

**American Fisheries  
Society**



**Minnesota Chapter**

MARCH 1991



# AMERICAN FISHERIES SOCIETY MINNESOTA CHAPTER OFFICERS 1991-92

## PRESIDENT

Jeffrey Gunderson  
MN Sea Grant Extension  
208 Washburn Hall, UMD  
Duluth, MN 55812  
(218) 726-8106

## IMMEDIATE PAST-PRESIDENT ISSUES & RESOLUTIONS COMMITTEE CHAIR

Greg Busaker  
124 Transportation Building  
395 John Ireland Blvd.  
St. Paul, MN 55155  
(612) 298-1651

## PRESIDENT-ELECT

Virginia Snarski  
U.S. EPA  
6201 Congdon Blvd.  
Duluth, MN 55804  
(218) 720-5515

## SECRETARY-TREASURER

Don Schreiner  
MN DNR  
5351 North Shore Drive  
Duluth, MN 55804  
(218) 723-4785

## EXECUTIVE COMMITTEE MEMBERS-AT-LARGE

Dave Pederson  
U.S. FWS  
660 Federal Building  
Fort Snelling, MN 55111  
(612) 725-3596

Peter Sorenson  
Dept. Fisheries & Wildlife  
200 Hodson Hall  
1980 Folwell Avenue  
St. Paul, MN 55108  
(612) 624-4997

Molly Negus  
MN DNR  
5351 North Shore Drive  
Duluth, MN 55804  
(218) 723-4785

Dave Conner  
Dept. of Fisheries  
Red Lake Band of Chippewa Indians  
P.O. Box 550  
Red Lake, MN 56671  
(218) 679-3899  
3959

## COMMITTEE CHAIRS

### MEMBERSHIP COMMITTEE

Tim Goeman  
MN DNR  
1601 Minnesota Drive  
Brainerd, MN 56401  
(218) 828-2246

### NOMINATING COMMITTEE

Chantal Cook  
Chippewa National Forest  
RR 3, Box 244  
Cass Lake, MN 56633  
(218) 335-2226

### AWARDS COMMITTEE

Steven Colvin  
MN DNR, Ecol Services  
500 Lafayette Road  
St. Paul, MN 55155-3500  
(612) 296-0786

### CONTINUING EDUCATION COMMITTEE

Stephen Boe and Mark Cook  
MN DNR  
2114 Bemidji Avenue  
Bemidji, MN 56601  
(218) 755-3917

### RIVERS AND STREAMS COMMITTEE

Henry Drewes  
MN DNR  
2115 Birchmont Beach Road  
Bemidji, MN 56601  
(218) 755-3959

### LONG RANGE PLANNING COMMITTEE

Tracy Cloon  
MN DNR  
5351 North Shore Drive  
Duluth, MN 55804  
(218) 723-4680

### PAST PRESIDENTS COMMITTEE

Dick Siefert  
U.S. EPA  
6201 Congdon BLVD.  
Duluth, MN 55804  
(218) 720-5552

### PROCEDURES MANUAL COMMITTEE

Michael Vanderford  
U.S. FWS  
660 Federal Building  
Fort Snelling, MN 55111  
(612) 725-3596

### STUDENT REPRESENTATIVES

Loren Miller and Derek Ogle  
Dept. of Fisheries and Wildlife  
1980 Folwell Avenue  
St. Paul, MN 55108  
(612) 624-3600

### PUBLIC AWARENESS COMMITTEE

Steve Quinn  
P.O. Box 999  
651 Edgewood Drive  
Brainerd, MN 56401-0999  
(218) 829-1648

### NEWSLETTER PRODUCER/EDITOR

Brad Parsons  
MN DNR  
Route 3, Box 1  
Glenwood, MN 56334  
(612) 634-4573



# Minnesota Chapter American Fisheries Society

**MF** Promotes the Conservation, Development and Wise Utilization of the Fisheries / Organized 1870 • Incorporated 1911

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## NEWSLETTER COVER

Diane Whiting  
Route 2, Box 22503  
Stacy, MN 55079

## NEWSLETTER PRODUCTION EDITOR

Bradford G. Parsons  
MN DNR  
Route 3, Box 1  
Glenwood, MN 56334

## NEWSLETTER DISTRIBUTION

Paul J. Wingate  
MN DNR  
500 Lafayette Rd.  
St. Paul, MN 55155-4012

Unless otherwise stated, the opinions expressed within this newsletter are those of the author(s), not official policy of the Minnesota Chapter of the American Fisheries Society. Material submitted for inclusion in the newsletter is subject to editing at the discretion of the editor.

## **PRESIDENT'S NOTES**

**by Jeff Gunderson**

I would like to start by thanking all the Executive Committee Members-at-large and the committee chairs for their willingness to donate their unpaid time and effort so that our Chapter does not only exist but functions in a professional and meaningful manner. I am truly impressed by the quality and enthusiasm of the folks that are listed on the inside cover of this newsletter. **Take a look for yourself.**

A number of important Chapter activities are nearing completion. These are the development of a Long Range Plan, a Procedures Manual, and a Chapter position paper on transgenic fish. Please respond with comments on these issues, as appropriate, to ensure they represent all of us as a Chapter. The rest of this message will be devoted to describing what I would like to see the Chapter do this year to address actions and goals developed in the Long Range Plan.

### **Public Awareness**

The long range plan strongly suggests that the Chapter become proactive in the development of public policy, in the dissemination of fishery science and management information, and in making the media and public aware that our professional society exists and is a source of unbiased information. Meeting these goals is a tall order and won't be achieved quickly. Steve Quinn has agreed to chair a new ad hoc Public Awareness Committee which I hope will get the Chapter off to a good start with respect to these goals. I have asked Steve to examine the feasibility of conducting a workshop or seminar for state decision makers, outdoor writers and fishing organization leaders and to come up with a suitable educational focus. Please contact Steve or me if you are interested in helping or have some ideas to share.

### **Position Paper**

The Long Range Plan identifies Position Papers as a mechanism to accomplish a number of public awareness goals (described above) and specifically identifies such a need in the area of aquaculture. This will be brought to the May EXCOM meeting for discussion. Please contact me if you have specific ideas for aquaculture or other Chapter Position Papers.

### **Posters**

During the planning process for the Chapter meeting I was ill prepared to facilitate poster presentations. The Chapter has allowed posters in the past, but to my knowledge never promoted them. Posters were perceived as a medium for subjects not worthy of a paper presentation or desirable when too many papers were submitted. The status and visibility given to posters at many national meetings has increased and I feel it's time our Chapter follows suit. To address this issue, I've asked George Howe and Jeff Denny to serve on a task force (of two) to help the Chapter better accommodate poster presentations at our annual meeting. If you have any suggestions or comments, please contact George or Jeff.

### **Long Range Planning**

I will be working with Ginny Snarski and Tracy Close along with input from Dale Burkett of the Illinois Chapter to determine if a planning activity at our next Annual Chapter meeting is a worthwhile exercise and complimentary to our Long Range Plan.

### **Fund Raising**

Not a fun thing to always have to worry about. But, if we want to accomplish many of the goals expressed in the Long Range Plan and to continue to effectively operate as a Chapter, we need to do a better job of fund raising. The fund raising effort of the Wisconsin Chapter at our joint annual meeting showed the scale of what can be done if an effort is made. Raffles can be effective fund raisers, but I would like the Chapter to consider other options as well; e.g., a book for fishermen, seafood sale coordinated with coastal chapter, boat sticker, fishing contest, fried suckers at a festival, etc. This topic will also be addressed at the May EXCOM meeting. We need (fun and productive) ideas. Please contact me if you have one.

### **Newsletter**

Brad is doing a great job with the newsletter and will do even better after he returns from a newsletter workshop that the Chapter is sending him to at the Annual Meeting in San Antonio, but he needs help. He would like to see more opinions and submissions from the membership. That's what our newsletter is all about. Please take a minute (or so) to respond to this request.

I look forward to a good year for the Chapter and hope it's a good one for you too.

## NCD PRESIDENT'S ADDRESS

It is with great disappointment that I am unable to attend your annual meeting this Winter. The primary reason why I am unable to attend your meeting for this year is the budgetary situation of the North Central Division. As you may know, the North Central Division's budgets are at an all time low. This is not due to a fiscal mismanagement by your past executives, but rather an emphasis on the publishing special symposium volumes that have not sold very well to date. I believe that even as I write this note, there are boxes of special North Central Division symposia being sent to you for purchase at your annual meeting. Please buy a copy of the paddlefish or the large river symposium.

Because of the fiscal limitations that we are experiencing, the Executive Committee of the North Central Division decided that it would be most economically realistic to ask the current executive members of the Division to represent the Division at their respective meetings and at locations nearby. Because of this I have asked John Lyons to represent the Division at your meeting as he is currently the First Vice President and in two years time will be the President of the North Central Division. I expect that during that time you will see the Society undergo massive reevaluation and reanalysis. The Division budgets, in my viewpoint, is healthy when compared to the Parent Society's. This is not a criticism of Carl Sullivan, whose leadership we will miss greatly, or past parent society presidents, but rather our inability as a society to prioritize what we feel we need and what we're willing to pay for. During the 1970's and 80's we have attempted to be many things but have not found the fiscal resources to be those things on a sustained basis. A good example of this is Fisheries News, the several page tabloid which you received on an experimental basis once last year. We have relied more and more on soft money foundation grants, which are short term in nature. Our executives have thus been forced to continue to search for money to support our wishes.

Fiscal reality must come to the Society and to the Division. And we are doing that. At the

Division, you have been or will be contacted regarding methods of "revenue enhancement" as they say in Washington. I hope that you respond generously. Don't start reaching for your wallets. We are not passing the hat just yet. We are trying to use a raffle technique to generate income so that future executive such as next year's President Dave Willis (SD) and then John Lyons, will have a budget in which they can travel to the Chapter meetings, and allow for special initiatives at the Chapter and committee level when need arises. We need to support our North Central Division committees in order for them to respond and do the types of jobs that we have asked them to do. The North Central Division has an outstanding set of technical committees and more are being planned. There will be a Northern Pike Symposium at Iowa and I expect to become a technical committee of the North Central Division. There will be a workshop on youth education, hopefully on urban fishing, on fish diseases and many of these may turn into technical committees over time. We have had real success in our technical committees and we are blessed with an abundance of eager and active professionals in the North Central Division.

The long range plan which you have recently undertaken is a step towards the massive reanalysis and reexamination that I previously mentioned. But it is only a beginning. You now need to prioritize and start your first steps on the road to achieving your long range objectives. From a Division, Chapter, and Society point of view, we must wrestle with who our constituents are and how we represent them. In the North Central Division we represent a vast segment of the Midwest of the U.S. as well as Canada. As such, we must take into account the "Canadian issue". It is not merely one of a name change but rather substantive operational changes. How can we expect to promote and enhance the fisheries resources and professionals in Canada if we do not place someone in Ottawa as an associate executive director. Would Carl Sullivan have been as effective for us had he been in Canada? The answer is obviously no. It is my sincere belief that we need substantive

changes, that we need to be present in the Canadian political system just as we need to be in the U.S. political system. This is difficult for us, because many of us are traditionalists and we see the American Fisheries Society as the society of the American continent. But consider if you were a Canadian professional. Consider that American does indeed mean U.S. to most people in the world and certainly to the politicians. The question is really how do we successfully make the American Fisheries Society an international society? If the goals of the Society are just information dissemination through the publications route perhaps we are already internationalized. If its to enhance the fisheries profession then I believe we have a responsibility to either extend ourselves in appropriate manners to our international friends or withdraw and say I'm sorry that we cannot be active even though we live so close and share many common resources and management problems. This latter would be a shame, a travesty in my opinion. We in the Division know our Canadian colleagues as outstanding professionals who face similar resource problems as their U.S. counterparts. We should extend them our support in a timely and fiscal responsive manner. This calls for the Society to look closely at what we are doing and evaluate whether we should continue to do that or whether we should place it on a lower priority or a higher priority level and then fund it accordingly. These are not easy decisions. Status quo is easy, progressive development is difficult! I urge you in your reanalysis to take the long view of the Society for the betterment of our resources and our professionals.

The last thing I want to discuss is continuing education. I believe that we need continuing education classes at the Chapter, Division and Society level. Who here would not benefit from workshops in such areas as system science, statistics, writing, innovative sampling techniques, microcomputers? Is there a person here who could not use additional training in certain areas? And are there not people in the Division that could help transfer this information to our members so that we collectively become better stewards of our aquatic resources. Certainly the Wisconsin and Minnesota Chapters hold this same view and has held informative and innovative workshops at the Chapter level. I commend you for your efforts, for your enthusiasm, for your activities, for your willingness to be a member and your attempts to improve the Society which I believe has the potential to make a significant difference in the future management of our fisheries and aquatic resources. After all, isn't that why we volunteer our time, efforts and money?

In summary, we in the North Central Division represent a vast fisheries and aquatic resource and we are blessed with some of the finest fisheries researchers and managers in both countries. I am pleased and honored to represent you and stand ready to assist you in your endeavors where possible. I wish you the best meeting ever and look forward to visiting with you in Des Moines, if not before. Thanks for your continued support.

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### **MINNESOTA CHAPTER CAPS AND T-SHIRTS FOR SALE**

Call Tracy Close at (218) 723-4785 for size and color availability. Shirts are \$8.00 + \$2.00 UPS shipping, caps are \$7.00 + \$1.00 UPS shipping. Don't be the only one on your block without one!

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### **GOEMAN HAULS IN BEST PAPER AWARD**

Congratulations to Tim Goeman, DNR Fisheries Research Biologist in Brainerd, for winning best paper at our Annual Meeting. Tim's talk was on walleye mortality at fishing tournaments.

# FORAGE FOR THE MIND

## ARE CONSERVATIONISTS FISH BIGOTS?

Imagine that within a national park one of the large carnivores, say wolves, were allowed to be hunted and killed. Or, if not killed, chased until exhausted and then released. I am certain that this activity would result in a public outcry by animal rights groups, conservationists, and biologists. Yet this situation is the status quo for freshwater and marine fish within our national parks. Fishing is considered one of the parks' recreational uses that is ordained by the administration and public. The ordainment of fishing but not hunting indicates an unjustified dichotomy between aquatic and terrestrial species and ecosystems. The results of this aquatic management (or lack of it) may be causing a slow and unnoticeable erosion of our parks' aquatic resources.

Conservationists are well aware that certain species, particularly large, warm-blooded, woolly, and wide-eyed animals, receive public sympathy that loosens both heart and purse strings, allowing for successful conservation efforts. The more ecologically knowledgeable among us are complacent with this approach, because we realize that these species often act as umbrella species, and so the approach can result in the protection of numerous less attractive species. Many of the attractive species, particularly the large carnivores, play ecological keystone roles that can assist in maintaining the community structure and integrity of protected ecosystems. However, aquatic ecosystems have been less fortunate; many aquatic large carnivores are not mammals and have less public appeal. The conservationist's subjective species selection may work well for terrestrial but not aquatic ecosystems.

Current research suggests that a number of aquatic fish, particularly top carnivores, play important ecological roles within aquatic ecosystems. Often these same species are the focus of fishing efforts. Bass, an example from freshwater lakes, can directly and indirectly

affect an array of community structure variables, including zooplankton and phytoplankton abundance and species composition, as well as ecological processes such as nutrient dynamics and productivity. Within coral reef ecosystems, triggerfish appear to control sea urchin abundance and grazing intensity, which in turn affects benthic algal biomass, productivity, and species composition. Additionally, bioerosion rates, topographic complexity, and coral reef growth rates can all be affected by sea urchin population densities. In many tropical regions, including US territories (i.e., US Virgin Islands), sea urchins are controlled by a few edible triggerfish. Changes in the abundance of these top predators can have unexpected consequences that can affect the entire ecosystem. A large number of these effects are unknown, and we may be unaware of important ecosystem changes occurring due to removal of top finfish predators.

As humanity increases its influence on the world's environment, aquatic and particularly marine ecosystems are experiencing pressures that will soon equal terrestrial counterparts. One of the future roles of our parks will be to maintain pristine ecosystems that can be compared to other managed and mismanaged ecosystems. This preservation will be difficult with the parks' many external influences but will be impossible if internal management allows recreation and resource use to supersede preservation. The subjectivity of the fishing-hunting dichotomy must be relinquished to a more objective management plan that preserves aquatic in the same manner as terrestrial species and ecosystems.

Timothy R. McClanahan, Center for Wetlands,  
University of Florida, Gainesville, FL 32601  
From Bioscience Vol. 40 No. 1

## ANOTHER VIEW

T. R. McClanahan (1990) in a BioScience Viewpoint column entitled "Are Conservationists Fish Bigots" expressed his concerns regarding the appropriateness and potential impacts of fishing in national parks. His ecological concerns over this issue, while certainly valid, are by no means original. Over 70 years ago, ecologists were expressing similar views and questioning whether fishing should be allowed to continue in national parks. Darling and Eichhorn (1967) in their book Man and Nature in the National Parks commented "Fishing surely, is one of those out worn privileges in a national park of the later 20th century...".

Since as these people have pointed out the ecological impacts of fishing are no different than those of hunting, why is fishing still being allowed? Schullery (1979), in an especially incisive article about this complex issue, concluded the reason is quite simply that fish never have been afforded the same degree of protection that wildlife has in national parks. When Yellowstone, the first national park was established in 1872, fishing was not perceived as a threat to the resource like hunting was. As a result, that parks' establishing legislation, while providing full protection for birds and mammals, specifically directed the Secretary of the Interior to "make rules and regulations governing the taking of fish from streams and lakes in the park". The precedent set at Yellowstone, rightfully or wrongfully, depending on an individuals' perspective has carried on, so today fishing is offered in 125 of the 355 units in the National Park system, which includes parks, monuments, recreation areas, national seashores, etc. Fishing in a specific unit may be provided for by law as is the case at Voyageurs National Park, by rule or regulation, or by tradition itself.

While the National Park Service has consistently interpreted its establishing legislation to mean that fishing should be allowed in national parks, management philosophies have changed in response to societal pressures and as traditional management activities have been found to

adversely affect park resources. Fishing and fisheries management activities such as excessive creel limits, stocking of exotic species, supplemental stocking, and habitat alterations that were commonly used in the past are no longer considered acceptable in national parks or for that matter, many waters outside of parks. Today, National Park Service management policies, while still allowing for fishing, have evolved so that the main emphasis is "to preserve or restore natural aquatic habitats and the natural abundance and distribution of native species, including fish, together with the associated terrestrial habitats and species". This includes preserving waters barren of fish in that condition and restricting stocking of fish in natural zones to only those cases where native species are being reestablished in their historic range. Beyond ecosystem concerns, management emphasis is increasingly being placed on the recreational fishing opportunity, not on fish harvest.

Undoubtedly, neither Mr. McClanahan or many fisherpersons, including some professional fishery biologists will find these policies satisfactory. From Mr. McClanahan's perspective, the fishing-hunting dichotomy will continue to exist as long as any form of fishing, including catch and release, is allowed. Fisherpersons concerned with harvesting fish to eat certainly will not appreciate any efforts to restrict limits or stocking, which many consider to be an absolute necessity for maintaining fish stocks. Last but not least, some biologists will be upset because they will not always be able to use the same management techniques in park waters that they have traditionally used to manage fisheries outside of parks.

To this latter group, I would like to suggest they consider parks as opportunity areas rather than impediments (Thanks to the AFS Chapter for the public soapbox). Even though they may not be the pristine ecosystems Mr. McClanahan would prefer, many parks still contain relatively intact aquatic communities that can provide valuable comparisons to more intensively managed areas outside of parks. Parks also provide excellent opportunities for

the restoration of aquatic habitats and nativefish species and the preservation of the genetic integrity of native fish stocks (Wallis 1960, Helle,1984). Most importantly from the long term perspective, national parks with their well developed interpretative programs, can be used to increase public concern for and participation in fisheries conservation.

So what is the future of fishing in national parks? My prognosis, which is probably about as valuable as the proverbial 50 cent cup of coffee, is that fishing will continue but that the emphasis will increasingly be on reducing consumption. For now and probably for some time in the future, the basic inconsistency in the treatment of fish in national parks will remain unresolved, much to the consternation of all "bigots" be they conservationists or ecologists.

The opinions expressed here are strictly my own and do not represent those of the National Park Service. Larry W. Kallemeyn, Aquatic Research Biologist, Voyageurs National Park, International Falls, MN 56649.

#### Literature Cited

Darling, F. F. and N. Eichhorn. 1967. *Man and Nature in National Parks*. The Conservation Foundation, Washington, DC.

Helle, J. H. 1984. "Gene Banks" for Wild Fish Stocks. Pages 41-44 *in* J. M. Walton and D. B. Houston, editors. *Proceedings of the Olympic Wild Fish Conference*. Peninsula College and Olympic National Park, Port Angeles, WA.

McClanahan, T. R. 1990. Viewpoint: Are Conservationists Fish Bigots? *BioScience* 40:2.

Schullery, P. 1979. A Reasonable Illusion. *Rod and Reel*, November-December, 1979. pp. 44-54.

Wallis, O. L. 1960. Management of Sport Fishing in National Parks. *Transactions of the American Fisheries Society* 89:234-238.

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### **MEMBERSHIP REPORT**

by Tim Goeman, Membership Chairman

Current membership for 1991 stands at 140 paid members. Criteria have been adopted for keeping our mailing list up-to-date, so perpetual mailings to non-members will no longer exist.

Seventy-one potential members have been contacted and have begun receiving a one-year complimentary mailing of the newsletter to stimulate interest in Chapter membership. Responses to this approach have been encouraging thus far, with several of these individuals submitting dues for the current year. If you know a colleague who is not a member, but might be persuaded with this

incentive, please forward the name and address to the Membership Chairman.

The Parent Society has been notified of the Chapter decision to include MN Chapter dues on the annual dues statement of the Parent Society. Chapter dues will also continue to be collected at the Annual Chapter Meeting for the convenience of the membership.

Please see the important notice regarding your mailing label on the last page of this newsletter. It will let you know your status. Remember, it is never to late to send in your 1991 dues (only \$5.00).

## AN UPDATE ON CANADIAN CONCERNS

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

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

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

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

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

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

### The Name Change

To be a driving force in Canada, the AFS must be, and must be perceived to be, a group of professionals whose primary goal is the scientific management of aquatic resources to ensure their health and perpetuation and provide for the optimum use and enjoyment by all of the people on this continent. The present perception of the AFS as a group of American fisheries scientists and managers is a continuing stigma, viewed by many Canadians as 'U.S. meddling' in their affairs. In a recent membership poll, the name of the society has been identified as a major impediment to increasing our credibility in Canada.

Les Stanfield and Bob White are spearheading the name change initiative, in association with more than forty dedicated Canadian and American sub-committee members. Their forthcoming article in Fisheries will provide a

concise rationale for the name change, and we hope that you will carefully consider this matter before deciding how you will vote in the upcoming referendum.

### **The Canadian Office**

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

### **Environmental Concerns**

One of the critical requirements in terms of increasing our profile and effectiveness, is the development of a timely mechanism for participating in policy decisions and becoming more active in environmental conservation issues. We are currently responding to this need through the development of the Network of Canadian Aquatic Resource Professionals

(NOCARP). This network will be supported by a database which contains specific information on Canadian professionals with both the interest and expertise to participate in policy decisions. The system is modelled after the inventory established by the North Pacific International Chapter and would be similarly used to assign members to committees and to coordinate responses to environmental concerns. We anticipate that the Network will be administered by the Canadian Office, thereby ensuring that timely responses to environmental and other issues can be prepared, as appropriate.

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

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

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### **EDITOR'S CORNER**

You undoubtedly have noticed the tremendous size of this newsletter. This is simply because we felt it was important for you to have a full reading of the long range plan, Bill Taylor's message, and minutes of business meetings.

Many thank yous are necessary for this newsletter. Howard McCormick contributed our first opinion article, and Larry Kallemyn took time to write his views as a Park biologist. All the field reporters and committee chairs were very helpful. Thanks also to those of you who submitted items that I could not make room for. Rest assured these will appear in the June

newsletter. By the way, any letters to the Editor or article ideas are welcome. Deadline for the next newsletter is June 15.

Special thanks continue to go to Jack Wingate and the DNR for supporting our newsletter mailing costs. It is a big financial boost to our Chapter. Also, anyone who talks to Charlotte Dahl in the Central Office, please thank her for her efforts in making the copies and mailing out the newsletter.

Keep those ideas coming, particularly for our opinion section.

## **TRANSGENIC FISHES POSITION UPDATE**

by Don Pereira

The following information will update the chapter membership on the status of the "Transgenic Fishes Position Statement." The response rate indicates that our chapter considers this to be a serious issue. From a total of 65 ballots received as of March 23 there were 56 votes of approval, 7 of disapproval, and 2 neutral votes. Many chapter members presented enlightened philosophical arguments on this issue. While Jeff Gunderson and I are both pleased at the response rate, the statement will probably undergo further revision before final acceptance. Common concerns expressed by several chapter members include vagueness of some wording, especially that related to regulatory responsibilities and definition of "release." After becoming more educated on various aspects of this issue, I feel quite strongly that those involved with natural resource management need to become concerned and actively involved with this issue immediately.

I want to make it clear to the chapter that this statement does not advocate the development and application of genetic engineering to fisheries management. The reality is that this technology has become firmly established world wide. Furthermore, history shows us that most societies eventually will pursue the use of new tools which they perceive to offer an improved quality of life. I fear there may be a growing misconception among the lay public that technological solutions including biotechnologies have the potential to reverse our environmental problems. I think that this issue has the potential to develop into one of the most serious that resource managers will have to face. The use and management of GEOs may present greater risk than exotic species for two reasons: GEOs derived from indigenous species have the potential to corrupt natural genetic resources through (cross) breeding, and the biology of these organisms is still largely unknown. Also, GEOs derived for agriculture and other purposes have the potential to cause major perturbation to natural ecosystems. Some GEOs derived for these purposes are already undergoing field testing. Therefore, we must

be aware and concerned about all applications of this technology. For example, one possibility is the use of engineered bacteria to detoxify ground water supplies. This is particularly frightening in light of the fact that we know little about the natural microbial communities in ground water. As indicated in the statement, we do know that microbial processes are a critical component of energy flow in natural systems.

There was some concern expressed about the role of the Environmental Quality Board. The EQB was set up by the legislature and is concerned with all environmental issues. Membership includes all state commissioners whose attendance is mandatory at meetings. A recent Minnesota state law on release of GEOs also established an EQB genetic engineering advisory committee. Membership of the task force includes a DNR representative and encompasses the multidisciplinary expertise necessary to address the complex issues related to biotechnologies. This law also requires the EQB to regulate the release of a given type of GEO only if "a significant environmental permit" administered by another state agency does not already exist. I want to stress here that this EQB responsibility does not supersede the permitting system of any other state agency. For example, the EQB will not deter the DNR from using existing permits for fish stocking or installing a more detailed permitting system. There is a lot we should learn from international experiences with GEOs. The EQB genetic engineering advisory committee has at least two members who have been concerned with the issue on a national and international scale.

Given the rate of technological advancement, I feel strongly that we can not afford to drag our feet on this issue. Hopefully uncertainty and misunderstanding will not bog us down. If this issue concerns you, then the first step is to educate yourself on all aspects of it. I suggest starting with the literature cited in the statement and then contact me for further references. I also do not think that it is politically viable to present opposition based

on personal philosophies, intuition, or educated guesses. There is a great deal of science to do if we are to address this issue properly. It does seem unfortunate that we must apply our limited resources to such

subjects. Unfortunately, technological fixes will probably always appear attractive to a society which does not have suitable environmental education available to it.

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## ***FIELD REPORT: TRIBAL FISHERIES***

By Dave Conner, EXCOM Member-at-Large

The purpose of this column during 1991 will be to provide information to the fisheries community concerning tribal fisheries programs within Minnesota. There are 7 Chippewa Indian Bands in Minnesota, 6 of which conduct fisheries management activities. There are four Sioux Indian Communities, none of which conduct fisheries management activities. This first update provides a description and upcoming activities of the Red Lake Department of Fisheries. Future issues will discuss other tribal fisheries programs within the state.

The Red Lake Department of Fisheries was established in 1987 in response to Tribal Council concerns over the state of the Red Lake Band of Chippewa Indian's commercial gill net walleye fishery, the most important commercial walleye fishery in the U.S., and the largest commercial fishery in Minnesota. The Tribal Council contracted with the University of Minnesota in 1987 to assist with setting up the program, and to conduct specific research projects. The program is now in pretty good shape, and the University projects are nearing completion. Our staff consists of one fisheries biologist, one aquatic biologist, four technicians, one data processing clerk, and numerous seasonals.

Annual assessments include seining, electrofishing, experimental gill netting, and direct sampling of the commercial catch. An assessment trawling program is being developed as well. Data collected from these assessments is ultimately used to predict harvest of walleye

and other important species during the next year and beyond. One of the program goals is to move from the present fixed quota on walleye harvest (650,000 lb) to a variable quota based on sustainable yield. This is a complex issue involving biology, politics, and economics, but positive feedback about recent program success leads us to believe the goal is obtainable.

Additional projects slated for this year include surveys of smaller reservation lakes, of which there are more than 100. Due to very low angling pressure and remote access, many of these lakes provide a level of angling quality rarely seen today. Twelve lakes were surveyed last year, in cooperation with the USFWS Ashland Office of Fishery Assistance, and some of these will be stocked this year with species such as Largemouth Bass, Rainbow Trout, and Lake Trout.

A comprehensive fish contaminant study of the Red Lakes will also be conducted this year. This study will incorporate several trophic levels, and will include fish ranging in age from young-of-year to 50-plus years. We are working with USEPA and MPCA to ensure a quality study design with no duplication of effort.

We are nearing completion of a new fish hatchery on Lower Red Lake which will be dedicated this summer. The original facility is one of the oldest in the state, and was constructed in 1924. There are no plans at this time to raze the old facility when the new one goes on-line.

## **MINNESOTA-AFS RIVERS AND STREAMS COMMITTEE**

The MN-AFS Rivers and Streams committee was formed about three years ago as an off shoot to the North Central Division's Rivers and Streams committee. Founded under the mission of improving communication among stream researchers and managers throughout Minnesota, this group has met annually, usually in conjunction with the annual chapter meeting. The convenience of meeting in conjunction with the chapter has been at the sacrifice of time available for discussing pertinent stream related issues. As an attempt to improve information exchange and stimulate greater participation in this committee we will meet twice each year; once in conjunction with the Chapter (short and sweet) and once in the spring on a date immediately preceding the North Central Division's Rivers and Streams meeting. Hopefully this will serve to encourage more participation in the NCD.

The spring meeting of the Minnesota AFS Rivers and Streams Committee will be held on April 1, 1991 at the Ramada Inn in East St. Paul from 10:00 a.m. to 3:00 p.m. I have scheduled informal technical presentations on the following subjects: biomonitoring, watershed management, stream management planning and instream flow. Plenty of time will be reserved for open discussion. The Division's Rivers and Streams committee will meet at Blackhawk State Park in Rock Island, Illinois on April 2-3. This meeting is open to all who wish to attend and will consist of a series of technical presentations and reports from representatives from each state and province member to the NCD.

The three brief articles which follow represent highlights from several stream related programs ongoing in Minnesota. If you are involved in a research project, special management investigation or have an editorial urge relative to rivers and streams, please forward it to me (at 2115 Birchmont Beach Road NE, Bemidji, MN 56601) for inclusion in the newsletter. My goal is to provide 3-5 stream related articles for each newsletter. For more information contact: Henry G. Drewes, Chair, Minnesota AFS Rivers and Streams Committee (218) 755-3959.

### **STREAM AND WATERSHED MANAGEMENT: AN EVALUATION OF THE DEPARTMENT'S EFFORTS**

A two stage study was conducted to illicit information and provide recommendations regarding the department's efforts to manage stream and watershed resources. DNR resource managers were interviewed as to their views on stream and watershed management. Impressions on obstacles to management, both within and outside of the department, as well as perceptions of missed and future opportunities were sought in an effort to identify management problems. With the problems identified, managers met and formulated recommendations intended to address identified stream and watershed management obstacles.

Group consensus indicated that identified problems should be addressed by comprehensive watershed management. Strategies to accomplish that centered on 1) influencing the administrative structure of DNR to move towards watershed management; 2) providing the data needed to make decisions on a watershed basis; 3) enhancing communication, education, marketing and public relations efforts to get the watershed management message out; 4) coordinating and communicating more effectively with outside organizations and interests; and 5) implementing 3-5 prototype comprehensive watershed management initiatives around the state.

For more information contact: John Pauley, DNR Office of Planning, (612) 296-1548.

### **INSTREAM FLOW RESEARCH CONTINUES IN MINNESOTA**

There is a critical need to establish new Rules for increased stream flow protection. During the drought of 1976, protected flows were established on more than 30 streams in Minnesota, based on hydrologic statistics. The most recent drought has shown these emergency measures are inadequate to protect

aquatic life. Adequate protection requires an approach that is sensitive to the wide variety of streams and stream values found in Minnesota.

Since July 1987, the Division of Fish and Wildlife has funded Instream Flow Research Team as an essential component of the Division's Instream Flow Program. Currently stationed out of Fergus Falls, this Team has responsibility for developing suitability curves for stream organisms and collecting instream flow data on streams across Minnesota. Our goal is to develop a program to protect stream resources including fish, wildlife and recreation. We will collect instream flow data (following the Instream Flow Incremental Methodology, IFIM) on 30 streams in 10 instream flow regions of Minnesota to provide information for developing biologically valid, protected flow recommendations. This approach can be applied to the diversity of streams in Minnesota and is sensitive to competing off-stream uses, such as irrigation and industry.

For more information contact: Ian Chisholm, Instream Flow Program Manager, (612) 296-9781 or Luther Aadland, Team Leader (218) 739-7576.

## FISHERIES SECTION DEVELOPS FISHERIES MANAGEMENT PLANNING GUIDE FOR STREAMS AND RIVERS

This spring, the Fisheries Section of the Minnesota Department of Natural Resources will be initiating use of a newly developed Stream Management Planning Guide. The publication describes a conceptual framework for stream management planning that encourages effective use of operational resources to achieve aquatic community goals. Emphasis is placed on protection and enhancement of fish habitat ranging from watershed-level concerns to addition of instream cover structures. Evaluation of implemented strategies to overcome limiting factors is stressed as an important component of stream management. Hopefully, the guide will encourage fisheries managers to address stream work in a practical, comprehensive approach, resulting in improved fish communities and fishing opportunities.

For more information contact: Mark Ebbers, Trout and Salmon Program Coordinator, (612) 297-2804

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## FIELD REPORT: DNR FISH MANAGEMENT

by "Tattle" Taylor Polomis

Thanks (?) to our newsletter editor for giving me a forum and another means of procrastinating and pushing a deadline. Here are some noteworthy findings according to my contacts (the ones in my Rolodex, not in my eyes)....

A recent study of lake trout ice-fishing mortality revealed that fish caught and released from tip-ups were more likely to die than fish caught and released using jigs. This difference was caused by hooking location, which is more often in the gills or gut with tip-ups. Steve Hirsch, Area Fisheries Manager of the Grand Marais office, undertook the project on Gunflint Lake January 7-16, 1991.

Of the 96 lake trout caught in 4 days by

anglers and held in under-ice cribs, 23 died by January 16, an overall mortality of 24%. While 9% (3 of 33) fish caught on jigs died, 32% (20 of 96) fish died after being hooked and released from tip-ups. Seventy percent of the lake trout caught with tip-ups were hooked in the gills or deep in the gut, but only 9% of the jig-caught fish were hooked there.

The winter catch-and-release trout season on portions of 4 southeastern streams ends March 31. Mike Hayes of the Lake City office says smaller brown trout populations and cold weather during the first two months of the season has made for slow fishing. He adds, however, that action is bound to pick up with warmer weather (should we get some). Areas open to no-kill, artificials-only angling include

the Middle Branch Whitewater River (2.9 miles), South Branch Whitewater River (2 miles), Beaver Creek (3.9 miles) and Hay Creek (3.9 miles). The Beaver Creek and Hay Creek sections were opened for the winter season for the first time in 1991.

Several resource-related federal and state agency representatives met recently to aid interaction and coordination of projects on the upper Minnesota River. The Upper Minnesota River Partnership Agreement is meant to better inform and involve member agencies

about river activities from Big Stone Lake to Granite Falls, according to Chris Kavanaugh, DNR Region 4 Fisheries Projects Coordinator. Federal agencies involved are the Army Corps of Engineers and US Fish and Wildlife Service; state agency cooperators are the Department of Natural Resources and Pollution Control Agency. One of the first projects initiated under the agreement is to piggyback the Corp's modification of the Marsh Lake dam with improvement of the adjacent northern pike spawning area operated by the Ortonville Area Fisheries office.

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## **FIELD REPORT: DNR FISH RESEARCH**

### **BIOENERGETICS MODELING IN LAKE SUPERIOR**

Gathering information on the fish stocks in Lake Superior is a daunting task, compounded by the subdivision of the lake into four jurisdictions, including Minnesota, Wisconsin, Michigan, and Province of Ontario waters. The fish community has undergone dramatic changes over the past 30 years, and many of the top salmonine predator populations are currently maintained by stocking. The populations of smelt and lake herring continue to fluctuate, and we need to be able to evaluate the impact of stocking practices on these forage fish. This places a premium on developing rapid assessment methods using easily obtainable data.

The Generalized Bioenergetics Model of Fish Growth (available from the Wisconsin Sea Grant office in Madison) is a valuable tool that may answer our questions concerning predator-prey dynamics, and stocking quotas. Using models developed for each of the predator fish, we can predict their consumption of the forage fish. These models are currently being evaluated for use in the management of fisheries in Minnesota waters of Lake Superior. We hope to identify the data most critical for accurate modeling, and thus prioritize future data gathering. Preliminary results indicate that accurate population estimates, growth, and diet information are most critical for predicting consumption.

The information generated from bioenergetics modeling may ultimately be used to adjust stocking quotas and harvest regulations. Modeling may eventually facilitate the coordinated management efforts over all of Lake Superior.

Submitted by: Mary T. Negus, Minnesota DNR -Fisheries Research, Duluth

### **NORTHERN PIKE SPECIAL REGS**

Extensive creel surveys have been completed on seven lakes in northeast Minnesota. They will provide crucial baseline data before the institution of special regulations - a slot length limit - on northern pike populations. Accurate baseline data is needed to determine if the regulations alter the pike populations for the better, that is, produce more quality-sized fish. The regulations are currently in place on three Beltrami county lakes and will be placed on three Aitkin county lakes and one Itasca county lake this 1991 fishing season. The regulations will be evaluated for their effectiveness in producing more large pike after being in place for two years.

Submitted by: Cindy Tomcko, Minnesota DNR -Fisheries Research, Grand Rapids

## **AWARD OF EXCELLENCE CALL FOR NOMINATIONS**

The Minnesota Chapter AFS Award of Excellence is presented in recognition of either long term excellence in the fisheries profession or outstanding performance in an activity that furthers the goals of the Chapter. The award can be presented to any individual, without regard to American Fisheries Society membership status.

If you feel someone you know is deserving of this recognition, I encourage you to complete the award of excellence nomination form on the back of this page and send it to:

Steve Colvin  
DNR - Ecological Services  
500 Lafayette Rd.  
St. Paul, MN 55155-4025.

Nominations for the 1992 award are due by **15 August 1991**. All nominations received by this date will be presented to the EXCOM for consideration.

## **NORTH CENTRAL DIVISION AWARDS NOMINATIONS**

The North Central Division of the American Fisheries Society invites nominations for the following Division awards:

### **MOST ACTIVE CHAPTER**

This award will be given to the North Central Division Chapter that has carried out the most active program of enhancing professionalism and fisheries science, relative to its size and the geographical distribution of its membership. Most often, members will nominate their own chapter.

### **EXCELLENCE IN FISHERIES SCIENCE**

This award will be given to a North Central Division member who has made an outstanding contribution to fisheries science. This contribution may be a single activity or a collection of achievements over the individual's career. Former Division members may be nominated if most of their work occurred while they were North Central Division members.

### **MERITORIOUS SERVICE AWARD**

This award will recognize extraordinary service to the American Fisheries Society by a North Central Division member. Nominations may be based on a single outstanding achievement or a variety of service activities, and may include service at the Chapter, Division, Section, or Parent Society level. In the nomination, evidence must be presented that this service has gone beyond the routine and that it has made a genuine and lasting contribution to the betterment of the Society.

To obtain the appropriate nomination forms, contact:

John Lyons, Chair  
NCD Awards Committee  
Wisconsin Department of Natural Resources  
1350 Femrite Drive  
Monona, WI 53716

All nominations must be received by August 2, 1991

**MINNESOTA CHAPTER AFS  
AWARD OF EXCELLENCE NOMINATION FORM**

**NOMINEE:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**WORK AFFILIATION:** \_\_\_\_\_

**NOMINATION DATE:** \_\_\_\_\_

**NOMINATION STATEMENT:** (supporting documentation may be included)  
(Provide a description of why you think this individual is deserving of the award, including an explanation of significant contributions or career accomplishments.)

**NOMINATED BY:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**PHONE:** \_\_\_\_\_

List the names, titles, addresses and phone numbers of two other people who are familiar with the nominee's accomplishments.

1.

2.

## NEWS ITEMS FROM ANYWHERE

### MISSOURI RIVER CATFISH - GAMEFISH

From the Wisconsin Chapter Newsletter

States on the Missouri River are considering a prohibition on the commercial take of catfish in the river, beginning in July 1992. Pending similar action in South Dakota, Iowa, Nebraska and Kansas, the Missouri Conservation Commission agreed to ban commercial harvest of catfish in the Missouri River.

The Missouri Conservation Commission concluded the ban was necessary to achieve long range fisheries management objectives, such as attaining a minimum length of 15 inches for 20 percent of the catfish population by July 1997.

Over the past two decades, sizes of Missouri River blue, flathead and channel catfish have been declining steadily. In 1967 and 1968, nearly 40 percent of the channel catfish and 70 percent of the flatheads in population samples were more than 15 inches long. By the 1988/1989 season, only four percent of the channel catfish and five percent of the flatheads in population samples were longer than 15 inches.

The reported 1989 take of catfish by commercial fishermen was 320,000 pounds; sport anglers caught 75,000 pounds. Of the 450 commercial permit holders, 25 fishermen took 71 percent of the reported fish in 1989.

Under the current regulations, catfish must be 15 inches long to be commercially legal. The commercial poundage has risen in recent years, from an average of 398,277 pounds between 1970-1979, to an average of 521,068 pounds since 1981.

Other Missouri River border states are considering new measures to regulate the commercial catfish fishery. Nebraska has examined various options, including a daily bag limit or a limit on the number of hoop nets permitted per license. South Dakota had banned commercial catfishing, but temporarily rescinded the move when Nebraska failed to follow suit.

### NETMAKING

From the Northeastern Division Newsletter

Practical Twinework for Fishermen and Gear Technologists is a perfect book for the fishery biologist who needs to know how to construct or assemble trawls, gill and fyke nets. With plenty of illustrations, the 160 page book is a useful teaching tool or reference for the experienced netmaker. RI Seagrant, University of Rhode Island Bay Campus, Narragansett, RI 02882. (401) 792-6482. Cost \$10 + \$1 postage and handling.

### CERTIFICATION

The Fisheries Scientist application fee is \$100.00 for members and \$200 for non-members (\$50 and \$100 respectively for Associate Fisheries Scientist). This only partially covers the cost, with the Society subsidizing the balance. Over the last few years there have been approximately 60 applications per year. For a brochure describing the program send a self-addressed 9"x12" envelope with 75 cents postage to the central office.

### WARMWATER FISHERIES SYMPOSIUM I

This symposium is unique in that it offers the first major symposium in the West on warmwater fisheries, and it is the first symposium to bring together scientists, managers, educators, and anglers in one place for meaningful talks and sharing of ideas.

Held 4 - 8 June 1991 in the Phoenix AZ area as an event of 1991 National Fishing Week. The meeting stresses communication and interaction among tribal, state, federal, and private entities for the management of fisheries and fishing. Major emphasis areas are warmwater fisheries, recreational fishing opportunities, and customer needs as we go into the 21st Century.

## **MINNESOTA CHAPTER LONG RANGE PLAN**

This is the second draft of the Chapter's Long Range Plan, published here in the newsletter so that you can review and comment. The plan obviously contains more initiatives than the Chapter can accomplish in one year. I envision that the planning committee will become a standing committee with a charge to prepare an annual action agenda which will be a more specific subset of the initiatives in the Long Range Plan. The annual action agenda will be implemented during the year following its adoption by the EXCOM. If you have more ideas to add to the Long Range Plan or object to a part of it, please send your comments to me.

Tracy Close, Planning Committee Chair  
5351 North Shore Drive  
Duluth, MN 55804

- I. Advance the conservation, development and wise use of fishery resources for optimum use and enjoyment of all mankind.
  - A. Communicate MN Chapter AFS role and purpose to appropriate policy-making groups and individuals, conservation groups, and the news media through the political process and publication of AFS positions. Correspond with specific individuals and groups as appropriate.  
Responsibility: Issues Committee, EXCOM  
Target date: initiate in 1991; ongoing
  - B. Increase proactive involvement in development of public policy.
    1. Solicit issues for policy development from the membership and prioritize issues.  
Responsibility: Issues Committee, Newsletter editor  
Target date: First list by 1992 Chapter meeting, first prioritization by May 1992, annually thereafter
    2. Develop, distribute and periodically evaluate MN Chapter positions on issues relevant to MN fisheries. Distribute to state agencies, federal agencies, general news media, governor's office, and Minnesota legislators.  
Responsibility: Issues Committee, EXCOM  
Target date: initiate in 1991 developing at least one Chapter position statement each year; evaluate and revise as needed
    3. Establish formal/informal communication with all members of state legislative natural resources committees and interest group representatives.  
Responsibility: Chapter President, Issues Committee  
Target date: initiate in 1991; ongoing
    4. Establish regular communication with media services in Minnesota and provide them with information on important issues and fisheries science matters.  
Responsibility: Issues Committee  
Target Date: initiate in 1992; ongoing

5. Encourage and enhance scholarly debate within the Chapter about policy issues critical to Minnesota through the MN Chapter newsletter.
    - a. Print at least one opinion article per newsletter.  
Responsibility: Issues Committee, Newsletter editor  
Target Date: initiate immediately
    - b. Solicit responses from experts in the field and print all responses to opinion articles in subsequent newsletters.  
Responsibility: Newsletter Editor  
Target Date: Initiate immediately
  - C. Recognize aquaculture as a growing factor in Minnesota fisheries and apply subgoal B above to provide unbiased, professional policy views on aquaculture-related issues.  
Responsibility: ad hoc Aquaculture Committee, Issues Committee, EXCOM  
Target date: initiate in 1991 developing one or more per year as needed; evaluate and revise as appropriate
  - D. Strengthen leadership among scientific societies and organizations concerned with fisheries and the aquatic environment by requesting review and endorsement of position statements from other professional societies including ichthyologists, herpetologists, hydrologists, ecologists, limnologists, and invertebrate specialists.  
Responsibility: EXCOM  
Target date: initiate immediately; ongoing
- II. Gather and disseminate information on fisheries science and management.
- A. Expand news coverage, opinions and professional issue content of the chapter newsletter.
    1. Establish field reporters at major work locations. The newsletter editor should require a quarterly report even if the report says "no news".  
Responsibility: Newsletter Editor  
Target Date: Reporters in place by 1992 Annual Meeting
  - B. Increase efforts to inform the public about topical fishery issues such as habitat protection, multiple use conflicts and fishery resource policies through mass-media approaches.
    1. Increase output of news releases. Proactive news releases should be prepared addressing all major fisheries issues.  
Responsibility: Finding authors and approving content; President Distribution; Secretary/Treasurer  
Target Date: Ongoing
    2. Increase appearances on radio and television. Each year, the new president should inform radio and television hosts of his/her availability as a guest and potential subjects of interest to viewers or listeners. The president should also encourage other AFS members with special knowledge or expertise about fisheries related issues to make such appearances.  
Responsibility: Finding speakers and approving content; President  
Target Date: Ongoing

3. Develop a mailing list of radio/television hosts and major newspapers for the Chapter's use. Add the addresses to the newsletter mailing list.  
Responsibility: President (or designee)  
Target Date: 1992 Annual Meeting
4. Conduct a workshop about dealing with mass-media.  
Responsibility: Education Chairperson  
Target Date: As soon as possible
5. If and when The Society prepares information kits (see Society long range plan) for distribution to public school teachers, assist in the distribution of those kits.  
Responsibility: Education Committee Chairperson  
Target Date: As soon as they are available
6. A news release announcing the annual meeting and agenda and inviting interested persons should be distributed to the media and legislators.  
Responsibility: Secretary/Treasurer  
Target Date: Before 1992 Annual Meeting
7. A news release should be prepared after the annual meeting detailing Chapter business, approved resolutions, newly elected officers and newly certified scientists.  
Responsibility: Secretary/Treasurer  
Target Date: 1992 Annual Meeting

III. Promote and evaluate the educational, scientific and technical aspects of the fisheries science profession.

A. Promote and maintain high educational standards for the fisheries profession.

1. Investigate potential of Minnesota's educational institutions to provide continuing education pertinent to fisheries professionals for academic credit (seminars, short courses, condensed classes).  
Responsibility: Issues and Continuing Education Committee  
Target Date: 1992 Chapter Meeting
2. Sponsor at least one workshop annually dealing with some aspect of fisheries science using outside experts.  
Responsibility: Continuing Education Committee  
Target Date: Ongoing - Annually

B. Expand and promote a comprehensive certification program.

1. Expose Chapter members to certification procedure and its pros and cons through a presentation by a knowledgeable individual (parent society staff) at Chapter meetings.  
Responsibility: Program Chair  
Target Date: 1992 Chapter Meeting
2. Recognize through various media those members who have recently become certified.  
Responsibility: President, Newsletter Editor  
Target Date: 1992 Chapter Meeting - Annually

3. Advocate certification of all fishery professionals by describing benefits of certification in an AFS sponsored letter to employers and suggest employers compensate certified professionals.  
Responsibility: President  
Target Date: September 1, 1991
- C. Develop and maintain professional standards for the fisheries profession.
1. Recruit high caliber students from related disciplines into fisheries and expose them to AFS by giving a monetary award (\$250.00) for best student paper at Chapter meetings.  
Responsibility: EXCOM, Awards Committee  
Target Date: Chapter Meeting 1992
  2. Hold more Chapter meetings at or near universities to increase exposure of AFS to students. Make sure staff at universities advertise meetings and get students involved.  
Responsibility: Program Chair  
Target Date: 1992 Chapter Meeting
- D. Develop and maintain scientific, technical, professional and ethical standards for the fisheries profession.
1. Plan a half-day program or panel discussion on professional ethics at a future Chapter meeting (possibly joint meeting with Wildlife Society).  
Responsibility: Program Chair  
Target Date: 1993 Chapter Meeting or sooner
- IV. Provide an organizational structure that equitably represents its members, develops opportunities for effective leadership and generates resources necessary to carry out its programs.
- A. Work closely with the North Central Division to provide regional program coordination and advance goals.
1. Participate in retreats, meetings and share minutes, notes and reports with the membership through the newsletter.  
Responsibility: Chapter Officers, Members  
Target: Ongoing
- B. Form a committee and complete a procedures manual that includes bylaws, chapter functions, procedures and position descriptions for each officer and chairperson and make available to the membership.  
Responsibility: EXCOM  
Target: 1992 Annual Meeting
- C. Continue the ongoing formal planning process to guide Chapter activities.
1. Change the ad-hoc Planning Committee to a standing committee to periodically review and update the long range plan. Report progress at the annual meeting.  
Responsibility: President  
Target: 1992 Annual Meeting

2. **Develop an annual Action Agenda organized under the Chapter's Long-Range Strategic Plan and ensure its implementation.**  
Responsibility: Planning Committee Chairperson, Planning Committee Members  
Target: 1992 Annual Meeting
  3. **Develop an annual and long term financial plan. Designate fund raising activities needed to meet goals and assign responsibility.**  
Responsibility: EXCOM  
Target: 1992 Annual Meeting
- D. Evaluate role and responsibilities of the EXCOM and standing committees for efficiency and effectiveness in the conduct of the Chapter's business.**
1. **Develop position descriptions for all EXCOM members and update written position descriptions (in the procedures manual) as necessary. Assure that each EXCOM member has all the information needed to be an effective officer.**  
Responsibility: President  
Target: Ongoing
  2. **Evaluate committees and make necessary changes to accomplish the yearly action plan.**  
Responsibility: EXCOM, Officers  
Target: Ongoing
- E. Provide/seek out opportunities for leadership training.**
1. **Identify potential leaders by actively recruiting new prospects and offering them increasingly responsible and meaningful assignments.**  
Responsibility: President  
Target: Ongoing - Annually
  2. **Gather information which highlights accomplishments, activities and leadership procedures from other AFS chapters. Share information with officers, committee chairs and the membership as appropriate.**  
Responsibility: President  
Target: Ongoing
- F. Increase membership and involvement in Chapter activities.**
1. **Increase role of retirees in chapter activities through personal contact, written or verbal. Appoint at least one retired person to a committee assignment annually (preferably a chair).**  
Responsibility: President, Committee Chairs  
Target: Immediate - Ongoing
  2. **Provide a "Talent Search" questionnaire to members for them to describe their areas of expertise, identify committee interest and important issues.**  
Responsibility: EXCOM, Membership Chairperson  
Target: 1992 Annual Meeting

3. Encourage employers to support Society membership for professional employees. Send annual letter to all agencies employing fisheries and related professionals acknowledging the Chapter's accomplishments for the year and thanking them for their support as appropriate.  
Responsibility: President/EXCOM  
Target: 1992 - Annually
4. Actively recruit students.
  - a. Ensure that schools providing degree programs in fisheries or related subjects have membership forms available. Have at least one contact person at each school to promote AFS.  
Responsibility: Membership Chairperson  
Target: Immediate - Ongoing
  - b. Encourage presentation of student papers at annual meetings. Send request for papers to colleges and universities annually.  
Responsibility: President-elect  
Target: Immediate - Ongoing
  - c. Discount student registration fees at annual meetings.  
Responsibility: EXCOM, Membership Chairperson  
Target: 1992 Annual Meeting
  - d. Encourage participation of students and new professionals to participate in Chapter business. Appoint at least one student to a committee annually.  
Responsibility: Chapter Officers, Committee Chairs  
Target: Immediate - Ongoing
5. Develop "creative types" of memberships (ie Annual Media Membership, Legislator Membership, Joint Society Memberships, etc.) to broaden the exposure and impact of the State Chapter.  
Responsibility: EXCOM, Membership Chair  
Target: 1992, Ongoing

## MINUTES OF THE CHAPTER EXCOM, 22 JANUARY 1991

Members in attendance: J. Gunderson, T. Goeman, C. Tomcko, M. Vanderford,, D. Bathel, L. Eberley, T. Close, H. Drewes, B. Parsons, L. Miller, S. Boe, G. Siesennop, R. Newman, D. Schupp, D. Pereira, H. Bolton, G. Busacker, R. Pierce.

Minutes from the October 16, 1990 EXCOM meeting in Hinckley were approved and income and expenditures since October 16 were reviewed. Current balance in the treasury is \$3,451.03.

President Busacker provided an update on actions and information since the last EXCOM meeting. Our special regulations resolution submitted to the North Central Division (NCD) failed to pass. NCD president W. Taylor will work on a revision that is more sensitive to the rights of state agencies.

A press release on the Environmental Trust Fund was distributed before the fall elections. Busacker drafted a letter to the governor and legislators supporting RIM funding.

Dakota has adopted a different chapter logo than ours. D. Whiting, artist for our logo, has not yet been contacted about obtaining rights to the drawing.

The parent society position on chapter political activities includes the following: 1) Candidates for election can not be endorsed. 2) Candidates for appointment can be supported. 3) Up to 20% of the budget can be used to lobby for specific legislation and 5% for grass roots lobbying.

### OLD BUSINESS

#### Transgenic Fish

D. Pereira, with input from A. Kapuscinski, drafted a position statement augmenting the parent society statement on transgenic fish to make it relevant to Minnesota. The position statement needs to be sent to the Environmental Quality Board, which has been directed to have a set of rules together by July. Comments were that the document needs to

explicitly state that environmental assessments be conducted when transgenic fish are deliberately or unintentionally released. These comments were incorporated into a motion that we accept the position statement in principle, add an executive summary about the statement, and include the summary and statement in the newsletter for review and voting by the membership. The motion passed.

#### Collecting Permits

Issue was tabled.

### COMMITTEE REPORTS

#### Issues

D. Bathel presented an addition to the procedures manual that would limit EXCOM member-at-large terms to no more than two consecutive one year terms. The EXCOM voted to submit the addition to the membership at the annual meeting.

#### Newsletter

B. Parsons indicated that future newsletters will contain reports from each committee chair and articles from field reporters (who are being recruited at the annual meeting). Three general newsletters will be published at the end of March, July, and October. Deadlines for articles will be the 15th of those months. An annual meeting issue will also be published before the meeting. The NCD newsletter editor is being included on our mailing list.

#### Nominating

C. Tomcko noted that elections were conducted using the newsletter and no run-off election would be necessary. A suggestion was made to publish candidate autobiographical data for future elections in the newsletter.

#### Resolutions

M. Vanderford presented a proposal for a resolution on the use of rotenone in fish management in Minnesota. The purpose was to adopt a pro-active stand for continued use of rotenone. Considerable discussion ensued concerning educating public and legislative groups about the issue, accompanying the resolution with a briefing paper or bulletin,

and whether or not to qualify the resolution with statements about using approved formulations and following label directions. The EXCOM voted to submit the resolution to the membership at the annual meeting.

Also proposed was a resolution supporting a name change for the parent society. The name change is based on Canadian concerns about representation in the society. The EXCOM also voted to bring this resolution to the membership.

#### Procedures Manual

The task force (M. Vanderford, V. Snarski, and W. Barstad) has established a timetable for completion of the manual by 30 April 1991. The deadline for information to be included will be 28 February. Some chapter historical information may also be included in the manual. The procedures manual will be presented in the newsletter along with a ballot for members to vote on accepting it.

#### Continuing Education

S. Boe indicated that the statistics workshop was canceled due to insufficient registrations. A larval fish workshop may be scheduled for next fall. A questionnaire on other potential workshop topics will be distributed during registration at the annual meeting. The committee will also try to identify educational opportunities available through other institutions in the state and could potentially be used as a clearing house for information on fisheries educational opportunities.

#### Membership

T. Goeman purchased a database program for managing the membership list and obtained a mailing list of media in Minnesota for future press releases. Currently there are 365 names on our membership list, many who are no longer active. The EXCOM voted that those not paying dues or attending meetings for three years should be given warning in the newsletter, then dropped from the list if not renewing. New chapter members will be recruited from lists of new people at agencies like DNR and from the parent society list. Participation in the dues check-off system would allow the parent society to provide a list for us. The EXCOM voted to give professionals moving into Minnesota (including

parent society members) a free one year subscription to our newsletter to encourage their membership in the chapter.

#### Awards

Awards have been prepared for the annual meeting.

#### Rivers and Streams

The Midwest Fish and Wildlife Conference symposium went well. H. Drewes is the new committee chair.

#### Long Range Planning

The committee has prepared a second draft plan and is looking for additional feedback. The plan is based on the national level plan and is meant to serve as a framework helping to direct chapter activities. The plan is too big to accomplish in one year but is designed to be implemented in parts. The EXCOM voted to approve the plan in principle and to submit it to the membership via the newsletter for comment and approval. A cover sheet clarifying the purpose of the long range plan will also be submitted.

#### Past Presidents Committee

Committee members have provided some comments on the long range plan.

### **NEW BUSINESS**

#### Committee Spending

How much money can a committee spend? This issue will eventually need to be addressed in the procedures manual.

#### 1992 Annual Meeting

The 1992 annual meeting will be the 25th anniversary for the chapter. A joint meeting with the Wildlife Society was proposed. The EXCOM voted not to meet with the Wildlife Society next year but to keep this option open for the future. The EXCOM was also asked to consider holding a long range planning session at the 1992 meeting to complement the work of the planning committee. The EXCOM voted to contact a facilitator from Illinois who might be able to conduct the planning session.

#### NCD Fundraising

NCD is looking for volunteers to serve as

guides for specific hunting and fishing trips to be raffled in the "Outdoor Adventure" raffle. We do not yet know the legal implications of volunteer guiding.

#### Dues Check-off

Participation in the parent society dues check-off system was proposed for our chapter. The EXCOM voted to bring this issue to the annual meeting. It is unknown when money would be relayed to the chapter.

#### Newsletter Workshop

The EXCOM voted to recommend that we send our newsletter editor to a newsletter workshop in San Antonio. Costs could be as much as \$800-\$1,000.

#### Sully Award Endowment

Contributions (\$200) are being sought to establish an endowment for an award given to persons promoting fish resources. Awards would be given in the name of Carl Sullivan. The EXCOM voted to submit this item at the annual meeting also.

#### Permanent Home Expansion Fund

The AFS home expansion fund is about \$100,000 short. The EXCOM adopted no motions on this topic.

Respectfully submitted,  
Rodney B. Pierce  
Secretary/Treasurer

## "FEARLESS LEADER" AND HIS FRIENDS



Sea Grant fisheries agent Jeff Gunderson and crayfish.

### Crayfish Project Wins Two Awards

It's a long way from a central Minnesota lake to a boiling pot in Sweden. Tons of Minnesota crayfish now make that journey, thanks to Jeff Gunderson, Minnesota Sea Grant extension fisheries agent.

Working with researchers, entrepreneurs, trappers, farmers, and overseas customers, Gunderson helped develop a Minnesota crayfish export industry that will process and ship 17 tons of crayfish to Sweden this year.

Gunderson recently received two Sea Grant awards for his efforts: the "Outstanding Program Award," reserved for the finest Sea Grant extension projects in the Great Lakes region, and the Sea Grant Advisory Service Association's "Award of Excellence."

There have always been small harvests of Minnesota's wild crayfish stocks, but no major market existed until Europe's native crayfish were devastated

by a disease imported, ironically, from America. The Swedes eat four to six million pounds of crayfish during their annual month-long crayfish festival.

Minnesota has benefitted from the Swedes' huge appetite for crayfish because they like the color, size and flavor of our crayfish better than most others they've tried, Gunderson said.

Gunderson is now studying how well crayfish grow in wild rice paddies. Because of depressed prices for cultivated wild rice, up to 12,000 acres of these paddies are not being used. Wild rice ponds have already proved to be excellent habitat for crayfish, he said. In the future, farmers may be able to turn crayfish into a new cash crop.

The wild rice/crayfish project is one of several demonstration projects run by Sea Grant aquaculture specialists and funded by the Legislative Commission for Minnesota Resources (LCMR).

# **MINUTES OF THE 24TH ANNUAL MEETING MINNESOTA CHAPTER OF THE AMERICAN FISHERIES SOCIETY HUDSON, WISCONSIN, 23 JANUARY 1991**

The meeting was called to order by president Greg Busacker. John Lyons, representing the North Central Division (NCD), read a letter from the NCD president that outlined some of the new directions for the division, encouraged the chapter to help sell NCD publications, indicated a need to generate funds for publishing Fisheries News, urged the chapter to consider the parent society name change, and promoted continuing education.

Minutes from the 1990 meeting in International Falls were highlighted and approved.

President Busacker provided an update on activities since the last annual meeting including appointment of student representatives to the EXCOM, attending RIM coalition meetings, parent society approval of chapter bylaw changes, and initiation of a long range plan for the chapter. He also urged continued chapter support for president's travel and recognized the efforts of committee members during 1990.

## **COMMITTEE REPORTS**

### Issues

An addition to chapter procedures was proposed that would limit EXCOM member-at-large terms. A motion was passed to adopt language for the procedures manual that would limit terms to no more than two consecutive one year terms.

### Newsletter

B. Parsons is recruiting field reporters from the various groups/agencies represented in the chapter. Three general newsletters (end of March, July, and October) and a special annual meeting letter will be published each year. Future newsletters will contain committee reports.

### Nominating

C. Tomcko announced that new officers will be Virginia Snarski as president-elect, Don Schreiner as secretary/treasurer, and Peter Sorenson, Dave Pederson, Dave Conner, and

Mary Negus as EXCOM members-at-large.

### Resolutions

A resolution was introduced supporting the use of rotenone as a fisheries management tool in Minnesota. Discussion of the resolution concerned whether or not a pro-active stand was necessary, suggested changes to the language of the resolution, and the fact that the problem in Minnesota has not been with rotenone but with contaminants mixed with the rotenone. A motion for the resolution was made, then withdrawn, and no vote or further action was taken.

A second resolution was introduced supporting a name change for the parent society. Most of the discussion encouraged recognition of Canadian concerns and those of other international members. A motion was passed to approve the resolution and forward it to the parent society.

### Procedures Manual

A draft of the manual will be published in the newsletter for comment and approval by the membership. A motion was passed that approved, in principle, of the process being used to review and vote on the new procedures manual.

### Continuing Education

The statistical workshop was canceled due to insufficient registrations. Plans are being developed for a larval fish workshop conducted by staff from Colorado State University. The committee will review responses to their questionnaire on future topics for workshops. The committee will also try to identify educational opportunities available through other institutions in the state and could potentially be used as a clearing house of information on fisheries educational opportunities.

### Membership

T. Goeman reported that 124 members registered for the meeting, database software has been purchased to manage the membership list, and that a new initiative to encourage

membership of students and new professional employees in Minnesota will be to send them a few free issues of the newsletter. The parent society list of members in Minnesota is also being cross-checked with the chapter list in an effort to recruit new members.

#### Awards

Dr. Thomas F. Waters was given the Award of Excellence for his pioneering work in stream ecology and contributions to fisheries education through his work at the University of Minnesota. Dr. Waters is a founding member and past president of the chapter.

S. Colvin will be the new committee chair. G. Siesennop urged that nominations for the Award of Excellence be submitted in a timely manner.

#### Rivers and Streams

H. Drewes will be the new committee chair. The committee mailing list will be updated and the committee will hold a mid-year meeting.

#### Long Range Planning

A second draft of a chapter long range plan was submitted to the EXCOM. The plan is based on the parent society long range plan. A motion was passed that approved the plan in principle with the provision that it be published in the newsletter for review, comment, and approval.

#### Past Presidents

The committee is up and running and 10 past presidents have been contacted who are willing to serve on the committee.

#### Treasurer's Report

The treasurer's report was read and the report of an audit conducted by B. Parsons and D. Schupp was approved.

### **OLD BUSINESS**

D. Pereira and A. Kapuscinski have drafted a position statement on transgenic fishes for the chapter. The statement is an initiative to present concerns about transgenic organisms specific to the conservation of Minnesota's aquatic resources. Timeliness of this statement is important because the Minnesota Environmental Quality Board has been

directed to establish a set of rules by July. A motion was made to publish the statement in the newsletter for comment and final approval by the membership. The motion was amended to state that the vote will determine the final fate of the statement but the comments could be used/reviewed by the EXCOM before being sent out. The motion passed.

### **NEW BUSINESS**

President Busacker stepped down from his year term of office by passing "Esos" on to Jeff Gunderson. Jeff presented Greg with an award of recognition for his service to the chapter. Jeff began his term of office by requesting ideas for the location for the 25th anniversary meeting in 1992. Central or north central Minnesota were suggested.

NCD is soliciting volunteers to serve as guides for hunting and fishing trips to be raffled in an "Outdoor Adventure" raffle. A caution was issued about the legal liabilities of being a guide.

Participation in the parent society dues check-off system was proposed for our chapter. Advantages are the potential to gain new members, to more effectively use the parent society member lists, and to circumvent dues collection problems caused by poor weather during the annual meeting. A motion to participate in the dues check-off was passed.

A workshop on newsletter publication will be held in San Antonio in conjunction with the society annual meeting. The chapter voted to send our newsletter editor to the workshop and cover his expenses (including his return trip!)

An endowment is being established to fund an award to be given to individuals providing excellence and leadership in fisheries science, management, or conservation. The award will be given in the name of Carl Sullivan. The chapter voted to contribute \$200 to the endowment.

Committee chairs for 1991 will be C. Waltner (Nominating), M. Vanderford (Procedures), S. Boe and M. Cook (Continuing Education), S. Colvin (Awards), H. Drewes (Rivers and

Streams), T. Goeman (Membership), T. Close (Long Range Planning), and D. Siefert (Past Presidents).

President Gunderson, in response to recommendations in the chapter long range plan, will develop a plan of action and submit it to the EXCOM. He would also like to recruit some members to draft a protocol for incorporating poster papers into the annual meeting.

The membership was also informed that there is some interest in establishing a history section in the parent society.

The final agenda item was a budget proposal for the coming year. Proposed and accepted were funds for president's travel and \$400 for speaker fees at the annual meeting.

Respectfully submitted,  
Rodney B. Pierce  
Secretary/Treasurer

### TREASURER'S REPORT 1991 ANNUAL MEETING

Balance 3-1-90 \$4,754.36

#### RECEIPTS

1990 Annual meeting	
Registration, dues, raffles, and sales	\$2,715.22
Reimbursement from N.W. Ontario Chapter	756.45
Interest from savings and checking accounts	201.42
T-shirt and hat sales	121.00
Membership dues by mail	105.00
	<u>77.00</u>
	<b>\$3,899.09</b>

#### DISBURSEMENTS

1990 Annual meeting	
Holiday Inn	\$2,322.15
Mixer refreshments and cleanup	156.41
NCD President expenses	106.33
Awards	49.72
AFS Home expansion fund	1,050.00
Travel expenses	
President	500.00
President-elect	300.00
T-shirts	316.80
Database software	163.77
Postage	120.95
Flowers for C. Dahl	38.30
1991 Annual meeting	
Awards	77.99
	<u>77.99</u>
	<b>\$5,202.42</b>

Balance 1-18-91 \$3,451.03

Submitted by: Rodney B. Pierce - Secretary/Treasurer

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( ) Address change:

( ) 1991 Membership Dues enclosed (\$5.00)

If your mailing label on this newsletter has a colored stripe, you have nothing to worry about. If your mailing label shows no color, you are a delinquent member. To keep our mailing list current and of a manageable size, we have adopted a policy of deleting names of individuals we have not heard from in several years. To maintain your membership status, send your 1991 membership dues of \$5.00 to the Membership Chairman today.

## Special Notice - Check Your Mailing Label

2868 CHESTNUT CIRCLE NE  
BRAINERD MN 56401

FIRST CLASS

COLVIN STEVEN  
DNR Ecol. Serv., BOX 25  
500 LAFAYETTE RD  
ST. PAUL MN 55155-4025