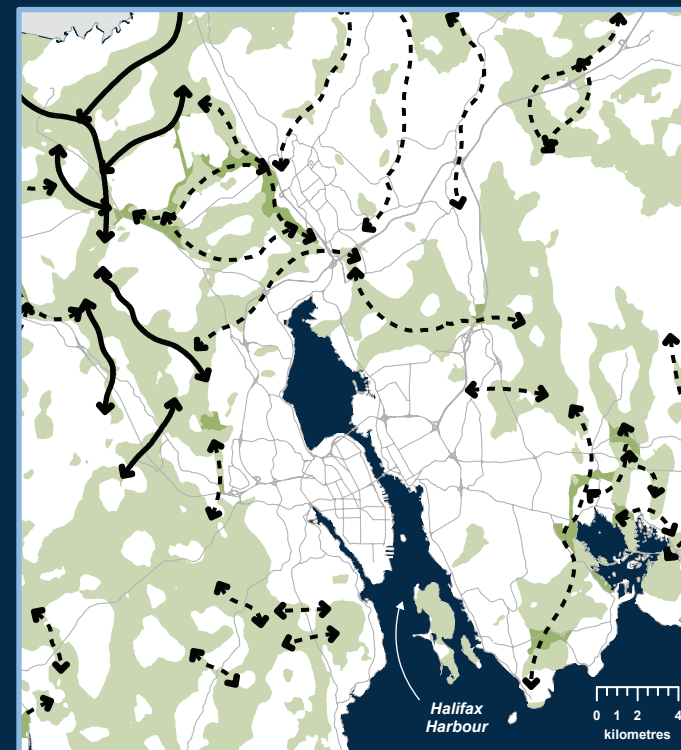
- Essential Corridor
- Important Corridor
- Essential Corridor Areas
- Important Corridor Areas



PCS: NAD 1983 CSRS 2010 MTM 5 Nova Scotia
 Datum: North American 1983 CSRS
 Projection: Transverse Mercator
 Central Meridian: -64.5000
 Latitude of Origin: 0.0000
 Longitude of Origin: 0.0000
 False Easting: 25,500,000.0000
 False Northing: 0.0000
 Scale Factor: 0.9999
 Map Units: Metre

Map created by Halifax Regional Municipality Research & Data Group.
 The following is a graphical representation and although care has been taken to ensure the best possible quality, HRM does not guarantee the accuracy of this document.

Inset: Urban Core



GREEN INFRASTRUCTURE

A network of natural and semi-natural engineered landscape elements designed to provide products and services such as stormwater management, water filtration and improved air quality.

NATURALIZATION

The [Halifax Green Network Plan](#) and [HalifACT](#) both encourage the inclusion and maintenance of natural areas and green infrastructure in communities where growth is located or planned. Natural areas and green infrastructure help to manage stormwater, reduce the heat island effect, improve water quality, provide shade and sequester carbon. This kind of naturalization work is already being piloted in HRM to improve the environmental health in our urban areas.

The “urban forest” includes public parks, street trees, trails, natural areas and private land in urban areas. These assets also provide the benefits of naturalization and add to the character and beauty of neighbourhoods. The [Urban Forest Master Plan](#) was adopted by Regional Council in 2012 and provides direction for planning, programming and maintaining HRM’s urban forest.

THE REGIONAL PLAN REVIEW WILL:

- 8.6 Review policies to support and where appropriate, require the use of naturalization and green infrastructure during development.**
- 8.7 Review policies to continue to support the implementation of the Urban Forest Master Plan.**

MANAGING WATER RESOURCES

Protecting the Municipality's water resources is critical for our potable water supply, supporting wildlife and overall ecological health, recreation use and aesthetic values. The Regional Plan directs land use policy to regulate water flow, mitigate flooding, reduce water pollution and protect ecological function. When planning to protect water quality, it is important to understand and maintain the health of watersheds. Environmental features such as water, soils, vegetation and habitat are all interconnected. As a result, development in one part of a watershed can impact water quality and quantity in another. A watershed approach should be used and carefully studied to inform planning decisions when development is proposed. The health of watersheds and priority waterbodies should be monitored on an ongoing basis through an established program for water quality monitoring. The Municipality is currently evaluating existing planning policy, identifying gaps and intends to propose a comprehensive water quality monitoring program that will inform the Regional Plan.

Effective stormwater management is critical to protect the water quality and quantity of HRM's waterbodies. An integrated approach to water management involves close coordination between the Municipality, the Halifax Regional Water Commission, private land owners,

and the public. Stormwater regulations have typically focused on the quantity but not quality of stormwater. Managing both requires retaining natural systems and implementing sustainable approaches to manage excess run-off, filter pollutants and provide space for plant and animal life. The Regional Plan will be updated to reflect the Municipality's recent work on stormwater management practices, which includes Joint Stormwater Standards developed by HRM and Halifax Water that focus on new, large-scale developments on private property. As part of the Municipal Design Guidelines (Red Book) update, revised stormwater standards will also apply to public right-of-way and focus on reducing the quantity and improving the quality of stormwater runoff using green and natural infrastructure.

Protecting wetlands and riparian areas on the banks of lakes and waterways is an effective tool for managing stormwater and maintaining overall watershed health. As climate change increases the frequency and severity of storms, wetlands and riparian areas provide important natural buffers that help mitigate flooding. This is particularly important around drinking water sources and in rural areas where residents rely on wells. All HRM land use by-laws include watercourse buffer requirements, which aim to protect riparian areas from being damaged by development. In most by-laws this requirement

WATERSHEDS

An area of land that contains a common set of streams and rivers that all drain into a single larger body of water, such as a larger river, a lake or an ocean.

RIPARIAN AREAS

The area adjacent to the banks of a river, stream, lake, wetland, coast or other water body.



is 20 metres, however this can vary. The [HGPNP](#) identified the need to further protect riparian areas and establish a consistent watercourse buffer. Greater protection for wetlands is also needed, as these areas serve important roles for natural stormwater management, provide wildlife habitat and act as carbon sinks.

THE REGIONAL PLAN REVIEW WILL:

- 8.8 Adopt policy to direct future study and implementation of a comprehensive water quality monitoring program, including Lake Water Management Plans for urban lakes that establish phosphorus loading limits and mitigation measures and water quality monitoring protocols.**
- 8.9 Update existing policy to reflect the Municipality's recent work to improve stormwater management practices.**
- 8.10 Review and revise existing regulations protecting wetland and riparian areas in HRM land use by-laws to ensure greater protection for these features and ensure standards regulations are adopted across the region.**

COASTAL PROTECTION

It is anticipated that sea level rise and extreme water levels, exacerbated by increasing frequency and intensity of storms, will have a significant impact on the Atlantic Coast. HRM can expect significant impacts from sea level rise and extreme water levels in coastal areas, including flooding, saltwater intrusion and coastal erosion, all of which can significantly damage infrastructure, property and natural features. As a result, it is very important to limit damage to coastal communities and ecosystems by carefully managing development in these areas.

In 2019, the Province of Nova Scotia passed the Coastal Protection Act to protect coastal properties and ecosystems. Nova Scotia Environment and Climate Change is currently developing regulations, including horizontal and vertical setbacks for development and guidance for the protection of coastal marshes and barrier beaches to ensure new construction is built in places that are safer from sea level rise and coastal flooding. The Municipality is continuing to work with the Province to support the development of these regulations. Staff have identified several opportunities to improve the Municipality's existing regulations and anticipate bringing forward several changes through the Regional Plan Review that are informed by the Provincial regulations and

tailored to suit the HRM context.

In addition, [HalifACT](#) calls for the Municipality to study the coast to identify vulnerabilities to sea level rise and update this information on a regular basis. This would allow for the creation of a coastal-specific adaptation strategy that will help to protect coastal communities by identifying where adaptation measures are needed and what measures should be used. Many adaptation measures are interdependent and should be used together.

COASTAL EROSION

A natural process that consists of the breakdown (or “weathering”) of rock and sediments at the shoreline both above and below the water surface. In Atlantic Canada, coastal erosion happens as a result of the action of waves, and to a lesser extent tidal action, wind, storm surge, ice, rain, and surface runoff creating risks for public safety and damages to properties and infrastructure.

COASTAL SPECIFIC ADAPTATION STRATEGY

Policies and actions that tackle the challenges of climate adaptation in coastal areas. Policies and actions may include retreating from eroding coasts, strengthening coasts by re-naturalizing coastal lands or building dykes, and developing structures that can accommodate flooding.

THE REGIONAL PLAN REVIEW WILL:

8.11 Continue to work with the Province to develop and adopt revised policies and regulations consistent with the Coastal Protection Act and tailored to the HRM context. This work will consider:

- Whether the current required elevation is sufficient given expected sea level rise, storm surge and coastal erosion risks (currently 3.8 CGVD - equivalent to 3.2 CGVD 2013);
- Requiring different horizontal setbacks for coastal shorelines and inland watercourses;
- Requiring coastal elevations (vertical setbacks) to apply to all uses, not just residential properties;
- Providing guidance for estuaries, salt marshes, barrier beaches and similar features;
- Providing guidance for resilient infrastructure design;
- Replacing the CGVD28 standard with CGVD2013; and
- Ensuring consistent regulations are applied across the region

8.12 Complete a spatially-based risk and vulnerability analysis of HRM's coastal waterfront and shoreline area and adopt policy to direct development of a coastal-specific adaptation strategy.

8.13 Establish requirements for updating municipal LiDAR data, digital elevation models and coastal vulnerability mapping.