



# LIGHT LINES

FALL 1997

Volume 8, Number 4

## CREDIT RIVER TEMPERATURE STUDY

As part of CRAA's initiative to ensure the most productive use of the Credit River for wild trout production we purchased three temperature data loggers with a grant from the Bank of Montreal. The data loggers were set in various sites for periods of ten days over the summer. We targeted the moves to coincide with hot spells during the summer to give us the maximum temperatures at each site and the overnight recovery temperatures.

This years data has answered many questions and put solid scientific evidence in the place of rumours and misinformation. Table 1 shows the various sites and related temperatures that were measured this year. The area studied was the area that we believe should be reserved for wild steelhead reproduction.

**TABLE 1. Locations and maximum temps.**

Location	River	Max daily temp (C)	Distance above Norval (km)
Inglewood	Credit	24	30
Terra Cotta	Credit	25	20
Glen Williams	Credit	26	12
Norval	Credit	27.5	-0.3
Steeles	Credit	29	-15
Erindale Park	Credit	30.5	-30
Norval	Sil/Blk	23.5	0.4
Hungry Holl	Sil/Blk	23.5	4
Stewarttown	Black	23.5	10
8 <sup>th</sup> Line	Sil/Blk	23	8
Cedarvale	Silver	24	9
Westwood	Silver	25.5	12
Swamp	Silver	28.5	14

Credit = Credit River, Silver = Silver Creek, Black = Black Creek and Sil/Blk = Silver creek once Black creek has joined it.

As you can see, all temperatures taken on the main Credit above the Norval Dam are perfect for steelhead, meanwhile the temperatures below are lethal to all trout. The only warm section of Silver creek is due to a large swamp, but you will notice as the river comes closer to joining the Credit it cools. This is because Silver creek leaves the low gradient swamp and enters the high gradient valley which is heavily forested and has numerous spring water inputs to cool it.

### WHY IS THIS INFORMATION USEFUL?

I'm glad you asked! Remember, there are a few issues at stake for parts of the upper river. There is the self sustaining brook trout and brown trout, the experimental stockings of Atlantic salmon and the urge of countless anglers who want steelhead getting into water where they have a good opportunity to reproduce. Also, remember that resident trout live in the river their entire lives, while steelhead and salmon live in the river from one to three years before heading to the lake to grow to adults. The common need is cold water. Table 2 shows the lethal temperatures for the various trout. The following information applies to juvenile salmonids since this is their most vulnerable time of life. Adults can normally withstand slightly higher temperatures.

**TABLE 2. Lethal temperatures.**

Specie	lethal temp	preferred temp	life in river
brook trout	22 C	17-19 C	life
brown trout	25 C	18-22 C	life
Atlantic sal	25 C	19-23 C	1-3 years
steelhead	26 C	19-24 C	1-3 years

*Continued on page 2*



## CREDIT RIVER TEMPERATURE STUDY CONTINUED

Juveniles can survive the lethal temperatures for short periods (a few hours), but prolonged exposure (more than 12 hours) will be lethal.

### THE RESULTS

The main Credit had no major surprises. The MNR did a thermography study of the river a few years ago and temperatures were similar to their findings. Although, there was a lowering in temperatures between Glen Williams and Norval due to the removal of the Papermill Dam as expected. Between Inglewood and Georgetown the river stayed in between 24 C and 27 C, however there were two problem areas that stood out and must be corrected. The river is wide and shallow in the sections above Glen Williams and Norval with very few shade trees to prevent daytime heating by the sun. CRAA began our river reforestation project this summer and these two problem areas (which we discovered last year) are our highest priority.

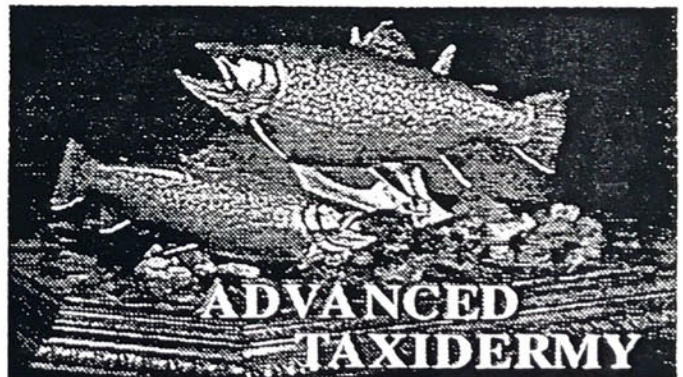
Below Norval, where the steelhead have been relegated to by the MNR management plan (1989) had temperatures ranging from 27.5 C (Norval) to 30.5 C (Mississauga). This means that almost the entire section that was set apart for steelhead is too hot for them to reproduce in. This is also the reason CRAA has been pushing to have steelhead given access to the electro-barrier before the Atlantic program came about. It is clearly a must for the survival of the steelhead in the Credit River.

Silver Creek and Black Creek also had some surprises for us. Silver Creek is a cold water stream as it flows over the escarpment, but then it travels through a zone that is low gradient and swampy as mentioned above. The water temperature rises from 19 C at the escarpment to 28.5 C, 2 km downstream. This is a serious problem that we are hoping to solve soon with the CVC and MNR. From here Silver Creek travels through a mainly forested valley in Georgetown and the temperature drops to 24 C when it meets Black Creek.

Black Creek is a fantastic brook trout stream above Stewartown, but temperatures are hitting 23.5 C below the Stewarttown Dam. In the 2 km to where it joins Silver Creek the temperature drops slightly to 23 C. The remaining 8 km of river see temperatures around the 23.5 C mark all the way to the confluence with the Credit River, 150 m above the Norval Dam.

### CONCLUSION

The temperature study proves that steelhead are best suited for this entire section of river. 99 % of the area is unlivable for brook trout and browns and Atlantics have not reproduced successfully in it. This is likely due to the fact that they are fall spawners and the eggs must endure anchor ice and spring floods. The temperatures and conditions in 92% of the zone is perfect for steelhead, and the steelhead have proven they can do extremely well.



25% Discount for members

## ANGLING SPECIALTIES

A DIVISION OF FIVE CHAINS ENTERPRISES CORP

THREE LOCATIONS: TO SERVE OUR CUSTOMERS

### CENTRAL

2104 Hwy. 7 West, Unit 15

Concord, Ont. L4K 2S9

Tel. 416-660-9707

Fax 416-660-9697

### EAST

3251 Kennedy Rd., Unit 4

Scarborough, Ont. M1V 2J9

Tel. 416-609-0804

Fax 416-609-0861

### WEST

325 Central Parkway West, Unit 42

(Corner of Confederation Parkway)

Mississauga, Ont. L5B 3X9

Tel. 416-275-4972

10% Discount for members



## THANKS TO THE BANK OF MONTREAL

CRAA treasurer, Jack Gibbons put an application into his employer, the Bank of Montreal and received a grant for CRAA totaling \$1500.00. This money has been used to finance the work at the fish ladder, to repair information billboards, expand the CRAA tree

nursery and in the construction of additional information boards warning people about fish sanctuaries and updating them on CRAA's activities. We thank the Bank of Montreal for their generosity.

## UP-WELLING BOX ON THE MOVE

This fall CRAA's up-welling box will take a short trip from the Terra Cotta Conservation Area to a new home on the property of a CRAA member. The new site was selected for a number of reasons. Firstly, it is on a fantastic spring that is already piped. All we have to do is add another twenty feet of piping. The site is also private property and is still easily assessable for Mike Tost who take care of the box. In fact, the box is now a 30 second walk from Mike's house so his wife won't have to go far to find him.

The new spring is piped underground from its source so the water stays a constant 46 to 48 degrees, even during the coldest and hottest weather. This will give us the opportunity to raise Atlantic salmon eggs over the winter and raise steelhead in the spring.

We're looking forward to hatching half a million steelhead fry in the spring of 1998. Hope you will get involved to help. Call the CRAA hotline to volunteer anytime (905) 608-0169.

## TAGGED STEELHEAD NEWS

As many of you know and have even helped with, CRAA has been tagging steelhead at the Streetsville fish ladder for the past three years. Those tags have been both red and blue and are all individually numbered.

Over the past three years there have been dozens of our fish reported to the MNR, although we have only heard of a few. But, the fish we've heard of did some traveling. We have had Credit River steelhead reported in numerous New York ports including Pulaski and Oswego, which are at the other end of Lake Ontario. On our side of the lake we have had many fish caught between Port Hope and the Bay of Quinte, while others have been

caught of the Bluffs, Hamilton and Port Credit. There was even one fish caught in Cobourg Creek with our tag in it.

There have also been dozens of steelhead reported from the Credit River within a few weeks of tagging, but the most exciting news is when a repeat spawner is caught. Last year we had fourteen fish at the fish ladder that we had tagged in the two previous years. We have been able to determine growth rates and lamprey scaring from the repeat spawners which is valuable to us and the MNR. In April this year we also had a tagged steelhead that had been tagged in the Rouge River the year before.



## KEEP IT SIMPLE ON SIMCOE

By Shane Bury

Light line, small hooks, tiny split shots and lots of lively emerald shiners are all you need to enjoy good ice fishing on Lake Simcoe. Of course a fish hut, heater, fish finder, snow machine and good fishing friends really improve the situation. It also helps to have access to a warm and comfortable cottage close to the action and a spouse that lets you take off by yourself in the winter.

To catch both whitefish and lake trout fish in at least 40 feet of water. Our hut was located a kilometer or so off the north west corner of Thorah Island. Most of the surrounding water is in the 32 to 38 foot range but there is a trench which extends in off the main lake basin and is about 45 feet in depth. We set our hut over 42 feet of water on the edge of this trench. Remember proper Lake Simcoe etiquette on this part of lake means leaving at least 100 yards between huts. It pays to be neighborly when you are 10 kilometers from shore. Plus the last thing you want to do is to draw the attention of the other anglers who seem to think the best fishing is half way across the lake.

We fish using 6 or 8 lb. test, size 10 fly hooks or size 12 trebles and small split shots. Short ice fishing rods work but I prefer to use the traditional tip-up stick. Tip-ups float while rods and reels sink, plus hand lining a 10 lb. trout is an experience not soon forgotten. I usually start by setting the split shot 12 inches above the hook. Hooking a shiner is a matter of personal preference. I just tick the hook through the vent although my partner prefers hooking through the snout. The important thing is to hook as lightly as possible as a lively shiner works best. Fish close to bottom or on bottom and watch your fish finder. In 1997 most of the fish we caught were whitefish. They were aggressive and

could often be seen following the shiner on the fish finder before hitting. Try to get into a rhythm of slowly raising and lowering your bait from on bottom up to 5 or so feet off bottom. This technique is called 'fluffing' by the locals and often triggers fish. This year the lake trout were real bottom huggers. We had to move the split shot 4 to 6 inches from the hook and keep the bait right on bottom to get them to hit.

It goes without saying that patience is required. The best fishing seemed to be on overcast or snowy days when the wind was from the west. We didn't have any slow days this year, catching at least a couple of fish every time out. Don't feel guilty about keeping your catch on Lake Simcoe as its a put and take fishery, remember to watch your limit though.

Use common sense when ice fishing ! Don't go on the lake if it's not safe ! Remember to follow good safety practices, these include; staying sober, following the established and marked trails, carrying a compass and knowing how to use it, marking any abandoned holes with tree branches, being careful when crossing pressure cracks and not staying on the lake after dark.

Ice fishing involves a fair bit of effort and commitment but its a great way to spend a week or two in the winter.




## MANAGEMENT PLAN UPDATE

The MNR received funding for the hiring of a technician to organize a working group for updating the Credit River Management Plan. The Management Plan is the document that when last written in 1989 put a stop to steelhead reaching the necessary spawning areas of the middle river above Norval. The Plan is also responsible for stopping salmon at the Streetsville Dam in the fall.

This Fall CRAA will be involved with the other major stakeholders to sort out what areas and ideas are agreed upon and what areas there are disagreements. During the meetings this fall we will also put on paper what changes CRAA would like to see, which are basically getting steelhead to the electro-barrier on the main river and into lower

Black and Silver Creeks. We are also going to put our recommendations for updated fishing seasons to improve the opportunity to fish in the lower river while preventing the slaughter that we often see with the salmon.

Next year after the preliminary meetings, the choices will go to public meetings. We will keep you informed because your presence at the public meetings will be necessary. Salmon and steelhead anglers did not get involved in the last Management Plan and as a result almost lost the fishery. Stay tuned to this newsletter section and keep informed.

The changes from the plan will be implemented in the 1999 season, beginning January 1<sup>st</sup>. 

## DRIFTING THE CREDIT RIVER

By John Kendell

For many years I have had an urge to take a canoe or drift boat down the Credit to see places few have seen, with visions of hidden pools teeming with trout filled my mind.


Finally, in early July of this year my wife Paula and I drifted from Inglewood to Georgetown. Our drift was done in a 14 foot Zodiak that we borrowed from a CRAA member who had loaned the boat to the club the previous week for releasing the steelhead fry.

On that Saturday morning we picked up the boat, tied it tightly to the roof of our car and picked up a lunch for our voyage. We then proceeded to the Boston Mills bridge and launched. What I experienced was far beyond what I imagined.

No, there were no pools teeming with trout (that will change soon thanks to CRAA's work), but

there was a side of the Credit River that I had never seen before, a beautiful, delicate side that has been experienced by so few. Most of us have had the Erindale experience (not the greatest in salmon season), and many more have seen the beauty of the river valley throughout the system, but nothing can compare to the tranquility of quietly drifting down the river miles from the nearest bridge.

On our drift we encountered many exciting pools and riffles, as well as cottages, wild life and nature on her own, away from the continuous intrusion by humans that is so common in Mississauga. It made me feel good to know that we have a river in our back yards that is a priceless jewel.

The trip lasted six hours and we ended up at the Papermill Dam awaiting pick up from another friend. In the end I was ready for more, but it will have to wait for another day. 



## STREETSVILLE FISH LADDER CONSTRUCTION

By John Kendell

**We did it!** After months of anguish, meetings with engineers, endless survey drawings, planning, and organization CRAA has completed the changes to the entrance of the Streetsville fish ladder.

As most of you know, the past two years the MNR did some work at the dam to fill in the plunge pool to force fish away from the dam. Unfortunately, the river didn't agree with the MNR work and dug out the plunge pool each spring. This year the river really surprised us by depositing over 200 cubic metres (20 dump truck loads) of sand and rock at the entrance to the fish ladder, thus blocking the entrance to fish. CRAA worked hard in the spring to dig the channel but it was useless.

After the extremely disappointing spring CRAA planned to change the outflow of the ladder into the plunge pool, 4 m below the dam, rather than its original outflow point, 40 m below the dam. Most fish reaching the tail end of the dam pool went towards the dam because that is where the major water flow and depth was. The fish wasted their time and energy jumping at the dam, working their way across it to find a way around. Now, thanks to the new fish ladder channel we built the fish will work their way right into the fish ladder.

The MNR engineer, Hael Sayeed was concerned about the fish ladder influencing the dam and potentially undermining it. Hael, myself, Aaron Bodiam and the regional biologist for the MNR, Paul Savioe took measurements and met numerous times at the ladder to consider the project. With my persistence and the help of both Paul and Hael, the MNR granted permission to do the work on August 28, 1997. Aaron and I spent an entire Saturday taking measurements of the area in July and I spent quite a few evenings completing the survey drawings of the area.

After receiving permission to complete the work I contacted member Dave Carter regarding his back

hoe. Unfortunately the operator of the back hoe had just left on three weeks vacation. We also had to find another means of delivering the machinery to the dam.

On September 6<sup>th</sup> we set up a work day at the fish ladder to get as much work done as possible. We intended to build the new wall to divert the flow and dig out the channel as much as we could. With ten CRAA volunteers and an entire day of rolling, pilling, and carrying huge rocks, shoveling clay and rock and picking into solid clay we completed more than was hoped. The wall was built, the channel was dug down 24 inches and the fish ladder entrance was directed into the plunge pool for the first time ever. However, the channel still needed to be two feet deeper and the wall needed to be reinforced. There were also a number of large rocks we wanted to move closer to the dam that could really only be done by the back hoe.

After receiving the news that Dave's back hoe had a problem we thought we would have to finish the work by hand. September 21<sup>st</sup> was our deadline and we were almost out of time. A work day was set up on September 20<sup>th</sup> and everyone on the volunteer list was called. In the mean time I called every excavator in Mississauga to try and find a back hoe for the day. Unfortunately, everyone I called had their machines booked and could not help us in time. Finally, on the Friday afternoon before the workday Lakeside Contracting called me and said they had a machine ready for CRAA.

Saturday morning Aaron, Mike and myself met at the ladder at 7:15 AM to get things prepared. The back hoe arrived at 8:00 AM and began working immediately. As volunteers arrived they were relieved to see this big machine working, rather than them using a pick axe to dig out the channel. By Noon most of the channel was done and all the volunteers had finished a bank stabilizer that the engineer wanted. The wall was now three feet

*Continued on page 7*




## FISH LADDER CONSTRUCTION CONTINUED

higher than before and about five times wider. During lunch we opened the ladder to clear the water so we could see what needed to be finished. The result was exciting for everyone.

As the back hoe finished work on the back of the wall by placing the last few large rocks and sand the fish started to find the ladder. After being open for ten minutes the new channel was loaded with over 2 000 adult salmon and a few steelhead. We had a grate in place to prevent the salmon from passing the ladder because the MNR does not want them getting past the dam. However, the new fish ladder channel proved to be a resounding success. After half an hour almost all the fish that had been holding below the dam had moved over to the fish ladder and the channel was solid fish from top to bottom. I have never seen so many fish so tightly packed, even in pictures from sockeye salmon rivers in B.C.

Our new fish ladder still has to withstand the spring floods and prove to work for steelhead. However, we have gained a lot of experience with the spring flood and are confident that the new channel will last for many years. We are also very confident of the fish ladders ability to attract fish after the display that we had that afternoon.

Unfortunately the fish ladder was closed up by 2:00 PM because that is what the MNR requires under the management plan. We are hoping to be able to open the ladder by the middle of October once the salmon are done so we can pass as many fall steelhead as possible.

We hope to see you at the ladder next April when we are lifting steelhead. With the improvements to the cage and the ladder entrance we expect a lot of fish next year! 

## THANKS TO THE MEDIA


CRAA has been praised a lot this year by the various media related to the fishing industry. We've had dozens of small mentions and have been the key subject for at least five articles I'm aware of.

John Power and John Kerr both wrote fantastic articles in their respective news papers, the Toronto Star and the Toronto Sun. They put the word out to thousands who read their columns about CRAA's activities. It is this type of information that gives CRAA a shot in the arm and results in more interested anglers getting involved in the club.

CRAA also had an article in the Mississauga News relating what we were up to on the Credit River. They even sent a photographer to the up welling

box for a photo shoot. We more recently had an article in the Ontario Out of Doors Magazine that told our story.

The latest article will be appearing in the fall issue of 'Real Outdoors', Bob Izumi's magazine. Craig Ritchie, editor and fishing friend put together an article to tell their readers what CRAA has been doing over the past few years and the exciting plans we have for the future.

I wanted to say thank-you to everyone who continually puts the word out on CRAA's work. It is incredibly important for the public to learn what CRAA is doing so we have more people involved and a more aware public. 



## UPCOMING EVENTS

I have made a new format for the Upcoming Events calendar to make it clearer and easier to read. I have had some members tell me they missed events because they did not see it outlined in the newsletter.

### OCTOBER

#### 18<sup>th</sup> UP-WELLING BOX MOVING DAY

Starting at 8:30 AM CRAA will move the up welling box from Terra Cotta to Bob Wolf's property. During the early morning we will be cleaning up the Terra Cotta site and the box. Once that is complete we will load the box onto trucks and take it to Bob's property. Once there we will build a shed around the box for protection and security. This should take the remainder of the afternoon.

### NOVEMBER

#### 8<sup>th</sup> FALL SPAWNING SURVEY

CRAA will work together with IWFFC, TU, MNR and the CVC to search for resident brown trout and migratory Atlantic salmon spawning sites. CRAA will cover the Terra Cotta to Norval section by having two small teams drifting the river in Zodiac boats. If you are interested in helping please let us know in advance.

#### 15<sup>th</sup> RECEIVING DATE FOR ATLANTIC SALMON EGGS

CRAA expects to receive a batch of Atlantic salmon eggs from the MNR hatchery to raise in our up welling box. This will be an informative event with little hard work to be done. NOTE: The date is tentative, it depends on when the adult Atlantic salmon are ready to spawn.

### DECEMBER

#### Daily MONITOR ATLANTIC SALMON EGGS

The Atlantic salmon eggs have to be checked on daily to ensure water flow is okay and all dead eggs have been removed. If you are interested in getting involved to help with this project please let us know.

### JANUARY

#### 15<sup>th</sup> WINTER LIGHT LINES

### FEBRUARY

#### 14-17 SPRING FISHING SHOW

CRAA will need lots of volunteers to assist CRAA at the show. CRAA operates the fish ID area in the kids fishing area as well as operates a booth that is provided free to the club.

#### 28<sup>th</sup> ATLANTIC EGGS BEGIN HATCHING