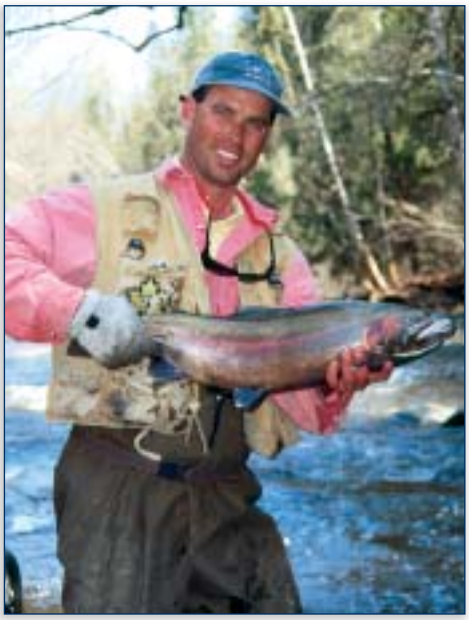
Northshore
Steelhead Report

North Shore Steelhead Assoc.

A North Shore Steelhead Association Publication
Volume 2 Spring 2001

Project Portage A Research Partnership

by Jon George



Gord Ellis photo

NSSA member Gord Ellis with a Portage trout

The Study

Portage Creek is a small spring fed tributary of the Sibley Peninsula near Thunder Bay that had long been renowned for its wonderful steelhead fishery (trophy sized fish and high catches).

A waterfall one kilometer from the mouth creates a bottle neck increasing the vulnerability of steelhead to angling during their spring spawning migration. A 1991 to 1994 research study indicated that the steelhead population was over fished (young fish and few repeat spawners).

In the spring of 1994 the lower reaches of Portage Creek that included the falls area was posted private property and closed to fishing. This created a wonderful research opportunity. The main objectives of this research was to show the effects of angler harvest along with documenting the recovery of a depressed steelhead population. This would be accomplished by estimating the annual population size (tagging and fin clip) and monitoring the biological parameters (age, maturity , repeat spawning) over an eight year period (two generations). Anglers (consistent with the 1991 to 1994 data collection), in partnership with MNR were solicited to tag and biologically sample adult steelhead during the spawning migration. In order to collect valid information a sample size of 250 to 300 adults was needed each year. The steelhead are measured, sexed, fin clipped, scale sampled and tagged (fluorescent numbered disc tag). Life history information ie. stream life , lake life, age, spawnings is extracted from the scales.

What have we found?

The estimated population size has gone from 500 adults in 1994 to 1200 in the spring of 2000. Repeat spawning has increased from 30% to 60% (four to six time repeats are now common). The fish have become old and large which has maximized young steelhead production. Tagging data shows that Portage Creek steelhead home extremely well to their native stream. The stray rate to other streams is low (2%) although tags have been recovered from Nipigon Bay streams and as far away as Sault Ste Marie, Michigan.

The benefit of research that uses angling as the method of capture is you can look at hooking mortality. By the year 2000 we had handled and tagged 2100 steelhead in this study. Only two known mortalities have been observed. This study shows that hooking mortality can be low if steelhead are properly handled.

Summary

In 1994 Portage Creek adult population was over harvested.

It is now seven years later and the population size has more than doubled. The number of repeat spawners has dramatically increased and the juvenile recruitment has stabilized. Age structure and the average size of adults reflects a healthy steelhead population. Portage Creek is a relatively productive Lake Superior tributary. Most north shore streams produce less steelhead for the same size of stream.

To maintain a quality recreational fisheries (high catch and trophy fish) researchers have determined that a maximum annual harvest of 15 % can be removed from a healthy Lake Superior steelhead population. In Portage Creek a 15% harvest relates to 180 adult steelhead. Even with the present one fish limit this would be easy to achieve or exceed.

This shows how susceptible Lake Superior's wild steelhead populations are to over fishing. It is no wonder that steelhead populations on the north shore of Lake Superior were showing signs of decline when the catch limit was five fish per day.

The Portage Creek study is unique to the western side of Lake Superior. It gives us a better understanding of the life histories strategies of wild steelhead and their abundance.

This research has allowed us to document the susceptibility of wild populations to over fishing and the benefits of low harvest regulations. The Portage Creek study can be used as a model to managing steelhead populations lake wide.

Inside This Issue

Message from the President

by Frank Edgson

The Current River remains the primary focus for the NSSA. Our main concern is ascertaining the passage of rainbow over the Current River dam. Last spring the NSSA installed a video camera on the dam to videotape the final step of the Current River fishway with the intent of confirming migration of trout over the dam. I thank all the members who took the time to view these tapes, however, not a single fish was seen! This years efforts will see the NSSA with financial assistance from the MNR's Communities Involvement Fisheries Program (CFIP), attempt to capture by means of angling, up to 20 steelhead trout in the Current River. These fish will be scale sampled and outfitted with an electronic tag. They will be released back into the river and their movements monitored daily. This should tell us how rainbow trout utilize the river when attempting to navigate up to the fish ladder, and of course to see if they are able to use the ladder. The catching of enough fish is critical to the success of this project and I am hopeful that several readers will be willing to participate. Contact me at 475-7712 if you are interested in assisting. Volunteers will be asked to fish in the evening hours Monday thru Friday. Another interesting endeavor is to validate the persistant rumours that rainbow trout are being caught above the dam. If any readers know anyone who catches what they think might be a rainbow above the dam, ask them to collect a scale sample and give it to any member of the NSSA. The sample will be analyzed and could provide an answer to questions regarding the possible existence of a resident population of rainbow versus migratory fish. The NSSA will continue discussions regarding the Current River with several organizations over the course of the next few months.

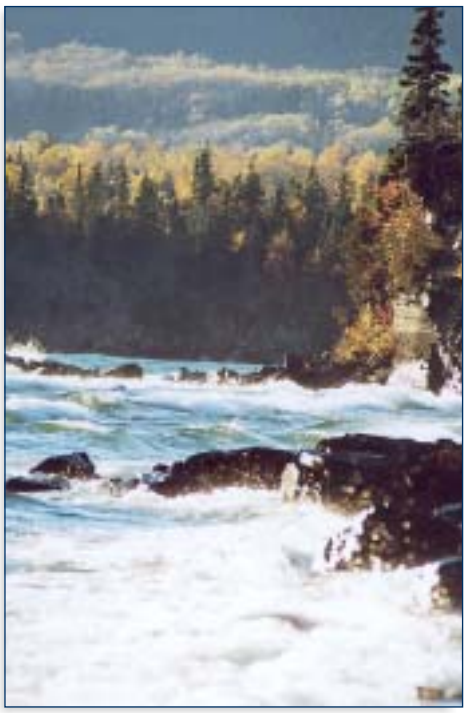
The NSSA has also applied for a CFIP grant to help in remedial work to be done on the lower end of Wild Goose Creek this spring. Volunteers from the club would be appreciated. This is only the first step in a multifaceted plan to rehabilitate the creek.

Spring will be here shortly, tempting us to ignore our household chores, loved ones, and personal hygiene. Once again we will suffer sleep deprivation disorders and numerous challenges to our tempers, as we run to the rivers in hopes of catching (and releasing) the magnificent Rainbows of Northwestern Ontario. Good luck to all.

Hope to meet you at the Diner Auction!

Nipigon Bay Coaster Brook Trout Cooperative

by Jamie Mucha



The rugged beauty of Superior's North Shore

In the spring of 1999 a cooperative effort between the Lake Superior Management Unit, Lakehead University / CNFER, & the Nipigon District OMNR initiated a study on coaster brook trout within Nipigon Bay.

Prior to this study, very little research on coasters had been done with knowledge of their lifecycle and habitat being limited.

This study is centered around three main objectives :

1) What type of lake habitat is utilized by coasters?
2) What are the characteristics of the tributary streams used for spawning and rearing of young?
3) What are typical home ranges, movements, & habitat use patterns of the coaster brook trout?

Beginning in mid May and ending in early June, 40 brook trout were captured by angling and radio transmitters were surgically implanted into their body cavities. After a two week recovery period for the tagged fish, tracking commenced. Fish were located by boat using a mounted directional antennae as often as the challenging conditions on Nipigon Bay allowed. GPS coordinates, depth, and distance to shore measurements were taken at each location. Tracking continued through the fall, following the fish on their spawning runs up tributary streams.

After spawning was completed, fish re-entered the lake and were once again tracked by boat until mid-December. Tagged brook trout were also located through the ice during the months of stable conditions early this year. After ice-out, boat tracking resumed locating fish daily. As well, a total of eight tagged coasters were tracked continuously for a 24 hour period to investigate movement patterns and habitat selection throughout the day.

Streams utilized in the fall of 1999 by spawning coasters were surveyed to quantify habitat characteristics required for the spawning and rearing of young. These streams were also electro-fished to gain insight on the populations of juvenile brook trout in these select spawning/rearing areas.

At the end of this past summer all radio-tagged coaster locations were plotted and a total of 8 discrete areas representing the most frequently utilized areas were selected. These areas were then surveyed by swimming underwater transects perpendicular to the shoreline. Dominant and subdominant substrate, basin slope, and presence/absence of cover were described.

Tracking will continue through this fall to investigate fidelity of repeat spawners to their streams.

Radio-tagged coasters can be identified by the trailing radio antenna exiting near the left pelvic fin and one or two floy tags near the dorsal fin. If you happen to catch one of these fish this fall please write down the floy tag number and your approximate location.

This information can then be reported to one of the following persons.

LSMU - Thunder Bay.....(807) 475-1371
- Marilee Chase

CNFER - Thunder Bay.....(807) 343-4025
- Jamie Mucha

OMNR - Nipigon District.....(807) 887-5029
- Rob Swainson

McIntyre River
Under Watchful Eye

by Mike Friday

Northshore angler Gregg Johns with a nice catch

During the spring of 2000, the Ontario Ministry of Natural Resources in partnership with the North Shore Steelhead Association monitored the McIntyre River rainbow trout population using an electronic fish counter. This was the second year of data collection to quantify the effect of the 1999 regulation change to a one fish limit with a 69 cm minimum total length restriction on the Neebing and McIntyre Rivers. In addition to the channel counter that was used in 1999, an experimental electrode array (pad counter) and video validation systems were installed in April 2000. The pad counter was mounted on one of the four spillways that empty into the fish ladder and was designed to count rainbow trout as they swim over the electrode array. This system was being tested as it allows downstream movement of post spawn fish by eliminating the use of the resistance board weir (fish fence) that diverts fish through the channel counter. An overhead video system was also mounted above the pad counter to obtain lengths from fish recorded on video and to verify that the new counter was operating properly. An underwater video camera was mounted at the entrance of the channel counter to verify that rainbow trout were the only fish species passing through the counter.

...and release

During the second year of operation 413 upstream migrating fish passed through the channel counter between April 12 and June 6. Peak migration of 78 fish (19% of the total run) occurred on April 27. Fish were found to migrate at all times of the day and night with a peak at 6:00 pm and a low at 1:00 pm. The underwater video system verified that only rainbow trout moved through the channel counter. There is no evidence of suckers being counted as rainbow trout. On several occasions during the end of the run (May 21 to June 3) the underwater camera captured groups of rainbow trout moving through the counter. These groups of fish were, however, only counted as single up counts. After reviewing the tapes an additional 29 fish were observed moving through the counter. Therefore, the number of rainbow trout that passed through the counter is 442.

The results of the experimental pad counter are quite encouraging. Fish migrating upstream were able to swim over the new electrode array and were recorded as up counts by the counter. Rainbow trout total lengths obtained from 90 fish that moved over the pad counter during the day ranged from 22 to 85 cm with a mean of 51 cm.

Another component of this project was the collection of scale samples from angler caught fish to determine the age composition of the run. Seventy-four samples have been collected and will be aged in the coming months.

Overall, this monitoring project was successful even though some problems were encountered including counter downtime, high water levels and computer malfunction. The number of fish that were counted seems to indicate a low spawning population based on available habitat in this river. Given the success of the pad counter, the Lake Superior Management Unit hopes to install a continuous pad counter along the entire length of the fish ladder. This eliminates the need to use the fish fence and will expedite upstream and downstream movement of rainbow trout.

If you require more information on this program please contact: Mike Friday at 475-1381.

Did You Know

- the NSSA is a non-profit organization that **formed January 13th, 1973**
- it is estimated that more than **50 million plastic fishing worms** are produced annually in the US ...they are also a popular lure for steelhead on the Pacific Northwest
- on August 27, 1996, **two fall chinook salmon**, released from the Little White Salmon National Fish Hatchery (Queen Charlotte Islands, BC), were caught and tagged near Langara Island. On November 8, the fish were recovered at the hatchery, having **swam 950 miles in seventy-three days** (an average of 13 miles per day)
- if you believe , as many anglers do, that the **phases of the moon affect fishing success**, try your luck three days before and three days after a full moon. Fishing is said to be better also when the moon is new.
- the Northshore Steelhead Association will soon be posting **a site on the world wide web**. Watch for a launch date in up-coming members notices
- playing a fish for too long can cause an **excessive build up of lactic acid** in it's muscle tissue causing it to die.
- "Has it ever struck you that **trout bite best on the Sabbath?** God's critters tempting decent men."

-James Barrie

Barrie, author of the children's classic Peter Pan, wrote these words in 1891.

Photos: Jeff Korkola

A Decade of Improvements

by Scott Earl Smith

NSSA Director and veteran steelheader, Todd Hurdon wades the fall flows on the Black Sturgeon River

All things considered, a decade is a long time, basically a seventh or an eighth of a man's life. And a lot of things can change in a decade. For example, think about the changes in the decade that just passed: computer technology has grown tremendously in this period, as have many other things in our society. Included in these dynamic changes have been the improved fishing opportunities in our region here on the north shore. Changes that have been brought about, at least in part, by the efforts of groups such as the North Shore Steelhead Association.

A decade of lobbying, studies, reports, and just plain hard work - both by groups and individuals - has resulted in greatly reduced harvest regulations for steelhead and brook trout, which ultimately has improved the quality of angling in the north shore region. More specifically, we've seen the daily possession limit for steelhead decrease from five per-day, to a far more reasonable one per-day. Similarly, the harvest of brook trout in the Nipigon system has been reduced from five to one (one fish over 20 inches), with some exceptions to this rule in certain segments, such as Lake Nipigon and the tributaries of Nipigon Bay. Hopefully these plugs in the dam can be filled to make the limits on the coaster/Nipigon population of brook trout consistent and reasonable throughout the region.

Speaking as one angler, I am proud to say that I fully endorse the regulation changes that the N.S.S.A., and other groups such as the Thunder Bay Fly Fishing Club, have lobbied for in the past, and I applaud them for their efforts. I particularly applaud those individuals who plodded onward - against sometimes seemingly incredible odds - because they believed in what they were fighting for. I think about the individual efforts of people like Tom Whally, who committed hours and hours of his own time towards saving our steelhead; Jon George, for his level of commitment ; and Rob Swainson, for just being plain committed to saving our Nipigon brook trout.

It seems to me that collectively, the anglers of the north shore, by and large, want better fishing opportunities - and I like that a lot. Compared to other regions on the continent, and even in our own province, we are light-years ahead. I like to think that we've been proactive in our management strategies; not waiting for wild fisheries to collapse and then attempting to replace them, like so many other regions in North America have been forced to do. Because as we all know, things lost can only be replaced, not repaired. And we took the bull by the horns and repaired things before they were lost.

But now that we have these new regulations in place, we are faced with new, unprecedented problems. Problems that will be born of the barrage of anglers that will travel to our shores because our fishing has improved so much. Our secret spots will no longer be secrets. Sure our rivers and fish need friends, but believe me with the friends will come the enemies. Not just from distant provinces and countries, but also from our own province; those that care little about the resource but lots about their own bellies.

By and large anglers are a good bunch. There are those that take the sport very seriously, and subsequently uphold the resource with nobility; there are many, of course, that don't take it so seriously - but are well-meaning people - and we need to educate them about stream etiquette and responsible harvest; and then there are those that need to be ticketed, jailed and nailed. It is now our responsibility to safeguard that for which we have worked so hard.

Here's to another decade of improvements, and here's to the North Shore Steelhead Association.

NSSA Membership Application

Annual Dues:

Individual $10 ❑ Family $15 ❑

New Member ❑ Renewal ❑

Member Name: _____

Spouse: _____

Youth(s): _____

Address: _____

City: _____ Postal Code: _____

Phone: ( ) _____ email: _____

Mail to: P.O. Box 2598, Station "P" Thunder Bay, ON P7B 5G1

The NSSA would like to thank

Korkola Design Communications, Lakehead Printing, TC-4 Graphics, Jon George, Scott Smith, the Lake Superior Management Unit, & CNFER for their assistance and contributions to this publication.

Northshore Steelhead Report
is a semi - annual publication of
the Northshore Steelhead Association

Graphic Design
Jeff Korkola

Printing
Lakehead Printing

The NSSA welcomes your contributions, opinions and ideas.

Forward to:
NSSA Newsletter
166 Peter Street, Thunder Bay, ON P7A 5H7
e-mail: ideas@tbaytel.net