



# **2009 Aquatic Resources Annual Report**

Photo of Mill Creek

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## SECTION 1 – Advisory Services

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### 1.1 GRCA Partnership Agreement with Fisheries and Oceans Canada

Again in 2009, GRCA Aquatic Resources staff undertook review of projects within the Grand River watershed on behalf of Fisheries and Oceans Canada (DFO) through a long standing Level III Partnership Agreement.

The Partnership Agreement includes a Terms of Reference that addresses GRCA staff conducting self-assessment of GRCA projects, the implementation of the DFO Risk Management Framework process, and clarification of the roles and responsibilities of our respective agencies including other processes that GRCA participates in, such as the *Aggregate Resource Act*.

Of note, an audit of the 2007 to 2009 GRCA Self-Assessment Pilot Project achieved positive results.

The newly signed (Jan 2010) GRCA-DFO Partnership Agreement (Level III) will be in place until January 31, 2012. The GRCA partnership with DFO signifies a successful working relationship with a federal agency that jointly progresses towards the conservation, protection and enhancement of the fisheries and aquatic resources of the Grand River watershed.

### 1.2 Plan Input and Permit Review

Aquatic Resource staff in 2009 reviewed 85 permit applications relating to alterations to a watercourse. The majority of these applications were for culvert replacements, bank stabilization projects and bridge replacements. Many of these reviews required pre-construction meetings and site visits, which were used to discuss general mitigation measures including dewatering activities and sediment and erosion control measures to avoid water quality and fish habitat impacts.

Other file reviews included 35 drain maintenance applications, of which 6 were referred to DFO for further review and Authorization under Section 35 (2) of the federal *Fisheries Act*. There were also several new drain petitions received by GRCA through the *Drainage Act* that were also referred to DFO for further review and potential Authorization under the *Fisheries Act*.

Planning review involved 6 subdivision files and 1 severance application.

### 1.3 Subwatershed Studies

In 2009, GRCA with the Region of Waterloo and other agencies undertook technical work for subwatersheds in the area known as the 'Eastside Lands' in northern Cambridge, Woolwich, and Guelph Eramosa townships. This area includes the following subwatersheds: Hopewell, Chilligo, Randall and Freeport Creeks. Aquatic staff provided input into the selection of sites for the field collection of data for benthic invertebrate and fisheries monitoring components.

## SECTION 2 – GRCA Lands

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### 2.1 Chilligo Creek Restoration Project

The Chilligo Creek restoration project came about as an outcome of a piping failure that occurred in 2000 on the Chilligo Dam. The dam had a road and bridge running across its crest. The pond was drawn down immediately after the piping failure to prevent complete failure of the dam and the road that ran over it. Since that time, the former pond / dam site re-vegetated and Chilligo Creek has been able to re-establish its former meandering channel. Fish, such as brook trout, from nearby tributaries have begun to reoccupy the former pond site. The pond site is owned entirely by the GRCA.

In May 2004, the City of Cambridge completed a Class Environmental Assessment (Class EA) to consider options for the restoration of the Chilligo (Fisher Mills) bridge, dam and pond. The Class EA process separated the bridge from the pond site restoration, and considered options for both. The preferred option out of the Class EA process for restoring the pond site was to maintain the existing meandering stream channel and to create three off-line ponds of varying depth. This option was known as the *tri-pond option*.

In 2009, the tender was written to obtain pricing so that the contract could be awarded to construct the off-line ponds that most closely matched the funding raised for the project. The funding available in 2009 allowed GRCA Central Services staff to co-ordinate the construction project for two ponds. Vegetation of the constructed ponds i.e. tree planting was planned for spring 2010.



*Before: Chilligo Creek running through former pond site*



*After: One of the off-line ponds constructed in 2009.*

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## SECTION 3 – Grand River Fisheries Management Plan

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### 3.1 Grand River Fisheries Management Plan Implementation Committee (GRFMPIC) Update

#### **5 Year Review**

The Grand River Fisheries Management Plan (GRFMP) was developed as a co-operative, publicly supported effort. The Ministry of Natural Resources (MNR) and the Grand River Conservation Authority (GRCA) jointly co-chaired a planning committee that was made up of interested community volunteers. This committee is called the Grand River Fisheries Management Plan Implementation Committee (GRFMPIC).

The GRFMPIC made a commitment to go back to the public every 5 years to consult and review the progress of the implementation of the Plan. Between January and March 2009, Open Houses were held in Elora, Cambridge, Brantford, Dunnville, and at Six Nations.

Presentations were made about the: Fisheries Management Plan; current water quality conditions; reservoir operations and ecological flows; and Fish Plan project updates for each local area of interest. The public was encouraged to ask questions and provide comments during the presentations. In addition, time was set aside to collect feedback about issues and concerns that they might have.

#### **Symposium**

The 'Grand Waters...Grand Fish' Symposium included many of the topics that were discussed during the Open Houses. The Brantford event included 6 afternoon speakers, who discussed various programs and projects throughout the watershed. Dr. Mark Servos, Professor and Canadian Water Quality Research Chair at University of Waterloo and Scientific Director of the Canadian Water Network spoke after dinner about water quality issues across the world, eventually working back to questions and concerns about the future of Grand River watershed. A silent auction raised about \$4,000. Those funds will be directed to the Grand River Conservation Foundation and will be used by the committee to implement projects that improve water quality and fisheries resources of the watershed.

### 3.2 GRFMPIC Recreational Fisheries Award

Canada's National Recreational Fisheries Awards, created in 1989 by Fisheries and Oceans Canada (DFO), recognize outstanding achievements in the field of conservation and recreational fisheries. DFO developed the **National Recreational Fisheries Award** program to honour individuals and organizations for their contribution to the conservation, restoration and enhancement of Canada's recreational fisheries and their habitat.

In May 2009, Warren Yerex and Larry Mellors accepted this Award on behalf of the Grand River Fisheries Management Plan Implementation Committee (GRFMPIC) at the ceremony in Ottawa.

The Award recognizes the Committee's "outstanding contribution to recreational fisheries in Ontario". The letter also noted that "the GRFMPIC is being recognized for their volunteer efforts to improve the fishery and fish habitat in the Grand River watershed. The Committee's work

has resulted in increased quality and awareness of the fisheries on the Grand River and its tributaries.”



Members of the GRFMPIC with the Honourable Minister Shea (DFO)

### 3.3 Mill Creek Ranger Program

The Mill Creek Ranger program is a community-funded initiative aimed at rehabilitating Mill Creek, a cold water stream important for trout habitat in the Grand River watershed. The program is funded by the Friends of Mill Creek and employs four Rangers and one Crew Leader, who work together on stream rehabilitation projects through the summer. This year marked the 7<sup>th</sup> year of the Ranger program.

Mill Creek is a low-gradient stream which has been severely impacted for decades. Many of the projects undertaken by the Rangers are aimed at removing debris from the creek, narrowing it, and restoring the natural meander pattern, thereby increasing water flow down the main channel, flushing sediment downstream, and exposing gravel substrates required for trout spawning.

#### Mill Creek Project Summaries:

##### ***Ed Lake's Property***

This year, work continued with ongoing debris clearing and flow re-direction. This section of the creek was flooded by a rock dam and as such has become wide, shallow and braided over its years of deterioration. The rock dam was removed in 1989. This section of the creek is being rehabilitated following Jack Imhof's *Phased approach to rehabilitation of low-gradient, sediment filled creeks*.



*Before*



*After*

### ***Bond Tract***

The Rangers opened the Bond Tract for use by clearing the weeds from the parking lot, opening the gate, and installing a garbage can. A load of gravel was dumped in the parking lot and the Rangers spread it around to smother a colony of Poison Ivy that was established on the eastern side of the lot. The existing bridge over Mill Creek along the Bond Tract trail had been vandalized and repaired in past years. However, after more vandalism this past year it was decided that the bridge would be removed.

### ***Puslinch Community Centre***

The section of Mill Creek which runs next to the Puslinch Community Centre had become blocked due to cedar logs which had been cut and left in the creek. Rangers removed the logs and debris dams that had formed along this stretch of creek. Rangers also did garbage clean-up.

### ***Gauge Stations***

The Rangers visited two flow stations which are monitored by GRCA: Side road 10, downstream of the Bond Tract, and Concession 7, south of Capital Paving entrance. At both stations, shrubs and roots were cut back along to bank and in-stream debris was removed.

### ***Soper Park***

Every year the Rangers do a stream clean-up on the section of Mill Creek that runs through Soper Park in Cambridge. Rangers removed 15+ bags of garbage along with several bikes, 5 shopping carts, tires, toys, and garbage. An area of land next to the Galt Arena was identified last year as an ideal location for a buffer planting. The Rangers spent a day planting 30 trees and 25 shrubs.

### ***Capital Paving***

A second part of the stream narrowing process took place this year on the section of Mill Creek running next to the Capital Paving ponds. Capital Paving provided the materials, machinery, and operators for this large scale project. GRCA provided technical direction for the installation of the silt curtain, as well as the adding of granular material used to extend the new stream bank.



*Post-construction*

### ***Electrofishing***

With the help of MNR, a section of previously rehabilitated creek was electrofished. This was important in order to assess the success of the rehabilitation work and to show the Rangers the types and number of fish that their work was aiding.

### ***Dufferin Aggregates Monitoring***

As a component of their aggregate extraction license for the University of Guelph property, Dufferin Aggregates is required to monitor the fish population of Mill Creek adjacent to pit and operations sites. This year the Rangers took part in the monitoring.

### ***Species caught at Dufferin Aggregates site***

- brown trout
- brook trout
- blacknose dace
- pumpkinseed
- rock bass
- white sucker
- smallmouth bass
- common shiner
- creek chub
- rainbow darter
- johnny darter
- brook stickleback
- central mudminnow



### ***Marden Creek Rehabilitation***

The Rangers spent three days over the course of the summer doing stream rehabilitation on Marden Creek with Guelph District MNR crew.

## **SECTION 4 – Data Management**

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### **4.1 Development of an Aquatic Resource Database**

In 2009, Tony Zammit, GRCA's Aquatic and Terrestrial Ecologist compiled a summary document to describe the GIS mapping and underlying datasets concerning fisheries resources within the watershed. The main objectives of this exercise was: to gain a better understanding of the relevance of various aquatic datasets and mapping for use within the GRCA's planning and permit review processes; to determine whether the data and information currently being used by GRCA resource planners is sufficient to be able to adequately protect fish and fish habitat by applying a Risk Management Approach developed by DFO; and to assess database limitations and opportunities.

In 2010, this GRCA initiative will also include gathering more information on some nascent database initiatives such as Conservation Ontario's Fish Web Collaborative and OMNR's Flowing Waters Information System.

# APPENDIX A

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## REGULAR STAFF



**Warren Yerex**  
**Supervisor of Aquatic Resources**  
*Retired August 2009*



**Jennifer Wright**  
**Aquatic Biologist**  
*On Leave of Absence (LOA) to work with Fisheries and Oceans Canada: January 2009 to March 2010*

## CONTRACT STAFF



**Jennifer Harvard**  
**Aquatic Biologist**  
*Employed: May 2009 to May 2010 (LOA Coverage)*



**2009 Ranger Crew (left to right): Brett Hoy, Stephanie Passarelli, Danielle Naylor and Mitchell Thomas**