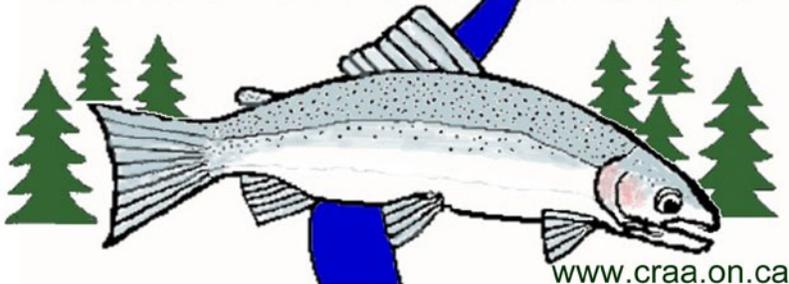


CREDIT RIVER ANGLERS ASSOCIATION



Light Lines

Journal of the Credit River Anglers Association

For more information, please visit us on the web: www.craa.on.ca

Summer 2012

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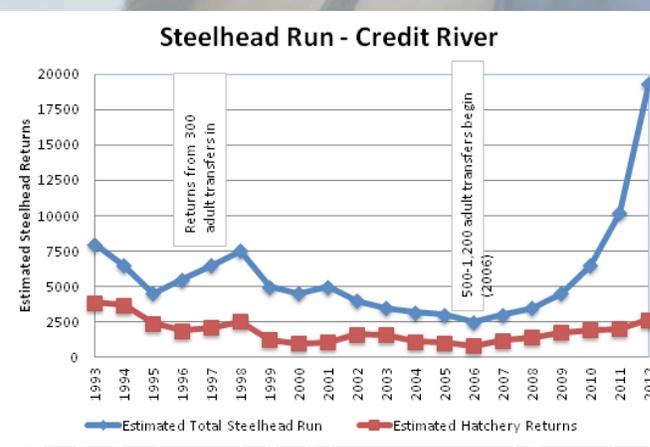
Steelhead Numbers Skyrocket

The 2011-12 season saw a massive increase in catch-rates

John Kendall

The Fall 2011 and Spring 2012 steelhead run smashed the record books and offered anglers some of the best fishing the lower Credit River has ever seen! The run started early with steelhead being caught before Labour Day and action heating up through the fall. The mild winter meant open water and steady fresh fish giving anglers a full 9 months of river action. Finally the early and hot spring meant fish ran early, spawned early and headed for the lake prior to opener. But the record run of steelhead provided the best opening day action I have personally ever experienced on the Credit.

Back in early December while I was trapped in the office Justin Elia (CRAA's tournament director) was on the lower river sending me up to the minute reports. By 10 am he and a buddy were close to 50 hook ups on chrome fresh run steelies, plus two browns when he said it; "this is like the Catteraugus... but better" The Catteraugus is well known for producing big numbers of hatchery steelhead in New York. The difference – Justin was pounding wild chromers that were kicking



The Steelhead run on the Credit has grown exponentially over the last three years. Going from ~4500 in 2009 to almost 20K in 2012

his butt. He said every pool had a bunch of anglers and everywhere he looked he saw bent rods, double headers and ear to ear grins. And best of all he saw almost every fish released to fight and spawn another day.

CRAA's team of biologists has been crunching the numbers on our mark-recapture steelhead run estimate and the numbers are staggering. We know we had a record fall run, it was the best winter fishing ever and the spring was fantastic as well. But the heat wave in March and the mild winter meant fish were done spawning and leaving the river by early March. Still, with the largest return ever our team of anglers landed over 500

steelhead after opener. Using tag data and fin clip data we are able to work out a fairly accurate population estimate for both the wild and hatchery portion of the run.

2011-12 saw close to 20,000 steelhead run the Credit. Our estimate includes over 500 fish caught by CRAA anglers, as well as information on almost 800 that were tagged in fall 2011 and spring 2012. The run was also 86% wild! This is a 600% increase over the run just 8 years ago in 2004! How did CRAA do it? Hard work, perseverance and working with MNR and many land-owners to make world class steelheading a reality on the Credit. ... Continued on page 7.

New Fishway Brings Some Successes and Some Challenges

MNR and CRAA worked very hard this spring getting used to working Norval's new fishway

CRAA Executive

Spring 2012 marked a new era on the Credit...An era when CRAA moved our spring lift, egg collection and transfer to the new Norval Fishway we built with the MNR last year. How amazing, after 22 years at Streetsville and after 13 years of negotiating and working through permits we finally had a new fish ladder at Norval that worked. The first step began during the winter with John Kendell speaking to MNR about finalizing operational plans, legal agreements and the necessary permits. Sadly, the lack of manpower within the ministry due to so many fiscal cutbacks and delays by a few member groups of the CRFMP – Implementation Committee, the licenses were delayed. This combined with the extremely early and abnormally dry spring made a small delay into a huge problem. The lifts and transfers started later than the fish needed.

Still, on March 13 with MNR approval, and just as the warm weather hit, CRAA volunteers opened the Streetsville fishway to allow full passage. Within minutes chromers could be seen flying through the ladder in groups of 10 or more. One week after opening the fishway, the temperatures climbed up to 27°C, however, during the next four-week span the watershed only received a total of 7mm of rain.

MNR staff worked with other stakeholders to address concerns raised about the transfer of adult steelhead to certain areas of the watershed. The solution brought to CRAA was a reduction in the total number of permissible transfer from 1,200 fish (total number transferred

each year over the past three years) to only 850 for this year. CRAA management and members were very displeased, but recognized the MNR staff's effort in finding a middle ground between CRAA's interest and that of the other user groups that oppose rainbow trout accessing good spawning water on the Credit. Ultimately this caused a huge delay and it meant the first lift and transfer started on March 28th, 15 days after the main run of fish started using the ladders and when water levels had dropped to almost record lows with the lack of precipitation and cooler weather. This, combined with a new fishway that still needed some tweaking to perfect it's operation, meant a major challenge.



Joe Ward and John Kendell with the First Steelhead lifted at the new Norval Fishway!

Unlike recent years where the lifts were 300-400 fish per night, we had days as low as 3. It was frustrating, seeing thousands of fish lined up below the dam, but cold, clear water preventing their movement upstream and into the outflow of the fishway. Luckily we finally had 3mm of rain and the next day lifted 241 fish. Sadly this occurred close to the end of the run when most fish had already dropped below Norval to spawn in unviable locations.

In the end only 430 fish were transported, even when the river had

a record-breaking year of close to 20,000. This highlights the need for improvements at the Norval fishway and that the 15 day delay in starting lifts was catastrophic. CRAA would like to thank



MNR staff members Mark Heaton and Aaron Law who gave up over 20 nights and weekends to work with CRAA volunteers on lift and transfer operations throughout the spring. Without their dedication and the dedication of an army of CRAA volunteers the lifts would have failed entirely this year.

Over the summer, CRAA and MNR are working together to make small adjustments to improve the new fishway's success. However, there is no question had we been able to lift and transfer fish between March 15th and 20th we could have lifted close to 500 fish per day, maybe even more. In addition to steelhead, two resident brown trout were found in the fishway and were consequentially lifted over the dam giving them access to colder summer water temperatures.

The good news for the steelhead is Mother Nature compensated for the reduced transfer in her own way, ensuring the 2012 year class will be a strong one.

CRAA Tree Nursery Upgrades and Plantings

Major volunteer turn-out makes quick work of tree nursery clean-up and planting session

On April 7th, 36 hard working CRAA volunteers arrived at the nursery with shovels in hand to work on long needed upgrades as well as some necessary maintenance. CRAA operates a tree nursery in Glen Williams on property loaned from Sheridan Nurseries. There we grow upwards of 3,000 trees in pots and planting beds for future habitat work. However, several planting beds had become overgrown with trees growing too large and the stock of potted trees had been reduced from the recent years planting.

The saying 'many hands make light work' was proven true yet again, as volunteers managed to transplant over 1,200 trees to pots, plant another 1,000 smaller trees into pots and beds and make all necessary upgrades to reorganize the nursery. Fraser and Mike from CRAA's exec team volunteer through the summer to maintain the nursery with watering, weeding and maintenance too. Contact them if you are interested in helping out. The last tally was a total of almost 1,000 potted trees up to 20 feet tall available for planting in the next year and by 2014 we will have a new batch of mature trees for planting. These larger trees are vital to jump starting the rehabilitation needed in tough spots along the river that are prone to ice and beaver damage. Larger trees are more resilient and make a much quicker contribution to lowering summertime temperatures with their shade. Another victory for the fish! The Hancock farm, deforested for more than 160 years is now well on its way to being a fully forested

section of river once again. The land owner, Sam Hancock who recently took ownership of the farm after his father Ted passed away this winter contacted CRAA and asked if we were willing to plant more trees on the farm.

Back in 1999 CRAA planted the north side of the channel and today the farm is one of our best before and after images as you can see below. The south bank, where Ted had cattle was the vital side in need of shade for the river. So on April 7th, with the massive turnout at the nursery maintenance day, CRAA embarked on a major tree planting too.

Check out the before and after photo from 1999 to 2009 on our website for Hancock Farm.

With bare root and potted eastern cottonwood (poplar) up to 20 feet tall, spruce 5 feet tall, tamaracks up to 12 feet tall and hundreds of smaller stock we set to work. By 3 pm the farm had 1,200 more trees planted, many of them mature trees that will take root and provide shade quickly.

The planting added 1,200 trees to the south shore covering an 800m section of open water. CRAA had planted part of the section in 2003 and again in 2007-10, but still much more was needed. CRAA plans to add more trees in 2013 to both sides of the river to fill in where beavers have damaged trees and widen the buffer strip where possible.

Another 100 trees were planted along the river on Sheridan Nurseries property to fill in gaps where trees had died from beavers or



Some of the large stock CRAA Nursery Tees - 'Instant Shade'



Trinity with a 6 foot balsam fir.



All of the trees planted received tree guards for beaver protection.

ice damage as well. All in all volunteers from CRAA completed a major planting that will improve water quality for the future expanding cold water fish habitat!



Remo, Terri, Peter, Paul and Alissia planting small trees into the beds.



Before (1999) and After (2009) of the Hancock Farm in Glen Williams, Ontario

CRAA Supports Reformation of the FFCG

The Float Fishing Conservation Group has re-grouped and is back working hard for Ontario Tributaries

Remo Pezzente

Greetings from the Float Fishing Conservation Group

The Float Fishing Conservation Group (FFCG) was first established in 2003 and a few years later in 2006 as some of you may recall, an alliance was formed with the Credit Rivers Angler Association (CRAA).

For many years the FFCG had a strong presence as stakeholders for Lake Ontario's eastern tributaries and we were involved with many conservation projects including; fish lifts, streamside clean-ups, bank stabilization and tree planting. Unfortunately a few years ago the FFCG began to lose some of its momentum as we lost some of our key members; as a result we became less involved.

I am pleased to announce that FFCG is back with renewed vigor and purpose. We have established a strong and dynamic committee with some new blood. We look forward to growing our relationship with CRAA and many other stakeholders along the north shore of Lake Ontario.

Committee

President – Remo Pezzente

See



The FFCG like any conservation group is always looking for more members

Treasurer – Paul Fusco

Director – Tommy Lee

Director – Jackie Ward

Director – Quinn O'Brien

FFCG - Mission Statement

To protect and improve the angling opportunities of coldwater streams and rivers by enhancing the biodiversity of life found in these environments, through advocacy, public awareness and conservation projects.

Who we are:

We are a volunteer group of dedicated anglers devout to our mission of improving the coldwater fishery. We mainly focus on but do not limit our efforts to fisheries management zones 17 & 20.

Our goals for this year:

A spring tree planting

A river side clean up

Regain our seats on the CFRMPC and FMP 17 & 20 committees.

Re-launch the S.O.S. project/Trout opener clean-up for 2013

We would to invite you to visit us at FloatFishing.net or drop us line at FFCG@hotmail.ca.

Cheers,

Remo Pezzente

Smolt Wheel

MNR, CVC and Atlantic Salmon Restoration Program partner on juvenile salmonid assesment



The Smolt Wheel installed on the Credit in the spring to study natural reproduction numbers

The MNR and CVC have been operating a smolt wheel trap again this year in Meadowvale Conservation Area since early April. The trap is part of the Atlantic salmon program, however it provides valuable data for all species including chinook, coho, brown and steelhead.

Last year MNR and CVC operated the trap in spring and found very good numbers of Atlantic salmon smolts leaving the system, in addition to steelhead smolts and large

numbers of chinook salmon from recent stocking. As our knowledge grows the smolt wheel will be a very valuable tool to look at year class strength, health of resident fish and smolts and more.

The trap has even captured a few adult and juvenile lamprey!

CRAA Development Watch

CRAA is keeping an eye out on upcoming developments

Oli Hajny

Long time CRAA member, Oli Hajny along with help from several other CRAA executive members is monitoring many development projects occurring in the Credit River watershed. Public comment and involvement is required under the Environmental Assessment Act and through the process CRAA is often invited to attend public meetings on projects from roads to sewers anywhere within the Credit River watershed. The volunteers offer comments and work with various agencies and businesses to make sure the interests of fish, habitat and angling are understood and incorporated into the work. This includes access, sediment protection, and reforestation afterward plus much more. Some of the current projects we are monitoring include:

QEW Bridge– The QEW is undergoing widening and CRAA has been involved as a public stakeholder since the start of the project. To date the contractors have done a good job with sediment protection.



Enbridge Gas Pipeline – The gas trunk line that passes through the watershed south of Norval will be twinned this summer. CRAA volunteers have provided comment and will continue monitoring the project.

Creditview bridge– The City of Mississauga will be widening the bridge north of Britannia Road in the near future. CRAA commented on protecting the trees we have planted, sediment control and more.

Bank Protection – south of Dundas – CRAA has worked with the City of Mississauga Works Department to review and comment on the bank protection planned along the clay wall south of Dundas. Work is tentatively planned for winter 2012/13.

Mississauga Storm Water Plan – CRAA has two members attending the storm water planning process. This will be a long term project with the city to develop and build storm water ponds to reduce pollution and flooding.

Port Credit Parks Plan – The City is again looking at re-developing the Port Credit Park and Launch Area. CRAA members are actively working with the city to ensure access for boaters and anglers is included in the design.

Mississauga Waterfront (Lakeview) – The city is also undertaking public comment for the future plan of the site where the 'four sisters' Lakeview Generating Station was located. CRAA has a volunteer on this

committee as well.

Norval Pit – CRAA continues to work with many community partners to protect valuable natural habitat and ensure the proposal if accepted, will not hurt the quality and quality of water in the river and tributaries.

Halton Hills Sustainability Project – CRAA is also involved in this new program to develop long term planning and protection in Halton Hills/Georgetown.

As you can see, there are many, many large projects, plus several dozen smaller scale projects that CRAA comments on behalf of anglers throughout the river.



CRAA Executive Team Doubles in 2012

The CRAA Executive team now at 30 volunteers

CRAA's executive team now exceeds 30 volunteers, bring together a mix of new energy and experience, business leaders, professionals and students. All working together to ensure the Credit River and other nearby watersheds become all they can be.

Back in January CRAA's executive team offered an open invite to members to get more involved, help steer the group and take on new and existing projects. As spring draws

to a close the team has seen many of those new faces take on specific tasks while others continue to learn so they may effectively expand the clubs work. More volunteers are helping to manage tree planting, the tree nursery, the hatchery, the fishway, transfers, tagging, research, contacting landowners, attending meetings and more.

With our membership growing rapidly we continue to see more and more eager

volunteers. If you want to help, get more involved and assist with planning projects our collective doors are always open! The best way to get connected is to e-mail John at president@craa.on.ca and if you have a specific area you want to help with let us know!

Steelhead Numbers Skyrocket

Continued from page 1...

The massive run owes itself to two key factors – CRAA volunteers transporting wild steelhead by truck past the Norval Dam to sections they can successfully spawn in and the back to back cold summers in 2008 and 2009. The cold summers have improved steelhead runs in most southern Ontario tributaries as anglers have experienced above average fishing on the Bighead, Saugeen, Ganaraska, etc. But the Credit has seen the run grow over 600% in just 8 years and that has far more to do with adult transfers than with the weather. Volunteers working every night during the spring and fall to lift and move fish is the key to success.

Trout have very poor survival in summer

below Norval dam due to high summer water temperatures. By moving adults past Norval Dam to the cold waters the rate of natural reproduction has exploded and in turn, so have the runs of adult steelhead

CRAA's massive rehabilitation project that has planted 400,000 trees and removed over 20 dams and barriers has also played a vital role in better natural reproduction. In addition, in recent years Lake Ontario has been more hospitable allowing for even better survival and growth as has been seen around the entire lake in all salmonids.

I have worked on developing a strong wild steelhead run for over 20 years and today I

can see we are well on our way to achieving the goal of one of the best trout and salmon rivers in southern Ontario. All spearheaded by volunteers overcoming many hurdles along the way. But the future is even brighter. We expect a larger run in 2012/13 and with such large runs we have proven the Credit is capable of so much more. 200 years ago estimates up to 300,000 Atlantic salmon running the Credit were made so we know we still have a lot of room to improve the fishery. Not to mention the Salmon River in New York is boasting steelhead catch rates exceeding 35,000 in the fall alone and chinook salmon catch rates exceeding 60,000 per fall.

Science/Public Advisory Committee

John Kendell

CRAA's executive has six biologists and several other members that work in the conservation/biology field that also attend or represent CRAA/members at various committees. Here is an outline of each group where our volunteers attend regular meetings:

Credit River Fisheries Management Plan – Implementation Committee – CRAA is an original member of the plan and has been a leading active participant since the plan started in 1998. John Kendell and/or Louis Milo sit on this committee.

FMZ 20 (Lake Ontario Council) – The group covers all of Ontario's side of the lake and discusses issues of stocking, fishing access, limits, harvest, etc. Louis Milo is

the primary volunteer with Justin Elia as his back up.

Atlantic salmon Science Committee – John Kendell is a member of this committee that is managed by the MNR with stakeholders from other partners working to bring back the salmon.

Atlantic salmon Habitat Committee – John Kendell sits on this group as well. The team works on collaboration among various stakeholders to plan and develop habitat projects that will benefit the rivers where Atlantic salmon are being stocked. The habitat work benefits all species of fish including resident trout and migratory salmon and trout.

National Fish and Wildlife Congress – John Kendell attended this four day event

in Ottawa on behalf of CRAA in May 2012. The event was an international congress looking at future fish and wildlife protection and enhancement. A special thanks to the Toronto Sportsmen's Show for sponsoring John to attend this event.

American Fisheries Society – Several CRAA executive attend this science literature based event annually.

Spey Fishing on the Credit

Wayne Veirhout

Good opportunities exist for the Spey rod fly fisherman to catch Steelhead on the swing in the Credit. Although it is not comprised completely of runs with long, wide, smooth, slow flowing "swing water" that Spey fly fishermen dream about; the Credit can't be beat for the Spey fisherman that has only two or three hours of time, needs to get a fishing fix and catch a Steelhead on a river close to home. Mostly surrounded by a forest filled valley; the Credit is one of the best kept secrets for Spey fishing opportunities close to the GTA, although with recent "angler with Spey rod in hand" sightings; that could be changing.

Along with little travel time required; one of the allures of The Credit to the Spey fisherman is the lightness of the tackle needed. One Hundred foot casts and fifteen foot rods are not required and the river can be very successfully approached at any fishable level with a light 12.5 foot rod and 10 foot poly leaders. Some fisherman may argue that a 12.5 footer is too long; but I find the longer 12.5 foot rod advantageous to keeping the fly on a slow swing by long mending across complex currents and into pockets and slots. Complicated flies like the legendary Spey fly, the Lady Caroline; although very effective are not a necessity on the Credit. The flies only need to be a few simple marabou patterns of different sizes in colors of white, purple, orange and black. White marabou for the spring and late fall. Purple marabou throughout the fall. Orange marabou in the early fall, and black marabou anytime. When the water is high and dirty then large dark buck tail patterns with a bit of chartreuse work well.

So what's the big deal about Spey fishing anyway? - Well it's all about the take, the manner in which Steelhead bite the



Wayne's Favorite: Black and Chartreuse Thingy Fly (a tube fly)

swinging fly. BC Steelheaders discovered in the middle of last century that Steelhead viciously hammer flies swung cross current with traditional Spey fishing tackle, and the Credit Steelhead are no exception. Some takes are so violent it's a wonder the rod doesn't get jerked right out of the anglers hand as the Steelhead tries to crush the fly. Float fisherman don't need to be concerned however; that the Spey fishermen are going to catch all the fish as its thought only the most aggressive Steelhead will attack the swinging fly, leaving plenty of fish for other anglers. Similarly Spey fisherman tend not to crowd the pool either; but start at the top of the run and step down stream every cast or so, quickly moving from the head of pool to end of the pool and then off to another run. On that note if a float fisherman and Spey guy approach a pool together it wouldn't hurt to let Spey fisherman swing through the pool first - in the very least the float fisherman should stay on the upstream side of the Spey fisherman at least three rod lengths away so the float fisherman does not get hit with the fly. This allows the Spey fisherman to step down stream as he fishes the pool and then he's off to another pool.

Swinging a fly with a two handed rod for Salmon and Steelhead is the largest growing part of the fly fishing market. Just a few years ago a very limited number of models of Spey rods were available and even less of a choice in Spey fly lines were on the market. Today the choice in two handed fly tackle is staggering. Likewise Spey fishing on the Credit is on the rise and on any day numerous Spey fisherman can be found on the Credit. Some recent new Spey fisherman have turned out to be float fisherman that are looking for a change. This is good news for the Credit as another group of anglers is now using and supporting the Credit resource. The more people and different types of angling that happen on the Credit; the more the resource is appreciated and the more support we all have to make sure the Credit just keeps on getting better.

Wayne's Favorite Spey Fly

The Black and Chartreuse Thingy Fly Recipe:

Tube: Aluminum, 1" to 1.5" long

Tag: Gold tinsel

Body: Chartreuse floss or Chartreuse uni-stretch

Rid: Gold tinsel

Under wing: Chartreuse Marabou

Throat: Guinea Fowl dyed Chartreuse

Wing: Black Buck tail (sparse) & black crystal flash



Proof that Wayne's spey flies catch all kinds of migratory fish in all kinds of weather.



Stormwater and the Future of the Credit River

An explanation of how stormwater is managed and how it affects the river

Mike Ewaschuk

What is stormwater? How does it influence the river? What are the short and long-term impacts of stormwater management on the Credit River fisheries?

Stormwater is water that originates from precipitation events. "Runoff" or "stormwater runoff" is the condition where precipitation flows across the land to a watercourse or wetland as opposed to "infiltrating" into the ground. Stormwater, and the resulting ratio of runoff to infiltration, is dictated by a complex set of variables that ultimately influence watercourses and fisheries in different ways.

In an undisturbed forested catchment (a catchment is the area of land draining to a watercourse at a given point) with no human settlement, stormwater primarily infiltrates into the ground. In this hypothetical undisturbed catchment, runoff only occurs when the ground is frozen or the amount of precipitation exceeds the ability of the ground to absorb it. Comparatively, in a developed catchment, a higher percentage of stormwater runoff is generated in response to each precipitation event because of roads, buildings, and other land uses that prevent water from infiltrating into the ground. Stormwater that enters the ground can take anywhere from hours to years to reach a receiving watercourse or wetland, or it is evapotranspired by plants. This delayed response of groundwater reaching a watercourse is what sustains cold and clean base flow (continuous flow from groundwater) in our streams, which is critical to coldwater species such as salmon and trout.

In light of the above, it should be apparent that continued land development in a catchment alters the overall timing and quantity of water reaching our streams, and the quality of that water.

The various routes that water takes between the atmosphere, the land surface, the ground, and waterbodies, is called The Hydrologic Cycle. Many streams and rivers in developed watersheds are unable to support sensitive species dependent on cold, clean base flow, in large part due to disrupted hydrologic cycles that degrade

water quality (including water temperature) as well as physical fish habitat. In an undisturbed landscape, the land acts like a sponge to store and process stormwater and slowly releases it to rivers and wetlands. In developed landscapes the hydrologic cycle is disrupted as precipitation falls on: driveways; roads; rooftops; compacted soils that prevent infiltration; parking lots; and other forms of "impervious cover". This water runs off of these surfaces, picks up various pollutants (i.e. gas, oil, brake dust, washer fluid, soap, paint, soil, pet feces, fertilizers, herbicides, pesticides, driveway sealant, etc) and then flows either directly to a stream or river, or into a stormwater pond.



Flooding and muddy water from storm sewers in Mississauga and Brampton.

Where there are no stormwater ponds, runoff generates quick increases in stream flows causing excessive rates of erosion in the short-term, and a wide and shallow channel in the long-term. In addition, all this untreated water ends up in Lake Ontario from which we all drink! Comparatively, the water that flows into stormwater ponds is retained in the ponds and thus does not cause the excessive erosion rates and should not contribute to wide and shallow channels. However, the water discharging from the ponds is extremely hot in summer, full of nutrients (harmful to water quality for fish) and bacteria, contains other contaminants (much of which settles to the bottom bound to sediments in a properly designed pond), and is often fairly high in turbidity (due to waterfowl, wind, and deleterious nutrients stimulating plant growth). In winter, salt concentrations in Laurel Creek (Waterloo, Ontario) from stormwater pond discharge often exceeded chronic toxicity levels for aquatic life (harmful effects occur over an extended period), and occasionally exceeded acute toxicity levels (harmful effects occur instantaneously) (Stone et al. 2010). Within these ponds, the salt concentrations caused chemo-stratification of the water column resulting in the liberation

and release of pollutants within the pond's sediments. The take-home message here is: Stormwater ponds are not the answer, but no stormwater treatment is worse.

In the Credit River, the predominant change in land use is the transformation from agriculture to residential and is occurring on a large scale from Steeles Road all the way up to south of King Road, and all through the continuing expansion of Orangeville. Who cares? What does this mean to me as an angler of the Credit River? Hopefully from the information provided thus far, you realize that the potential negative implications to angling are many. So what is the answer to the problem of dealing with stormwater??? First, some more background to bring home the message of how critical this is to our fisheries:

The Ministry of Natural Resources (MNR) quantified the degree of development and the corresponding ability of a river to sustain salmonids (species belonging to the trout and salmon family) (Stanfield et al. 2006; Stanfield and Kilgour 2006). Specifically, MNR looked at different types of development and their respective amounts of "impervious cover", and then studied the adjacent fisheries. As noted earlier, "Impervious cover" includes roads, buildings, and other land uses that prevent infiltration of stormwater and promote runoff. Through the use of data across southern Ontario their models predicted:

- No brook trout in catchments exceeding 6% impervious cover;
- No brown trout in catchments exceeding 7% impervious cover; and
- No rainbow trout in catchments exceeding 9% impervious cover.

In a residential neighbourhood, the percent impervious cover (PIC) was considered 20% in the above studies. Forecasting the amount of future development in our watershed, you can see we're in trouble. Particularly south of King Road, we will likely go well beyond the above noted PIC values. So does this mean there will be no salmonid species south of King Road once development is complete? Yes and no. At some point downstream of King Road, the PIC within the catchment in

that area will exceed the above thresholds and there will be no sustainable recruitment of salmonids. There will still be runs of steelhead through the main river assuming that transfers continue to Silver Creek, and that PIC in Silver Creek does not exceed 9%. Similarly, brook trout will remain in Silver Creek but are even more sensitive to PIC (6%). Brown trout would still be expected to use the main river seasonally, but again, at some point downstream of King where PIC exceeds 7%, no recruitment would occur. Comparatively, increasing PIC through the Orangeville area has the potential to affect the entire main stem of the Credit River and some of its headwater tributaries.

From an economic standpoint, management of stormwater via ponds, versus not managing stormwater at all, is very expensive. Under this current regime, money is needed for: pond dredging; environmental study to determine the end-use of the sediments; transport and disposal of contaminated pond sediments; lost land required for stormwater ponds; repairs to roads via wash-outs and sinkholes (very frequent in Toronto); armouring stream banks to protect property, buildings, and infrastructure from erosion; highly sophisticated treatment of our drinking water to deal with pollutants in Lake Ontario. In a nutshell, the money to deal with these problems is lacking. As such, ponds fill up with sediment and then fail to provide water quality benefits, and cause high flows and erosion in streams and in the Credit River that degrade habitat and threaten property.

So what can be done??? There is a solution. We need to replicate the undisturbed hydrologic cycle by treating precipitation where it lands. In other words, we need to reduce the amount of PIC (percent impervious cover). And how do we do that?: Low Impact Development (LID) uses a variety of techniques to reduce stormwater runoff by effectively reducing the amount of impervious cover:

- Houses can have downspouts disconnected from the storm sewer so they can discharge to lawns;
- Roofs of buildings can be designed to retain water and slowly discharge it to lawns or other areas where it can infiltrate into the ground or be used for other purposes;

- Driveways, parking lots, and low-use roads can be covered with “porous pavement” and other techniques that allow water to infiltrate into the ground.

- Use of “bioswales” instead of sewer pipes to conduct water off the land.

The bioswale is essentially a ditch where the grass is allowed to grow. The bioswales may have engineered modifications to enhance retention time, facilitate infiltration, attenuate flow, uptake deleterious nutrients, and provide other benefits. More information on this topic can be found on the Credit Valley Conservation website. It should be noted that the degree to which different techniques can be used successfully is dependent on a variety of factors such as the quality of water being treated, soil characteristics, slope, geology, vegetation cover, vegetation type, proximity to impervious cover, proximity to a watercourse, and other factors.



Flooding and sediment from a storm sewer can be clearly seen here

So what can you do? Disconnect your downspouts!!! As noted, the effectiveness of this technique is dependent on a number of variables, but this is the single easiest way to reduce your impact on the river and its tributaries. This is particularly true for areas of the watershed with highly permeable soils (i.e. Orangeville, Caledon, Halton Hills, and most areas north of Norval).

The simple concept of the Hydrologic Cycle has many complex components, further complicated by the effects of different land uses on the overall cycle. This article provides only a very simplified summary of these processes and the implications for the Credit River. Essentially, this is what you, as a Credit River Angler, need to take from this article: Current management of stormwater threatens our fisheries by degrading water quality and physical fish habitat components. This same water flows into Lake Ontario from which your

drinking water supply is drawn! This current management regime for stormwater is also very expensive. This needs to change. We as an Association need to push for the use of Low Impact Development (LID) techniques for new developments, and retrofit existing developments using LID wherever it is economically feasible. This will help restore the hydrologic cycle and reduce our dependence on stormwater ponds. Stormwater ponds discharge extremely hot water in summer, poor water quality potentially throughout the year, and the benefits they do provide diminish once they have filled with too much sediment. Comparably, an undisturbed catchment, or one with LID, will discharge groundwater of much cooler temperatures and much greater water quality.

Disconnect your downspouts! And help us plant trees to re-forest the riparian buffer, which will help reduce water temperatures back towards the historic norm!!!

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Are Your Downspouts Disconnected?

What you can do to help the river from the comfort of your own home!

Roof tops account for an average of 50% of the impermeable/hard surfaces on your property. The average roof top covers over 1,000 square feet of ground and directs 100% of runoff to your downspouts via the eaves trough. Where that rain water goes and how it impacts the river is in your control! Are you helping the river or not?

Loss of groundwater through hard surfaces in urban areas from roads, driveways and roof tops is essentially death by one million cuts to the river and the fish. This leads to the saying think global, act local. The simple act of disconnecting your downspouts will help the Credit River or whatever river you live within by reducing storm water flooding and increasing groundwater.

If you have downspouts beside open lawn than you are ready to go. Visit the hardware store, buy some 90 degree angles that match your downspouts and splash pads to direct flows away from your foundation. Simply cut away the downspout above the pvc pipe, attach the new angled downspout aimed away from the house and place a splash pad to catch and direct the runoff. Then cap the pvc pipe. For an investment of less than \$10 per downspout you just helped the river!

If you have a down spout that comes to a hard surface like a driveway or patio you have options. You can add a diversion pipe to bring it to a garden if one is close by. Or you can buy a rain barrel from the Region of Peel or your local garden centre (they cost between \$50 and \$100). The rain barrel will catch your runoff, hold it and allow you to water flowers and gardens as needed.

CRAA is working with the City of Mississauga to encourage watershed wide downspout disconnection and all future development is disconnected. CRAA is also involved in the City of Mississauga's storm water management public advisory program that recently started.

We must turn back the clock to fix our watershed, reduce flooding, increase groundwater and cool the river. Your one house may not seem like much, but consider 100 houses, how about 1,000 or 10,000 houses? 1,000 roof tops create 1,000,000 square feet of hard surface preventing rain water from infiltrating the ground and cooling the Credit River. An average rain storm of 1 inch (25 mm) with a 30% evaporation rate, 70% runoff rate, falling on 1,000 roof tops creates roughly 1,600,000 litres of storm water. Does that water add to flooding or does it soak into the ground, building aquifers and creating habitat for juvenile salmon and trout? The answer is in your hands.

We need to get this water into the ground where it belongs, back into springs that cool the lower river! This in turn will lower summer water temperatures, warm the river in winter and increase the number of wild salmon and trout!

As an avid angler, conservationist and concerned citizen I hope you take this moment to walk around your house, count your downspouts and if they are connected you're on your way to the hardware store!

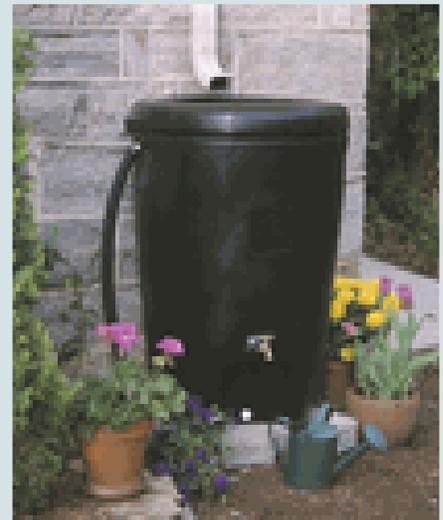
On the right you can see examples of disconnected downspouts and rain water storage. -->



The disconnected downspout at the Kendell residence.



Parts needed: Only a \$10 investment.



A rain barrel is another great option for downspout disconnection.

Rogers Creek - Success Story

What a small stream can do for an entire watershed

John Kendall

14 years ago in 1998 I walked 3km of Rogers Creek with Mike Tost, CRAA's VP at the time. We had no knowledge of the creek except it ran hot in the summer, exceeding 30C at King Road where it joined the Credit River. The creek looked fantastic back in 98, forested with clean gravel, but we only found chubs and no sign of trout. As we walked further we discovered a 6 foot high dam, then past that we found a small dam, then a huge dam 8 feet high with a large on-line pond, then more dams, ponds, and more dams. No wonder this little creek had no fish! I contacted the land owner of the large pond and received permission to place temperature loggers. And to our shock we found the water above the pond running at 18C and leaving the pond at 28C (too hot for trout). The second pond heated the creek from 27C to 30C. The creek was a death trap for any trout and especially the brook trout. Sadly a drought that year caused the land owner to refuse permitting a bottom draw and the project went dead.

Fast forward to 2005 and progress began with a series of events that have created one of the most positive stories in the watershed for rehabilitating a stream. At the mouth there was a perched culvert (a 12" jump that small fish could not get over) and the concrete culvert was so wide that summer flows were less than an inch deep, preventing larger fish from passing. A joint project with CRAA, MNR, CVC, TU and Ontario Streams built a rocky ramp and installed wooden baffles to concentrate and

deepen the flow over the concrete. These two small projects now allow large and small fish to pass from the Credit River to the creek with ease. So in 2005 the two barriers at the mouth of the stream were resolved. But temperatures were still a major issue. Around the same time CVC had purchased the property with the smaller 6 foot dam and head pond. Together we removed the stop logs over 2 years and planted the dry head pond with grasses and trees. Some of you may remember a muddy CRAA workday back in 2006 when we installed long bank stabilizers in the deep sediment that had been exposed in the head pond. A few of us had mud up to our chest it was so deep.

Also around this time I received a call from the CVC biologist that was aware of the temperature work and CRAA's concerns. He let me know there was a new land owner and the neighbour, who had found out about my initial temperature work had taken up the cause and made great progress. With the MNR, CVC, OFAH, CRAA and a few other partners the project was supported under the umbrella of the new Atlantic salmon restoration program. MNR sourced funding and a 100m bypass channel was built, allowing the land owner to retain the pond, but also allowing the cold water to flow down the stream and the fish to migrate past without a barrier. The work was carried out in fall 2007 and planting and final work done in 2008. This project is a great example of what could (and should) be done to remove dams and barriers but retain ponds around the entire watershed!

Fast forward to 2012 and I recently met with the land owner that facilitated the pond by-pass and took a look at all the work that has been done by the many partners. The stream was now full of small fish, fry, parr, smolts and adult brook trout holding together in several small pools. A true success story, where a severely degraded and dammed stream was brought back to life! Resident browns seem to have started using it to spawn, steelhead that have found their way past Norval Dam also spawned there this year and brook trout are now able to live in the lower 3km of the stream all year and even venture into the Credit River. Prior to the work, the tributary actually increased the temperature of the Credit's main flow. Today it serves as a cooling source, providing vital refuge from hot days in the summer and helping to lower the main river temperature which improves trout and salmon habitat all the way to Glen Williams.

This story is a leading example of how improving habitat will benefit both brook trout and Atlantic salmon, other native species and the great game fish we all enjoy such as brown trout, steelhead and Pacific salmon.

A reminder to everyone that this is a small stream, mostly on private property and does not offer direct fishing opportunities. What this does is serve as vital nursery water, feeding the Credit River and ensuring the fishing we enjoy in the main river will be better from now and into the future!



Rogers Creek - A small creek that dam removal can bring about a huge improvement to the entire watershed



Brook Trout and Insect Decline

Recent concerns over brook trout decline in Credit River tributaries

CRAA has been a financial and volunteer sponsor of researcher Henry Frania for the past five years to assist Henry in his work to unlock why the Green Drake fly and several other species have declined so dramatically in the Credit River. An unknown pathogen(s) causes larvae to die in the streambed even in sections of the Forks and the Inglewood reach where appearances suggest the river is almost pristine. To date we still do not have any finite answers. For more details on the ongoing research please visit CRAA's website and download Henry's annual reports.

There is also growing concern from ongoing fishery research that brook trout are declining all over the watershed, from the headwaters to the Forks (where the population ends due to unsuitable habitat). There are a few

rare positive notes, such as the fish in Black Creek seem to be doing fairly well (based on fishing success and spawning checks) and the Rogers Creek population has had space to grow with the dam and pond removals.



Brown trout and rainbow trout are often blamed for this, but this is not the case. Most brook trout are in isolated sections

without brown or rainbow trout yet they are still experiencing a decline. And much of the area has a zero harvest limit so that should not be an issue either!

This suggests there are larger factors at play causing the decline. This is an area that all anglers and partners need to research in order to find the cause and reverse it. Impacts could be many including but not limited too; groundwater taking, groundwater pollution, habitat loss, poaching/over fishing/harvest, disease, global warming, river pollution, etc.

Our watersheds are in a state of change and we all need to work together to find a solution for the benefit of the river and all fish species.

Hatchery Update

Lots happening at the CRAA Hatchery over the last year

2011 saw continued success as the CRAA hatchery grew in size, capacity and our volunteer team grew to over a dozen dedicated anglers. Work as always was a daily routine, 365 days a year, rain or shine, hot or frozen. With the growing experience of the team, 2011 saw our best stocking of yearling and 1.5 year old steelhead ever, as well as coho salmon. In 2011 CRAA stocked:

Yearling (13 month) steelhead: 17,500

Post yearling (17 month) steelhead: 18,750

Coho fall fingerlings : 9,800



One of many CRAA Hatchery Volunteers shown picking dead eggs.

The fall of 2011 saw us assisting to collect more coho eggs, but sadly not enough adults were available (due to the low stocking of 2008) so the few eggs taken went to the Ringwood hatchery. Still, we managed to collect about 20,000 brown trout eggs from the wild and MNR provided another 20,000 eyed hatchery brown trout eggs. The hatch of the wild fish was excellent and we estimate 25,000 brown advanced fry were feeding at the hatchery in May 2012.

The spring steelhead egg collection was completed at the Norval fishway for the first time ever! In March and April we collected 50,000 green eggs from wild steelhead with MNR staff. The eggs were also raised at the hatchery and we had one of our best hatches, with an estimated 45,000 fry just starting to feed at the end of May.

Also at the end of May Sir Sandford Flemming College gave us 5,000 Atlantic salmon advanced fry. CRAA volunteers picked those fish up on May 29th.

In spring 2012 we also released over 3,000

large yearling steelhead and held back the remaining age group for release in September. The fish were smaller this year and it was felt survival would be best if we waited until fall...especially with the threat of a hot, dry summer in 2012.

As we progress through summer we have 2011 and 2012 year class steelhead, 2011 Atlantic salmon and 2011 brown trout. This fall we hope to collect coho eggs as well. The challenge will be that 2009 was also a reduced stocking year, so the run is expected to be quite small again, meaning eggs will be hard to come by.

Donations:

Kendellhurst Academy students who raise Atlantic salmon in the classroom as part of the Bring Back the Salmon program raised \$440 to help CRAA's hatchery. Students raised money by adopting a baby salmon and donating the money to help feed our trout and salmon hatchery fish.

**Credit River Anglers
Association
Light Lines
Editor: Cameron Walker**

**Contributions are welcome
from all members and non-
members alike**

**Send your articles to
cameron.walker@utoronto.ca
or**

**128 Queen Street South
PO Box 42093
Mississauga, Ontario
L5M 1K8**

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for their contribution to this
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Opening Day with the Kids

John takes the kids out for trout opener and has a blast!

John Kendell

I have enjoyed opening day on the Credit for over 20 years, but 2012 raised the bar, both as a conservationist and a parent. For the first time I took both my children (8 and 10 years old) out for the day to do battle with the Credit's best. And we were rewarded with more fish than I could have imagined.



Trinity hooked up to one of many chromers from opening day.

The morning started out cold, with frost on the ground, mist rising from the water at first light and ice forming on our guides. As we arrived at the first pool it was untouched. My son made a cast and after his float drifted 3 feet it tore under followed by a tail walking chromer. The kids alternated the drift as they warmed up from the rush of adrenalin hitting 9 fish in 10 drifts. After several high fives, some screaming from all the excitement and a few re-ties by daddy (aka guide extraordinaire) we were ready for more. As we walked to the next pool I took stock of what just happened – we ended up hitting 15 fish from a

small pool that has never given up more than 6 at a time to me in the past 20 years. Is this just a fluke, or a trend?

The next pocket, not even a pool yielded 5 fish on the bank for the kids...more huge smiles from all three of us. Now to a big pool, one that has been good to me in the past. After an hour the kids had hooked another 30 fish... yes 30, banking another 10 or so. Exhausted, the kids sat back and enjoyed hot chocolate and let daddy drift for a while. As the crowd grew we left the pool, but only after 27 more steelies were banked and over 60 lost. The look on people's faces when an eight-year old girl and ten-year old boy are in to double-header after double-header is priceless.

As we made our way to other pools I could see they had all been fished hard. Normally a sign that few fish are left. But this year was different. With the record run there were still fish to be had everywhere we stopped. Another good friend Mike joined the kids and I for the remainder of the day and enjoyed many double-headers and even some triples. Chrome fish that had finished spawning and were making their way back to the lake were the norm, with their amazing acrobatics and powerful fights.



Big Smiles-A-Plenty for Trinity and Andrew as were the fish!



Andrew practicing what dad preaches... Proper handling and release technique.

In addition to high flying rainbows, we landed several gorgeous resident browns which highlights how the river and the fishery is getting better and better.

It was a day I will always remember, sharing many laughs, smiles and fun with the kids and watching as their eyes popped out while they held on for dear life with as a 10 pound steelie tail walked across the river. This is why volunteers at CRAA work so hard – to make the fishery better for the next generation

CRAA Work Day: July 21st

CRAA has a tree maintenance day planned for Streetsville's Memorial Park starting at 8am. Work will centre around stewardship efforts (repairing tree guards, removal of vines and more). Different sites will be visited. Meeting time. More workdays are upcoming, check the CRAA website for dates/times/locations. Please email: info@craa.on.ca if you need more details on the event!

Report all Atlantic Salmon Catches to MNR or CRAA

Call CRAA's Hotline (905) 814-5794 or 1-877-TIPS-MNR to report any and all Atlantic Salmon Catches.

Do your part to bring back this heritage species and release all river caught Atlantics... It's the LAW!