

NEWSLETTER

NORTHWESTERN ONTARIO CHAPTER
of the
American Fisheries Society

5th Annual Conference
Management of Oligotrophic Lakes

September 17 - 20, 1985
Quetico Centre

(Pre-registration Form Enclosed)



Vol. 5

No. 2

NEWSLETTER

American Fisheries Society
Northwestern Ontario Chapter



| | |
|-----------------------|---|
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June 1985

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The Newsletter of the Northwestern Ontario Chapter of the American Fisheries Society is printed periodically three times annually and sent to its members free of charge.

Membership in the Chapter may be obtained by remitting \$5.00 to the Secretary-Treasurer. Chapter members are urged to consider joining the parent organization.

PRESIDENT'S REPORT

Plans for our 5th Annual Meeting-Conference-Workshop to be held at Quetico Centre, September 17 - 20 have been finalized. As suggested at our 1984 meeting, this year's Conference-Workshop will focus on the management of oligotrophic lakes, a topic which should provide good fuel for timely discussion. Once again, we have been fortunate in having attracted an excellent representation of speakers from within our chapter and outside agencies. Time allotted for the annual business meeting has been increased to two sessions this year in order to provide members with an opportunity to identify and discuss issues which may help determine our chapter's future direction.

We have included a tentative agenda and pre-registration form in this edition of the newsletter. Those who are interested in attending this year's conference are requested to fill in the pre-registration form and send it to Rick Borecky by June 29, 1985. Since accommodation at Quetico Centre is again limited to about 50 persons, priority is being given to Parent Society and Chapter members. Total cost of the conference including registration fee, meals, and lodging at the Centre from September 17 - 20th will be \$230.00 per person. If you have any questions, please contact either me or Rick Borecky.

We may not be the only Canadian chapter in the American Fisheries Society for long. The possibility of a Newfoundland chapter is being explored by the Northeast Division President, Steve Rideout.

Bill Franzin of Winnipeg's Freshwater Institute has written to Carl Sullivan, the AFS Executive Director, about the possibility of forming a "Three-Prairie Province" Chapter.

This chapter would have to decide whether to affiliate with the Western Division (which Alberta and Saskatchewan are presently in) or the North Central Division (which Manitoba belongs to).

Carl's reply to Bill Franzin also included the by-laws from the North Pacific International and NW Ontario Chapters. He said that "Both are extremely strong and active groups, and I urge you to contact their Presidents for guidance should you consider it appropriate. Their names and addresses are included with the by-laws. Also included are miscellaneous materials to demonstrate the strength and vitality of these chapters."

RE: Towards Identification of Issues and Priorities

A resolution was put forward by Phil Ryan at the 1984 annual business meeting to establish a committee with the purpose of determining future issues and priorities to be addressed by the chapter. Although there was very little time available for discussion, this resolution apparently had the support of the members present. Phil attempted to keep this resolution alive in the minds of chapter members through a subsequent article in the December newsletter. He proposed a course of action whereby members were asked to submit articles, outlining areas of interest and their priority, directly to the newsletter. These would be printed along with comments in succeeding newsletters with the purpose of providing an updated list of issues for discussion and debate at the 1985 Meeting-Conference - Workshop.

Unfortunately, response to Phil's invitation never materialized. Somewhere between the enthusiasm of the Quetico meeting and the depths of the northern Ontario winter, our well intended support disappeared (sublimated?) or at least lost its original intent. Therefore, we are again asking members to submit their ideas and concerns regarding the future direction of our organization to the

newsletter

c/o Tom Mosindy
 Ministry of Natural Resources
 Box 5080,
 Kenora, Ontario.
 P9N 3X9

These will be printed in the August issue and form a basis for discussion at our annual business meeting in September. Members are invited to present their ideas and a full session at the meeting has been set aside for this purpose.

I have often said that, genetically, a trout is nothing but a corn plant that swims," says Dr. James Wright, professor of genetics at The Pennsylvania State University. "But I was wrong," he admits. "It's actually closer to alfalfa."

Evidence for that conclusion emerged recently from Dr. Wright's more than 30 years of research on the genetics or inheritance patterns of trout.

He has also found evidence that male and female trout are evolving at different rates, and that the female is more advanced than the male.

In addition, he believes that recent research shows all of the salmonid fishes, including trout, salmon and char, has a common ancestor which underwent only one major genetic change to produce all of today's species.

Dr. Wright's evidence comes from the study of salmonid chromosomes and of genes, the basic units of heredity, which are strung together in chains on chromosomes. Genes responsible for traits that appear together from one generation to the next are usually on the same chromosome.

It was quite "curious," says Dr. Wright when, in 1970, he and his

students first published results that showed the male trout seemed to possess genes linked on different chromosomes, although females did not. In 1977, they extended the number of cases of this phenomenon, called "pseudolinkage" to other salmonids.

Last year, Dr. Wright was able to prove conclusively that this "pseudolinkage" was actually the result of male trout retaining a more primitive inheritance pattern, called tetraploidy, common among grasses and plants, such as alfalfa, while the females used a more advanced route, known as diploidy.

Although Dr. Wright's discovery about male trout was not the first case of animal tetraploidy, it was nevertheless startling. In humans, most animals and plants, including corn, chromosomes occur in pairs in the nucleus of all body cells — diploidy. But, in grasses and many plants, like alfalfa, the chromosomes have re-paired into larger groups of four — tetraploidy — or more.

This re-pairing of the chromosomes to produce higher numbered sets can occur in animals, but usually results in a high degree of sterility. Why, then, are tetraploid male trout so prolific?

"The evidence shows," Dr. Wright says, "that the males have evolved a particular way of distributing the re-paired chromosomes in their sperm. We still are wondering, and still working on, why the chromosomes pair differently in males and females."

Dr. Wright says the evidence leaves little question that salmonids developed from a single ancestor which underwent only one tetraploidization event, or spontaneous doubling of its two sets of chromosomes to produce four sets.

Since then, half the duplicated genes in the males and females have turned off — lost expression. In addition, the females have evolved and completed a return to diploid behavior, but the males have not.

"We're right in the middle of this evolution in males," says Dr. Wright. "It's fairly unusual to have males and females evolving at different rates."

What this means, says Dr. Wright, is that evolution can take more paths than previously thought. The male may be retaining tetraploid inheritance, like alfalfa, because it aids the species in suppressing the harmful effects of inbreeding, he adds.

NW ONTARIO CHAPTER AFS CONFERENCE AGENDAMANAGEMENT OF OLIGOTROPHIC LAKESSEPTEMBER 17 - 20, 1985, QUETICO CENTRESeptember 17, 1985

1400-1700 hours

Introduction - Chairman Neville Ward

Update on border waters management pilot study, NW Region Peter Waring

OFAH's perspective on management of oligotrophic lakes OFAH rep

Coffee

Application of commercial quota's in Nipigon District Ross Chessell

The effects of angling pressure on lake trout in Whitefish Bay, Lake of the Woods Val Macins

September 18, 1985

0900-1200 hours

Lake Superior winter sport fishery for native lake trout, Thunder Bay Ken Cullis

Managing lake trout strains and genetics Scott Watson

Coffee

Rehabilitation of Lake Superior lake trout through stocking Jim Atkinson

Using lake trout as indicators of ecosystem health Dick Ryder

Estimating community structure using lake trout yields Charlie Olver

Lunch

1300-1700 hours

Lake trout ageing problems - management implications John Casselman

Eastern Region lake trout management approach - status of the resource, management directions, harvest Paul Bewick

Lake trout fisheries in the Haliburton area Dave Loftus

Coffee

Lake trout populations in Squeers Lake Helen Ball

Management options for small lakes in Atikokan Tom Maher

Application of MMA's on oligotrophic waters in NC Region Doug Howell

September 19, 1985

0900-1200 hours

Lake trout management strategies DNR Minn.

Application of MMA's on oligotrophic waters in NW Region Neville Ward

Lunch

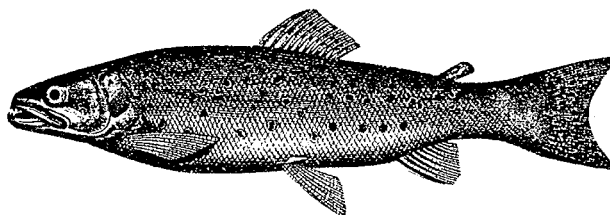
1300-1700 hours NW Ontario Business Meeting

1900-2400 hours Social - Cash Bar (beside the pool)

September 20, 1985

0900-1200 hours Completion of Chapter Business

Closing remarks



Parent Society News

Notes from the AFS Diary:

(A weekly report to the AFS Executive Committee (EXCOM), including Chapter Presidents, from the office of the Director, Carl Sullivan).

THE FOLLOWING QUOTE FROM "THE WILDLIFER" holds the same implications for AFS as it does for the Wildlife Society. DIARY readers are urged to send any comments to AFS Professionalism Chairman, Dr. Fred Binkowski, 3344 S. 8th Street, Milwaukee, WI 53215.

PROFESSIONAL AND EMPLOYER ETHICS

Members of the Wildlife Society are expected to exhibit the highest standards of professional and ethical conduct in performing their duties. Instances where Society members are subjected to administrative or political pressure to subvert sound stewardship of wildlife and their habitats are matters of critical concern to the Wildlife Society Council.

The Wildlife Society Bylaws provide a mechanism to investigate the professional conduct of members allegedly acting contrary to the Code of Ethics. However, no mechanism exists to investigate instances where Society members are subjected to harassment or intimidation by their supervisors or employers for fulfilling their professional and ethical responsibilities.

To meet this need, Council recently directed that criteria and procedures be developed to deal with situations where professional standards and ethical conduct of members may have been subverted. In initiating this important activity, Council intends to strengthen and protect member abilities to exercise professional judgement in conformance with the Society's established standards of ethical conduct.

THE GARRISON DIVERSION PROJECT and efforts to persuade Congress to seek a less damaging alternative has occupied substantial AFS time in recent weeks. The timing is critical, for the Congressionally created Garrison Diversion Commission has only until December 31, 1985 to find an alternative or the project goes forward. The AFS Upper Missouri River Chapter is heavily involved and had led AFS involvement in this issue. The following resolution was passed unanimously at the 1985 annual meeting of the Upper Missouri River Chapter of the American Fisheries Society, assembled in Fargo, ND. on February 22, 1985:

RESOLUTIONS ON THE GARRISON DIVERSION
UNIT COMMISSION RECOMMENDATIONS

The upper Missouri River Chapter (UMRC) of the American Fisheries Society has long been interested in the Garrison Diversion Unit because of its adverse impacts on fisheries, wetlands, rivers and streams, water quality and its potential for interbasin transfer of fish and other aquatic biota. As such we passed a resolution in 1983 urging the Bureau of Reclamation to quantify impacts to the James River. In 1984, the Garrison Diversion Unit Commission was created to resolve economic, environmental, agricultural and international problems of the Garrison Diversion Unit.

Whereas; we applaud the Commission's attempt at trying to find acceptable solutions to Garrison Diversion because that in itself acknowledges problems exist with the authorized plan; and

Whereas; we recognize the Commission made good progress in addressing North Dakota's municipal, rural and industrial water needs; and

Whereas; the Commission had to complete their plan in an extremely short (four months) time frame, and could not explore all alternatives to lessen environmental impacts; and

Whereas; in reality, the Commission's Plan could potentially increase the irrigation acreage because they recommended the addition of 70,480 acres of new irrigation development without recommending deauthorization of the original 250,000 acres; project irrigation acreage could actually increase by 28 percent; and

Whereas; the irrigation acreage draining into the James River under the Commission's Plan is increased 3.5 times, from 33,010 acres to 113,360 acres, consequently the Commission's Plan recommends extensive channelization of the James River to accommodate increased flows; this channelization will reduce species diversity and fish habitats while increasing the pollutant load to the river; increased flow related impacts to the James River in North and South Dakota and Arrowwood, Dakota Lake and Sand Lake National Wildlife Refuges are greater than with any earlier project alternative; and

Whereas; The Commission recommended an outlet from Devils Lake to the Sheyenne River and funding for a Garrison related inlet to Devils Lake be considered; this could allow for unwanted biota transfer to Canada and also introduce carp into the excellent fishery in Devils Lake; and

Whereas; The Commission concluded that water quality would be degraded in the James River and even after equilibrium conditions are reached in 50 to 70 years, without any dilution an increase of 22 percent in salinity would be anticipated at the North and South Dakota border; and

Whereas; the Bureau of Reclamation has not yet quantified the impacts expected to the James River with the authorized project;

THEREFORE BE IT RESOLVED that the UMRC believes the Commission's Plan fails to adequately address the problem of interbasin biota transfer and compounds the impacts to the James River, and

BE IT FURTHER RESOLVED that while the UMRC recognizes favorable features of the Commission's Plan; such as preservation of Kraft Slough and development of needed municipal, rural and industrial water systems for North Dakota communities, the UMRC cannot endorse the Commission's alternatives to the authorized project until problems of interbasin biota transfer have been eliminated and impacts to the James River reduced, and

BE IT FURTHER RESOLVED the UMRC of the American Fisheries Society offers its talent and expertise to the State of North Dakota and the Department of the Interior to assist in review, evaluation and resolution of these issues of concern; and

BE IT FURTHER RESOLVED that UMRC will send copies of this resolution to the American Fisheries Society and to Divisions, Sections, and Chapters of AFS, to national conservation organizations, and to members of the U.S. Senate and House of Representatives who are concerned about the Garrison Diversion Unit.

If you wish to be happy for one hour, get intoxicated. If you wish to be happy for three days, get married. If you wish to be happy for eight days, kill your pig and eat it. If you wish to be happy forever, learn to fish.

—Ancient Chinese proverb

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Items from the North Central Division (NCD) Newsletter:

Dr. David P. Phillip (IL), Associate Fisheries Geneticist at the Illinois Natural History Survey and current President of the Illinois Chapter of AFS, is surveying the interest for a proposed technical committee meeting within NCD on fisheries genetics. The committee would: 1) provide a forum for ideas relating to fisheries genetics research and management policies; 2) promote increased information transfer regarding actions and policies dealing with genetics of fish populations among the various provinces, agencies, schools and organizations within NCD; 3) identify fisheries genetic questions of common concern and devise means for answering them; and 4) provide increased opportunities for collaborative research and management efforts among NCD biologists.

Another possible technical committee of NCD, a Walleye Work Group, is being explored by Steven L. Serns (WI). Possible areas to be addressed by the group are: population statistics, year-class strength/recruitment, harvest regulations, culture and stocking success, angler attitudes, etc. In addition to seeking support within NCD, Steve plans to put a notice in the next issue of the Fisheries Management Section Newsletter.

NCD isn't rich, but we aren't poor either. At our annual meeting EXCOM members discussed sharing some of the surplus with our Chapters. Two alternatives were discussed: 1) set up a competitive grant review process to fund appropriate Chapter projects or 2) return a buck to each Chapter for each AFS member they have in their state(s) or province as an incentive to recruit new AFS members. In any event, the intent is to enhance Chapter/Division relations.

NCD Self-Evaluation Committee, Chaired by Tim Modde (SD) has recommended that the Division: 1) continue to publish the Division Newsletter, 2) encourage the development of symposia, 3) investigate more NCD involvement in the annual fisheries program at the Midwest Fish and Wildlife Conference, 4) stimulate the development of technical committees, 5) have the president-elect of NCD attend chapter meetings prior to assuming office, and 6) encourage chapters to initiate their own self-evaluation efforts.

Chapter News

Red Lake 1985 Fisheries Program

This summer is shaping up to be a busy one for Red Lake District Fish and Wildlife staff. Peter Weilandt has spent the winter developing Modified Management Area prescriptions for the Boise Pakwash and Great Lakes Trout Lake 5-Year Operating Plans. Three lake survey crews, funded by Fish and Wildlife, Lands and the Ontario Youth program will be providing fish species, slope and spawning bed locations to "fine tune" the MMA prescriptions. Two other lake survey crews will be providing information for the Woodland Caribou Wilderness Park master plan to be developed by Bruce Sandilands and Randy Wepruk. Don Busch, besides "modernizing" the commercial fisheries, will be ensuring that Boise and Great Lakes construct proper water crossings. Boise will be submitting six applications under the Lakes and Rivers Improvement Act for water crossings this summer, while Great Lakes will have ten crossings deemed significant enough for applications under the LRIA.

Lac Seul will be the focus of a detailed fisheries study this summer. A lake-wide roving creel survey, an extensive water quality sampling program (with a prime objective of refining the morphoedaphic index used to determine fish yield) and index netting with gill and trap nets and possibly some electrofishing with the NW region's new Smith Root 18' boat are planned.

Dave Gibson has been hired to coordinate this study on a 9 month contract, under the supervision of John McDonald and Art Martin of Sioux Lookout District. Sioux Lookout and Red Lake Districts will both be tagging 1000 walleye from Lac Seul this spring to monitor stock migrations. The creel survey and index netting will provide baseline data to assess the effect of transferring 20,000 lbs. of walleye from the commercial fishing to the sport fishing industry (lodges, outposts, boat caches and houseboats); as well as the effect of the new trophy pike regulation to be in place in 1986 (possession limit of six pike but only one can be larger than 70 cm.) on the pike population and angler harvest.

Development of the Lac Seul Management Plan not only provided focus for the fisheries study, but also made funding approval possible.

Neville Ward

INTERNATIONAL LARGE RIVER SYMPOSIUM
(LARS)

An International Large River Symposium (LARS)
is planned for
September, 1986, near Toronto, Ontario Canada.

The major aim of this symposium is to provide an understanding of the management of large rivers for fish production. This will be accomplished by synthesizing and distilling, in a mission-oriented approach, the best science and philosophy on fish production into papers directly applicable to the management of fisheries resources in large rivers.

The symposium will consist of a series of overview papers describing the production processes of rivers, dealing preferentially with large rivers; case history papers describing large rivers throughout the world; and synthesis papers dealing with global values of production, yield and standing stocks, as well as considering effective management strategies on large rivers.

The proceedings of the symposium will be published. Anyone wishing to be placed on the mailing list, or to contribute to the symposium, should write to the chairman of the Steering Committee, whose address is shown below, stating their areas of interest and expertise:

Douglas P. Dodge, Ph.D
Chairman, Steering Committee
International Large River Symposium
c/o Fisheries Branch
Ontario Ministry of Natural Resources
99 Wellesley Street, West
Toronto, Ontario
Canada M7A 1W3
Telephone: (416-965-7887)

Lakehead Region Conservation Authority

In May, the Lakehead Region Conservation Authority begins an active campaign to encourage preservation of the Neebing Marsh, a 25 ha wetland along the shore of Lake Superior in the Thunder Bay Harbor. The marsh is sandwiched between the Lakehead Harbour Commission Terminal and the Thunder Bay Terminal Industrial coal loading terminal. Not much of a place for a wetland, but it is there, supporting an impressive wildlife population including over 150 bird species, 27 mammal species and 22 fish species.

The shallow waters of the Neebing Marsh are teeming with forage fish, providing feeding ground for predators; spawning grounds and nursery grounds for the majority of the identified species. The LRCA studies have compiled the following list:

| <u>Common Name</u> | <u>Scientific Name</u> |
|-----------------------|-------------------------------------|
| Alewife | <u>Alosa pseudoharengus</u> |
| Rainbow smelt | <u>Osmerus mordax</u> |
| Northern pike | <u>Esox lucius</u> |
| Central mudminnow | <u>Umbra limi</u> |
| Longnose sucker | <u>Catostomus catostomus</u> |
| White Sucker | <u>Catostomus commersoni</u> |
| Lake chub | <u>Couesius plumbeus</u> |
| Carp | <u>Cyprinus carpio</u> |
| Spottail shiner | <u>Notropis hudsonius</u> |
| Fathead minnow | <u>Pimephales promelas</u> |
| Blacknose dace | <u>Rhinichthys atratulus</u> |
| Longnose dace | <u>Rhinichthys cataractae</u> |
| Brook stickleback | <u>Culaea inconstans</u> |
| Ninespine stickleback | <u>Pungitius pungitius</u> |
| Trout-perch | <u>Percopsis omiscomaycus</u> |
| Rock bass | <u>Ambloplites rupestris</u> |
| Yellow perch | <u>Perca flavescens</u> |
| Walleye | <u>Stizostedion vitreum vitreum</u> |
| Johnny darter | <u>Etheostoma nigrum</u> |
| Logperch | <u>Percina caprodes</u> |
| Burbot | <u>Lota lota</u> |
| Mottled sculpin | <u>Cottus bairdi</u> |

The Lake Superior shoreline is far from well represented with these productive habitats. Any further destruction of wetland areas can and should be avoided. It has not been shown that the economic development of the harbour is dependent on the filling in of this water lot; consolidation of land is not a valid reason to fill in a marsh.

The Neebing Marsh provides an urban, low-cost recreation opportunity. Angling along the channel and near the marsh is popular with local residents. Catches of pike, pickerel and perch are common. Many people report that the species caught is unimportant, the location, access and lack of cost are the drawing factors.

This type of angling opportunity is often overlooked in favour of the high priority sportfish projects, understandably, but it does exist and provides hours of relaxation and enjoyment for many people.

Letters of support for preservation of the Neebing marsh and surrounding area are encouraged. Let's not let another wetland disappear when we have the chance to protect it. For more information call:

Lakehead Region Conservation Authority

Telephone 807 344-5857.

Jill Entwistle

Better Tasting Fish

Bleeding, freshly-caught fish significantly improves eating quality, according to the Sport Fishing Institute. Researchers experimented with rainbow trout to find out how draining blood affected the flesh's appearance, odor and stability of fats. They divided trout into three groups to evaluate different ways to bleed the fish. They concluded that cutting off the tail proved the most effective. The trout so treated lost 37 percent of blood after five minutes.

Researchers decided, too, that bled fish produced a superior food product on the basis of appearance, odor, and fat stability. Blood-free flesh was lighter in color and its odor was more acceptable. Unbled fish held in a freezer became slightly rancid after three months; to reach the same rancidity required eight months of freezing for bled flesh. Tests for fat stability (which affects rancidity) achieved the same results.

PRE-REGISTRATION FORM
FOR
N.W.O. CHAPTER AFS CONFERENCE

September 17 - 20, 1985

NAME: _____

ADDRESS

PHONE: _____

AFFILIATION: _____

ARE YOU PLANNING TO ATTEND: (CHECK ONE)

___ ALL FOUR DAYS

___ PART OF THE CONFERENCE

SPECIFY: _____

PLEASE REPLY BY JUNE 29, 1985 TO:

Rick Borecky
Ministry of Natural Resources
Box 970
Nipigon, Ontario
POT 2J0

Telephone (807) 885-5521

CONTRIBUTORS

This issue of the newsletter could not have been produced without the contributions and assistance of the following people:

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