

# Bay Area Restoration Council

## Adopt-A-Creek Progress Report 2008-2010

November 11, 2010

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## Introduction

Adopt-a-Creek (AAC) is a BARC program that seeks to engage volunteers in the cleanup of local creeks. A one-day AAC event consists of water quality sampling and a creek litter cleanup. Lunch may also be provided. Events run between April and October when the weather is favourable. Since September 2008, BARC has run 15 events with various corporate groups and volunteers.

The Adopt-a-Creek program has several goals:

1. To educate participants about the importance of clean streams.
2. To promote environmental stewardship through hands-on activities.
3. To protect and restore streams in the Hamilton Harbour watershed.
4. To provide basic quality data in order to determine threats and monitor stream health.

During AAC events volunteers take samples to test the water for E. coli. E. coli is a bacteria present in the bellies of warm blooded animals. Its presence indicates fecal contamination and means that more harmful bacteria may also be present. These bacteria can cause a variety of infections and illnesses.

## Work Completed to Date

### 1. Grindstone Creek

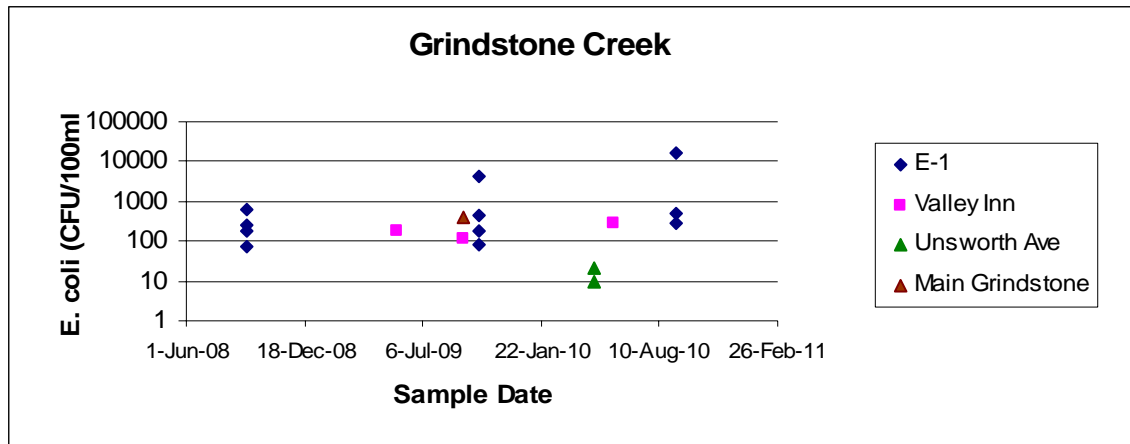
Our first event took place on a tributary of the Grindstone Creek in September 2008. The tributary, known as E-1, was adopted by CUMIS Group Limited. CUMIS has participated in AAC events annually since that time. E-1 is accessed from Hidden Valley Park in Burlington. It has the most trash of all adopted sites each year, with most of it being large items such as tires and buckets. This year a wooden boat had slid from the bank and was removed from the creek. Up to four E. coli samples were taken at each event.

Another tributary of the Grindstone was adopted in 2009 by PricewaterhouseCoopers (PWC) and has been sampled annually for the last two years. This tributary is accessed through the Royal Botanical Gardens (RBG) Valley Inn trailhead. One to two E. coli samples were taken at each event. This tributary is located on RBG property and is maintained by RBG staff, and therefore has less trash in-stream.

In 2009, BARC became a partner in the Burlington BlueCreeks (BBC) project, an initiative created to restore the Harbour's North Shore streams, starting with Grindstone Creek. As part of this project we held a public AAC event in September 2009 on the main Grindstone, near the tributary adopted by PWC. Many people turned out for this event and approximately 20 members of the public came to our site to learn about AAC. We also sampled water quality at the PWC-adopted location at this time.

A segment of the Grindstone, accessed from the RBG Unsworth Ave. trailhead, was sampled by Lloyd's Register in April 2010. A previous cleanup was done there in October of 2009. Unsworth Ave. had a relatively large amount of trash during both events.

The figure below shows the E. coli results to date for Grindstone Creek. In general the E. coli concentrations are relatively low. With the exception of one site at E-1 in both 2009 and 2010, all numbers are below 1000 CFU/100ml. Four samples were below the recreational guideline of 100 CFU/100 ml.

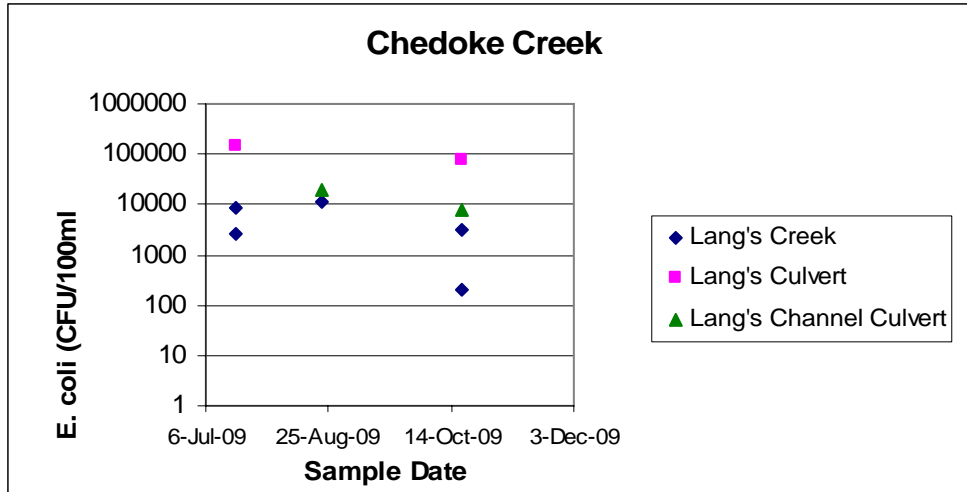


## 2. Chedoke Creek

A tributary of Chedoke Creek, known as Lang's Creek, was adopted and sampled by the Hamilton Industrial Environmental Association (HIEA) in July of 2009. The creek is accessed off Scenic Drive on the Hamilton Mountain. In August 2009 HIEA returned to take samples in a channelized culvert downstream of Lang's Creek.

Our first visit to Lang's Creek produced large amounts of trash. There was less trash on our second visit as it was only one month after our previous visit. We took up to three E. coli samples during each event. There is a culvert flowing into Lang's Creek that was loaded with bags of pet feces on our first visit. The E. coli count in the culvert was 150,000 CFU/100ml. Upon finding these very high levels of E. coli, BARC staff returned several times to take additional samples.

In general, Chedoke Creek had the highest E. coli concentrations and no samples were below the recreational guideline. Only one sample was relatively low at 200 CFU/100ml. This site was a good distance upstream of the other sampling sites.



When BARC staff returned to the culvert in October of 2009 to take E.coli samples, a white substance was present in the creek. Both MOE and the Public Health Dept. at the City of Hamilton were notified.

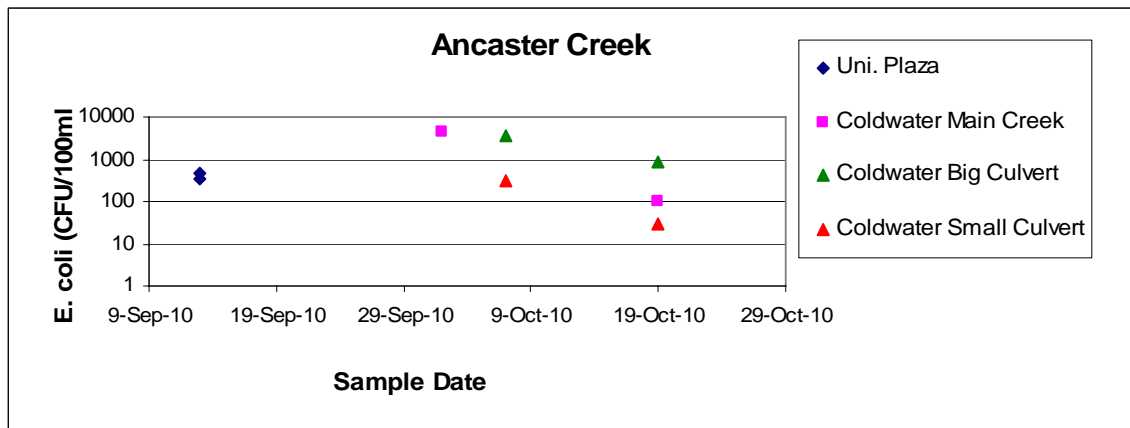


### 3. Ancaster Creek

Work on Ancaster Creek began in September of 2010. A segment located across from University Plaza in Dundas was adopted by a McMaster University Biochemistry class. Although there was some litter in the creek itself, much more was found along the steep banks.

As Ancaster flows downstream toward McMaster University it is called Coldwater Creek. Coldwater was adopted by three groups of McMaster students (MacServe, the Biodiversity Guild and the McMaster Rotaract Club) in October of 2010. The creek flows along the lower parking lots of the university and was heavily loaded with garbage, requiring three separate participating groups to clean it up. Much of the trash found here were small items including coffee cup lids, straws, and drink bottles. Within two weeks of the cleanups the parking lots were full of trash again. However the mouth of Coldwater creek was still free of trash on November 7<sup>th</sup>.

*E. coli* concentrations were relatively low in Ancaster/Coldwater Creek. One sample taken was 4200 CFU/100ml, however it was raining on that day. There are two culverts that direct flow into Coldwater Creek at the McMaster parking lots and the mouth of both culverts was sampled on two occasions. The results are shown below.



### 4. Spencer Creek

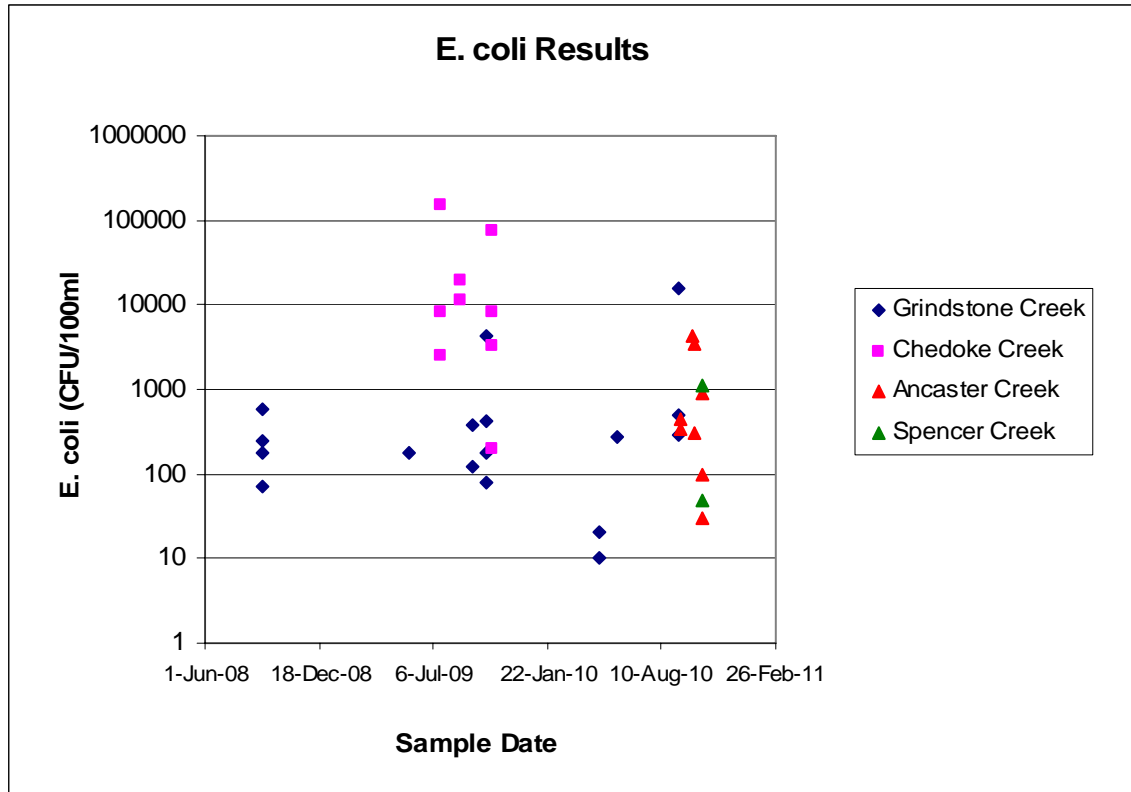
BARC staff, with the help of an eager volunteer, adopted a segment of Spencer Creek in October, 2010. It was accessed through the Bruce Trail at the intersection of Governor's Road and Olgivie Street in Dundas. A free run dog park is located along a segment of the creek and bags of dog feces were present. There was significant trash along the trail and along the edges of the creek, especially near the Dundas arena.

Two *E. coli* samples were taken. The main segment of Spencer Creek had a concentration of only 50 CFU/100ml, while a nearby side tributary had a concentration of 1100 CFU/100ml.

Further downstream a large amount of litter was discovered. BARC staff and two Directors cleaned this up on November 11, 2010.

### Overall Creek Health

The figure below shows the results of all E. coli samples taken during the AAC program. The relative poor health of Chedoke Creek is obvious.



### What Else are We Doing?

BARC is currently working with the City of Hamilton to erect "pet poop" signage. Signs will be erected at the entrance to Lang's Creek, as well as a location in the Ancaster Meadowlands that was discovered when visiting potential sites for the AAC program. Next year we hope to erect the same sign at the dog park near Spencer Creek.

Other signage will be placed in multiple locations around the McMaster campus parking lots. These signs will focus on littering and encourage folks to not litter on campus. We are currently working with McMaster students to find other ways to improve creek health on campus.

An application is currently underway for Phase 2 of the Burlington BlueCreeks project.

## Work to be Done – Potential Sites

In future we hope to continue to monitor sites that have already been adopted. Other potential locations have been chosen, based on accessibility and water quality threats. Sites include:

- a. Davis Creek (a tributary of the Red Hill Creek)
- b. Sydenham Creek (a tributary of the Spencer Creek)

## Problems Encountered

As the AAC program expands, several unforeseen problems have arisen. The biggest one is finding suitable sites with enough litter to sustain participants. Folks participating in the AAC program want to see tangible results from their work with us. They place high regard on finding large amounts of trash and hauling it from the creek. This is particularly true when a group participates for the first time and finds a lot of trash. Often this trash has been accumulating for a long time. Less trash will likely be found the following year, which can mean disappointment for the participating group. Many sites that we have visited have little trash, making them unsuitable for the program. One way to solve this problem may be to replace litter cleanup with another activity such as invasive plant species removal or tree planting. We also need to educate our participants that finding less garbage is a good thing!

Another concern is having sufficient leaders to help with water sampling. Participants are broken into small groups for sampling, and these groups require trained leaders to help with the sampling equipment. Although it is possible to train volunteers to be leaders, the irregularity of AAC events makes it tricky. Events can be run on weekdays or weekends, and less than 10 times per year. This means volunteer leaders may only be used a few times, making it difficult to train and keep them. The introduction of our Diversity Coordinator has been very helpful in alleviating this problem, as she attends most AAC events. She acts as a guaranteed leader which helps with staffing issues.

Other concerns have been addressed along the way. The purchase of an easy-to-transport canopy tent has made it easier to set up a home base for participating groups, while full-length rain gear keeps our participants dry and happy in wet weather.

## Overall Assessment of the Program

In general, the implementation of AAC has been a success for BARC, both in terms of community outreach and stream restoration. Through this program we have formed numerous partnerships with both corporate groups and community volunteers. We have seen several groups return year after year. Many of our participants do not often have the opportunity to participate in hands-on stream work, and they look forward to the event each year. We believe that being engaged in these activities will encourage good

stewardship. Participants stay in touch by signing up to BARCs Facebook page and e-newsletter list.

Our AAC events have helped to improve the health our local creeks. We have hauled out trash that can impede creek flow and prevent fish movement. We have also taken water samples and located areas with high E. coli counts. This has allowed us to focus more closely on problem areas. As urban areas expand, regulatory agencies do not have the manpower to do this work, and the use of volunteers becomes increasingly important.