Demonstrating practical community approaches to managing stormwater runoff

2014-2015 Funding: $6,000, including $2,000 provided by the Great Lakes Sustainability Fund

Other Project Contributors: City of Windsor, Environment and Climate Change Canada, Essex Region Conservation Authority, and Friends of Ojibway Prairie.

Photo: Karen Cedar.

A new “rain garden”, built in a west end Windsor park with the support of the Great Lakes Sustainability Fund, is demonstrating a practical, low-cost approach to managing stormwater runoff and improving the health of the Detroit River.

The Ojibway Nature Park Rain Garden project - one of the first of its kind in the Detroit River watershed - is hoping to encourage municipalities and homeowners to apply “low impact development” features to help reduce the effects of stormwater runoff. For decades, the Detroit River watershed has been subject to extensive industrial activity and urban development on both sides of the river. Better management of stormwater runoff from municipal and residential areas contributes to improved water quality, fish and wildlife habitat, and flood control.

Rain gardens are shallow, bowl-shaped landscaped areas planted with wildflowers and other hardy native vegetation. They typically are created in low-lying areas where water otherwise would drain quickly into storm sewers. The gardens temporarily retain stormwater and snowmelt from roofs, lawns, parking lots and roads, and so reduce the volume of water entering storm sewers. Rain gardens also prevent fertilizers, pesticides and other sediments from entering waterways by filtering water slowly through the ground instead of allowing it to run directly into storm drains.

The Ojibway Nature Park rain garden was built largely through the work of volunteers from the Friends of Ojibway Prairie, a community organization dedicated to promoting public awareness of the city’s 350-hectare Ojibway Prairie Complex and the site’s unique biological and historical importance. An interpretive sign was installed at the rain garden project site to inform park visitors about rain gardens and the link between water quality and wildlife habitat. As well, the Essex Region Conservation Authority prepared a guide for homeowners on how to build a rain garden (available at: Essex Region Conservation Authority).

In addition to rain gardens - known as a “bioretention” technique - other low impact development tools for managing stormwater runoff in urban areas include: “green roofs”; permeable paving materials as alternatives to asphalt; and soil additives such as mulch, lime and gypsum, to minimize the effects of soil compaction at residential construction sites.

For more information on the Detroit River Area of Concern, please visit: Detroit River Canadian Cleanup.

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Reducing runoff to improve water quality and protect habitat: Welland River

2012-2013 Funding: $835,369 total, including $245,000 provided by the Great Lakes Sustainability Fund

Other Project Contributors: private landowners, the Niagara Peninsula Conservation Authority, the Regional Municipality of Niagara, the Ontario Ministry of Environment and Climate Change, the Ontario Ministry of Natural Resources and Forestry, the Ontario Ministry of Agriculture, Food and Rural Affairs, the Agricultural Producers Group, Landcare Niagara, Ducks Unlimited Canada, Ontario Power Generation, and the Association of Canadian Educators.

Photo: © Environment and Climate Change Canada.

Owners of two greenhouse operations in the Niagara Area of Concern are participating in a wide-ranging campaign to reduce runoff from their property and improve water quality in the Welland River, with the support of the Great Lakes Sustainability Fund.

The Water Quality and Habitat Improvement Project, part of the Niagara Peninsula Conservation Authority's ongoing watershed stewardship program, is seeking to reduce runoff of phosphorus, sediments and manure from a range of agricultural operations. These discharges contribute to declines in water quality and fish and wildlife habitat in the Niagara River Area of Concern. Most of the runoff from rural areas is concentrated in the Welland River watershed, which makes up about 80% of the Canadian Section of the Niagara River Area of Concern.

In 2012, 14 initiatives were undertaken on 11 properties in the watershed. Working with owners committed to improving the environmental impact of their operations, project partners targeted 3 creeks that have been identified as high priorities for reducing phosphorus runoff. Initiatives included:

- planting trees and other vegetation along nearly one kilometre of creek banks to act as a buffer for runoff;
- restoring about four hectares of small wetlands; and
- helping to build two manure waste storage facilities to enclose the manure and prevent it from entering the creeks during heavy rains.

Project partners also engaged owners of two greenhouses and worked with them to introduce wastewater diversion and water conservation projects within their greenhouse operations. These efforts will help reduce runoff of fertilizer- based phosphorus.

Finally, ongoing monitoring of the water quality of the Welland River and other tributaries entering the Niagara River is allowing project partners to measure progress and target future priority areas for reducing runoff.

Consult the following external web site for more information on the Niagara River Area of Concern.

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