

**NIAGARA
RESTORATION
COUNCIL**

The Niagara Restoration Council is a not-for-profit environmental organization whose mandate is to “re-establish, protect, and maintain the integrity of the Niagara River ecosystem”.

**General Inquiries:
Corey Burant, Environmental Manager
info@niagararestoration.org**

**Chair: Alison Thomson
chair@niagararestoration.org**

**Visit us online at
www.niagararestoration.org**

"Restoring Nature to Niagara"

Northtown Postal Outlet, PO Box 21011
Welland, Ontario
L3C 7E6
Phone: 905-788-0248
Fax: 905-788-1121
E-mail: niagararestoration@becon.org

NIAGARA RESTORATION COUNCIL

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NRC board meeting are held the 2nd Tuesday of each month at the Niagara Peninsula Conservation Authority office at 6:30pm. Visitors are welcome!

The NRC gratefully acknowledges the financial support of:

- EcoAction Community Funding Program
- Env. Can. Great Lakes Sustainability Fund
- Ontario Trillium Foundation
- Shell Environmental Fund
- Niagara Peninsula Conservation Authority
- Niagara Community Foundation
- Ontario Great Lakes Renewal Foundation
- Ontario Ministry of Natural Resources
- Ontario Power Generation
- TD Friends of the Environment
- Wetland Habitat Fund
- Region of Niagara
- Env. Can. Environmental Damages Fund



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Restoration Report

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"Restoring Nature to Niagara"

FALL 2009

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Come and See What All the Buzz is About!

The NRC is pleased to invite you to our annual general meeting being held October 13, 2009, starting at 7:00 pm with refreshments at:



**Ball's Falls Centre for Conservation
3292 Sixth Avenue
Jordan, Ontario
L0R 1S0**

Come and learn more about the NRC, its current projects, and enjoy a lecture by our guest speaker, Dr. Peter Kevan, Professor of Biology at the University of Guelph and Director of Research for Pollination Guelph, who will be speaking about Pollinator Biology and Conservation!

NRC Work On Cherry Birch

By Dr. John Bacher

One of the most important projects undertaken by the Niagara Restoration Council was the planting of 70 Cherry Birch seedlings in the one confirmed remaining area of native habitat between a ravine and the outlet of the 15 Mile Creek in April 2008. This is on property adjacent to one of the three landowners in this area where Cherry Birch has been identified since the population's abundance in Canada was recorded in 1967.

Before the NRC began its restoration work, only 14 naturally occurring trees of Cherry Birch were found in all of Canada, in addition to 4 trees planted by the landowners to replace trees lost on their properties through erosion. The NRC's planting work represents the largest effort to help in the recovery of the endangered Cherry Birch in Canada.

In Canada, the main error that is made in identifying potential new sightings of Cherry Birch is the great similarity of the bark of the tree, with the escaped domesticated cherry. The best way to distinguish a Cherry Birch (there may be others in Niagara) is the presence of a tri-lobed catkin bract and winged fruit. The tree has a distinctive three male catkins with individual male flower and anthers. This means that it is very difficult to distinguish from a domesticated cherry, (*Prunus avium*), and the Cherry Birch, (*Betula lenta*) in the winter. The identifying catkins develop a year before flowering, which occurs early in the spring before the leaves expand.

Although it was written before the NRC's restoration work, the status report on Cherry Birch (available on the web), by COSEWIC, the Committee on the Status of Endangered Wildlife in Canada, makes for fascinating reading. It criticizes those who claim that Cherry Birch was a human introduction. It points out that, "being on a natural slope not far from natural populations in New York and one tree being recorded as 95 cm DBH before its demise suggests that it may have been on considerable age, likely more than 200 years (based on growth rate of remaining trees)" This tree is estimated based on growth rates to be 253 years old.

Cherry Birch had great ceremonial significance for Native Americans. It was used to place on the top of coffins while burying the dead. Fibre from the bark was used in buildings and canoes. The bark was used for storage containers. Its oil was used extensively to alleviate the pain or sore muscles. The bark has astringent properties and was used in treating wounds.

COSEWIC believes that the single identified Canadian population of Cherry Birch "was likely an extension from its more abundant occurrence in New York State and to the east. It could well have been more common in the Niagara peninsula before land was cleared for agriculture and human settlements. However, its absence in other protected potential habitats such as the Niagara Glen suggests that it may have always been an isolated occurrence."

The presence of Cherry Birch was first documented in Canada in 1896 at the top of the bank at the mouth of the Sixteen Mile Creek, in what is now Charles Daley Park. One of the researchers into this species was RC Hosie, author of the book, "Native Trees of Canada", and Dean of the Faculty of Forestry at the University of Toronto. Hosie found in 1979 that, "There are approximately 50 trees of different ages and sizes at this location. Several medium-sized trees are dead, a few others appear to be dying, but a good number are healthy. Two or three of the probable originations have been growing along the top of the slope for at least 75 years."

COSEWIC assumes that in 1900 there was a stand of Cherry Birch "extending from the bay slopes to the shores of Lake Ontario", which would have included what became three separated populations from Sixteen Mile Creek, to the ravine which forms the current limit of the present population. It warns that although there has been no apparent decline in numbers between 1992 and 2004, this is due to the discovery of additional trees to the southwest along the bay. However, the occurrence of new natural occurring saplings is a positive indication, while the open location lacking protection from lake storms is a continuing threat."

By reforesting land along the Lake Ontario shore, the NRC did much to ensure the future survival of Cherry Birch in Canada. This is because as the trees get older and stronger, they will have an impact in reducing the erosion caused by increased wind storms that are the biggest threat to the species survival in Canada. The status report stresses that, "With less forest cover, storms coming off Lake Ontario have a higher impact of the remaining vegetation, as exemplified by the loss of trees of this species in a violent storm in May of 2004. Other trees were lost in the late 1990s, including the big Honour Roll Tree on the bay slope and the large tree on edge of the eroding lakeshore bank.

Understanding the status of the threatened Cherry Birch helps to increase our appreciation of two related realities. One is the important role of the NRC is protecting Niagara's forests. The other is the need to have more forest cover along the shores of the Great Lakes in Niagara, in order to protect them from erosion.

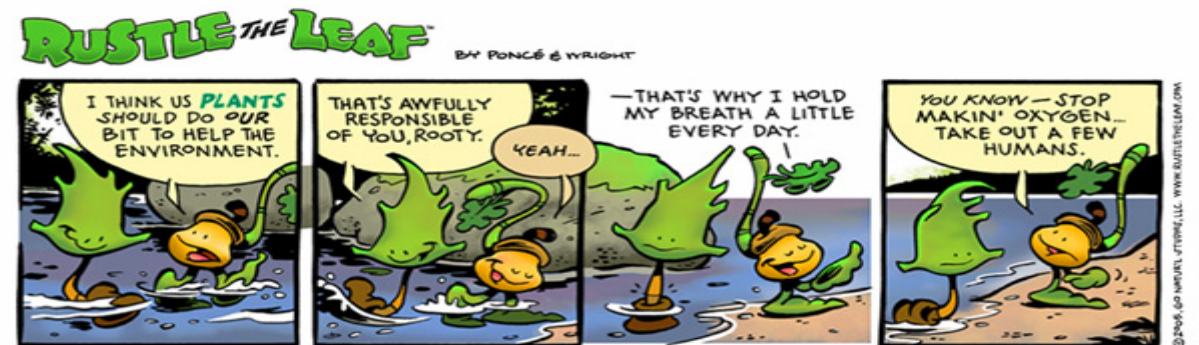
A Look at Storm Water Management Ponds

With the continuous development of subdivisions, municipal planners are constantly faced with the problem of managing water quality and flooding. Since concrete does a poor job at absorbing water and other substances, planners and engineers have had to develop a method for mitigating flooding and improving water quality before it enters our local streams and rivers. Storm water Management Ponds (SWMP), also known as Storm Water Retention Ponds (SWRP), are an effective method for minimizing these issues. These ponds are designed to slow down water, allowing suspended particles (natural and/or chemical) to settle to the bottom of the pond, so it does not flow into local streams. The ponds also act as a temporary holding area for storm water, which will be released into the streams at a controlled rate, preventing bank erosion and flooding.

Unfortunately, once developers install these ponds, the burden and cost of maintenance often falls onto the municipality, many of which are already cash-strapped. Aside from regularly scheduled dredging of the pond sediments (i.e. 25 years), these ponds generally receive little maintenance. Many of these ponds also have little to no landscaping, without any surrounding vegetation. While mammals, amphibians, and birds readily use these ponds, the large amount of incoming nutrients leads to poor water quality and algae blooms. These algae covered ponds can look terrible and give off unfavorable odors to nearby residents.



This past summer, the Niagara Restoration Council was given the opportunity to naturalize a SWMP with funding from the City of Welland, in an attempt to improve water quality in the pond and Drapers Creek watershed, reduce algae growth, and increase the overall aesthetic appeal of the pond. In order to do this, native species of trees and shrubs were planted around the pond, creating a large buffer. Since deciduous trees would only add to the problem once their leaves fall off, coniferous trees were favoured. The intention of this buffer is to absorb some of the nutrients running off from the surrounding land, stabilize the pond banks, and eventually create shade over the pond. Aquatic plants, such as cattails, were also planted within the pond to absorb some of the nutrients. All of these components combined vastly improved the overall look of the pond as well. While it is too early to see any results of our work, we are confident that our efforts will greatly improve the quality of water entering our nearby streams and rivers.



Eco-web Focus: <http://www.nestniagara.ca>

Over the past year, a collaborative of several Niagara-based environmental organizations has come together to form the Niagara Environmental Sector Team (NEST). The goal of this organization is to bring together environmentally related groups so that they may share information and resources in order to become more efficient in their day-to-day activities. With financial assistance from the Ontario Trillium Foundation, NEST will be launching a new website in October. The website provides a common site for Niagara’s environmental sector to showcase their organizations while promoting their activities to the public.

As volunteer recruitment is one of the biggest challenges to ENGO’s, the new NEST website will hopefully be a successful tool in recruiting interested residents to participate in volunteer opportunities across the region. Often times, willing volunteers just don’t know where to find information on volunteer opportunities in Niagara, so the website will provide a one-stop shop for volunteers. In addition to the website, interested residents can call Information Niagara by dialing ‘211’ to learn about local groups. If you’re looking for volunteer opportunities in your neighborhood or would like to showcase your environmental organization, please check out the new NEST website or contact the NRC for further information!

Fish Barrier Project Update

In it’s 8th year, the Niagara Restoration Council’s Fish Barrier Project continues to remove barriers to fish migration. We are pleased to announce that Environment Canada’s Great Lakes Sustainability Fund and Environmental Damages Fund has graciously provided the NRC with \$45,000 and \$13,135, respectively, to carry out our efforts to unlock hundreds of kilometers of potential fish habitat! The removal of these barriers will contribute to the eventual de-listing of the Niagara River Area of Concern.

This year, we are in the process of removing at least 3 barriers to fish migration. These include agricultural crossings in which existing culverts have collapsed and no longer permit proper fish passage. Working with engineers and landowners, we will be replacing two of these failed crossings with concrete clear-span bridges.

During the 8 years of the project, the NRC has contacted the landowners and stakeholders of all 210 identified barriers in the Niagara River Watershed. Of these 210 barriers, 165 have been remediated or removed, 19 can not be feasibly removed, and 21 have no support from landowners to allow us to remediate the barriers. The barriers, which are currently being remediated, represent the last of the barriers that have landowner support. Overall, we believe that this has been a very successful and necessary project!



Fish Barrier #103 - Currently in progress

Returning Nature to Niagara: Naturalization of the Thorold-Lake Gibson Corridor Project

The spring and summer of 2009 saw the first full planting season of the Thorold-Lake Gibson Naturalization project...and it was a busy one! In the first year of the project, we were able to naturalize a large parcel of land owned by the City of Thorold, along with areas within Mel Swart Conservation Park and Ontario Power Generation owned properties. In total, over 20,000 seedlings/trees, 8,000+ acorns, and several kilograms of native wildflower seed mix were planted this year.

In order to naturalize these areas, several methods were used. On the City of Thorold lands, the project area was divided into 4 main sections. Each of these sections were mowed to reduce competition from grasses, with 3 sections being roto-tilled to loosen up the compacted soils. The 3 tilled sections were then planted with acorns and seeded with native wildflower seed mix to reduce competition by invasive species. All 4 sites were then machine planted due to the large number of seedlings that were planted. Generally, machine planting is done in parallel rows, however in an attempt to keep the site as natural as possible and incorporate the few existing trees, the machine planting was done in random patterns, maximizing the amount of trees we could plant.



With the help of the Mel Swart Conservation Park Committee, several hundred large-potted trees were planted within the park. Since the plantings within Mel Swart Park were done within previously restored meadows, tall stock trees (i.e. 4-6ft) were selected instead of seedlings in an attempt to minimize herbivory from mice and rabbits. So far, this strategy is working!

Plantings on the OPG lands could not have been done without the help of Tony VanOostrom (OPG) and numerous volunteers from White Oaks Spa and Resort, the 1st Pelham Scouts, and local residents. Thousands of trees were planted on various areas along Lake Gibson, expanding interior forest cover in Niagara.



During recent project site inspections, tree and seedling survival rates were found to be great! To date, there has been no damage from wildlife and ATV users. We really appreciate how local residents are remaining on existing trails and allowing the trees to grow!

Aside from our regular restoration activities, we are also in the process of removing old cars and debris, installing raptor nesting platforms and wood duck boxes, and restoring lands under hydro corridors. We have also planted Swamp Rose Mallow (a Species at Risk), provided by Mr. VanOostrom, throughout the wetlands in our project sites. All of these efforts are aimed at improving wildlife habitat and increasing biodiversity. We look forward to another project year and reaching our goals of planting 52,000 trees, seedlings, and acorns.