American Fisheries Society
Southern Ontario Chapter

Newsletter

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'Schools' are still in session along the lower Humber River
by Doug Clark

To many people living and working within the Metropolitan Toronto area, the Rouge River is considered to be the last stronghold of ecosystem health within their highly urbanized environment. However, recent fisheries studies have found that old man Humber is also showing a glimmer of hope for a sustainable ecosystem.

Before 1800, the Toronto region was almost completely forested with a mixture of pine and deciduous hardwood forest. Early descriptions indicate that much of the land along the Lake Ontario shoreline was poorly drained, and that small tributary streams were more numerous than are currently present (Firth 1966, Steedman 1986, 1987). Early fishery records identified the Humber River as being a cool or coldwater river system inhabited by brook trout and juvenile and migratory adult Atlantic salmon (Lizars 1913, Steedman 1987). The latter species was so abundant that in 1792 a settler reported that he could not paddle his canoe across the river due to the number of salmon at spawning time. Extensive delta marshes once found at the mouth of the Humber also provided good habitat for northern pike, walleye, largemouth bass, and smallmouth bass (Whillan 1979).

The arrival of European settlers to southern Ontario in the late 1700's brought the development of instream infrastructures such as mill race diversions and mill pond dams. This, along with overfishing, was one of the contributing factors to the eradication of the seemingly endless supply of Atlantic salmon from the Humber River system by the 1860's (Lizars 1913).

By the 1870's most of the forests within the Toronto area had been cleared for agriculture and timber. By 1885 the clear cutting trees had greatly reduced the volume of water in the tributaries of the Humber causing migratory and resident salmonids to desert them (Lizars 1913; Steedman 1987). Clear cutting also caused an increase in peak flooding and bank erosion. Siltation of valued aquatic habitat, due to the excessive erosion, caused a further reduction in fish species diversity.

During the early 1900's the lower Humber River was still being significantly exploited for "bass weighing four and a half pounds" (Lizars 1913). On occasion more than fifty men with dip nets would secure wagon loads of bass from the marsh areas.

Since the Second World War the rapid development of Metro Toronto and its surrounding communities has

dramatically changed the land use patterns along the Humber River. Urban development has replaced most of the former agricultural areas. The increasing urban residential and industrial land uses within the cities of Metro Toronto, Vaughan, Etobicoke, and Brampton have only further increased the problems of peak flooding, erosion, reduced base flows, and water quality degradation along the Humber River (Steedman 1987).

Recent reports of the Toronto Area Watershed Management Strategy (TAWMS) concluded that bacterial and heavy metal contaminants entering the Humber River from industrial, residential, and public uses, exceed the Provincial Water Quality Objectives, indicating a need for pollution control along the entire watershed (Acres 1984; Ontario Ministry of the Environment 1986). It was reported that resident fish species are currently under stress and it is expected that reductions in sediment and heavy metal concentrations will result in a significant enhancement of the capability of the Humber River to support desirable fish species.

Fisheries surveys conducted by the Ministry of Natural Resources, Ministry of the Environment, and Metropolitan Toronto and Region Conservation Authority within the last 20 years have also shown a dramatic increase in the amount of non-game fish species, like white sucker, common shiner, and alewife in the lower reaches. Game fish like the largemouth bass, northern pike and brown trout are still present, however, their numbers are very low, and with brown trout, their presence is due solely to regular stocking programs by OMNR (Buchanan 1989; OMOE 1988).

A recent study by Resource Systems International Inc. (1992) has revealed a much more diverse fish community within the lower Humber River than previously anticipated. This study was conducted for the Municipality of Metropolitan Toronto in order to identify the existing fisheries and potential for aquatic habitat enhancement as a design component of a new bridge complex for Lakeshore Blvd. and the Gardiner Expressway. Metro is currently in the design phase of the project with a tentative construction completion date of 2002.

The fishery survey found that this aquatic ecosystem supports at least 31 species of fish including northern pike, smallmouth and largemouth bass, and a complement of panfish, coarsefish, and minnows. Several unique fish specimens, including the central stoneroller, the bluegill sunfish, and the northern redbelly dace, were among the 31 species captured during the survey. The presence of the central stoneroller and bluegill are new records for the Humber, and, despite several surveys, the northern redbelly dace has not been recorded in the river since 1937 (Holm pers. comm. 1992).

The study also revealed that the littoral zone of the Humber River was being used as nursery habitat for many resident and migratory fish. The rocky areas along the east and west banks, initially constructed for erosion protection, were teeming with juvenile and adult sunfish. The natural marshy areas just north of the Lakeshore Blvd./Gardiner Expressway bridges were being utilized as nursery habitat for juvenile northern pike.

The study concluded that a relationship existed between species diversity and the complexity of the shoreline habitat. With an increase in the diversity of substrate sizes a subsequent increase in fish species diversity and density resulted. Banks protected with sheet pile walls showed

EXECUTIVE OFFICERS: John Tran-President; Jon Bisset-Past-President; Gerry Leering-Secretary/Treasurer.

The newsletter is published quarterly by the Southern Ontario Chapter of the American Fisheries Society for the fisheries community. Contributions to future newsletters are welcome. Ideas, suggestions and constructive criticism regarding issues of interest in the aquatic sciences are also welcome. Views expressed in the newsletter are not necessarily those of the chapter or American Fisheries Society.

EDITORIAL COMMITTEE
Kevin Trimble - Editor - Harrington & Hoyle Ltd., 60 Northland Rd., Unit D, Waterloo, Ont., N2V 2B8; phone 519-725-2900; facsimile (519) 725-3469]

no or very poor diversity or density of fish species. These findings support the premise that substantial fish habitat enhancement can be achieved during the development of the proposed bridges over the Humber River. The implications for further habitat enhancements during bridge reconstruction, with resulting positive effects on the sport fishery in the lower Humber, bodes well for the future benefit of the fishery and the enjoyment of the citizens of Metro.

Editor's note:
As of print time I did not have an answer to the question of whether to include references for articles such as the above. For the moment I refer the reader to myself or the author, and I apologize in advance for any offence this may cause. Members' sentiments would be appreciated.

Calendar

Landscape Change: Opportunities and New Approaches will be the theme of the Canadian Land Reclamation Association annual meeting at Sir Sanford Flemming College, August 11-13, 1993. Urban watersheds, stormwater management, and stream valley rehabilitation are amoung the topics. Contact Moreen Miller at Harrington and Hoyle Ltd., 416-294-8282.

The 1993 Annual Meeting of the AFS will be held in Portland, Oregon, Aug. 29-Sept. 3. The central theme will be exploration of our shared responsibilities for shared resources, and the need to promote ecologically sound goals for other private and public entities. Call the parent office at 301-897-8616

The 13th International symposium of the North American Lake Management Society will be held in Seattle, November 29-December 4, 1993. The central theme will be "Lake Management and Diversity: Competing Values, Needs and Goals". contact Harry Gibbons at 206-443-3526.

The 55th Midwest Fish and Wildlife Conference will be held in St. Louis, December 11-15, 1993. The theme will be "New Agendas in fish and Wildlife Management: Approaching the Next Millennium". Contact John Smith, Missouri Dept. of Conservation, 1110 S. College Ave., Columbia, Mo. 65201-5299.

The above will also be the venue for the North Central Div. AFS Meeting. Call Wayne Porath at 314-882-9880.

Encroachment of the fish developers

News

Rouge River

President Tran is lobbying to have AFS SOC installed in a permanent seat on the committee overseeing the Rouge River Valley Park. The committee requires input from fisheries biologists in reviewing plans for the system, and member participation is encouraged. for the interim, Gerry Leering will represent the chapter and coordinate member involvement until prospective committee members come forth.

Membership

Dear member,
I figured it was about time that I get away from the usual chaos and pass on a few tid-bits. As membership chair, I think it is only appropriate to keep in touch...provide a current update on recruits and canvass for ideas to increse our membership.

Currently, there are over 200 people associated with the Southern Ontario Chapter of AFS. In the past six months, nine new members have joined our association. If you know of potential recruits, pass on the benefits of joining. Having problems receiving our correspondence?...Get in touch with me at 416-832-7105.

-Mark Heaton

Fluvial geomorphology

Bill Annable has been travelling all over southern Ontario (between March and October) this year collecting geomorphologic and hydraulic data for a set of streams. Contact Bill at 519-884-5816 or 519-885-1211ext2189 to get more information on his work. Jack Imhof is still interested in a provincial database for geomorphology and would like to see the chapter take on a major role in coordinating it. -B.A.

"Sea Fare" cookbook

The Fish Culture Section has taken the lead responsibility for development of this official cookbook of the AFS that might prove to be one of the Society's most significant publications to date. Recipes were submitted by members for the full spectrum of seafood types and preparation methods. In addition there is anecdotal information on common fish species with full color photos. Objectives include increasing the visibility and products of the AFS, generating resources to be used to further the scientific conservation objectives of the Society, increasing recognition of the need for restoration enhancement of fisheries and increasing awareness of seafood in the diet.

A perfect gift at $12.00 they can be purchased through Gerry Leering, any other executive, or head office.

Humber taken seriously

In a previous issue we were apprised of an alleged silt spill at a bridge construction site on the Humber River. The Conservation Council of Ontario pursued the matter and collected relevant data as evidence. After a two year investigation by OMNR charges were recently laid under the Fisheries Act against an engineering firm, contractor and municipality.

CITE stands for the

Canadian Institute of Technology for the Environment. This new non-profit agency has been established to promote Canada as a leader in environmental expertise through creative partnerships of business, government and academia.

CITE will be a resource centre to coordinate and manage technology transfer, and implementation of environmental initiatives. In particular, it will link the business community to academia by promoting research which meets private sector needs, and develop financial sources through royalties and private sponsored research programs.

Currently the fledgling agency is setting up a workshop to assist environmental companies to break into the American market.

The major targets of CITE include enhancement of Canadian businesses' capabilities to solve environmental problems, assessment of new regulatory proposals, analysis of economic viability of environmental projects, assistance with the commercialization of new technologies, support for businesses that provide environmental solutions, support and guidance for technology development research.

Reach CITE at 519-885-CITE.

TU vs. AFS

My reasons for adding this brief are twofold. First, the Grand River Chapter of Trout Unlimited Canada, of which I am a part, has been active in a number of interesting projects in the last year. Several stream systems were subjected to assessment, rehabilitation design, and many work days to improve habitat.

Projects are undertaken through a process of prioritization, management assignments, committment of expert advisors, agency liaison and grassroots implementation.

The chapter also acted as an advocate in municipal flood and erosion control projects, lobbying for habitat stabilization. They made several presentations around southern Ontario, and also participated as one local interest group on committees such as the Laurel Creek Watershed Plan.

I was recalling some of these projects as I leafed through their Winter '93 newsletter, when I realized that I was comparing them to the SOC AFS Chapter.

The newsletter I was reading contained submissions by all members who had represented the chapter on a project last year. Members can quickly assess where the money and effort has gone, where the opportunities for involvement are, and what kinds of political statements are being made with their names attached.

Cohesiveness and communication seemed to be at the heart of their success. No rogues allowed - they pull all committees together with the executive. They stay up to date so that effort is distributed properly, positions are representative of the entire chapter, and work can be coordinated. This information is disseminated to the full membership.

Involvement is implied by membership. Communication is implied by involvement.

Awards Committee

The Awards Committee consists of chair Gerry Leering, Dr. Perce Powles from Trent University and Dr. John Casselman, Sr. Scientiest for the Lake Ontario Fisheries Unit in Picton. We await your suggestions for niminating condidates to recognize their conntribution to advancing the principles of the American Fisheries Socity on a local chapter basis. There are three categories: a chapter member in good standing, a non-chapter fisheries person or organization, or a student.

The committee will meet to review and evaluate all nominations. However, we will not suggest or nominate candidates ourselves. Previously the committee has made awards to student posters presented at the annual workshop. Winners were announced in a previous newsletter.
If you wish to nominate someone, just do it. -G.L.

Treasurer's Report

Presently the Chapter has a healthy bank account of over $10,000. A 30 day term certificate for $7,000 is making higher interest than a regular savings account. The remarkable balance is mainly due from the excellent work of the Fluvial Geomorphology Training Courses held in '91 and '92. The '93 session is also expected to make a positive contribution. Thanks go to the organizing committees for each year.

Tentative plans are to advance some of this money into a provincial database operation with applied fluvial geomorphological and hydrological characteristics for all watersheds.

A reminder that all committees need to submit a budget to the Excomm for approval before any funds will be released. Judging by the number of submissions there are not very many active committees to date.

Important Chapter Announcements

Election packages for the next Chapter Excom (September 1993-August 1994) will be sent out shortly. These will include candidate profiles and a ballot form. With the short time frame it is imperative that members respond immediately upon receipt.

Candidate nominations are still welcome and should be phoned in to any Excom member.

AFS SOC Annual Meeting will be held concurrently with the Natural Channel Conference, March 3-4, 1994, Sheraton Fallsview, Niagara Falls. See conference add at the back of this issue

There chapter's accounting bookwork is done with "Quicken" for Windows V2.0. Anyone wishing Quicken for Windows V1.0 can get the original manuyal and disks from me for $15.00. Let me know, I highly recommend it even just to do your home accounts. -G.L.

EXCOMM Slammed

I have received a letter to the editor, which is actually a copy of a letter to Jon Bisset from a SOC member.

At the June 28/93 EXCOM meeting I was told that a response from John Tran is forthcoming.

This letter puts me in an awkward position. First, I have yet been contacted by the parties implicated by it. Secondly, because I always struggle to get chapter information to disseminate to the membership, I feel responsible to pass along the comments of the author of the letter.

In addition, the president and executive director of the parent society attended our annual meeting last Fall. They were somewhat put off by the poor attendance by the membership and the executive; but Paul Brouha did point out several observations he has made of other fledgling chapters around the continent. He said that many young chapters go through an initial fast paced drive, followed by a slump in activity. This slump represents the period of navel gazing and role establishment.

The author of this letter reports that the majority of the chapter has never met John Tran. There is some uncertainty as to who the president is right now, given some unfinished discussion relating to extended terms of office, and absence of newsletter reports from the president regarding agendas and activities.

Finally, "the chapter has relied on dedicated volunteers to make a tremendous contribution to the betterment of the fisheries profession in southern Ontario and Canada, and to the fostering of wise use or our aquatic ecosystems. For us to continue to recruit new volunteers the job must be fun and rewarding. How can we reinstall these aspects of the job?" "We need to regain the enery, pride and momentum that once made us a thriving member of the society as a whole."

One final note. The AFS SOC has a very high profile outside the AFS around the province. This will be held intact and enhanced as we grease our internal wheels.

Sewell Commission

Geza Gaspardy represented the chapter in commenting on the Sewell Commission reports. However, having received no input after soliciting the membership, he did not feel it appropriate to make a submission.

Rosgen Update

This year's course appears to be in the black financially. The EXCOMM is looking into allocating some profit to the provincial geomorphology database, which the chapter is slated to manage. Some revenues are also to be slated for supporting course registrants.

Congratulations and Thank you to this year's committee. Apparently, they are staying together to work on the upcoming natural channel conference.

Next year's course is a 'go' although specifics aren't available yet. There will also be an advanced course for previous 'graduates'.

Ways and Means

This committee is now running as the right hand of the president. Currently, Rob Brenner, Tas Candaras, Bernie McIntyre and Ian Buchanan are the members involved and issues being dealt with include sponsorships and harassment.

Attention Committees

Committee chairs are being requested to attend the October EXCOMM meeting. The venue has yet to be confirmed so call an EXCOMM member.

Who can tell me where Blake Konkle has gotten to?

Committees are as follows:

Habitat - Ken Dance
Continuing Ed. - Mike Jones
Computer - Larry Onisto
Nominations - Les Stanfield
Awards - Gerry Leering
NCD Esocid - Bernard LeBeau
Rosgen - Hazel Breton
Ways and Means - John Tran

FISH

We continue to support FISH activities with Les Stanfield representing the chapter actively. The EXCOMM is discussing financial support for their "Watershed Report Card" project. They still have a debt outstanding, which will be a part of the donation.

SCIENTIFIC NAMES OF 12 ONTARIO FISHES REVISED

There have been several changes in scientific names of Ontario freshwater fishes since the 1980 American Fisheries Society, "A List of Common and Scientific Names of Fishes from the United States and Canada" (Robins et al. 1980). These result from recent studies that have developed new concepts of relationships between groups of species, or that revealed the existence of older valid names. Most of these changes are in the family Cyprinidae, the carps and minnows. The list below is an excerpt from the upcoming Royal Ontario Museum publication, "A Checklist of Ontario Freshwater Fishes Annotated with Distribution Maps" by N.E. Mandrak and E.J. Crossman (publication date: Fall 1992). It provides the names used in Robins (et al. 1980), and the equivalent names found in the 1991 AFS List (Robins et al. 1991).

Common Name	Old Scientific Name (Robins et al. 1980)	New Scientific Name (Robins et al. 1991)
shortjaw cisco	*Coregonus alpenae*	*Coregonus zenithicus*
rainbow trout	*Salmo gairdneri*	*Oncorhynchus mykiss*
silver chub	*Hybopsis storeriana*	*Macrhybopsis storeriana*
gravel chub	*Hybopsis x-punctata*	*Erimystax x-punctatus*
striped shiner	*Notropis chrysocephalus*	*Luxilus chrysocephalus*
common shiner	*Notropis cornutus*	*Luxilus cornutus*
pugnose shiner	*Notropis emiliae*	*Opsopoeodus emiliae*
spotfin shiner	*Notropis spilopterus*	*Cyprinella spiloptera*
redfin shiner	*Notropis umbratilis*	*Lythrurus umbratilis*
pearl dace	*Semotilus margarita*	*Margariscus margarita*
black bullhead	*Ictalurus melas*	*Ameiurus melas*
yellow bullhead	*Ictalurus natalis*	*Ameiurus natalis*
brown bullhead	*Ictalurus nebulosus*	*Ameiurus nebulosus*

EXPRESSION OF INTEREST AND CALL FOR ABSTRACTS

FIRST INTERNATIONAL CONFERENCE ON DESIGNING FOR NATURAL CHANNEL SYSTEMS

March 3-4, 1994
Sheraton Fallsview, Niagara Falls, Ontario

In recent times, it has become increasingly evident that stream channel design approaches used in the past did not always consider environmental and fisheries concerns in concert with traditional concerns for flooding and erosion. Alternative methods of channel design need to be identified to address all issues, while allowing streams to carry out their function of transporting sediment and water in a stable manner.

This is the first call for abstracts for the **First International Conference on Designing for Natural Channel Systems.** The conference will be hosted by the Niagara Peninsula Conservation Authority and co-sponsored by the Canadian Water Resources Association, the Soil Conservation Society, The American Fisheries Society - Southern Ontario Chapter and the Ontario Ministry of Natural Resources.

The goals of this conference are to:

- educate administrators, design practitioners and professionals;
- Provide information exchange; and
- promote natural channel design as an alternative to traditional approaches.

Speakers are invited to present papers on the following:

- designing natural channel systems within a watershed and ecosystem context;
- policy requirements;
- stream classification systems and design parameters;
- design approaches balancing goals and objectives of channel design case studies;
- economical aspects of natural channel design;
- legal implications;
- implementation and monitoring;
- public involvement and awareness.

Expressions of Interest must be received by **August 31, 1993.** Abstracts must be received by **October 31, 1993.** Please forward to Mr. Andy Burt, General Manager, Niagara Peninsula Region Conservation Authority, 2358 Centre Street, Allanburg, Ontario, L0S 1A0. Call at 416-227-1013 ext251 or fax 227-2998 (area code changes to 905 on Oct. 4/93).

Name:_____ Affiliation:_____

Address:_____

Phone:_____ fax:_____

Please check: interesting in attending___
presenting a paper ___
possible title:_____