

Newsletter of the Southern Ontario Chapter of the American Fisheries Society
 Volume 4, Number 1 April 1991

Ontario streams will benefit from geomorphology training

Dr. Dave Rosgen, who presented his river classification system at the 7th International Trout Stream Habitat Rehabilitation Workshop in Waterloo last September, has been scheduled for two courses in southern Ontario in late June. His use of geomorphology in restoring and managing streams came as an exciting revelation to front line biologists.

In recent years, fisheries management in Ontario has shifted its emphasis from fish to fish habitat. However, almost immediately, it became apparent that "habitat" must be reduced to basic physical elements, one of which is geomorphology. Most participants at the NATSHI workshop admitted to the widespread guesswork currently used to predict the best meander frequency and amplitude, the best instream rehabilitation structures and materials, etc. on a stream by stream and site by site basis. Rosgen illuminated these deficiencies and a few of the most fundamental tools for rectifying them.

The Rosgen system involves a small stretch of a stream, examined for its gradient, substrate, width:depth ratio, sinuosity, valley confinement, landforms, and soil characteristics. These variables, when measured and correctly interpreted from key cross sections, allow the worker to determine the "type" of system being dealt with. One immediate payoff for this method is that the worker can quickly communicate an image of the system to another worker simply by stating its "type". The second payoff is some insight on how this system could be operating from a geomorphologic point of view, and the rehabilitation measures which may benefit its habitat.

The course is now being organized jointly by the chapter with OMNR and a committee has been struck to continue with plans. It promises to be valuable to those of us predicting effects, planning future land use, and exploring rehabilitative options.

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Apologia

Sign up sheets for both the Rosgen and Conflict Resolution Courses that were circulated at the annual meeting have been lost. Members interested in participating should contact Mike Jones, 416-832-7135.

Calendar

An interdisciplinary symposium on Agriculture and water quality; April 23-24, University of Guelph; A prime focus is on responses to the impact of agricultural activities on water quality. It will involve biophysical sources and processes, biological and medical impact assessment, social and economic risks, and policy issues. Emphasis will be on identification of gaps in knowledge and policy, creation of balance in the choice of action priorities, and selection of methods to implement needed research and policy. Contact Murray Miller, UofG Centre for Soil and Water Conservation, 519-824-4120-ext2482.

Society for Ecological Restoration third annual conference; May 20-23, 1991, Orlando Florida; themes will include restoration of surface mined lands, restoration in the third world tropics, restoration in national forests; Contact SER, 1207 Seminole Highway, Madison, WI 53711, 608-262-9547.

North American Benthological Society annual meeting; May 21-24, 1991, Sante Fe; Contact Gerald Jacobi, School of Science and Technology, New Mexico Highlands Univ., Las Vegas, NM 87701; 505-454-3412.

Ecosystems approach to water management; May 27-31, 1991, Oslo,

Norway; Contact Hans Foerstel, Inland Waters Directorate, Env. Can., Ottawa, K1A 0H3; 819-953-1512.

Society of Wetland Scientists twelfth annual meeting; May 28-31, 1991, University of Michigan; topics include Great Lakes and upper Midwest wetlands, restoration/creation, management, policy and regulation; Contact Univ. Mich. Dept. of Conferences and Institutes, 200 Hill St., Ann Arbor, Mich. 48104-3297; 313-764-5305.

Intl. Assoc. for Great Lakes Research annual conference; June 2-7, 1991, Buffalo N.Y.; theme is Integrating research and management of the Great Lakes; Contact Dr. Ralph Rumer, Great Lakes Program Office, State University of New York, Buffalo, 207 Jarvis Hall, Buffalo 14260; 716-636-2088.

International symposium on biological interactions of enhanced and wild salmonids; June 17-20, 1991, Nanaimo, B.C.; Sessions to include production, trends, genetic concerns, factors affecting freshwater and marine production and fisheries management; Contact Ann Thompson, DFO Nanaimo.

Using a stream classification system to stabilize and restore urbanizing streams; June 17-21 & 24-28, 1991, Halton Hills; Dr. Dave Rosgen, Wildland Hydrology Consultants, will instruct on classifying streams using

geomorphology, morphology, and hydrology. Dr. Rosgen will also explain his successful bank erosion model. This course will involve substantial amounts of field work. Contact Geza Gaspard, Cumming Cockburn, 519-885-5440.

American Fisheries Society Annual Meeting; Sept. 8-12, 1991, San Antonio, Texas; central theme is Habitat: A place for fish, a place for fishing, a place for fisheries. Contact Donald Orth, Dept. of Fisheries and Wildlife Sciences, Virginia Polytechnic Inst., Blacksburg VA 24061-0321; 703-231-5919.

Aquatic Toxicology Workshop; Sept. 30-Oct. 3, 1991, Ottawa; theme is Ecological perspectives on aquatic toxicology; Contact Dr. M.C. Taylor, Env. Can. Water Quality Br., Ottawa, K1A 0H3; 819-953-1553.

International symposium on lake, reservoir, and watershed management sponsored by the North American Lake Management Society (NALMS); Denver, Nov. 11-16, 1991; central theme is Lake, reservoir and watershed management in a changing environment (climate change, demographic and social change, political and legal issues, toxicity, acidification, eutrophication, basinwide management, source control, wetland utilization, recreation, restoration...) Contact Bob Schroeder, Denver Water Dept., 1600 W 12th St. Denver 80254; 303-628-6382.

EXECUTIVE OFFICERS

Ken Harris - President; Lee Stanfield - Past-President; Hank Rierveid - Secretary; Geza Gaspard - Treasurer.

The newsletter is published quarterly by the Southern Ontario Chapter of the American Fisheries Society for the fisheries community. Issues are planned for March, June, September and December releases. Contributions to future newsletters are welcome and may be sent to the editorial committee for review. Articles should be less than one page in length. Those submitted as ASCII files on floppy disks are "editor friendly" and have a greater chance of being accepted. Ideas, suggestions and constructive criticism regarding issues of interest in the aquatic sciences are also welcome. All submissions should be sent to the editor by the first day of the month that precedes the desired month of issue. Articles requiring extensive discussion or revision before publication should be submitted well in advance of this deadline. Views expressed in the newsletter are not necessarily those of the chapter or American Fisheries Society.

EDITORIAL COMMITTEE

Kevin Tremble - Editor (c/o Cumming Cockburn Ltd., 180 Columbia Street West, Waterloo, Ontario, N2L 3L3; phone (519) 885-5440, facsimile (519) 885-3959; Robert "Ted" Elliott.

The Southern Ontario Chapter was formed to provide a regional organization for American Fisheries Society members who have an interest in the fisheries and aquatic concerns of Southern Ontario. It falls under the umbrella of the parent society and North-Central division of the American Fisheries Society. Chapter membership is open to any member of the American Fisheries Society regardless of their place of residence. Any person interested in either chapter or parent society membership should contact an executive officer or the membership committee chairman for details.

MEMBERSHIP COMMITTEE

Erich Heine, Taranus, 416-840-8503

Fisheries Management: Dealing with Development in the Watershed; Nov. 12-15, 1991, Newport, RI; Contact Harry Mears, 508-281-9243.

Call for papers

Canadian Water Resources Association 45th annual conference.

Kingston, Ontario
June 3-5, 1992

Theme: Resolving conflicts and uncertainty in water management.

The objective of this conference is to provide a forum to discuss and assess approaches to resolving conflicts and uncertainty. Within this main theme, seven topics are proposed: 1) watershed planning: challenges for the 90s; 2) the conundrum of environmental impact assessment: where is it going? 3) court challenges to water projects; 4) user pay and market mechanisms; 5) public involvement and agency reorganization: towards conflict resolution; 6) water resources and native peoples; and 7) reducing uncertainty through monitoring, analysis or modelling.

Potential authors are requested to submit a 500 word statement by June 30, 1991. The statement should indicate how the paper will contribute to the theme of the conference. Further information can be obtained from Dr. Dan Shrubsole, Program Chair, 1992 CWRA conference, Dept. of Geography, Faculty of Social Science, University of Western Ontario, London, Ont. N6A 5C2 (519-679-2111 ext 5016; or fax 519-661-3292).

Silt spill reported

The Conservation Council of Ontario is gathering evidence in support of a Fisheries Act charge after discovering inadequate sediment and erosion control measures at the Rutherford Rd. bridge construction site on the Humber River.

Exposed soils on steep slopes created gullies up to 1m or more deep. Ditches conveyed runoff directly to the river with little more than straw bales to trap sediment. The Council's Water Task Force will estimate the quantity of soil which has spilled, and is sampling for turbidity above and below the site.

The Water Task Force chairman saw the site while examining a high profile gravel pit rehabilitation project about to get underway at the same location. The City and consultants on the project were immediately advised of what was felt to be atrocious conditions, and that action would be taken if the situation was not rectified. The City responded by replacing existing controls which had already proven to be inadequate. At several locations, silt cloth was set up to 6 inches above the ground allowing runoff and silt to flow freely beneath it. Water is being conveyed to the river with silt cloth or straw bales, neither of which are able to trap or settle sediment on the steep slopes with such high flows.

The Conservation Council of Ontario motion on this issue reads as follows: "The Executive of the Conservation Council of Ontario authorize the Water Task Force to document the degradation of the Humber River as a result of the Rutherford Road construction project and to contact the Federal Government reporting the incident and to work with the project proponents and the government to see appropriate protective and rehabilitative measures undertaken".

The possible implications of this development include Fisheries Act charges, APEO disciplinary action and a challenge of the Class Environmental Assessment for projects of this nature.

Clearly, in spite of any rehabilitative efforts on the part of the City, consultant or contractor, the CCO feels that the evidence of past spillage is overwhelming, that this will set an important example for southern Ontario, and that a significant compensation project may be imminent for this particular site.

My reasons for highlighting this incident are three fold. First, professionals involved in projects which may produce siltation should be aware of the ramifications of inadequate controls. To simply do as much as is required for an approval, and no more, is no longer enough. For a consultant to provide the most economical and "easy" plan to a client in order to make that client "happy" is one thing. To deceive a client is another. The goal for this component of a project must be to preclude degradation of aquatic habitat.

Plans calling for specific measures for sediment and erosion control must make allowance for extraneous conditions. It is very difficult to predict the exact control measures which will suffice, and projects must be capable of pausing for adjustments. Likewise, approving agencies that demand specific controls without such allowance are also vulnerable.

Secondly, there is a significant role for the Chapter to play. We have qualified eyes to detect problems while solutions are still viable. On this front we must commend the CCO for pointing out a problem. The Chapter also has expertise which could be utilized in qualifying control measures. This issue, particularly with regard to public and private liability, will require more input for sound resolution. This is an attempt to provoke member opinion, so respond!

Electronic bulletin board available to all AFS members

Every AFS member with a computer terminal and a modem can have immediate access to important society news. Rather than waiting for printed matter to arrive by mail or suffering the frustrations of playing "telephone tag" with a colleague, you can connect to the AFS Computer User Section electronic bulletin board and read bulletins, announcements, and public and private mail as soon as they are posted. The board has been running successfully since January 1988, during which time the user base has grown at a steady pace. In response to the identified need for the society to have access to rapid information exchange, the Computer User Section decided at the annual meeting in Toronto to open up use of the board to the entire AFS membership.

The board is set up to publicize items of interest in bulletins, which everyone signing on is prompted to read. It also has program and text files available for downloading. But by far the most important use of the system has been for electronic mail. Users can leave messages for other users, or for everyone on the system, at the touch of a few keys. That's where the potential for instant communication lies.

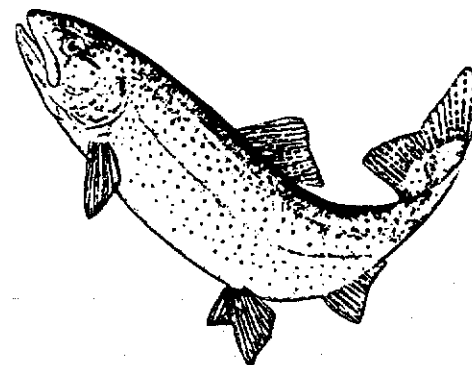
How can you get in on this? It's easy if you have a computer with communications capability. Set your communications software to dial the bulletin board: the number is 416-978-0157. You'll also need to tell your communications software to set your modem for 8 data bits, no parity and 1 stop bit. You may dial in at 1200 or 2400 baud. If you have a Hayes compatible modem and you are dialing long distance, you may also want to set the "wait for carrier" register to 70 seconds by adding S7-70 to your modem initialization or dialing string. This last point is important if you get a

ring signal but can't connect.

Once you are connected for the first time, you will be asked a number of questions, including your name and where you are calling from. Giving your correct name is required. You can't expect to get personal mail if you don't. You will also be asked to provide yourself a password. Don't forget this or you won't be able to connect next time you call. Once you've gotten past the new user questionnaire and you've read at least some of the bulletins, you are presented a menu of possible actions. You are in the MAIN conference. If you chose S) Scan messages or T) message topics, and type a *, you will see the subjects of all public messages in the MAIN conference. Scan also tells you who wrote the message, to whom it was addressed and when it was sent.

If you choose R) Read messages, you can read public mail, and mail addressed you whether public or private. Some points to remember when reading: typing an * at the "msg #" prompt will allow you to read all messages added since you were last on; typing a number followed by a + will show you all messages starting at the number and continuing through the last message. At the end of each message you are given a choice of replying, continuing to read one message at a time, continuing to read non-stop (messages scroll on the screen without pausing) or returning to the main menu.

Contact Larry Onisto at Ontario Hydro (416-592-8595) regarding the bulletin board or any Computer User issue.



Briefs

In Memorium

I just heard last night (Apr.10/91) that Carl Sullivan passed away on March 17, after a long battle with cancer. He will be greatly missed. I only knew Sully a few short years, but I was quick to learn of his tremendous commitment to the fishery profession and the environmental movement. Sully was also very supportive of Canadian involvement in AFS. He had a vision of AFS as a truly international organization and was fully committed to the World Fisheries Congress that was unfortunately postponed. Sully was one of the initiators of the latest attempt to change the name of the Society and he saw this as essential to making us more effective on international issues. His support for this never wavered.

Sully took a fledgling organization and built it into a thriving, vibrant body of dedicated professionals. Anyone who has ever had the privilege of knowing Sully could have nothing but respect for him. He was a tremendous influence on

me in my early days in AFS. I know I speak on behalf of all of us in the SOC when I say he will be missed.

If there is any consolation to all of this, it is that his dreams and visions are still alive. It may take time but I'm sure that AFS can and will be an effective and truly international organization.

Finally I would like to propose that an award be considered, that could be given to the AFS member that does the most to fulfill Sully's goal of making a truly international Society. This could be awarded by either our chapter, the international section, or the Canadian Concerns Committee. I'm not sure of the process, but I think its a proud way of remembering the efforts of Sully on this front. I don't see this award overlapping the newly proposed Sully Award, but one which simply recognizes his contribution to Canadian and international relations on fisheries. I'd like to hear your thoughts on this.

-Les Stanfield

Call For Papers

The East Coast Trout Management and Culture Workshop will be held somewhere in Pennsylvania or Tennessee in 1992 (the date and exact location will be released this summer).

Today more than ever, eastern trout managers are faced with increasing resource threats. Global warming, acid rain, the development of historically pristine areas, and the desire of the angling public are just a few of the problems that face managers. Without doubt, a tremendous amount of effort goes into research and management efforts in each area. But many times because of increasing job demands, data are not published or communicated outside of small circles. As a result, many times fisheries biologists are faced with reinventing the wheel because they often do not know who is working on or has worked on similar problems in adjacent states or regions. This 1992 workshop will focus on what we do, do

not, and need to know about habitat/riparian zones, regulations for wild and stocked populations, stocking and trout culture. Trout managers, culturists and those engaged in research are encouraged to contribute papers that are directed to the theme of the workshop. Papers may review pertinent work, summarize on-going or recently completed work or identify new threats and provide challenges for the future.

Authors wishing to submit a contributed paper must send an abstract or a report outline to the appropriate session leader. Abstracts and report outlines should be concise, but state or outline the objectives, results and conclusions. Abstracts and report outlines should include: a title, name, address and telephone number of each author, and indicate the speaker. Authors should indicate if slides (2X2 only) or overhead projectors will be needed and the name, address and phone number of the person to receive correspondence. For information contact Mr. Stephen E. Moore, RMS-Resource Management, Great Smoky Mountains National Park, Gatlinburg, Tennessee 37738.

-AFS

Reference service

The Fish and Wildlife Reference Service, located in Bethesda, Maryland, offers a much needed service to the management community by performing extensive literature searches on Specific fish and wildlife topics. A literature search carries a \$30 base fee and the FWRS also provides photocopies of reports at 10 cents a page. A compilation of documents is published annually, as well as 4 quarterly lists for broad areas. Contact FWRS, 5430 Grosvenor Lane, Suite 110, Bethesda, Md. 20814 (1-800-582-3421).

-Fisheries News

Sustainable development on the Fraser River

British Columbia's Fraser River has the largest natural salmon run in the world and produces more than one quarter of all salmon caught commercially and recreationally off Canada's west coast (\$260 million annually). It is home to the largest population of wintering waterfowl in Canada and is the single most important stopping point for millions of migrating birds. (cont'd)

ENVIRONMENTAL BULLETIN BOARD SYSTEM ENVIBBS

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At the same time, 1.4 million people work, live and play in the Fraser River Basin.

Effectively managing the Fraser is an immense task involving a critical balance between the river's natural environment and the ever-expanding industrial, commercial, recreational and residential development taking place along its shores. Without the balancing effect of careful management, development could eradicate the river's natural environment.

Enter the Fraser River Estuary Management Program (FREMP), an inter-governmental, inter-agency program whose establishment took seven years of background study and review of management options. FREMP's overall goal is to provide the means for accommodating the development associated with a growing population and economy, while maintaining the quality and productivity of the Fraser estuary's natural environment. FREMP was launched in 1985 with the signing of a 5 year agreement by five major parties: Environment Canada, BC MOE, DFO, the Fraser River Harbour Commission and the North Fraser River Harbour Commission.

FREMP's project review mechanism coordinates agencies examining development projects, collates recommendations and offers environmentally sound development guidelines. This "one window" process allows proponents to submit just one application, and it facilitates proactive inter-agency input.

For more information contact FREMP, 708 Clarkson St., New Westminster, BC V3M 1E2.

-Sustainable Development

A new journal

"Ecological Engineering - The Journal of Ecotechnology" will be useful to agency plan review staff, applied ecologists, environmental scientists in

specialized fields (eg aquatic sciences), engineers, agroecologists, and landscape planners and designers. It is meant for professionals who must design, monitor or construct ecosystems (or review, regulate and approve...) and it will be multi-disciplinary.

Ecological engineering has been defined as the design of ecosystems for the mutual benefit of humans and nature.

Topics of special note include stream restoration, pollution control by ecosystems, bioengineering, wetland creation, etc. The journal will also be pertinent to those involved in global change, alternative energy policy, ecological economics, environmental conservation and global geopolitics.

The journal welcomes full papers, short communications, comments, letters to the editor, and will publish review articles upon invitation. All papers will be subject to peer review, will be published in English and will not be subject to levy page charges. Subscription prices (journal commences in 1992) will be 172.75US. The editor in chief is Dr. William J. Mitsch, Ohio State University, Columbus, OH. Sample copies and information may be requested from Elsevier Science Publishers, PO Box 330, 1000 AH Amsterdam, The Netherlands, ATT Mr. R. Hayward.

-SWS Bulletin

Section members

At the 1991 spring Parent Society EXCOM meeting it was decided that many sections will offer a one-year free membership to new AFS members as a means to get these people more rapidly involved in Society affairs. Each new member may select one (only) of the Sections participating in this program.

-Diary

Urban Fisheries

Lee Redmond, Immediate Past-President of the North Central Division (NCD), has been interested in setting up an

NCD committee, and more recently an AFS section potentially called the "Urban Fishing Section".

Although this topic should have a high profile, should be of great interest, and should be seeing increasingly important issues, response to the idea has not been extremely inspiring to date.

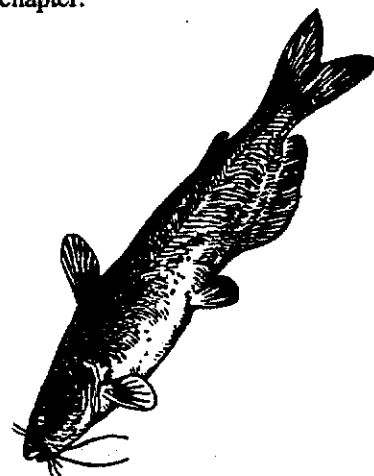
Aylmer District, OMNR (and several others) is plunging into this with an urban fishing program. OMNR and OFAH are co-sponsoring a study of urban fishing cleinteles in London by Tarah Wilson (M.Sc. work under Dr. Geoff Wall, Environmental Studies at U of Waterloo).

Hal Schraeder, Aylmer Fisheries Biologist, and Lee Redmond would like to generate some suggestions for SOC activity focused on urban habitat.

Contact Hal at MNR Aylmer (519-773-9241). (address in member directory). Also, identify your work in this field with brief contributions to the newsletter.

AFS 2nd Vp candidates both from NC Division

Good quality "close to home" leadership will come from either Lee Redmond or Jack Wingate. Both are accessible, and detailed information will appear in Fisheries this Spring with ballots. Your vote will have direct payoff for the chapter.



Making the Society work for southern Ontario

One of the more common comments of existing and prospective members of the Southern Ontario Chapter goes like this: "I think this kind of organization can benefit the province...I am supportive of its efforts and principles...but I don't understand how its supposed to work and how I'm supposed to fit..."

Such confusion may very well be a major contributing factor to the generally low level of involvement and activity within the chapter. This is evolving into the Achilles Heel of the SOC. Instead of yet another harangue to the members on volunteerism, how about a bit of a primer on the workings of the Chapter.

The American Fisheries Society is an international organization of 9000+ aquatic sciences professionals. The AFS is divided administratively into four large geographic divisions containing a total of 50 chapters (eg. Southern Ontario Chapter is within the North Central Division). The Chapter's function is to address localized issues and member needs, and to foster communication within the aquatic sciences profession in their area. The SOC is structured similar to all chapters; is headed by an annually elected Executive Committee, consisting of a president, president-elect, secretary, and treasurer. Elections are held by mail ballot in the Fall; results are announced at the Annual Meeting in January, and the terms begin the following September.

The Executive Committee functions as the administrative centre of the Chapter. The vast majority of Chapter activities, such as response to issues, workshop/course planning, and member services, are handled by either Standing or Special (ad hoc) committees which report to EXCOM. It can not be overemphasized that the committees are

the heart of the Chapter. They are the motor that drives the boat so to speak. The SOC presently has eight Standing Committees:

Fish Habitat Committee (Geza Gaspardy, 519-885-5440);

Continuing Education Committee (Mike Jones, 416-832-7128);

Computer User Committee (Larry O'Nisto, 416-592-5111);

Environmental Concerns Committee (Blake Konkel, 519-824-4120 ext 2726);

Nominations Committee (Les Stanfield, 705-645-8747);

Aquaculture Committee (Gary Chapman, 705-686-7756);

Student Affairs Committee (Nick Mandrak, 416-586-5760).

Awards Committee vacant

Certain committees (eg. Habitat, Environmental Concerns, Aquaculture) function to examine major issues and developments in their areas, and to recommend Chapter positions and/or actions in response. Other committees provide enhanced member services (eg. Continuing Ed., Computer Users, Awards). When a need arises to examine a specific issue (eg. ethics, long-range planning, Planning Act Review, etc) the President can form ad hoc committees which carry out their particular mandate, and are then dissolved.

Each committee consists of a Chairperson and an unlimited number of members. Committees are open to all Chapter members who are interested in participating -- you don't have to be an expert to help out. In fact, committees

are excellent for getting involved with things that you otherwise might not get exposed to, and to meet fellow professionals who you don't normally get to interact with. Most committees meet formally every 2-3 months, depending on the task, to discuss, evaluate, and set assignments. Take my word for it, the benefits of participating far exceed the costs.

At this point in the development of the SOC, the options for our future are clear: the Chapter can evolve into an organization with a small number of overburdened, dedicated individuals, restricted to holding workshops and courses, with the vast majority of members maintaining an "I like it but I don't want to get involved" attitude; or, with just a small amount of input from the members at large, our Chapter can become an influential voice in the Aquatic issues of Ontario establishing itself as a source of knowledge-based, professional advice to the decision making process, a conduit for interdisciplinary communication on aquatic environmental issues, and a centre for professionalism in the aquatic sciences. The choice belongs to each individual.

I urge all who read this to not only volunteer yourself for service in one of the above committees, but also to persuade a colleague to participate along with you. The ecosystem will benefit from your input. Are you up to the challenge?

-Ken Harris,
Chapter President



CANADIAN CONCERNS

Aquatic resources in Canada are under siege. While the Clean Water Act provides clear direction on the management of water resources in United States, Canadians have no such comprehensive policy to guide management decisions. The new Canadian Environmental Protection Act held great promise in terms of defining water policy, however the lack of consistent regulations and enforcement policies have emasculated the legislation. The provinces, because they derive direct financial benefit from resource development initiatives (ie. in the form of hydro, stumpage, mining royalty fees, and associated employment opportunities), are in a conflict of interest position with respect to decisions on how aquatic resources are used. Therefore, provincial legislation is frequently too lax or inadequately enforced. The overall result is that decisions are made in the political arena, with little or no consideration given to the health and well being of the resource.

There are numerous examples of this political interference in decision-making in Canada. Recently, the British Columbia Minister of the Environment announced new legislation that would regulate the quality of pulp mill effluents in the province. The legislation called for a reduction in the quantity of organochlorine in effluents to 1.5 kg/ADT of pulp by 1994. This level is consistent with the level recommended by a number of jurisdictions around the world. However, the premier of British Columbia unilaterally rejected the proposal and implemented a more lenient regulation of 2.5 kg/ADT. This decision clearly reflects the concerns of large corporate interests, not the public as a whole or the resource.

The prevalence of this type of attitude in many parts of Canada bodes ill for

the future, and this trend must be reversed. In the absence of environmentally benevolent politicians and other decision-makers, Canadian fisheries and aquatic resources need an advocate to speak strongly for their interests. We believe that AFS can play that role in Canada, for who is better prepared to comment on the policies and proposals that potentially affect aquatic resources than we, the experts?

Now that we know what we need to do, the next question is how can the AFS influence decision-making activities in Canada. The answer is communication. To influence policy in Canada, we must have a forum to effectively convey our message to government, to the media, to other advocacy groups, and especially to the public. There are problems, however, associated with AFS fulfilling this role in Canada. These problems relate largely to nonrecognition, misconception, and lack of critical mass.

It is the goal of the Canadian Concerns Committee to rectify these problems and shape the AFS into a major force in the Canadian aquatic resource community. To address this long-term goal, we have identified a number of objectives for 1990 - 1991. These objectives include:

- (i) to facilitate a name change for the AFS;
- (ii) to assess the feasibility of establishing a Canadian office of the AFS;
- (iii) to identify sources of funding for the Canadian office; and,
- (iv) to develop a network of Canadian fisheries professionals.

The Name Change

To be a driving force in Canada, the AFS must be, and must be perceived to be, a group of professionals whose primary goal is the scientific management of aquatic resources to ensure their health and perpetuation and

provide for the optimum use and enjoyment by all of the people on this continent. The present perception of the AFS as a group of American fisheries scientists and managers is a continuing stigma, viewed by many Canadians as 'U.S. meddling' in their affairs. In a recent membership poll, the name of the society has been identified as a major impediment to increasing our credibility in Canada.

Les Stanfield and Bob White are spearheading the name change initiative, in association with more than forty dedicated Canadian and American sub-committee members. Their forthcoming article in Fisheries will provide a concise rationale for the name change, and we hope that you will carefully consider this matter before deciding how you will vote in the upcoming referendum.

The Canadian Office

To increase the profile and effectiveness of the AFS, we must have both a structural and a functional presence in Canada. We believe that establishing a Canadian Office of the AFS will fill both of these needs. The physical presence of an office with a Canadian address will provide policy makers and the public with a tangible reminder of our existence and our mission, and facilitate their communication with us. From a functional perspective, the office will provide a focal point for interaction with all target groups. In addition, it will coordinate the activities of Canadian members to ensure that the most appropriate people are working on various initiatives. Funding for the Office is now being sought from within the Society, from various levels of government, and from other sources.

Environmental Concerns

One of the critical requirements in terms of increasing our profile and effectiveness, is the development of a

timely mechanism for participating in policy decisions and becoming more active in environmental conservation issues. We are currently responding to this need through the development of the Network of Canadian Aquatic Resource Professionals (NOCARP). This network will be supported by a database which contains specific information on Canadian professionals with both the interest and expertise to participate in policy decisions. The system is modelled after the inventory established by the North Pacific International Chapter and would be similarly used to assign members to committees and to coordinate responses to environmental concerns. We anticipate that the Network will be administered by the Canadian Office, thereby ensuring that timely responses to environmental and other issues can be prepared, as appropriate.

We feel that achievement of the current objectives of the Canadian Concerns Committee will go a long way towards convincing Canadian fisheries professionals that the AFS is indeed an organization that can function as effectively for them in Canada as it does for American members in the United States. Increasing the level of membership and activism in the society will virtually assure our long-term success in Canada. In addition, we must embark on an aggressive and protracted education campaign to acquaint ourselves to all of the groups that are involved in resources management in Canada, especially the public. We challenge all to get involved and promote the Society to your colleagues. And, who's going to ultimately benefit from your efforts? ... the resource of course. And after all, that's why we're all here!

Don MacDonald and Terry Marshall,
Co-chair, Canadian Concerns Committee

Wetlands protection and restoration in Ontario: an agenda for reform

by Rick Lindgren, LL.B.

reprinted with permission from "Great Lakes Wetlands"

The judicial authority to require restoration of degraded wetlands has been established in the United States. This is not the case in Canada. This article provides an overview of the legislative and policy framework related to wetlands protection and restoration in Ontario, and it includes several recommendations for regulatory reform applicable to Canada and the United States.

Rick Lindgren is a staff lawyer with the Canadian Environmental Law Association (CELA) located in Toronto, Ontario. He has been involved in litigation of several wetland cases. CELA is a provincially funded legal aid clinic focusing solely on environmental law and policy.

The Constance Creek case

In the spring of 1989, an Ontario developer cleared, dredged and filled a substantial portion of the Constance Creek Wetland, a provincially significant riverine wetland near Ottawa, Ontario. These activities were undertaken without rezoning approval from the local municipality, and the developer proceeded to complete the construction of a golf course within the wetland despite considerable opposition from local residents and government agencies.

When the developer finally applied for rezoning approval, the local municipality passed a bylaw that purported to permit the use and operation of the golf course within the wetland. However, local residents and the Ministry of Natural Resources (MNR) appealed the bylaw to the Ontario Municipal Board (OMB) a statutory tribunal which considers appeals against local land use planning decisions.

During the lengthy OMB hearing, the Board heard and reviewed expert evidence about the development's adverse impacts upon the ecological, hydrological and socio-economic values of the Constance Creek Wetland. The Board also heard evidence from a wetland restoration expert who prepared alternative restoration plans designed to rehabilitate the destroyed portion of the wetland.

In its decision,¹ the Board repealed the rezoning bylaw because it was not "a proper exercise in land use planning". The Board also found that the wetland had suffered "extensive environmental damage". However, the OMB held that it lacked the jurisdiction to order the developer to restore the disturbed wetland. Accordingly, the Board struck down the rezoning bylaw, but left the golf course intact within the wetland. The developer has vowed that golfing will occur on the property despite the OMB decision, and further litigation is likely before this matter is resolved.

In many respects, the Constance Creek case stands as a microcosm of the various problems associated with wetlands protection and restoration in Ontario. First, the case highlights the general inability of Ontario's land use planning process to protect and restore wetlands at risk from development. Second, the case demonstrates the inherent weakness of current provincial wetlands policy and guidelines in terms of protecting and restoring wetlands. Third, the case clearly underscores the need for Ontario to enact and enforce comprehensive wetlands legislation.

1. The legislative framework

Unlike a number of United States jurisdictions, Ontario lacks specific wetlands legislation to protect wetlands against loss or degradation.

Accordingly, decisions to clear, dredge or fill wetlands may be made under a variety of unrelated provincial statutes, including the Drainage Act, the Planning Act, the Public Lands Act, the Lakes and Rivers Improvement Act, the Conservaiton Authorities Act and other legislation. None of these statutes contain any express prohibitions or restrictions upon the destruction or conversion of wetlands, nor do they contain any provisions which empower authroities to order wetlands restoration.

In southern Ontario, where approximately 80% of the original wetlands have been lost, and where further loss is occurring at a rate of 1-2% per year, many key decisions concerning the use and conversion of wetlands are made under the Planning Act. This statute empowers local and regional municipalities to regulate land use through zoning bylaws, official plans, and subdivision approvals. Because most Ontario municipalities have wetlands within their geographic boundaries, these municipalities have the potential to play an integral role in protecting and conserving wetlands.

The Planning Act, however, has not been effectively used to protect Ontario's wetlands. In fact, many municipalities have used this statutory authority to approve developments which convert or degrade wetlands. In addition, the Planning Act does not prohibit developers from clearing, grading or filling environmentally significant natural areas before rezoning approval is obtained. Moreover, as indicated in the Constance Creek case, the Planning Act does not authorize local municipalities or the OMB to order the restoration of natural areas where such areas have been deliberately degraded or converted without rezoning

approval.

The general inability of Ontario's existing land use planning process to protect wetlands and other natural areas has been widely criticized by environmental organizations and in government reports. Such criticism focuses on the lack of ecosystem-based planning, insufficient consideration of cumulative impacts, uncoordinated and underfunded government review of development proposals, and the inability or unwillingness of local municipalities to inventory natural areas or to require environmental assessments of proposed developments.

Because of these deficiencies, wetlands protection and restoration often falls by default to other agencies and authorities operating under non-wetland statutes. for exmample, where a wetland conatins a navigable waterway, it is illegal to place fill on the bed of the watercourse unless approval has bveen granted from the MNR under the Public Lands Act. Similarly, where a wetland contains fisheries habitat, it is illegal to alter the habitat (ie. by dredging or filling) unless approval has been granted by the MNR under the federal Fisheries Act.

In theory, the MNR can invoke these statutes in order to control activities which degrade wetlands. In practice, these statutory powers do not appear to be used in an aggressive or systematic manner. It is noteworthy that the MNR laid charges under both statutes against the developer in the Constance Creek case, but this did not prevent the wetland from being destroyed. Because these charges are still being tried in court, it is unknown whether the developer be convicted, or whether the Crown prosecutor will seek a restoration order under the Fisheries Act. As exemplified by the Constance Creek case, Ontario's existing legislative framework, particularly in the land use planning context, is inadequate to meet the challenge of protecting and restoring the province's wetlands. This problem is compounded by the lack of a strong

policy commitment to wetlands protection and restoration.

2. The policy framework

At the present time, Ontario has a draft "Wetlands Policy Statement" and related "Implementaiton Guidelines". Because the policy statement has not received final approval under the Planning Act, the document has no formal status. However, interestingly enough, the OMB did consider the policy statement in regards to the Constance Creek decision.

Nevertheless, the draft policy statement has been viewed as deficient by many conservaiton groups on several grounds: 1) it does not address agricultural activities that contribute to wetlands loss and degradation, 2) it does not make mandatory changes in the ways in which planning authorities consider wetlands, and 3) it fails to confer adequate protection upon provincially, regionally or locally significant wetlands. In additon, the draft policy statement provides no guidelines concerning wetlands restoration.

Until the draft policy statement is finalized, the MNR's 1984 "Guidelines for Wetlands Management" remain the operative document for implementing provincial wetlands policy. Unfortunately, these guidelines provide little substantive protection for Ontario wetlands, and the document omits any reference to wetlands restoration. Accordingly, Ontario presently lacks a clear policy commitment to wetlands protection and restoration, and similarly lacks any explicit goals, objectives, or criteria related to wetlands restoration. This situation must be changed if the province is serious about mitigating and reversing the alarming extent and rate of wetlands loss.

3. An agenda for reform

There is a growing consensus that Ontario must immediately develop

regulatory programs that prohibit the destruction or degradation of the province's remaining wetlands, and work to increase the quality and quantity of wetland resources through the restoration of previously destroyed or degraded wetlands.² As an interim step, Ontario must substantially amend and implement the draft "Wetlands Policy Statement" in order to achieve these objectives. Similarly, existing provincial statutes and regulations related to wetlands must be enforced in a timely and effective manner. In addition, Ontario must review and revise the existing land use planning process to ensure that the direct, indirect, and cumulative environmental impacts of proposed developments are adequately identified, analyzed and mitigated.

At the same time, Ontario must develop and implement comprehensive wetlands protection legislation that applies to all wetlands within the province. At a minimum, this statute must prohibit the destruction or degradation of significant wetlands, and must provide for the restoration of wetlands that have already been lost or converted. The statute should also establish a permit-issuing process to regulate land uses and activities that require buildings, structures, or alterations of the natural environment within or beside wetlands. To deal with situations such as the Constance Creek case, the statute must allow authorities to obtain court orders restraining developers from altering wetlands without statutory authority, and to order wetlands restoration by those responsible for illegal wetlands destruction or degradation.

In light of scientific uncertainties about wetlands restoration, and given the limited amount of Ontario experience with wetlands restoration projects, the province's regulatory approach should be preventative in nature. The province must carefully scrutinize permit applications to ensure that proposed projects do not result in a net loss of wetland acreage or function. Permits should be issued subject to appropriate

terms and conditions which ensure that all reasonable measures are undertaken to avoid wetland impacts.

Except in cases involving significant or irreplaceable wetlands, restoration and creation to mitigate for unavoidable losses may be permitted. However, a permit should not be approved unless certain criteria are satisfied by the applicant. The applicant should demonstrate the following: 1) that there are no alternative non-wetland sites reasonably available for the intended development, 2) that the restored or created wetland will closely approximate the hydrology, soil structure, and biotic communities of the original wetland or comparable natural wetland type, 3) that the applicant has the necessary technical expertise and financial resources to conduct the proposed restoration or creation project, and 4) that the applicant is capable of undertaking a monitoring and management program to assess the projects's performance and to take corrective action where necessary.³

Where wetlands restoration or creation is proposed, "in-kind" restoration (restoration or creation of a wetland with substantially similar characteristics) is preferred over "out-of-kind" restoration (restoration or creation of a wetland with different characteristics). Similarly, there should be strong preference for restoration or creation at the site of the impacted wetland, although off-site restoration or creation may be justified in certain cases due to regional needs or technical considerations.

The Ontario government should also specify that wetlands restoration or creation projects can compensate for new wetlands losses only where restoration or creation will restore lost or degraded wetland acreages or functions on at least a 1:1 ratio. "Mitigation banking" (the "banking" of restoration or creation "credits" by a developer to be drawn upon for future wetlands compensation purposes) has been attempted in several jurisdictions

with mixed success, and should be carefully evaluated by the provincial government to determine if it is appropriate in the Ontario context.

The province should identify and pursue all available opportunities to restore lost or degraded wetlands, and where appropriate, to create new wetlands. In particular, priority should be given to the restoration or creation of wetlands in urban areas that have experienced extensive wetlands loss. In addition, wetlands restoration and creation research and pilot projects should be funded and coordinated by the province.

4. Conclusion

The Constance Creek case has highlighted the various problems associated with wetlands protection and restoration in Ontario. Significant regulatory reforms are necessary to ensure adequate protection of the province's remaining wetlands, and to secure the restoration of wetlands that have been previously filled, drained or polluted. In order to protect wetland resources and maintain healthy ecosystems within Ontario, these reforms must be carried out in conjunction with non-regulatory reforms including improved acquisition programs, expanded educational initiatives, and increased incentives for conservation.

Notes

1. Re: West Carleton Township By-laws 36-89 and 73-89, OMB file nos. R890345; R890639; S900003 (August 29, 1990).
2. See for example, "Preserving Great Lakes Wetlands: An Environmental Agenda. Final report of the Great Lakes Wetlands Policy Consortium (1990).
3. Jon Kusler, "Proposed Guidelines for wetlands restoration, creation and enhancement" in Proceedings, National wetlands symposium: mitigation of impacts and losses (Assoc. of State Wetland Managers, 1988).