



TORONTO & REGION REMEDIAL ACTION PLAN

UPDATE ON ACTIONS
2010-2011

INTRODUCTION

Toronto and Region is one of 39 locations on the Great Lakes where local environmental degradation may be adversely affecting the broader Great Lakes system. These locations are referred to as Areas of Concern, and each Area of Concern is required to implement a Remedial Action Plan (RAP) to address the concerns that led to the Area of Concern designation.

The Toronto & Region Area of Concern consists of six watersheds encompassing 2000 km² of land and 43 km of waterfront, and the Toronto & Region RAP is currently in the implementation stage. During implementation, remedial actions are undertaken and environmental progress is measured. The *Toronto and Region Remedial Action Plan: Update on Actions 2010-2011* reports on research and implementation projects that, in 2010-2011, joined the roster of programs and projects receiving RAP support.

A full listing and description of projects that also currently receive RAP support, and/or have received RAP support in the recent past, can be found in the document *Toronto & Region Remedial Action Plan: Update on Actions 2007-2010*. Projects outlined in the 2007-2010 document that continued to receive RAP support in 2010-2011 include:

- *Permeable pavement studies*
- *The Terrestrial Natural Heritage Program*
- *Aquatic Habitat Toronto initiatives*
- *Stewardship and Outreach programming*
- *The Regional Watershed Monitoring Network*
- *Watershed Plans, Strategies, and Coalitions*
- *RAP administration and communications*

HEALTHY HABITATS

Protecting and restoring terrestrial habitat within the Toronto & Region Area of Concern is an important objective of the Remedial Action Plan. Among other initiatives, the RAP advances this objective by assisting in the development of tools and models that support the Terrestrial Natural Heritage System Strategy. The RAP continues to support projects that test and monitor different methods of managing the city's natural systems, and the following project was added to this complement in 2010-2011.

Terrestrial Fixed Monitoring Plots

Designated plots of land to be monitored on a regular basis, referred to as Terrestrial Fixed Monitoring Plots, have been identified and established within two different land use zones (urban and rural); these sites will be used to identify and compare trends in plant and animal species that occur in forest, wetland, and meadow communities. As the number of terrestrial monitoring sites increases, questions related to different land uses – rural versus urban – and their effects on terrestrial biodiversity can be answered with greater certainty.

The information collected from the Terrestrial Fixed Monitoring Plots will also inform target setting for various Terrestrial Natural Heritage System projects within Toronto and Region, and also assist in determining the success Terrestrial Natural Heritage Strategy implementation. Collectively, these programs seek to improve overall terrestrial biodiversity within the Area of Concern and advance RAP objectives related to habitat quality.

CLEAN WATERS

Much of the Toronto and Region Area of Concern is, or has become, a hardened landscape in which the underlying soils have been covered by networks of buildings, sidewalks, parking lots, and roads. When rain falls, these hard surfaces are significantly less effective at absorbing water than the natural surfaces they replaced. As a result, water collects and drains along the top of these surfaces – picking up the contaminants such as oil, metals, and animal droppings en route – before being diverted into sewers and conveyed to a nearby river or Lake Ontario. The addition of this dirtied rainwater, referred to as stormwater, degrades the environmental quality of the water body into which it is received. The following projects seek to reduce negative stormwater effects.

Bioretention for Stormwater Management

Bioretention cells/swales are “natural” ditches containing soil substrates, rocks, and plants that can absorb and filter the accumulated water, rather than simply conveying water to the nearest storm drain. Using the natural properties of soils and plants, and their associated microbial activity, bioretention facilities filter water and reduce the volume of stormwater runoff. Bioretention sites also provide aesthetic benefits and can easily be modified to fit a wide variety of space and drainage contexts.

In 2010-2011, the RAP supported the development and evaluation of a bioretention cell draining a 2,061 m³ parking lot at the Earth Rangers centre in Vaughan. This project will be monitored

for 3 years, and the results will be used to improve the design of bioretention for parking lots and local roads, as well as to develop or enhance policies and guidelines for bioretention use.

Erosion and Sediment Control Training Facility

During construction activities, vegetation and topsoil are stripped away and the underlying soils are made vulnerable to erosion. Erosion, the process in which soils are washed away by rain, provides an avenue through which soil/sediment and contaminants are thereby introduced into streams, lakes, wetlands and other natural features. Practicing effective erosion and sediment control (ESC) on construction sites is crucial for preventing soil from accumulating in, and disrupting the functioning of, aquatic and terrestrial ecosystems.

The Erosion and Sediment Control Training Facility was initiated in 2009, and will soon begin construction at the Kortright Centre in Vaughan. The facility will serve as a basis for applied field training courses, and will provide industry professionals with hands-on instruction in installation and maintenance of best management practices to reduce erosion, sedimentation, and the negative effects thereof. By partnering with product suppliers and academic institutions, the Erosion and Sediment Control Training Facility will highlight the latest and most effective practices and provide learning opportunities for both current and future erosion and sediment control professionals.

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The Toronto and Region Remedial Action Plan is managed by representatives from Environment Canada, Ontario Ministry of the Environment, Ontario Ministry of Natural Resources and Toronto and Region Conservation Authority.