

NEWSLETTER

NORTHWESTERN ONTARIO CHAPTER
of the
American Fisheries Society



Vol. 7

No. 1

NEWSLETTER

American Fisheries Society Northwestern Ontario Chapter



President.....	Phil Ryan, 435 James St. S.
President-Elect.....	Tom Mosindy
Past-President.....	Rick Borecky
Secretary-Treasurer..	Arnold Laine, 435 James St. S.

Volume 7 (1)

January 1987

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PRESIDENT'S REPORT

In the last issue of the Newsletter, I wrote a little article to laud the efforts of our members who have served as newsletter editors. While this newsletter is late in arrival, it is not through the fault of our new editor, Jill Entwistle who has produced this issue in spite of certain mill-stones such as our current president.

The chapter had a successful fall conference. It was not as well attended as some in the past, because there were a number of major conflicts which prevented many of our members from attending. The Chapter voted to hold next years conference in early November, at a location near Thunder Bay where accomodations will be cheaper and it will be easier for university students to attend. Planning for the 1987 conference is well underway, in the very capable hands of our President-Elect Mr. Tom Mosindy. If you have ideas for the conference or want to volunteer your services, Tom would be happy to hear from you.

The notes from the discussion groups at the conference have been reviewed and I have drafted a report. There are a lot of very useful ideas there. I would like to ask for help from our membership in editing this report. I have a short list of conference participants in mind for this task but would appreciate any volunteers who would like to help. I would especially like to hear from those persons who copuld not attend the conference but would like to contribute to the proceedings. At present we are expecting to produce a mimeograph summary (nothing as fancy as our walleye conference) that will be provided to all of our members.

Our founding president - Dr. Walter Momot of Lakehead University, attended the annual conference of the Northern Ontario Tourist Outfitters (NOTO) last fall. The text of his presentation is reported later in the newsletter.

I think that we should have a news hotline to keep up on the activities of former chapter president Chris Brousseau, who has been a very busy lad in the last few years. Not content with his workload as Regional Fisheries Biologist of the Northern Region, he has served on the steering committee for LARS (Large River Symposium) and contributed to the publications resulting from that symposium, he has played a major role in bringing Ontarios resident fishing license into existence in the last year and every time I turn on the radio I hear another interview with Chris about new management strategies for the trophy speckled trout fisheries of the Hudson Bay Lowlands. All of this work had Chris seeing a physiotherapist for a back ailment. In spite of this, he attended the annual meeting of the North-Central Division where he represented the chapter and was confirmed as the new Secretary-Treasurer of the NCD. We offer our congradulations to Chris and offer best wishes for his recovery.

After you buy your copy of "The Glass Bottom Boat" (advertisement included in newsletter), don't bother calling me to tell me that my picture somehow ended up on a page which has a paragraph entitled "Murphy's Law". A few years ago those same photos appeared in the annual report of the Ministry of Natural Resources with another singularly inappropriate caption ("provincial acid rain scientist"). I think that I had better track down the negatives and burn them before they appear in a post office.

Recently Tom Mosindy noted that he had had a lot of requests for information about how to join the Chapter. We have included a membership application form at the end of the newsletter. When joining the chapter, think about joining the parent society too. Its the best organization of fisheries professionals that there is and YOU should be a member.

P.A. Ryan
Chapter President



NORTHWESTERN ONTARIO CHAPTER
AMERICAN FISHERIES SOCIETY

Minutes of the 1986 Annual Business Meeting

The annual business meeting was held September 16th and 17th, 1986 at Quetico Centre. Terry Marshall was standing in for President Rick Borecky who was absent. Terry chaired the session and welcomed 20 members to the meeting. Al Dextrase moved that the quorum be waived for this meeting (2nd, Arnie Laine).

Brian Krishka read the minutes of the 1985 business meeting and Dave Reid motioned to accept the minutes as read (2nd, Val Macins). Brian also read the 1985-86 financial statement which listed total assets of \$1,733.84 as of September 16th, 1986. Val Macins moved to accept the financial statement (2nd, Ken Cullis).

The membership report showed that 16 members were lost and seven new members joined during the last year for a current total of 102 chapter members. Arnie Laine moved to accept the membership report (2nd, Tom Mosindy). Terry Marshall indicated that the chapter had lost 16 members because of dues owing for two years.

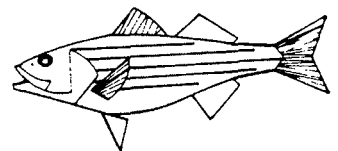
Several items were on the agenda for old business. The Fisheries Habitat Review Committee has not commented on the Fisheries Habitat Guidelines written by John Allin (OMNR) to date. The guidelines were received in April of 1986 and passed on to Phil when Rick Borecki resigned. Walter Momot and Phil subsequently reviewed the document. Our feelings were that some of the guidelines could have benefited from survey of more recent literature but generally it represented a good formula approach which was feasible to implement. The provision of protection above the level prescribed by the guidelines would require detailed information about habitat and fish useage on a case by case basis.

The Current Chapter Bylaws will be revised to require that non-Parent Society members will pay \$10.00 annually for Chapter dues while dues will remain at \$5.00 per year for parent society members. The creation of associate and affiliate memberships were also proposed. These changes must be approved by the executive committee of the Society before being effective.

New business began with the selection of the Executive Committee for the coming year. Terry Marshall recognized Phil Ryan as President of the Chapter. Phil opened nominations for president-elect and nominated Tom Mosindy. Ken Cullis motioned to close for president-elect and Tom won by acclamation. Nominations were opened for secretary-treasurer and Bev Ritchie nominated Arnie Laine. Val Macins closed nominations and Arnie won by acclamation.

Jill Entwistle agreed to be the Newsletter Editor with the following people as regional representatives:

Gordon Johnson - North Central Region MNR
Walter Momot - Lakehead University
Dave Payne - Northern Region MNR
Mark Sobchuk - Northwestern Region MNR
Jake Vander Wal - Ministry of the Environment



Brian Krishka suggested that a synopsis of the annual Conference be included in the first issue of the Newsletter each year. This would benefit those chapter members who could not attend and might increase attendance for future conferences. Phil Ryan indicated that he was expecting written summaries from each working group at the current Conference and would be willing to provide a synopsis.

The timing of the annual Conference was changed from early September to accomodate members who have been unable to attend in the past. It was decided that the next Chapter Conference and business meeting would be held during the first week in November, 1987 at Memory Lodge near Cloud Bay, Ontario. The Chapter would try to arrange daily round trip transportation to Memory Lodge. Topics for the Conference consisted of:

- 1) a contributed papers session
- 2) underutilized species
- 3) salmonid introductions in Lake Superior

The membership agreed to reserve one day for each of the three topics. Ed Iwachewski was willing to help organize the session on salmonid introductions.

The possibility of holding a future annual meeting with the Minnesota Chapter was briefly discussed. It was not possible to make arrangements for 1987 but the idea would be considered for 1989. The Chapter would also consider having the 1988 meeting in Toronto in conjunction with the Parent Society annual meeting.

No further new business was raised. Al Dextrase motioned to close the meeting and Arnie Laine seconded the motion.

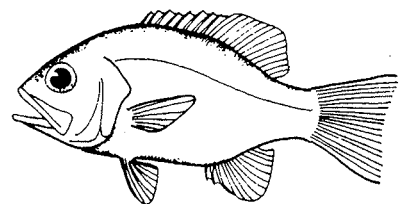
1985-86 Membership Report

The Chapter's total membership equals 102 as of September 16th, 1986. The distribution is as follows:

Parent society members	27
Chapter members	75

Total	102

The Chapter gained 7 new members and lost 16 members (for non-payment of dues), for a net lost of 9 members.



1985-86 Financial Statement

Balance on hand Sept. 17, 1985

\$ 643.84

Assets

1985 Conference	\$7,609.50
Chapter dues	395.00
Sale of Conference Proceedings	371.63
Sales (hats, shirts, crests, photos)	165.00
Interest (Sept. 1985 - Aug. 1986)	63.10

\$8,604.23

8,604.23

\$9,248.07Liabilities

1985 Conference expense (less deposit)	\$6,680.77
1986 Conference deposit	910.00
Past-president certificate	31.60
Purchase of hats (30)	104.33
Office supplies, postage	245.28
Other (bank charges, LLBO permit)	36.25

\$8,008.23

8,008.23

Balance on hand September 16, 1986

\$1,239.84

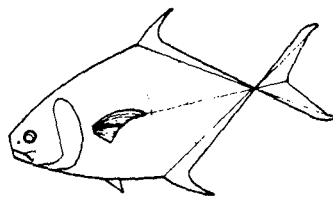
42 hats @ \$6.00 each	252.00
19 shirts @ \$12.00 each	228.00
7 crests @ \$2.00 each	14.00

252.00

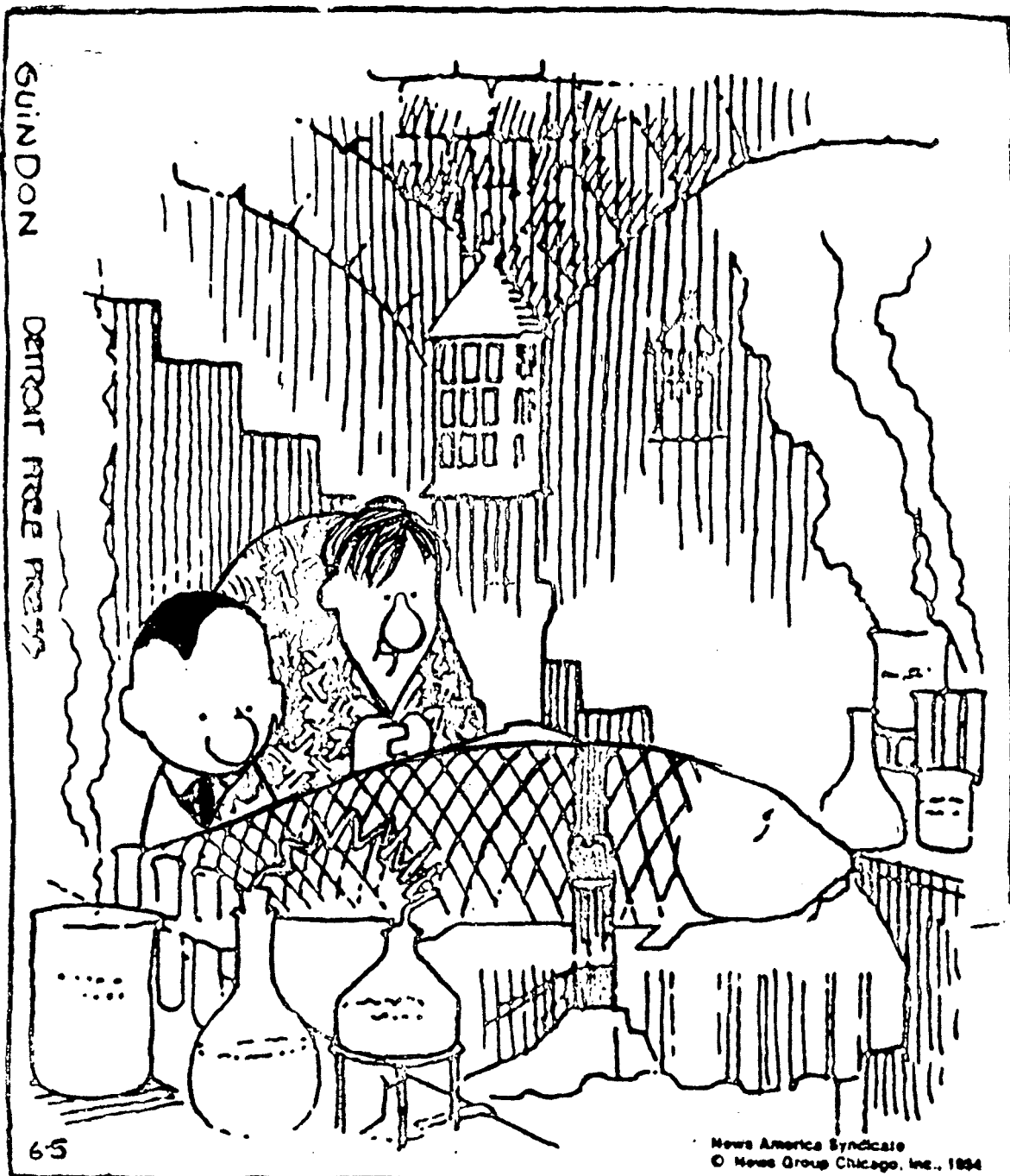
228.00

14.00

Total Assests

\$1,733.84
*****

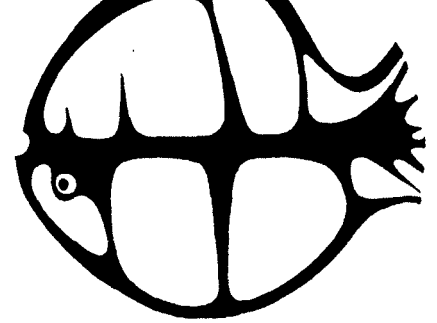
GUINDON



Young Frankenstein's first creation was so bizarre that he threw it in a nearby river.

Compliments of: Al Johnson, Biologist
Sport Fish Contaminants
Program
Minsitry of the Environment

PARENT SOCIETY NEWS

Notes from the AFS Diary:

Carp photos anyone?

September 12, 1986

Our request for good carp photos is drawing some appreciated response, but we need more. Illinois' Jim Allen has offered a most unusual shot which will surprise and delight readers of our son-to-be-published carp book. We'd like to see your carp photos too.

September 26, 1986

An international symposium on stock assessment and yield prediction has been accepted as a part of the February 14-19, 1987, AAAS annual meeting in Chicago. Organizers are Jack Christie of the Ontario Ministry of Natural Resources and George R. Spangler of the University of Minnesota. Other speakers are J.H. Leach, R.J.H. Beverton, S.L. Pimm, and D.O. Evans.

September 26, 1986

Award for Best Paper in the North American Journal of Fisheries Management, Volume 5 (1985) went to Dr. Richard C. Clark, Jr. and co-author Bin Huang for their paper, "Conflict Between Sport Fishing, Commercial Fishing, and Rehabilitation of Lake Trout in Lake Michigan".

September 26, 1986

New AFS Chapters approved by the Excom and subsequently by the membership are as follows:

Arkansas Chapter, President Danny Ebert
U.S. Forest Service
P.O. Box 1008
Russellville, AR 72801
(501) 968-2354

Mid-Canada Chapter, President William G. Franzin
Freshwater Institute
501 University Crescent
Winnipeg, MB R3T 2N6
(204) 269-7379

Tidewater Chapter, President Paul J. Anninos
229 68th Street
Virginia Beach, VA 23451

This brings out total number of Chapters to 51. In the 50 states only fisheries scientist professionals in Kentucky, Alabama, and parts of West Virginia and North Carolina have no direct access to Chapter membership. Are there any organizers out there?

December 5, 1986

Another developing volume in our new symposium series is "Mathematical Analysis of Fish Stock Dynamics: Reviews and Current Applications". It will contain papers from the 1985 annual meeting session "Micro-computers in Stock Assessment", and from the 1986 session, "Micro-Fish 1: Stock Dynamics". The book will feature the latest thinking by foremost experts in stock assessment - fisheries - ecology, and analytical models for fishery management, as well as many practical applications with the latest electronic technology. It is scheduled for final publication in early 1988 at a cost of about \$18,000. Anyone with questions, comments or funding ideas should contact AFS Managing Editor Bob Kendal (301) 596-3458.

The Mid- Canada Chapter's first newsletter has been produced and distributed to the 140 AFS members who reside in the Chapter's enormous geographic area comprising Manitoba, Saskatchewan, Alberta, and Northwest Territories. The Mid-Canada Chapter is the Society's newest unit and is a part of the North Central Division. Officers are Bill Franzin, president; Joseph Culp, president-elect; and Joan Bernstein, secretary-treasurer. The newsletter (now searching for a name) will be printed three times annually. It is available to anyone for a \$5.00 subscription fee. If interested, send your \$5.00 to Joan Bernstein, Department of Applied Microbiology, University of Saskatchewan, Saskatoon, SK S7N 0W0. Send news to Newsletter Editor J.M. Culp, Department of Biology, University of Calgary, Calgary, AB T2N 1N4, telephone (403) 220-6937.

The Fourth International Conference on Artificial Habitats for Fisheries will be held November 2-6, 1987, at the Knight Center/Hyatt Regency Hotel in Miami, Florida. With heavy involvement from AFS members, this promises to be a stimulating event. Deadline for abstracts is 21 April 1987. Write AFS for a copy of the announcement or call conference chairman Bill Seaman (904) 392-5870 for details.

January 23, 1987

Former AFS President Dick Ryder called recently from Thunder Bay, Ontario, for information about upcoming meetings. He said it was minus 30 degrees in Thunder Bay and that he had just returned from six weeks in Ethiopia. He sent his many friends best wishes for the New Year.

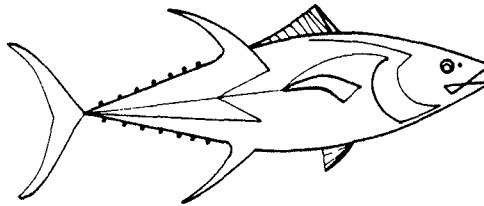
Share a Lone Star Lunker is the title of a lunker bass propagation effort by the Texas Parks and Wildlife Department. The Department has organized an aggressive advertising/promotional campaign designed to convince anglers to keep their "lunker" bass (13 lbs. and larger) alive and to give them to the state for breeding purposes. According to a letter from Bill Rutledge, in the first day of the promotion, a 17 lb. 10 oz. - state - record fish was brought in and is alive and well at the Tyler Fish Hatchery. The large fish has stirred interest throughout the state and hundreds have come to see "Ethyl" in the hatchery and to hear more about the propagation plans. To learn more about the initiative, call Bill Rutledge, Chief of Texas Fish Hatcheries (512) 389-4859.



PARENT SOCIETY NEWS (cont'd)

January 30, 1987

The 1990 annual meeting of AFS will be in the Northeastern Division and the 1991 meeting in the Southern Division. Both locations and dates will likely be set at this year's annual meeting in Winston-Salem, NC. If your state's fisheries agency or your Chapter wants to host or cohost either of these meetings, please contact this office to find out how to best bring your interest to the attention of the AFS Time and Place Committee.



Update on Mid-West Fish and Wildlife Conference, Omaha, Nebraska

This year I was fortunate enough to attend the above conference in Nebraska. I attended the North Central Division's meetings as Resolutions Committee Chairman, as incoming secretary-treasurer for the Division and also as a representative of the Northwestern Ontario Chapter. Some of the highlights of the meetings are as follows:

- AFS President Shelby Gerking talked to us on professionalism in the society and continuing education
- The new AFS Deputy Executive Director, Paul Brouha updated those present on several items happening in the parent society. This included the establishment of new sections; the genetic section and endangered species section; and also sections that may develop revolving around internationalism and stream habitat improvement. In addition, the central office has gone to computerization of records, publishing, accounting, employment information, etc. Paul also stated that as a whole, the AFS is doing well as far as membership recruitment and retention. By the end of the 1986 the total AFS membership will have gone up slightly. Paul said that the life membership is expected to increase to 600 by 1988. The AFS is also contemplating a lapel pin to be used as an identification symbol, gift, etc. If you have any ideas on a lapel pin, please contact Paul at the AFS central office.
- The Division also passed a resolution regarding the introduction of the European pikeperch, (zander) into North Dakota. After a failed attempt by North Dakota last year to introduce the zander, the states in the Missouri River basin have rallied to prevent further introductions until AFS protocol has been followed.
- I also presented the annual Chapter report prepared by Phil Ryan. Both the Minnesota and the new, mid Canada Chapter would be interested in holding joint meetings with the Northwestern Ontario Chapter.

After attending several of the past divisional meetings, it is extremely important that the chapter become involved and identify themselves as part of the North Central division. There are several ongoing initiatives in the division that can greatly benefit our chapter members. We have a tendency to isolate ourselves which I feel is a mistake. As a chapter we should always ensure that either the chapter president or representative attends the annual meeting. Also, we should be inviting the divisional president or vice-president to our annual chapter meeting.

One further note, a committee looking into walleye research priorities and ongoing walleye research and, experimental management projects has been initiated. The states and provinces within the divisions are presently being canvassed and a report will be prepared and distributed to interested members.

Chris Brousseau
Regional Fisheries Biologist
Northern Region

Mid-Canada Chapter of the American Fisheries Society

The first edition of the new chapters' newsletter was published November 1986.

The new Chapter officers are:

President.....William (Bill) Franzin
 Freshwater Institute, Winnipeg
 President-elect.....Joseph Culp, University of Calgary
 Secretary-Treasurer.....Joan Bernstein, University of Saskatchewan

NORTH BECOMES BIGGER PART OF NCD



You may have noticed a "slight" alteration in *The Mainstream* logo on the front of this issue. In case you didn't notice the northern part of the Division has suddenly become much bigger. It's not official till the parent Society meeting in September, but, so far as we're concerned we have a new and remarkable, AFS chapter in the North Central Division. By name, it's the MID-CANADA CHAPTER. By area, it's Manitoba, Saskatchewan, Alberta, and the Northwest Territories.

There were rumors that this new chapter was going to affiliate with the Western Division of the AFS. But according to Chapter President Bill Fanzen the majority of the membership decided that their fisheries resource had much more in common with ours than with the fisheries resource of the Pacific and mountain states and provinces.

According to the membership lists of the parent society, the MID-CANADA CHAPTER has 140 members, with potential for being much larger. Chapter officers and contact addresses and phone numbers are listed in the "NCD Chiefs" roster included in this issue of *The Mainstream*.

Although the organizational meeting for the chapter was held in April in Saskatoon, the first official meeting of the MID-CANADA CHAPTER is scheduled in November 1986, in Lloydminster, Alberta. The meeting will be held in conjunction with the Prairie Provinces/Federal Fisheries Walleye Workshop.

Our congratulations to our northern colleagues, and welcome to the North Central Division of the AFS!

From "Mainstream", August, 1986

CHAPTER NEWS

Lakehead University

1. The talk presented by Dr. Walter Momot of Lakehead University at the NOTO Conference last fall is reported on pages 19 to 25.

2. Dr. Peter Ihssen, OMNR Research Scientist (Maple, Ontario) presented a talk concerning stock identification in lake trout on Tuesday, December 2, 1986 at Lakehead University. The abstract of the talk is presented below.

"Genetic Differentiation of Lake Trout (*Salvelinus Namaycush*) Stocks of the Great Lakes Region."

Genetic differentiation at 30 enzyme loci for 25 native lake trout stocks of the Great Lakes area was determined by starch gel electrophoresis. Seventeen loci encoding for nine enzyme systems were found polymorphic for electrophoretic mobility variants. Nine new alleles not previously reported were found in these populations. Native Lake Superior stocks had more alleles per locus and a higher percentage of polymorphic loci than either smaller remnant stocks from Lakes Michigan and Huron, or inland stocks from small lakes. The genetic differentiation among stocks was much larger than previously reported for lake trout. Stocks from the Great Lakes and adjoining waters, although genetically different, tended to be much more similar to each other than stocks from inland lakes. In particular, three stocks from the Haliburton Highlands were genetically distinct to a degree not usually found within species. It is postulated that these stocks had different glacial history from the other lake trout stocks examined in this study.

Dr. Ihssen was a member of the steering committee for the STOCS symposium (Can. J. Fish. Aquat. Sci. Volume 38 #12) and contributed to many of the papers therein. For those interested in reading further, the lake trout paper presented at LU represents an application of approaches described by Ihssen et al. (1981 p 1838) in the STOCS issue.

Gord Johnson



"I hooked a real big one but it kept swimming around the boat."

You Heard It Here, First!

Those NWO-AFS members who came out to hear Dr. Ihssen were also treated to a paper presented by Jack Christie, OMNR Great Lakes Fisheries Scientist and Co-Chairman of the ASPY symposium. When it appeared that flight delays could keep Dr. Ihssen from presenting his paper, Jack Christie volunteered to talk to our membership.

The paper was written with ASPY Co-Chairman George Spangler as an overview and synthesis of major insights derived from the ASPY symposium. The talk focussed upon ecosystem level phenomena including the characteristics of maturity and stability, the importance of storage and the utility of the Sheldon Size Spectrum in describing the organization of aquatic biota and how it can change. (That tells you how much I could understand). All of us look forward to seeing the Symposium proceedings.

This was the first time that this paper has been presented anywhere. A mini-symposium for the presentation of ASPY synthesis papers is planned for the annual meeting of the AAAS in Chicago in March (American Academy for the Advancement of Science).

Phil Ryan

LAKES LETTER October 1986

The Winter of 1985-86

Ray Assel (NOAA-GLERL) indicates that the winter of 1985-86 began early. Ice began forming on many bays and harbors on the Great Lakes by mid-December 1985. The Lake Erie-Niagara River ice boom was installed at Buffalo, NY on December 20-21. Extensive ice cover had formed on many of the embayments by Christmas day. The navigation season came to a close on December 29, on the St. Lawrence Seaway, December 30, on the Welland Canal and January 2, 1986 at the Soo Locks. Ice cover was near maximum areal extent from mid-February to mid-March. Preliminary estimates of maximum ice cover and [normal seasonal maximums] are: Lake Superior 85% [75%], Lake Michigan 42% [45%], Lake Huron 62% [68%], Lake Erie 90% [90%] and Lake Ontario 26% [24%]. The 1986 navigation season started April 1, at the Soo Locks and April 3, at the Welland Canal and the St. Lawrence Seaway. The Lake Erie-Niagara River ice boom was removed on April 12-14. The Lakes were virtually ice free by April 30, ending an ice cycle best characterized as normal in most respects.

Thunder Bay District MNR, UpdateSaganaga Lake Assessment Project

During the summer of 1985, a jointly coordinated (Ontario-Minnesota) index netting assessment of the fish community of Saganaga Lake was initiated. Interest has been focussed on Saganaga Lake since the Minnesota Department of Natural Resources (DNR) had implemented a trophy walleye regulation on their side of this prominent border lake. Anglers are allowed to possess only 1 walleye greater than 22" total length from U.S. waters. A similar regulation for Canadian waters was proposed but some prior assessment work was considered necessary. The objectives of this study were as follows:

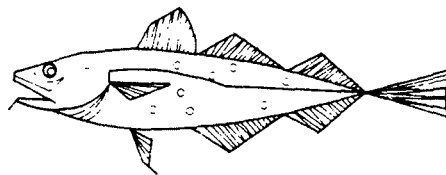
1. To document the present state of the fish community of Saganaga Lake.
2. To determine the appropriateness of the trophy regulation and length established for walleye.
3. To establish a reference data set for follow-up assessment of the effectiveness of a trophy regulation.

The field work was shared between a Minnesota DNR crew and an Ontario MNR crew. Last winter the collected data was computerized and preliminary sorts and summaries were completed. As well, all aging structures collected were aged.

Other commitments associated with the preparation of the Thunder Bay District Fisheries Management Plan prevented any further analysis of the data until this fall. Briefly, some preliminary results reveal:

- whitefish dominated the gill net catches by weight
- lake herring were greatest by number
- significant numbers of walleye and lake trout were captured
- sharp decrease in relative number of walleye larger than 40 cm F.L. (corresponding with fish aged 5+)
- no male walleye found older than age 5+ (F.L. 50 cm) with a few females up to 20+ years
- the dominant age class for both male and female walleye was 4+
- mean age to maturity of 4-5 years for walleye.

Our findings have been verified by results shared at a joint Ontario-Minnesota Fisheries Management Meeting held in October. The Minnesota DNR's data analyses, as well as some creel data, show similar length and age distributions for walleye.



While a trophy regulation may be desirable for Saganaga Lake to retain and promote the experience of catching very large walleye (which the lake has the capacity to produce), our initial suspicions are that the spawning component of the walleye population is being seriously cropped off by anglers. Possibly spawning and staging area sanctuaries should be investigated as a means of protecting the spawners and thereby prevent the collapse of this fishery.

P.S. A joint Ontario-Minnesota committee has been formed to investigate more closely the difficulties encountered in managing the border waters. Representatives on the committee include fisheries biologists and managers, as well as enforcement officers. Their objective is to recommend appropriate fishing regulation changes so as to manage the border waters in a more unified manner.

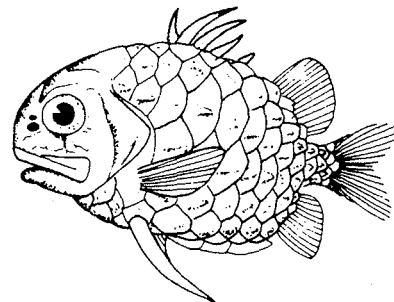
Len Godwin

WALLEYE RESEARCH UNIT NEWS

Pete Colby is heading up a Great lakes Walleye Rehabilitation workshop for the Great Lakes Fishery Commission to be held sometime in 1988-89. Members of the Steering Committee are: Carl Baker, Ohio DNR; a representative from the Michigan DNR; Joe Koonce, Case-Western Reserve University; Cheryl Lewis, Ontario MNR; and Terry Lychwick, Wisconsin DNR. This workshop is being held at the request of the Board of Technical Experts (BOTE), in order to "document the state of the major (walleye) stocks in the Great Lakes and the causes for any recent changes, especially (with respect to) eutrophication, fish community changes and stocking".

Copies of "Walleye and Tourism: Future Management Strategies"; the proceedings of a conference sponsored by the Northwestern Ontario chapter of the American Fisheries Society on September 18-21, 1984 at Quetico Centre can be obtained by contacting Dominic Baccante, OMNR Walleye Research Unit, P.O. Box 5000, 435 James St. South, Thunder Bay, Ontario, P7C 5G6. (807) 475-1636. Topics discussed at the conference included habitat protection and rehabilitation, harvest regulations (both traditional and experimental), and walleye culture and stocking. The cost per copy is \$5.00.

Nick Baccante



Articles for next newsletter:

Please submit articles, information, publication news, cartoons, or items of interest to Jill Entwistle, c/o MNR James Street, by March 31, 1987.

Contributors:

Dr. Walter Momot
Dr. Pete Colby
Gord Johnson
Chris Brousseau
Len Godwin
Nick Baccante

Phil Ryan
Brian Krishka

Thanks!

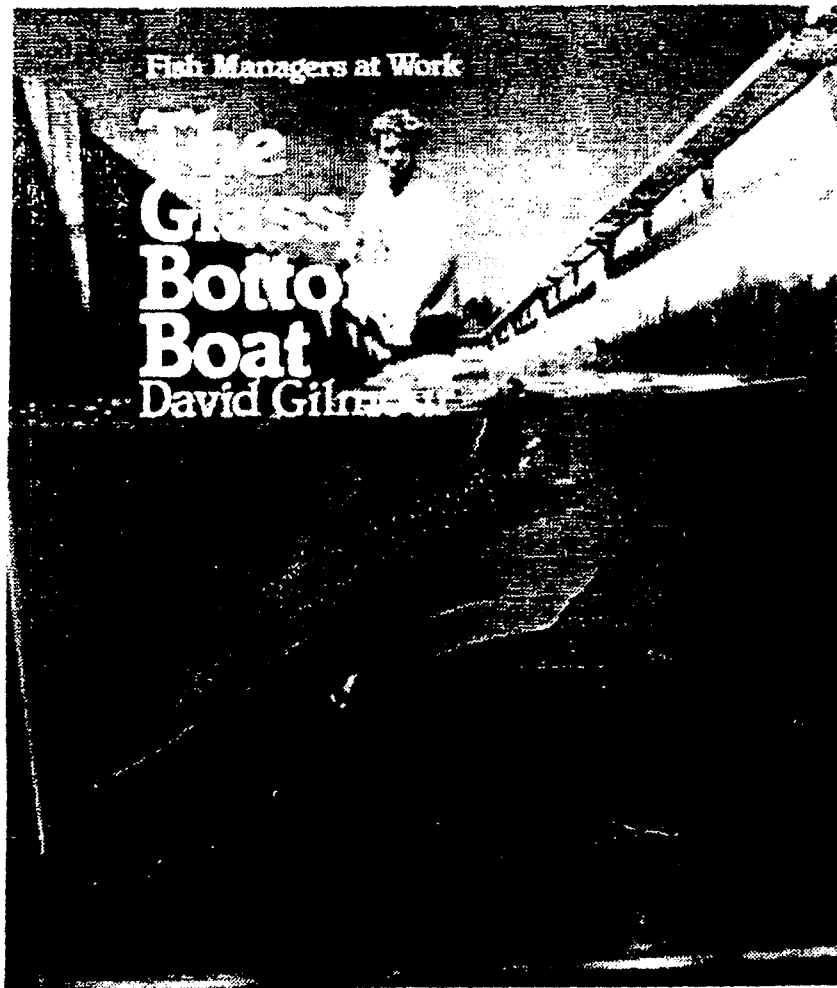


"I think you're reeling them in too slow."

NEW RELEASE

THE GLASS BOTTOM BOAT by DAVID GILMOUR

Writer David Gilmour spent over 18 months researching THE GLASS BOTTOM BOAT for the Ontario Ministry of Natural Resources. This book will give you an exciting backstage look at the young science of fisheries management: fish stocking, genetic studies, stream rehabilitation, game and fish enforcement.



THE GLASS BOTTOM BOAT is about fish management (looking after fish). And who cares about fish? The same people who care about the water they drink, the air they breathe.

About David Gilmour

David Gilmour, born in London, Ontario, has had a varied career as a teacher-trainee, would-be mercenary and world traveller. He has worked as a publications editor for Toronto's Festival of Festivals, and as a researcher and speech writer for the Ontario government. His novel, *Back on Tuesday*, was published by Coach House Press in 1986. A play, *China White*, will be produced in 1986 by Theatre Passe Muraille. The father of two children, he divides his time between Toronto and Jamaica, "the most inspiring of places."

DATE OF RELEASE: Dec. 12, 1986

FORMAT: HARDCOVER (large size) 87 photographs. 170 pp., \$12.95

Order Form

Yes, please send me _____ copies of The Glass Bottom Boat by DAVID GILMOUR @ 12.95 pb.

Enclosed please find my cheque for _____

Name: _____

VISA: _____

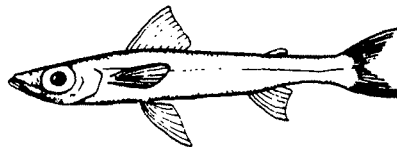
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Expiry Date: _____

City: _____ Prov: _____ Code: _____

Signature: _____

Make cheques payable to NC Press Limited, 260 Richmond St. W, Suite 401, Toronto, Ontario M5V 1W



This is a reminder.

Registration is limited to 350 delegates. Don't be disappointed!!!
Register Now . . .

For information:
Donna L. Boulet
(613) 239-5116

Ceci est un rappel.

Le nombre de places est limité à 350. Ne soyez pas déçu!!! Inscrivez-vous maintenant . . .

Pour information :
Donna L. Boulet
(613) 239-5116

**A Future for
Our Rivers
June 8-11, 1987**

**The National
Capital Commission**

**The Ottawa
Congress Center
Ottawa, Ontario**

**L'avenir de
nos rivières
Du 8 au 11 juin, 1987**

**Commission de la
Capitale nationale**

**Centre des congrès
d'Ottawa
Ottawa (Ontario)**

Prepared for:

Office of Information Transfer
United States Fish and Wildlife Service
United States Department of the Interior

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Produced by:

Office of Instructional Services
Colorado State University

June 1985

Abstract

This videotape is an introduction to the ecology of fish larvae in freshwaters and its importance in the management of our aquatic resources. The narration is well illustrated with the reproductive adults, eggs, and larvae of various species; the aquatic environment and impacts upon it; and selected management and information gathering practices.

Relative to their adult counterparts, fish larvae are ecologically distinct organisms. In part because of their small size, their habitat requirements and roles in the aquatic community are usually quite different and dynamic, changing as the fish grow. The initial habitat of most fish larvae is the spawning ground. However, for many species this habitat rapidly becomes inadequate and the larvae either drift or actively migrate to more suitable nursery grounds.

The effects of changes in habitat or community structure on fish larvae may also be quite different from those on embryos, juveniles, and adults. Loss or alteration of larval fish habitat, most often by installation and operation of dams or major water withdrawals, is the most typical environmental impact. Pollution also takes its toll; fish are often more sensitive to physical and chemical changes as larvae than during other life history periods. Fish larvae, as well as pelagic eggs, are especially susceptible to entrainment in water withdrawal systems.

For the vast majority of fishes, extremely high mortality during the embryonic and larval periods is normal and accounted for in reproductive strategies. Environmental changes that add to or reduce natural larval fish mortality can have a corresponding effect on the eventual size of a population. Fish larvae must be produced and survive in sufficient numbers if there are to be any adult fish to manage.

A solid base of information is needed when considering the ecology of fish larvae in management efforts and decision-making processes. Unfortunately, there remains a paucity of specific ecological data for the vast majority of North America's freshwater and anadromous species. Field and experimental research will often be required to provide some of the needed information.

Innovation in fisheries management -
elimination of old habits through innovation.

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I wish to illustrate this process by examining an old resource problem that I term - "the follow the loggers syndrome", and show how old habits of fishermen, tourist operators and fish managers help establish and perpetuate the problem and hopefully show one way the problem may be resolved through innovation - defined as the application of a new concept or technique.

Let's start with the fisherman's old habit. As fish populations are depleted in previously road accessible lakes, fishing pressure is redirected toward lakes made continuously accessible as logging roads open up new, previously inaccessible areas. The result is continuous incessant depletion of stocks and the creation of three types of recreational lakes I term:

"fished out" - heavily exploited and kept under continuous pressure

"currently being fished up" - heavily exploited

"unfished" - lightly exploited

The problem is also perpetuated by the old habits of fish managers - namely his/her preoccupation with the concept of

Maximum Sustained Yield (MSY), which has become entrenched in the thinking of fish managers for many years. Preoccupation with it has led management agencies to propose a solution that can never succeed because

- 1) it cannot be legally enforced!
- 2) it will never obtain social acceptance!
- 3) it cannot be logistically deployed!

To see why this is so let us briefly examine the standard managerial solution to controlling stock depletion in lakes.

- 1) Determine MSY for a given lake.
- 2) Set a yield quota = MSY usually given as a total yield.
- 3) Partition the total yield among various species.
- 4) In effect, the manager is using a yield quota to regulate fishing effort.

This solution is not rational because the fish population is only part of providing and preserving the recreational fishing experience!

The problem with the MSY solution is that it is the wrong solution because it has the wrong objective!

I would argue and propose to you that MSY is not the objective of recreational fisheries management. Furthermore, the manager, by managing for the wrong objective, allows an obsolete concept, borrowed from commercial fisheries, to hinder the development of alternate innovative concepts that might find a realistic solution to the "logging syndrome" problem.

One such alternative to the problem is to develop the ancient concept of access limitation in an innovative manner. I said ancient because access limitation was practiced by the nobility in medieval times who, recognizing the undesirable consequences of overfishing, excluded the public from choice fishing areas.

The "trick" for us is to apply this old concept in a much more productive and innovative way. One innovative twist to this concept is to establish a pattern of controlled effort so as to allow fish populations to reproduce and grow undisturbed - rather like fallow fields in medieval crop rotation. This concept is very sound biologically because maximum fish production is not achieved in unfished populations but rather in those fish populations subjected to moderately intensive fishing since in such instances a large fraction of the food eaten by a fish population is used for faster growth.

- more eggs/ female fish
- more young, recruiting to adult size

In fished populations natural mortality decreases. Thus, we allow fish to exercise their inconsiderable capacity to replenish themselves.

The idea of access limitation has a strong biological foundation. This point is important because it focusses away from the compulsive preoccupation of the past decades with MSY. Access limitation takes many forms such as:

- 1) slot size and variations
- 2) lottery fishing schemes
- 3) no kill
- 4) trophy fishing
- 5) pulse fishing

Since I haven't time to discuss them all, let us take a look at pulse fishing. Pulse fishing could provide a particularly innovative solution to apply to part of the "follow the logger" syndrome. This is because it incorporates one of the natural consequences of the present problem, namely it takes fished out lakes and declares them as sanctuaries and placed in rotation by delineating when sanctuary periods begin and end - followed, in turn, by a period of angler use- the fishing pulse. Such a particular solution could be used to match certain types of lakes - medium to small, semi-isolated lakes with no cottage or resort development containing few trophy fish to certain types of clients (fishermen) - either family and/or meat fishermen seeking to catch eating-size fish closer to home.

Why is this solution a better one than MSY in dealing with a long standing problem like the "follow the logger" syndrome? Give me six good reasons! I will:

- 1) It protects the fish stock.
- 2) Anglers are content.
- 3) Enforcement is easy, since lakes only have to be checked for poachers. In contrast the yield quota scheme based on MSY would require lakes to be

individually and consistently monitored for species, bag, size limits, etc.

- 4) It is more socially acceptable. The MSY scheme would have to severely restrict use of an individual lake once any yield quota for any species was reached even in mid-season.
- 5) It is logistically simpler to apply.
- 6) Anglers, by being part of the process, would be educated through their fishing experience.

Why, therefore, aren't we employing such innovations?

1. Anglers are conditioned by the old system because it works for them and because no alternatives have been provided or even suggested.
2. The MNR and especially tourist operators reinforce "the logger syndrome" through vigorously promoting the idea that:
 - a) Inaccessible lakes are the epitome of fishing quality ("candy in the window").
 - b) Limits of large walleye and lake trout are the "ne plus ultra" of the recreational fisherman - they are the good species. Other species are accorded less publicity and status. This caters to the "meat" fishermen set in their old ways (habits), reinforcing the long standing tradition of "mining the resource". This has a further implication since it encourages people to gain access to the "mines" with the biggest "nuggets" - fishing quality.

Thus the struggle to control access to "good mines" manifested as the squabble between tourist versus local fisherman, commercial versus recreational, Canadian versus American, white man versus Indian, etc.

How do we begin to change all this? For example, how do we stop reacting to situations? Answer: Create fishing opportunities! First, eliminate old habits.

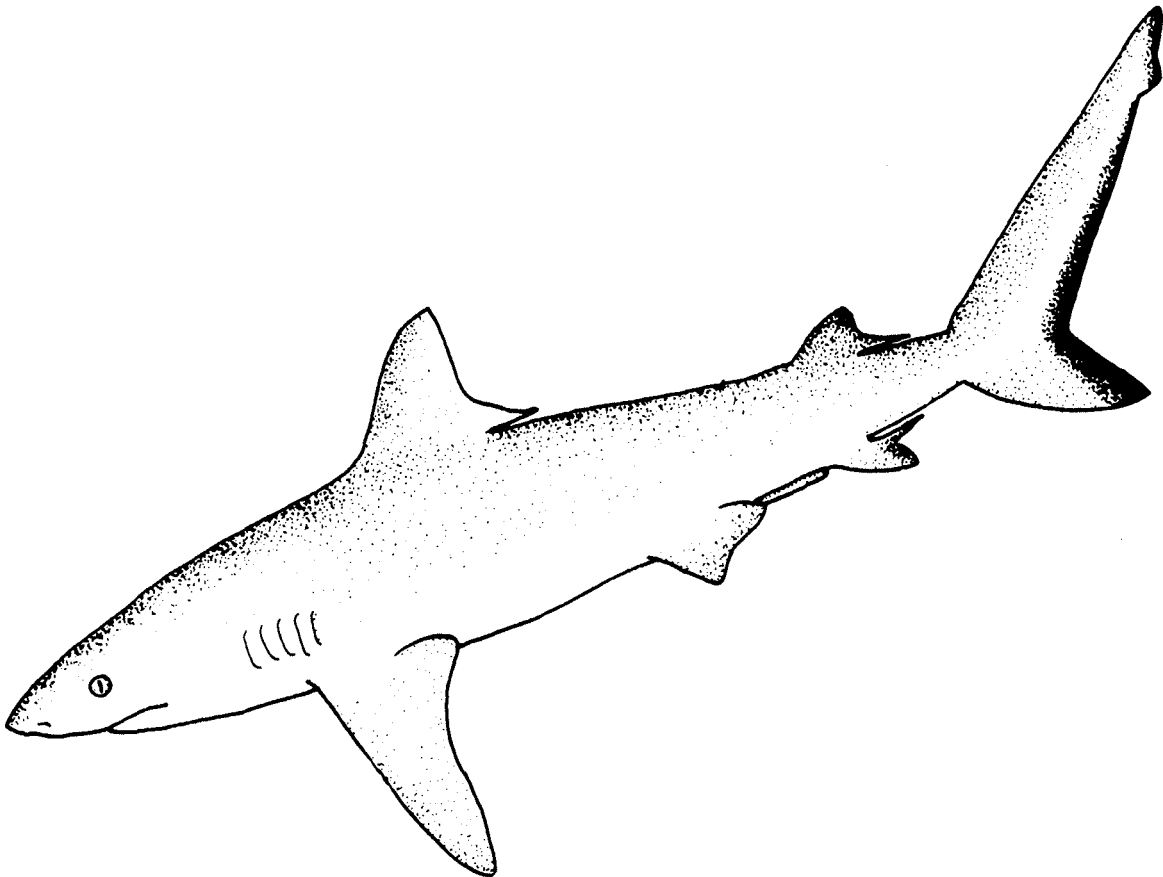
- 1) Stop worshipping MSY - not only is it not a cure at all, but, in fact, a hinderance and an obstacle to innovation.
- 2) Overcome our single species mania manifested by our almost exclusive preoccupation with walleye and lake trout as sacred cows.
- 3) Stop catering to the meat fishermen set in the old ways in our promotional literature and lack of alternative fishing opportunities.
- 4) End "mining of the resources" by developing new attitudes by developing and offering innovative alternatives!

Recreational fishing is part of the tourist industry. Every industry sets aside some of its earnings for Research and Development of New Techniques and Innovative Ideas. This industry requires productive stocks of fish. Making it so is your responsibility. Helping you is our responsibility. One suggested answer is to develop demonstration projects testing innovative ideas with the partnership of resource management agencies, universities and industry. As an industry, you

must seek ways to develop innovative marketing, packaging and management of a unique product, i.e. a satisfactory recreational fishing experience to serve a variety of clients.

I leave you with a final admonition. This applies to the tourist operator, manager and client:

CREATE OPPORTUNITIES RATHER THAN REACTING TO SITUATIONS.





The Northwestern Ontario Chapter of the A.F.S. has been active for over five years promoting the transfer of fisheries science among fisheries workers throughout Northwestern Ontario. It is the first entirely Canadian chapter of this international organization whose main objective is the promotion of scientific research and enlightened management of aquatic resources.

The Chapter publishes three Newsletters annually. It also hosts several lectures on various fisheries related topics and conducts an annual business meeting and conference.

Inquiries about the chapter and its activities should be directed to Phil Ryan, President, c/o Ontario Ministry of Natural Resources, P.O. Box 5000, Thunder Bay, Ontario, P7C 5G6, or telephone (807) 475-1659.

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