

NEWSLETTER



Fisheries Management Section American Fisheries Society

Jim Addis, President

Volume 8, Number 2

December, 1988

President's Corner

I want to express my sincere appreciation to Don Duff, Don Bonneau, Dave Whitehurst and other members of the Fisheries Management Section's Executive Committee. These are all dedicated individuals who have demonstrated a strong commitment to both our profession and conservation of fisheries resources. I continue to be amazed with the time and energy commitment voluntarily given by members of this section. The quality of thought and expertise given by each of you to our many projects is awesome.

This will be the last issue of the Newsletter that Rich Wehnes will edit for us. Rich has done a marvelous job of assembling and editing materials, producing and publishing a very high quality and informative newsletter. I know that it is going to be very difficult to find a replacement for him and we are all extremely grateful for the service he has rendered the Section.

The eighth annual meeting was held in Toronto on September 13, 1988. We discussed a wide range of committee issues. Reauthorization of Wallop-Breaux has now been completed. This provides fisheries managers and administrators with a real opportunity to consolidate our efforts and show the anglers who are paying for this program how effectively their money is being spent. Sully suggested to Don Horak, President of the Fisheries Administrators Section, and me that we establish some sort of recognition or awards system to highlight exceptional

state projects. Don and I feel that this is an excellent idea and will be appointing a committee to develop such a system. Your ideas would be welcomed. I will also be filling the other section committees, and I urge you to let me know if you are interested in serving on one.

During the past several years, I and other fisheries managers in the North Central region of the U.S. have been involved with the implementation of treaty-protected fishing rights on both the Great Lakes and on ceded areas within our states. Although these are always very tense and contentious issues to resolve, they are also quite revealing regarding the "state of the art" of inland fisheries management. I am increasingly concerned that the national fisheries information data base is so fragmented that there is little or no uniformity in the way various states, universities and agencies collect and store fisheries data. The AFS Fisheries Techniques Manual was directed at providing guidance on available techniques, but in itself, will provide little assistance with addressing this issue.

In Wisconsin, we have been working hard to assess the Department of Natural Resources' data files and have concluded that we need major improvements in the way we collect and manage information. My contacts with other states indicate that many other agencies are also coming to the same conclusions and initiating development of computer-based data management systems. If this development continues on a state by state or agency by agency basis, which it surely will without

some integrating force, it is most likely that much of the information that is stored in these data bases will not be readily exchanged for evaluating regional or national patterns. I believe that the Fisheries Management Section could work with the Computer Users Section to develop a process for assisting agencies with generating some information sets that could be used for assessing regional and even national fisheries trends.

During the past several years, Wisconsin has greatly expanded our program to better estimate walleye population size, angling exploitation and other crucial data needed for managing walleye fisheries and to assess the validity of some of the predictions we made in our 1977 Comprehensive Fisheries Management Plans. The initial findings indicate that our prediction that angler exploitation would approach 35% during the last decade of this century are not far from the mark. A whole range of other findings are emerging that could have use in managing walleye populations in the North Central U.S. Perhaps the most frustrating aspect of our biologists' efforts was the paucity of quantitative estimates of exploitation both in our files and those of other agencies. If fisheries managers are going to be able to make wide use of the data that we will be collecting as a result of the Wallop-Breaux funding increase, we must give some serious thought to finding ways to assure that these data are collected and stored in ways that will allow us all to use them. I realize that what I am hoping will happen is a big challenge. Perhaps too big for an organization that depends solely on volunteers to pull off. But if we don't, who will? If any of you have ideas about this, please drop me a note and share them. I will confer with the Presidents of the other sections and see if we can get something started.

I urge you to give the Executive Committee an idea of any issues you feel we need to address in the near future and we will attempt to get things started. This is your Section and we see our role as helping your section membership serve you.

Thank you for the trust you have given to me and the other members of the Section's

leadership team. We will do our best to justify that!

Sincerely,

Jim Addis

Past-President's Message

During the past two years the EXCOM and the committees have done an excellent job of keeping the Section involved within the mainstream of AFS affairs. It is certainly a credit to the Section and the Society to have these dedicated individuals working for the membership. There is a personal commitment of these members and others in the future of a 2 to 5 year commitment to elected office. I'm not sure the membership is always aware of this, but I can assure you that the EXCOM is working for you, the members. The Section is the largest of the discipline sections in the AFS, and we have a lot of activities and concerns to be involved in for the betterment of the fisheries management resources on an international basis.

I certainly have enjoyed the assistance of the EXCOM and committees in the day-to-day operations of the Section, as well as the many members who had input during the course of Section business the last 2 years. The Section keeps getting bigger and stronger in membership involvement each year. I commend all these individuals for their strong leadership skills and their desire to enhance the fisheries profession for the Society. The Section and the AFS is only as good as the folks willing to get involved, so I would encourage all members to become involved in some aspect of the section and the AFS. It will enhance not only your career and professionalism but the Society will benefit from your expertise and experience. So, think about helping us and the profession...get involved!

At the recent AFS annual meeting in Toronto, the reins of the Section were turned over to Jim Addis as President. Jim will have a lot of new initiatives to get going, one of which will be the implementation of the AFS's approved Action Plan. This plan charts the

course of the AFS for the next 5 - 10 year period. The plan includes many items that the Section will be addressing including membership, visibility of the profession, developing partnerships with other key users/groups interested in fisheries, technical issue involvement and problem solving of fisheries management issues, and many others. President Jim will need your help.

The Section will also be working on symposium and workshop sessions for the 1989 meeting in Anchorage, the 1990 meeting in Pittsburgh, and the 1991 meeting in San Antonio. So, volunteer to assist in these. A 1990 stream improvement workshop is being planned as a followup to the successful one held in Minnesota this past August. I am looking for interested members to assist me on the steering committee for this meeting. The awards program is up and running for the Section so watch upcoming issues of the newsletter for the nomination forms. Lets recognize the good people within the profession of fisheries management for their good work! Our awards will become a standard presentation at the AFS annual banquet.

This newsletter marks the end of service for our newsletter editor Richard Wehnes. He has done an outstanding job of preparing the newsletter for the Section and I would like to thank and commend him for this service to the Section. His efforts have made the newsletter one of the best in the AFS. Congratulations and thanks, Rich. I'd encourage all of you to drop Rich a note of thanks for the job he has done for you and the Section.

Good luck to all of you in the coming year. I will look forward to assisting the Section EXCOM now in the capacity of immediate Past President and I can assure you that I will stay involved. If I can assist any member in further charting their course within the Section or AFS, please do not hesitate to call me. I have enjoyed working with each and every one of you.

Sincerely,
Don Duff

Section Business

Notes From The Business Meeting

The following is an edited version (with apologies to Don Bonneau) of the minutes of the eighth annual FMS business meeting held in Toronto, Ontario on September 13, 1988. Due to space limitations, I must paraphrase much of the minutes; I have hopefully retained the essence of the meeting.

The meeting was called to order. the minutes were approved without a reading, and the treasurer's report was accepted. Following a discussion of the 1988 activities of the section by Don Duff, committees reported their activities.

The Competitive Fishing Committee, presently composed of seven members, will be expanded to include sociological and marine interests. The committee has conducted a survey of state agencies to determine what methods are in use to regulate tournaments, and has reviewed and endorsed a booklet entitled "Live Release of Bass" commissioned by Sea World of Florida, Bass Pro Shops, Inc., Operation Bass and Bass Research Foundation. The committee is in the process of producing a tackle box version of the booklet, a video tape and a slide series. These efforts were endorsed by the EXCOM and members attending the meeting.

The Fishery Management Text Steering Committee reported that the textbook "Inland Fisheries of North America" will be available for publishing within one year. It is introductory in nature and is directed at junior and senior college levels. Ideas were solicited from the Education Section and 38 authors were identified to write 22 chapters, of which 20 have been drafted.

The Fisheries Techniques Standardization Committee recently completed "Fish Sampling and Data Analysis Techniques Used by Conservation Agencies in the U.S. and Canada", a document summarizing how conservation agencies routinely sample 15 sport fish in four water types. The committee plans to meet to determine what,

if any, additional work needs to be completed on the survey. Members present indicated a published final version of the raw survey data would be most beneficial and least costly.

The Awards Committee has prepared an awards process that will recognize Section members and their cooperators for their accomplishments in the field of fisheries management. The process will be presented in the newsletter.

The Wallop-Breaux Committee was not activated because of the lack of a need. The W-B reauthorization has been attached to the Coast Guard appropriation bill. If approved, the authorization will be good for 5 years.

The Urban Fishing Committee is developing a policy statement for the AFS and a slide series.

The Nominations Committee completed the process of nominating officers and completing the election process (see Election Results elsewhere in this newsletter).

The electronic bulletin board is now operational. Hardware has been purchased and is located in Ann Arbor, Michigan, and is available for use by all members of FMS. A demonstration was provided to all interested parties. Members were urged to utilize the board for both information and business.

Efforts to find a permanent home for the FMS Archives continues. Utah State University has expressed interest in providing permanent space for the FMS library of records and file materials.

Under new business, a number of items were discussed. President Don Duff discussed the need for FMS to become familiar with the AFS Long Range Plan and develop its own action plan which will meet the objectives outlined in AFS's.

Lee Redmond, Dave Whitehurst and Mary Nickum will work to develop a Fisheries Management Section brochure for visibility and for membership use.

Carl Sullivan mentioned the World Fishing

Congress to be held in Athens, Greece during 1991. He mentioned that FMS needs to appoint a liaison representative for planning needs.

Several possibilities for sessions or symposia for the 1989 or 1990 AFS annual meetings were recommended: Stream habitat improvement; Sociological-ecological impact of the interim trade policy on fish; Wallop-Breaux accomplishments; Impacts of electrofishing; Bi-fishing; High altitude fish management problems; and Angler compliance to restrictive regulations.

The 1989 AFS annual meeting is scheduled for Anchorage, Alaska. The 1990 meeting will be held in Pittsburg, Pennsylvania, where a joint FMS/Fish Culture Section symposium has been proposed. The subject is "Fish Foods for Culture and Management" with emphasis on natural foods (i.e., aquatic macroinvertebrates).

Norville Prosser indicated that the Sport Fishing Institute plans to sponsor a Second Black Bass Symposium in the next 2-3 years. The location will probably be in Oklahoma. Topics will probably focus on fishing regulations, competitive fishing and fisheries economics. FMS will need to provide a liaison to SFI for planning.

A National Trout Stream Improvement Workshop is planned for 1990. New Brunswick, Ontario and South Dakota have expressed interest in co-hosting the meeting. Don Duff will follow up on planning for this meeting.

Don Duff expressed the Section's appreciation to Rich Wehnes for his work as newsletter editor. Time constraints have forced Rich to relinquish these duties. Anyone interested in taking over this task is asked to contact President Jim Addis.

Under new business, Don Duff introduced President-Elect Jim Addis as the new Section President. Jim acknowledged the work accomplished by Don and presented him a framed AFS certificate of appreciation from the Section.

President Addis addressed meeting attendees and outlined his section

objectives for the next 2 years. Jim would like to improve membership involvement in section activities, standardize presentation of fisheries information and make data more useable.

The meeting was adjourned.

Treasurer's Report

The following treasurer's report was presented and approved at the business meeting:

Checking Account:

Balance 9/16/87	\$7,247.57
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Deposits:

AFS Section Dues	3,285.00
Interest on Account	122.90
<u>Deposit to Open Account</u>	<u>10.00</u>
TOTAL DEPOSITS	3,417.90

Expenditures:

Travel	243.92
Computer User Section	500.00
Allen Scholarship Fund	500.00
Loan-Mysid Symposium	500.00
Southern Illinois Univ.	200.00
Postage	372.37
Checks	7.30
Printing	30.88
Repayment to open account	10.00
<u>Maintenance fees for account</u>	<u>6.86</u>
TOTAL EXPENDITURES	2,371.28

BALANCE 7/14/88	\$8,294.19
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Interest Bearing Account:

Balance 9/16/87	\$8,464.81
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Deposits:

Urban Fishing Symposium	8.20
Interest Paid in 1987	155.27
<u>1988 Interest (through 6/30)</u>	<u>222.16</u>

BALANCE 6/30/88	\$8,850.44
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Urban Fisheries

The Management of Contaminated Urban Fisheries symposium sponsored by the Water Quality Section, and originally scheduled for the 1988 Midwest Fish and Wildlife

Conference has been postponed. Due to expanded interest, the symposium has been rescheduled for the December, 1989 Midwest Fish and Wildlife Conference in Springfield, Illinois. Invited and contributed papers will cover several aspects of this problem, including managing the environment, managing the fish community, managing the fishing public, socio-economic considerations, needs not addressed within the traditional fisheries management framework and the future of urban fisheries. For more information, contact co-chairs Bob DiStefano of the Missouri Department of Conservation (314/449-3761) or Dr. Paul Baumann of the U.S. Fish and Wildlife Service (614/469-5701).

Parent Society to Collect Chapter Dues

In a recent EXCOM action, the Parent Society will begin collecting chapter dues in late summer of 1989, where authorized by the chapters. The new dues bill will list all participating Chapters and the amount of their annual dues. Members wishing to join one or more of these Chapters will check the one(s) of their choice and enclose the dues along with Parent Society and any Section membership dues. Chapters preferring to collect their own dues or those having no dues will also be listed so that it will not appear that they have been overlooked.

All information will be computerized and participating Chapters will periodically receive a name and address print-out of their dues-paying members plus a check for accumulated dues payments. In addition, the EXCOM directed that one dollar of Parent Society dues be rebated to the Chapter of each member's choice or to the Chapter of the member's zip code where no preference is indicated. There will not be an increase in Society dues to cover this Chapter support.

Fisheries Scientist Directory

The AFS Directory of North American Fisheries and Aquatic Scientists will be reprinted in 1989 provided that 50% up-front financing can be arranged. Funding prospects are good, so we're looking

forward to updating and expanding the 10,000 names, addresses, titles, professional talents and phone numbers now included in the current directory.

CFC Newsletter

The Competitive Fishing Committee, formed in 1986 as a joint committee of the Fisheries Management and Fisheries Administrators Sections, has been very active. Recently, committee member Kevin Richards compiled a short newsletter aimed at informing anyone interested on the activities of the committee. The committee sees their charge as one of information dissemination, and this newsletter is one way to get the word out.

Committee activities have been numerous. The most significant accomplishment was the review and endorsement of a catch and release pamphlet, entitled "Live Release of Bass: A Guide for Anglers and Tournament Organizers". Single copies are available (Bass Research Foundation; P.O. Box 99; Starkville, Mississippi 39759) for \$2.00 each. Bulk purchases of 2,000 to 5,000 copies could have an agency or organization logo and message printed on the title page above the committee endorsement. The pamphlet has already been publicized in Bassmaster and In-Fisherman magazines, and is apparently on its way towards dispelling myths and spreading facts about live release of bass.

The CFC is also working on a competitive fishing bibliography, an article for Fisheries, and is considering slide/video shows, a summarization of North American regulations pertaining to tournaments and competitive commercialization of fishery resources, and identifying related research needs.

For a copy of the newsletter, a list of CFC members and suggestions on how you can help the committee's work, contact Kevin Richards (Missouri Department of Conservation; Route 2, Box 247; Camdenton, MO 65020; 314/346-2210).

Election Results

The results from the FMS election are now in, and I think we can all

congratulate the following electees:

PRESIDENT-ELECT: Tom Gengerke

SECRETARY-TREASURER: Jan Dean

NORTHEAST DIVISION REP.: Joe Bergin

SOUTHERN DIVISION REP.: Larry Cofer

N.CENTRAL DIVISION REP.: Mike Hansen

WESTERN DIVISION REP.: Karen Pratt

Congratulations to all new officers. May you serve well!

News From The Regions

North Central

Mike Vanderford, North Central Regional Editor
Federal Aid Office
U.S. Fish and Wildlife Service
660 Federal Building
Ft. Snelling, Minnesota 55111
612/725-3596

Kansas

SAUGER: The Kansas Department of Wildlife and Parks has begun a major effort at reintroducing and newly introducing sauger and sauger/walleye (saugeye) hybrids into their larger reservoirs where walleye success has been poor. The Department has short- and long-term plans for sauger and saugeye. Immediate plans call for rearing fry from the Missouri River stock to fingerling and then using them to populate an acceptable brood-stock lake. The Department is trying to locate a 20+ acre lake for this purpose. Fry produced from Wisconsin eggs have been stocked in Melvern Reservoir where their progress and ecological impact will be monitored. The Department is also stocking Council Grove Reservoir with fish obtained in trade from the Iowa DNR. (Roger Wolfe, Atchinson, KS)

CRAPPIE: Research work on crappie at Melvern Reservoir indicates that crappies have experienced substantial mortality due to angling in just the first two months of the season. Is it bad that fishing has been this good? Harvest can be considered excessive only if it limits the numbers

and/or sizes of fish subsequently available. Based on fall trapnet samples, harvestable-size crappies have experienced high mortality rates in Kansas reservoirs, but rapid growth has allowed young fish to replace those lost, and the quantity and quality of the harvest have been maintained. (Don Gablehouse, Emporia, KS 316/342-0658)

WIPERS: After concluding several years ago that the introduction of white bass/striped bass hybrid into Kanopolis Reservoir had been a complete failure, twenty-one wipers, weighing from 7 to 12.8 pounds, have been caught this spring. Approximately 40,000 wiper fingerlings were stocked in the reservoir from 1980 to 1982. Wiper stocking was stopped because very few were showing up in test net samples or in angler's creels. Now, six years after the last wiper stocking, these fish are finally showing up in the angler's creel. A fingerling wiper stocking is planned for this year. (Bruce Zamrzla, Ellsworth, KS 913/472-4290)

CATFISH: Neosho State Fishing Lake channel catfish anglers reaped the benefits of the total rehabilitation completed two years earlier. On the April 2nd opener, well over 1,000 channel cat, averaging four pounds each were harvested. On opening day, the 194 anglers interviewed during a creel survey had caught 868 catfish, for a success rate of 1.4 fish per hour, or one fish every 0.69 hours. Many anglers quickly limited out with ten fish limits weighing between 35 and 45 pounds. Success rates dropped quickly, however, as many fish were harvested and the remainder became more educated and harder to catch. The second day after opening creel census, results from 179 anglers showed success rates dropped to 0.45 fish/hour, or one fish every 2.2 hours. From April 5th to May 21st, the 124 channel catfish anglers interviewed had caught only 15 fish for a success rate of 0.05 fish/hour, or one fish every 20 hours of angling (Rob Friggeri, Pittsburg, KS. 316/231-3173).

WALLEYE: After all the fuss and hassle, the walleye spawning gravel was in place at Cheney Reservoir in time for spawning season. About half of the rock was placed using habitat barges, with the remainder

being dumped with a large, rubber-tired dozer. Walleye were observed on the rocks, and eggs were found in the gravel. Keeps your hopes up for a good hatch, since the area has the potential of producing five million walleye fry. The measure of the effectiveness of this project will be the catch of young-of-the-year walleye in this fall's test-nettings (Gordon Schneider, Cheney Reservoir, KS; 316/459-6922).

NEW STRAWN LAKE: The newly remodeled lake at New Strawn opened on May 1, 1988, with many features of a high intensity use lake. The lake has a screened overflow, four fishing piers, floating dock, fish production cages, aeration system, two automatic fish feeding stations, and two fish measuring platforms. It was expected that about one hundred city permits would be sold during the first year. Fishing has been so good, however, that 200 city permits have been sold in less than a month. Most of the fishing was catch and release to maximize recreational use from an intensively used, limited resource. The city has lower creel limits and larger length limits than most lakes, and anglers have been very satisfied with releasing fish. The emphasis on this lake is fishing for fun, not to fill the freezer. Hooking mortality has not been a problem, and the city plans to expand the program by purchasing trout for a special trout season this winter (Leonard Tirak, New Strawn, KS; 316/364-2282).

North Dakota

The preliminary environmental assessment for the introduction of the zander into North Dakota has been reviewed by the officers of the AFS's Introduced Fish Section. Part of the evaluation summary, written by Nick Parker, U.S. Fish and Wildlife Service, SE Fish Cultural Lab, Marion, Alabama, states that, "It appears very likely that the zander will be introduced into the U.S. Based on their experience with the amur, which was evaluated and then eradicated from the state, the officials in North Dakota are expected to prudently evaluate the zander in two relatively isolated lakes to determine its suitability. They have stated their willingness to destroy all

zander in the state should they prove to be undesirable."

"A resolution should be adopted stating, 'If the North Dakota Department of Game and Fish or any other agency introduces the zander into the U.S., the Introduced Fish Section and the AFS strongly recommend that a thorough ecological evaluation be conducted to quantify changes in population structure attributed to this species.' A study of this type would be of value not only to North Dakota, but also to managers in other states where zander might be introduced."

National Fisheries Genetics Plan

David Phillip of the Illinois Natural History Survey is in the midst of organizing support and a steady funding base for a nationwide program to deal with fisheries genetics issues and work. Through support from the International Association of Fish and Wildlife Agencies and D-J Administrative funds, David has spent the last year contacting every state fisheries agency in the country to get their input and priority ideas, conducting regional meetings to collectively sort out and evaluate the input, and preparing a written plan proposal for setting up a long term fisheries genetics program.

David's ideas are pretty grand, and they have great potential for improving practical fisheries management. But like most such innovations, there is the problem of overcoming inertia and fear of technology. I encourage you all to obtain a copy of the draft plan, evaluate the potential for your program, and provide David some written feedback (David Phillip, Illinois Natural History Survey, 607 Peabody Drive, Champaign, IL 61820; 217/333-6897).

New Exotic in Lake Superior

The wonders of the Saint Lawrence Seaway continue to plague Lake Superior. The most recent surprise is the discovery of an established population of river ruffe, Acerina cernua or Gymnocephalus cernua in the Saint Louis River estuary of Lake Superior near Duluth/Superior. The river ruffe is widely distributed in rivers and

lakes in north and central Europe. Until last summer, the fish had never been found in North America. It's suspected that it was imported via bilge water of ships doing business at the Duluth/Superior harbor.

The reason for concern is that the small fish (4.5" at 2 years, 10" max) is of little or no interest to most European anglers. It's considered a pest due to its large appetite and aggressive behavior towards larger baits intended for more preferred species. Further, it feeds on the eggs and fry of other fishes, including of most concern, whitefish eggs and fry (John Quam, U.S. Fish and Wildlife Service, Ft. Snelling, MN 55111; 612/725-3447).

Canada

Nick Baccante
Ontario Ministry of Natural Resources
Walleye Research Unit
P.O. Box 5000
Thunder Bay, Ontario P7C 5G6
807/475-1636

Walleye-Sauger Bibliography

As a result of a co-operative effort of the Ontario Ministry of Natural Resources, and the Minnesota Department of Natural Resources, a Walleye and Sauger bibliography was published in 1988. The bibliography is an update of previous works, namely Addison and Ryder (1970), and Colby et. al. (1979). The bibliography was developed on Wordstar (MicroPro Corp), and dms4Cite (Sidereal Technologies Inc.).

References are listed alphabetically by author. Keywords are listed after each reference. A list of each reference number for each species are also listed by keyword.

If you live in Canada, and would like a copy of the bibliography, please write to: Dr. P. J. Colby, Ontario Ministry of Natural Resources, Fisheries Research, P.O. Box 5000, Thunder Bay, Ontario P7C 5G6.

If you live in the U.S.A., write to: Mark

Ebbers, Minnesota Department of Natural Resources, 500 Lafayette Road, St. Paul, MN. 55155.

Thunder Bay Chinook Salmon Project

The Thunder Bay District of the Ontario Ministry of Natural Resources is currently conducting a program to evaluate a chinook salmon stocking program. The salmon are raised from eggs, and stocked by the Thunder Bay Salmon Association, which is made up of people from the community, into the Kaministiquia River which flows into Lake Superior.

The program includes index netting, aerial creel census in and around Thunder Bay, and monitoring of salmon runs in the fall in selected Lake Superior tributaries. In the spring of 1989 district staff will also begin monitoring salmon and smelt runs, the latter being a primary salmonid forage species.

Index netting and angler catch surveys to-date indicate numerous lake trout and immature chinook salmon are present in the Thunder Bay area. Future surveys will indicate if these salmon will establish a growing offshore fishery.

Prior to the stocking by the Salmon Association, salmon caught in the Thunder Bay area swam from the U.S. portion of Lake Superior. Because of the recreation potential and increased angling opportunities that salmon may provide, the Salmon Association received government approval and support to initiate a stocking program.

Monitoring of salmon stocked in June of 1988 by the Association, indicates that these smolting fish remained in and around the river mouth for about three weeks after stocking. These fish swim in large schools and feed on insects, a behaviour which is similar to naturally-occurring populations. After this period, these fish left the estuary area and moved out to the bay.

The fall sampling program yielded a few stocked fish. These fish were collected in October, over a range of 70 kilometers of shoreline, and weighed an average 170

grams, about 55 times their weight at stocking time.

Moosonee District Tourism Initiatives

With monies generated by the Ontario Resident Sport Fishing License, the Ministry of Natural Resources, Moosonee District, will be conducting an extensive fisheries program over the next three years. For those of you who don't know where Moosonee District is, it borders the James Bay portion of Ontario, the province's only contact with salt water.

The Tourism Fisheries Initiative is in response to the new brook trout regulations for the Hudson Bay Lowland. It will examine the District's trout fisheries and will respond to the increases in tourism pressure on district fisheries.

The program will assess present regulations, such as the new barbless hook and the limit of one brook trout trophy and help develop and implement future fisheries management programs over the next several years. This initiative will concentrate on fisheries of the major lakes and rivers surrounding the Hawley and Sutton lakes area and waterbodies in Polar Bear Provincial Park.

The assessment program will include the following:

1. Enforcement of the new Hudson Bay Lowland fishing regulations will ensure that they are adhered to by the public. This program will also gather creel information for the more isolated portions of the study area.
2. A creel interview survey to determine total fish harvests by species and angler efforts between June 1 and September 1, 1988 will be conducted. With angler co-operation, fish weights and lengths plus scales and otoliths will be collected. The sampling crew will be based at Hawley Lake for the entire summer.

3. An angler diary program will be initiated. Anglers will be contacted via tourist outfitters, the Moosonee District Office, field staff, plus aircraft landing within designated areas of Polar Bear Provincial Park. Each angler will be asked to record their own personal creel information daily. An angler co-operative crest will be issued to all anglers that cooperate with this program or if they are personally creeled by field staff.
4. A lake survey program within the study area will establish potential recipient lakes for future adult walleye transfers, trout stocking or for future tourism opportunities.
5. A lake trout assessment program over the next several years will assess present lake trout fisheries and monitor any changes in the health of these fisheries. The assessments will occur on Aquatuk and North Raft lakes as well as Hawley and Sutton lakes, as new lake trout regulations are implemented.

For more information contact Chris Brousseau or John Thompson, at the Moosonee District Office of the Ontario Ministry of Natural Resources, (705) 336-2987.

Pearse Report Update

In the last issue of this newsletter, I had mentioned a report prepared by Dr. Peter Pearse, a University of British Columbia resource expert, entitled "Rising to the Challenge: A New Policy for Canada's Freshwater Fisheries". As a result, some of the readers wrote to me asking where they could obtain a copy of the report. For those interested, contact: Julie Gelfand, Director of Communications, Canadian Wildlife

Federation, 1672 Carling Avenue, Ottawa, Ontario, K2A 3Z1 (613) 725-2191.

Pulse Fishing Proposal

Pulse fishing is being proposed as a fishing management technique, following guidelines set out in the Experimental Management Program of the Ontario Ministry of Natural Resources. The proposed study area is located near the Gogama District in northeastern Ontario.

The principle behind pulse fishing is to spread-out fishing effort over a number of lakes by alternating closed seasons on each lake, so that a lake will only get fished once every four or five years, depending on the number of lakes in the cycle. The primary objectives of pulse fishing are to prevent population collapse due to overfishing and to provide quality fishing and yields on a sustained periodic basis.

This management alternative is more likely to be successful on smaller lakes (less than 400 hectares) whose fish populations are more susceptible to overexploitation than larger lakes.

This study is still at the proposal stage. If anyone requires more information, contact Kim Armstrong, Regional Office, Ontario Ministry of Natural Resources, Cochrane, Ontario (705) 272-7012.

Lake Huron Power Plant Effects

The effects of nuclear generating station cooling water systems on the fish community and sport fishery local to Douglas Point (Bruce Nuclear Power Development) on the eastern shoreline of Lake Huron have been monitored continuously for 25 years.

The basic surveillance monitoring has been gillnet species catch-per-unit-effort measured monthly (May to November) and compared from year-to-year since 1963. This program is currently scheduled to continue until November of 1989. The major species composition of the catch (>1.0% of total catch) at the site showed little change for the first 20 years of

the study. Major species catch composition was alewife and longnose sucker, with lesser numbers of lake chub, white sucker, rainbow smelt, gizzard shad, and round whitefish. The last five years have seen small increases in the relative catch contributions of yellow perch and burbot, consistent with lake-wide trends. The age and growth parameters of locally spawning round whitefish have been monitored for the last ten years.

The summer sport fishery had been monitored continuously by creel survey for 20 years from 1963 to 1982, and again more recently from 1987 to 1989. Angler effort and harvest for the first 15 years of the survey was located in Baie du Dore (340 hectares) adjacent to Douglas Point. The species catch was mainly smallmouth bass and rock bass with a few northern pike. This fishery became more intensive in 1979 when the onset of full operations at the Bruce A nuclear generating station relocated most of the fishing activity to the smaller near-field zone (1.2 hectares) of the thermal discharge. Increased angler success has since removed larger older aged bass from the population. Walleye first appeared at the site in 1979 and the angler harvest has since included more of this species and channel cat, it's incidental catch. A night fishery has also developed for walleye in the Bruce A station discharge. A winter/spring/fall discharge fishery has been active for at least ten years for trout (rainbow and brown) salmon (coho, pink and chinook), and walleye. This winter/spring sport fishery is being surveyed 1987 to 1989. Salmonoid species anglers now allocate their effort between the two thermal discharges of the Bruce A (3460 MWe, maximum flow 170 m³/sec) and the newer Bruce B station (3550 MWe, maximum flow 193 m³/sec) which began full operations in 1987.

Creel survey data analyses have included statistics of each of the seasonal fisheries (species catch, effort, harvest and fishing success) as well as fish attributes (age, size, marks, clips and tags). Smallmouth bass data has been analyzed for year class strength and size at age. Tagging studies for rainbow trout and smallmouth bass are being conducted to estimate population size, mortality and

stock origins. Trout tag returns from fall of 1987 tagging averaged 35%.

Additional field studies have included a 12 year smallmouth bass spawning survey (1973 to 1981 and 1987 to 1989). Walleye stock origins are being evaluated by mitochondrial DNA analysis. Fish entrainment (egg, larval, juvenile) and impingement (juvenile and adult) are monitored. Nearshore habitat surveys have included SCUBA and side-scan sonar surveys of lake bottom substrates, thermal plume area, lake currents, lake temperatures, wind speed, wind direction, water quality, station cooling water flows and discharge water temperatures. For more information contact: Don Wismer, Ontario Hydro, 700 University Ave., Rm H10F2, Toronto, Ontario, M5G 1X6, (416) 592-8596.

EDITOR'S NOTE: I would like to thank Chris Brousseau for showing everybody that you don't have to lose touch with the field, even after becoming an administrator and making a lot of money. I urge all Canadian members of the FMS to use this newsletter to their advantage, by sending me material for inclusion in future issues.

Items of Interest

Billfish Management Plan

The Billfish Fishery Management Plan, applicable to the Atlantic Ocean, Gulf of Mexico and Caribbean Sea within 200 miles of the United States, Puerto Rico and the Virgin Islands, recently was signed into law. The plan covers blue marlin, white marlin, sailfish and spearfish, and aims to achieve several objectives: 1. to maintain the highest availability of billfish to the U.S. recreational fishery; 2. to optimize social and economic benefits by preserving the billfish resource for traditional uses (recreation along the continental U.S., and recreation and food in the Caribbean); and 3. to increase understanding of the conditions of billfish stocks and the billfish fishery. Regulations included in the plan require

that only traditional recreational fishing gear (i.e., rod and reel) be used for billfishes. The plan goes farther by prohibiting the sale of all billfish harvested from the stock of billfish covered in this plan. The no sale provision does not apply to billfish harvested from other billfish stocks (e.g., Pacific billfish), nor are the use of handlines restricted in the small-scale fishery in Puerto Rico (although there are limits to the number sold under this exemption). Retention of billfish by domestic and foreign longline fishermen is to be prohibited, and all billfish caught by longliners must be released by cutting the line near the hook without removing the fish from the water.

To further reduce billfish mortality, minimum size limits are imposed by the plan for each species, except spearfish which is rarely caught. Size limits are based on weight, but are expressed in lower jaw fork length. The minimum sizes are 57 inches (30 pounds) for sailfish, 62 inches (50 pounds) for white marlin, and 86 inches (200 pounds) for blue marlin. This measure will allow competitive fishing tournaments and retention of trophy size fish to continue while still significantly reducing this source of billfish mortality.

The law appears to be a significant step in improving the stock of these sought-after fish.

Fish Growth

According to an article that appeared in the SFI Bulletin last June, an innovative method of calculating fish growth may give fisheries managers a new tool for making fishing better. A Minnesota Sea Grant researcher has apparently been able to statistically separate growth into management and environmental components.

Inspired by the challenge of improving traditionally-used, cumbersome and inaccurate age and growth calculation methods, Sanford Weisberg of the Department of Applied Statistics at the University of Minnesota spent the last year and a half developing a streamlined statistical method that provides a more accurate picture of how fish grow. The

result is a mathematical procedure for separating growth into age and environmental components by counting annular rings. The resultant linear model may help determine what components of fish history is attributable to age and environment.

You can establish the growth pattern of fish by comparing lengths and ages; the information from annual ring size adds growth pattern knowledge. By using 'simple' statistical calculations, this information can be used to identify which years were good for fish growth and which years weren't. The linear model will allow a more critical appraisal of management methods, and may make it easier to answer the question whether or not a stock is being exploited optimally. The application possibilities range from monitoring power plants, pollutants, water levels, and erosion, to determining the effects of management changes, environmental changes, or other influences on the environment. More specifically, the growth of a certain species of fish could be tracked. Weisberg sees his method as having many possible benefits in helping solve problems. Agencies could decide which of their policies really made a difference. For problems addressed by fishing limits, the method could measure growth changes in the environment as well as the growth changes due to management.

Currently, user-friendly computer programs for the statistical analysis of fish data are being developed. The software package will include information on how to collect data, what to do with it, and how to analyze it. For more information, contact Minnesota Sea Grant, 116 Classroom Office Building, University of Minnesota, 1994 Buford Avenue, St. Paul, MN 55108; 612/625-9288.

Publications of Interest

Largemouth Bass Bibliography

An Indexed Bibliography of Largemouth Bass Literature is an indexed bibliography for largemouth bass that includes all citations listed in the systematic index of Sport Fishery Abstracts from Volume 1

through Volume 32, Number 3. The bibliography was printed by the South Dakota Department of Game, Fish and Parks. Copies of the bibliography can be obtained by writing to Fisheries Staff Specialist, South Dakota Department of Game, Fish and Parks, 445 East Capitol Avenue, Pierre, SD 57501-3185; 605/688-6121.

Pike Bibliography

The Royal Ontario Museum has issued An Annotated Bibliography of the Pike, *Esox lucius* (Osteichthyes: Salmoniformes), by E.J. Crossman and J.M. Casselman. This is a comprehensive bibliography of the professional and popular literature on the pike. Annotation is provided wherever possible, describing the nature of the information contained in the reference and the geographic location of the study or story. An index organizes the references under 37 subject categories.

This 1987 book has 408 pages, paperbound, and costs \$18.00 plus 15% postage and handling from the Royal Ontario Museum, Publications Services, 100 Queen's Park, Toronto, Ontario, Canada M5S 2C6.

Marking and Tagging Bibliography

Marking and Tagging of Aquatic Animals: An Indexed Bibliography by Lee Emery and Richard Wydoski, published as Resource Publication No. 165 by the U.S. Fish and Wildlife Service in 1987, is a helpful reference containing 1,436 citations of published articles dealing with marking and tagging of fish and other aquatic animals. The bibliography lists selected references gleaned from thousands of publications dealing with tagging operations which have been conducted over the years. The authors have made a special effort to include references concerning the different kinds of available marks and tags, techniques of application, retention rates and/or recovery of marks and tags, and the effects of marks and tags on the organisms. The references are arranged alphabetically by author, consecutively numbered and indexed by key words that enable easy access to references on particular subjects. The references are

about equally divided between topics dealing with fish and other aquatic animals. Copies can be obtained from the Publications Unit, U.S. Fish and Wildlife Service, Matomic Building, Room 148, Washington, D.C. 20240, or may be purchased from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161.

Early Life History of Fishes

At the International Larval Fish Conference in Vancouver, B.C. in 1984, the Early Life History Section of AFS initiated the development of a comprehensive bibliography of the early life stages of fishes. A Bibliography of the Early Life History of Fishes by Robert D. Hoyt is the published result of four years of effort. This indexed bibliography of early life history stages of fishes features reproductive, egg, embryo, larval and juvenile literature. The bibliography is comprehensive in scope including 13,717 works produced from 1842 to July, 1987. The two-volume, 980-page set is under a soft cover and is spiral bound for ease of use. This bibliography appears to be the most comprehensive work yet in the field of fish early life history, and will be a must as a reference work for those involved in the early life histories of fishes. Bibliography is available for \$55.00 from Robert D. Hoyt, Department of Biology, Western Kentucky University, Bowling Green, Kentucky 42101.

Salmon Management

Salmon Production, Management and Allocation (Biological, Economic and Policy Issues) is a recent book edited by William J. McNeil. The authors of this collection of twenty papers write from a variety of perspectives to evaluate current policies in salmon production, management and allocation; to address issues of importance to the integration of aquaculture in the overall production of salmon; and to explore new options. They include fisheries scientists and managers, economists, aquaculturalists, legal experts, and published policy analysts from the U.S., Canada, Japan and Norway. Some authors emphasize interpretation of ecological data, while others assess

biological, economic and policy issues. Results of scientific investigation on migrations, distribution and marine survival of salmon are included in order to provide a foundation of conserving and enhancing stocks of salmonids and for understanding the capacity of marine waters to grow salmon.

To order, send \$29.95 plus \$2.00 postage and handling to Oregon State University Press, 101 Waldo Hall, Corvallis, OR 97331.

Upcoming Events

January 4-5, 1989. Canadian Conference for Fisheries Research. Quebec City Aquarium, Quebec City, Quebec. For more information, contact Louis Fortier, GIROQ, Department of Biology, Laval University, St. Foy, PQ G1K 7P4, Canada.

February 2-3, 1989. Sixth Pacific Coast Herring Workshop. Northwest and Alaska Fisheries Center, Seattle, Washington. For more information, contact Greg Bargmann, Washington Department of Fisheries, Bin C 15700, Building 4, 7600 Sand Point Way, NE, Seattle, WA 98115; 206/545-6598.

February 5-8, 1989. A National Aquatic Resources Education Conference. San Antonio Marriott, San Antonio, Texas. For more information, contact Mark J. Reeffer, International Association of Fish and Wildlife Agencies, 444 N. Capitol St., NW, Suite 534, Washington, DC 20001; 202/624-7890.

February 6-8, 1989. Fourth Biennial Symposium on Impacted Wildlife. Glenwood Springs, Colorado. For more information, contact Susan Q. Foster, Thorne Ecological Institute, 5370 Manhattan Circle, Boulder, CO 80303; 303/499-3647.

March 17-22, 1989. 54th North American Wildlife and Natural Resources Conference. The Omni Shoreham Hotel, Washington D.C. For more information, contact L.R. Jahn, Wildlife Management Institute, Suite 725, 1101 Fourteenth St., N.W., Washington, D.C. 20005; 202/371-1808.

April 2-7, 1989. Second International Conference on Marine Debris. Alemoana Americana Hotel, Honolulu, Hawaii. For more information, contact Richard S. Shomura, Southwest Fisheries Center, Honolulu Laboratory, 2570 Dole St., Honolulu, HI 96822; 808/943-1229.

April 18-21, 1989. Second Asian Fisheries Forum. Nihon University, Tokyo, Japan. For more information, contact The Secretariat, Second Asian Fisheries Forum, Department of Fisheries, Faculty of Agriculture, The University of Tokyo, Yayoi 1-1-1, Bunkyo-ke, Tokyo 113, Japan.

May 7-10, 1989. 45th Northeast Fish and Wildlife Conference. Nevele Country Club, Ellenville, New York. For more information, contact Gerald A. Barnhart, New York Department of Environmental Conservation, Bureau of Fisheries, 50 Wolf Road, Albany, N.Y. 12233; 518/457-5691.

May 9-12, 1989. National Symposium on Practical Approaches to Riparian Resource Management. Holiday Inn, Billings, Montana. For more information, contact Glenn Phillips, Montana Department of Fish, Wildlife and Parks, Capitol Station, Helena, MT 59620, or call Marilyn Goetzinger at 406/444-2406.

May 21-27, 1989. Thirteen Annual Meeting of the Early Life History Section of AFS. Merida, Yucatan, Mexico. For more information, contact Andrea Frank, Mote Marine Laboratory, 1600 City Island Park, Sarasota, FL 34236; 813/388-4441.

June 27-30, 1989. American Water Resources Association Symposia "Headwaters Hydrology" and "Indian Water Rights and Water Resources Management". University of Montana, Missoula, Montana. For more information, contact Donald F. Potts, School of Forestry, University of Montana, Missoula, MT 59812; 406/243-6622.

July 2-6, 1989. Annual Meeting of the Western Division of AFS and Symposium on Indian Fisheries. Sheraton Towers, Seattle, Washington. For more information, contact Pat Dwyer, 27 Border Lane, Bozeman, MT 59715; 415/283-7077.

July 3-7, 1989. International Symposium on Research and Small-Scale Fisheries.

Montpellier, France. For more information, contact Dr. J. Lemoalle, Symposium Peches Artisanales, ORSTAM BP 5045, 34032 Montpellier Cedex France.

July 11-14, 1989. Coastal Zone 89. Omni Hotel, Charleston, South Carolina. For more information, contact Delores Clark, NOAA Office of Constituent Affairs, 11400 Rockville Pike, Room 638, Rockville, MD 20852; 301/443-8031.

September 3-7, 1989. The 119th Annual Meeting of AFS. Captain Cook Hotel and William Egan Convention Center, Anchorage, Alaska. For more information, contact Carl R. Sullivan, Executive Director, AFS, 5410 Grosvenor Lane, Bethesda, MD 20814; 301/897-8616.

September 24-30, 1989. International Conference and Workshop on Global Natural Resource Monitoring and Assessments: Preparing for the 21st Century. Isle of San Giorgio Maggiore, Venice, Italy. For more information, contact Mr. H. Gyde Lund, USDA Forest Service, P.O. Box 96090, Washington, D.C. 20090-6090; 202/475-3747.

October 2-4, 1989. Symposium on Multispecies Models Relevant to Management of Living Resources. The Hague, Netherlands. For more information, contact the General Secretary, ICES/CIEM, Palaegade 2-4, DK-1261 Copenhagen K, Denmark.

Editor's Corner

This is my last newsletter for the Fisheries Management Section. The demands of my job seem to make producing a newsletter more and more difficult, so it's time let someone with a more efficient way of time management take over.

Like any job, being newsletter editor had

its joys and its disappointments. My disappointments were 1). trying to do a good job for both my employer and you, the members, and in my expectations, failing both (after all, there was a long hiatus when I did not send a newsletter and many of you wrote me to complain); and 2). failing to enlist regional editors from the Northeast and Western regions. My belief is that the next newsletter editor will succeed in both.

My joys outpaced my disappointments. Seeing each issue printed, and my office stacked with boxes of newsletters, stacks of mailing labels and piles of mailbags, is satisfaction personified. Getting letters of complaint or congratulations on whatever the newsletter contained was icing on the cake.

I am especially proud of the way the newsletter evolved. Many newsletters merely reprint information found elsewhere, usually from other newsletters. While our newsletter had its share of that, your regional editors and I made a great effort to include original material not found anywhere else. We attempted to make this newsletter a communication vehicle for you; I think we succeeded. When I hear of fellow professionals calling someone highlighted in one of the regional columns to discuss some item of professional interest, I have to believe we helped.

At the time this went to press, a new editor had not been appointed. I will do my best to give the new one all the shortcuts I learned, so that he or she can spend time on content, not production. But any editor needs you and your participation. There's no such thing as too much information; give the new editor all the time and contributions you can.

Thanks for the opportunity you gave me to serve you.

Richard E. Wehnes, Editor
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