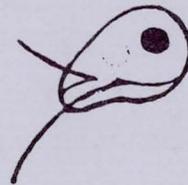


FISH  
HEALTH  
SECTION

AFS

NEWS  
LETTER



Volume 16, Number 3

July, 1988

INTERNATIONAL FISH HEALTH CONFERENCE  
IN VANCOUVER

98  
July  
16 (3)

The first International Fish Health Conference sponsored by the Fish Health Section of the American Fisheries Society was held at the Vancouver Harbourside Hotel in Vancouver, B.C., Canada on July 19-21, 1988. By all accounts the meeting was highly successful and represented the largest gathering of finfish and shellfish health scientists ever held. Because of the large number of requests to present material at the conference, the organizers were forced to schedule concurrent sessions. The co-moderators enforced the rigid time schedule that allowed papers to begin on time. The program had a broad diversity and an even balance of subject areas that kept most members busy in one of the two sessions. Vancouver proved to have been an excellent location for the meeting. The weather was perfect and most participants found enough energy to sample some of the many activities in the city.

Although the registration fees were modest by today's standards, the conference came very close to breaking even, thanks largely to the extreme efficiency of Trevor Evelyn and his staff. Without a doubt, the majority of the credit for the success of the meeting goes to Trevor who performed a job that few could have equalled. Additional thanks are due to Ron Hedrick, outgoing president of the Section, who shared the initial organizational work with Trevor and to John Rohovec who arranged the Conference handbook containing abstracts of the presentations. Financial support for the meeting was provided by the U.S. Fish and Wildlife Service, Biomed Research Laboratories Inc. and Aqua Health Ltd. Without their support, the cost of the meeting would have been substantially higher. Copies of the Conference Handbook are still available from Trevor Evelyn for \$10.00 Canadian funds. If these books

are sold, the conference will be within a few dollars of breaking even, a real help to the Section.

The final count showed 391 registered participants attended the meeting. There were 160 papers presented orally and 54 papers presented by poster. Trevor Evelyn has shipped 68 manuscripts, handed in at the meeting, to John Plumb, Bill Rogers and John Grizzle, the editors of the new Journal of Aquatic Animal Health. They hope that the first volume of the journal containing the papers from the meeting, will be available within 8-12 months. If you have not yet delivered your manuscript, please do so as soon as possible.

The annual banquet was held Wednesday evening in the hotel ballroom and drew 410. In addition to an excellent dinner, several awards were presented including the S. F. Snieszko Distinguished Service Award to Dr. Emmett Shotts, the past presidents award to Dr. Ron Hedrick, and a special service award to Trevor Evelyn for what was obviously a job well done. Certainly, one of the highlights of the evening was the after dinner talk by Dr. John Fryer. Following the introduction by Ron Hedrick who requested anyone in the room spending time in Dr. Fryer's laboratory to stand (half the people present rose to their feet), the "coach" gave an illustrated talk in which he covered the evolution of fish pathology up to the modern day. Some may have anticipated a long rambling narrative recounting the years of work and the friends and students along the way, but even those who know him well were not prepared for the depth and completeness with which he covered the topic or the extensive collection of slides assembled for the talk.

ELECTION RESULTS

The results of the recent elections have been tabulated. The races were very close. Congratulations to the winners and those defeated are to be thanked for their willingness to serve.

President-Elect  
Nominating Committee  
Board of Certification

John Schachte  
Rich Holt (3 year term)  
Ralph Elston, Paul Janeke

*The editors regret the tardiness of this issue of the Newsletter, but were involved with the International Conference.*

Foreign Members Dues Increase

The next billing period of the AFS will show an increase of dues of non-US members to \$7.50 for membership in the Fish Health Section and will be submitted to the AFS. If non-North American members wish to receive the Newsletter via air mail they should submit an additional \$7.50 to:

Vicki Blazer, Secretary/Treasurer, FHS  
Cooperative Fisheries Unit  
University of Georgia  
Athens, GA 30602 USA

## FHS OFFICERS AND COMMITTEES 1987-88

### EXECUTIVE COMMITTEE

#### Voting Members

Ron Hedrick, Chair and President, FHS  
 Doug Anderson, President-Elect  
 Bill Rogers, Immediate-Past President  
 Vicki Blazer, Secretary-Treasurer  
 Charlie Smith, Chair, Nominating Committee

#### Non-Voting Members (Chairs of Standing Committees)

John Rohovec, Newsletter and Publications Committee  
 Ron Hedrick, Awards Committee  
 Randy MacMillan, Membership and Balloting Committee  
 John Schachte, Professional Standards Committee/  
 Board of Certification  
 Ron Goede, Technical Procedures Committee  
 Roger Herman, Archives Committee  
 Ron Thune, Time and Place Committee

### STANDING COMMITTEES

#### Nominating

Charlie Smith, Chair  
 Craig Banner (2 years)  
 Marshall Bealeu (3 years)

#### Newsletter and Publications

John Rohovec, Chair  
 Jim Winton  
 Randy MacMillan  
 Paul Bowser  
 Doug Anderson  
 Ron Thune

#### Technical Procedures

Ron Goede, Chair  
 Kevin Amos  
 Dennis Anderson  
 Rod Horner  
 Jim Warren

#### Professional Standards/ Board of Certification

John Schachte, Chair  
 Marshall Bealeu (1 year)  
 Paul Bowser (1 year)  
 Joe Sullivan (2 years)  
 Drew Mitchell (2 years)  
 Ted Meyers (3 years)

#### Finance

Vicki Blazer, Chair  
 Randy MacMillan (Membership)  
 John Rohovec (Newsletter)

#### Awards

Ron Hedrick, Chair  
 Pete Bullock (2 years)  
 John Fryer (3 years)

#### Archives

Roger Herman, Chair  
 Margaret Ewing (2 years)  
 Tony Amandi (3 years)

#### Time and Place

Ron Thune, Chair  
 Paul Reno (2 years)  
 Ron Hedrick (3 years)

### AD HOC COMMITTEES

#### International Meeting

Trevor Evelyn, Chair  
 Kevin Amos  
 John Plumb  
 John Rohovec  
 Richard Heckmann

#### Program (1989 Meeting)

Paul Reno  
 Ron Goede

#### Pathogen Evaluation Criteria

Dennis Anderson, Chair  
 (To be named)

#### Procedures Evaluation

Emmett Shotts, Chair  
 John Hawke  
 Yolanda Brady  
 Phyllis Barney  
 Cliff Starlipper  
 Howard Jackson  
 Ron Hedrick  
 Diane Elliot  
 Robert Durborow

## EMMETT SHOTTS RECEIVES SNIESZKO AWARD

Dr. Emmett B. Shotts, Jr. is recognized and respected internationally as a leading scientist specializing in bacterial diseases of fish. He has provided a unique blend of scientific knowledge with the basic needs of practical and applied bacteriology in controlling fish diseases. His contributions to teaching, research and service have been outstanding.

Emmett has directed over 30 M.S. students and more than 10 Ph.D. and post-doctoral students. He has served on more than 50 other graduate student committees. The research capabilities and excellence of these students reflects Emmett's high standard and professionalism.

He is a leader in the areas of bacterial taxonomy and systematics, drug sensitivity, genetic resistance to drugs, and development of specific media used in isolation of pathogenic bacteria. He has published more than 200 research papers in peer-reviewed journals during his career. His research has been especially valuable to the people working in fish diagnostics.

In addition to serving as a consultant to his colleagues, Emmett has served on numerous committees at university, state, national and international levels. He has been especially helpful to the Fish Health Section of the American Fisheries Society with the great number of committees he has served on and the ultimate service of being President of FHS.

\*\*\*\*\*

*Editor's Note: Although Emmett was not able to attend the International Meeting to receive the award, his acceptance was read by Bill Rogers and follows:*

Mr. President, Awards Committee, and participants at the International Fish Health Conference in Vancouver, B.C., it is with utter surprise, great humility and with the utmost pride that I accept the 1988 Stanislas F. Snieszko Award. Having been encouraged by "Doc" in the early 1970's to turn my efforts from leptospirosis and Salmonellae toward fish disease research and having cherished a professional and personal friendship with Stan over these many years makes this award even more meaningful to me.

To individually thank all those who have made this award possible or to attempt to name all the friends I have made while working in fish disease research would fill a book. I would, however, like to single out several individuals who led this neophyte microbiologist into the area of fish diseases and helped him as he stumbled along—such people as Pete Bullock, John Fryer, Fred Meyer, Don Lewis, Wilmer Rogers, John Plumb, Ken Wolf and so many, many more of you, both fellow countrymen and those of you from other countries such as England, Italy, Japan, Taiwan, Scotland and Canada who educated me in the problems that existed and the uniqueness of the disease pattern in your particular part of the world.

Your willingness, all of you, to share your bacterial fish pathogen isolates with me has led to many interesting studies and stories—some told and others untold.

Too, being a teacher I must thank graduate students and colleagues alike who have played a role. Individuals like Frank Hayes who involved me in alligator diseases and started it all and Jack Gratzek who insisted that I publish a media for isolating Aeromonas, and in particular Doug Waltman, Ta Hsu, Steve Pyle, John Feeley, and Jeff Teska, graduate students who grew as I grew—we all learned a great deal together.

I've wandered long enough. I'm beginning to sound somewhat like the old sentimental, senile cuss I really am and I should not leave you with that impression. I'm sorry that I couldn't be there with you all to receive this award, see old friends, renew friendships and make new friends, and in doing learn of new and exciting problems to attempt to solve, but a very special commitment made many years ago precludes our being together at this time. However, I look forward to meeting with you all at later times and personally thanking each of you for your part in making this honor a reality. You know it isn't often a microbiologist receives an award in the fisheries-aquaculture area and I sincerely appreciate the recognition.

Got a bacterial fish disease problem? Let's talk! Thanks and God Bless.

## PASSAGES

*ew* Dave Groman has recently returned to North America from a four-year research stint in Iceland and Scotland, and has taken a position as Diagnostic Fish Pathologist at the Atlantic Veterinary College, University of Prince Edward Island, Charlottetown, P.E.I., Canada. Tele. (902) 566-0831.

## RECERTIFICATION OF FISH HEALTH INSPECTORS AND FISH PATHOLOGISTS

Fish Health Section members who are Certified Fish Health Inspectors or Certified Fish Pathologists are reminded to check their certificates periodically. The certification can be renewed every five years provided you submit the appropriate forms and fees before your certification has lapsed; otherwise, you will need to reapply including taking the written examination. Normally, the Chairperson of the Board of Certification will send the appropriate forms before your certificate lapses, but the pathologist or inspector retains the final responsibility for his or her certification.

## S.F. SNIESZKO DISTINGUISHED SERVICE AWARD

### INTRODUCTION

The S.F. Snieszko Distinguished Service Award is the highest award presented by the Fish Health Section of the American Fisheries Society. Dr. S.F. Snieszko was dedicated to excellence in research, teaching and service in the fish health sciences and the first recipient of the Distinguished Service Award. The purpose of this award is to recognize a fish health scientist(s) for their continued outstanding contributions to the field of fish health.

### NOMINATION PROCESS

The individual(s) to be considered for the Distinguished Service Award must be nominated by a current member of the Fish Health Section. The person nominating the individual for the award is expected to solicit and obtain six letters of recommendation from fish health scientists in support of the nominee. These letters shall address the candidate's dedication to research, teaching and service. Letters of recommendation should be sent to the nominator. These six letters should be accompanied by a letter of nomination that clearly states the qualities of the candidate and the specific reason(s) he or she is being nominated for this award. A current curriculum vitae for the candidate should also be obtained and sent with the nomination packet directly to the current chairperson of the Awards Committee. It is suggested that persons nominating or providing letters of support for candidates maintain confidentiality throughout the process.

### SELECTION OF AWARD RECIPIENT

This process is described in the By-laws of the Fish Health Section under the Awards Committee.

### RECEIVING AWARD

The By-laws indicate a certificate will be prepared and presented to the recipient at the annual meeting. In addition, their name will be placed on a plaque with those of previous recipients. This plaque will remain at the US Fish and Wildlife Service Laboratory in Leetown along side Dr. Snieszko's portrait.

## JOB OPPORTUNITY

Fish Health Specialist NRS-7-Mgt; Wisconsin Department of Natural Resources. Responsible for statewide Fish Health Program involving 12 coldwater and 4 coolwater hatcheries; assist with statewide fish contaminant monitoring program. **KNOWLEDGE REQUIRED:** Theory, principle and application of fish disease epizootiology and pathology; propagation and ecology of fishes; fish necropsy procedures; organization and maintenance of diagnostic lab; fish hatchery facilities design; environmental contaminants and their impact on fish populations. Start at \$2345/month. Refer to Job Classification Code 55717007. Call or write for special application and examination materials to Ruth Anderson (608) 266-5898; DNR Personnel Office; P.O. Box 7921; Madison, WI 53707. Do NOT submit a State Application Registration Form. DEADLINE date for receipt of COMPLETED application and examination materials is NOVEMBER 1.

Brief reports are solicited from all members. Please submit to one of the editors.

## HIGHLIGHTS OF U.S. FISH AND WILDLIFE SERVICE REGISTRATION ACTIVITIES INVOLVING FISHERY CHEMICALS AND DRUGS (January-March 1988)\*

### TETRACYCLINES TO MARK FISH

The Food and Drug Administration (FDA) ruled on January 27, 1988, that it is permissible to use tetracyclines (oxytetracycline and tetracycline) to mark young fish. Fish marked in the feed should be held for 7 days before release and those injected should be held for 15 days before being stocked. A marker was needed that will persist for several years, not be lost, and that will be distinctive. The technique was requested by law enforcement for distinguishing between natural and hatchery-stocked populations, for life history studies, and for population estimates.

### AQUASHADE CONTROL OF OFF-FLAVOR IN FISH IS ALLOWED

The Environmental Protection Agency (EPA) informed the sponsors of Aquashade that the product can be used to control off-flavors in the production of food fish. The label states that Aquashade is "for use in fish culture ponds and on fish farms." FDA had already approved the active ingredients as food additives.

### TASK FORCE ON THERAPEUTIC COMPOUNDS

The U.S. Department of Agriculture Task Force on Therapeutic Compounds for aquaculture has prepared an action plan to help accelerate the registration of aquaculture compounds. The Task Force met in November 1987 and March 1988 to develop a report on an assessment of current efforts, the institutional and human resources available, a priority list of needed therapeutic compounds, the steps required to obtain clearance for each compound, and the budgets needed to get the job done. The revised plan will be presented to the Congress in June 1988. The report has been sent out to the aquaculture community for review.

### APPROVAL OF BISAZIR

On February 8, 1988, FDA ruled that the use of bisazir as a chemosterilant to control sea lamprey populations in a sterile-male-release program is consistent with public health concerns provided that (1) all components of the Service's use plan are implemented, and (2) the plan is limited to use by the Service and cooperating state agencies responsible for control of sea lamprey populations.

### TFM FORMULATIONS CHANGED

The National Fisheries Research Center, La Crosse, Wisconsin, (NFRC-L) has developed improved formulations of liquid TFM and the TFM Bar, the products used to control the sea lamprey in the Great Lakes. A ruling was obtained from EPA that polyethylene glycol 200 (PEG 200) is acceptable as a replacement for DMF, the inert ingredient previously used in the liquid formulation. A petition was submitted to EPA on December 30, 1987, requesting permission to use PEG 200 in the liquid formulation. A petition is in preparation to cover the use of PEG 400 in the solid bar formulation.

### FORMALIN SUPPLY SITUATION

The National Fisheries Research Center, La Crosse, Wisconsin contacted Natchez Animal Supply Company regarding problems with the lack of service and the high price of Formalin-F. Natchez Animal Supply Company, the only legal sponsor of formalin, has not responded to the needs of the fishery community in the past. However, the Company reports that they have now upgraded their facility, developed new management, and are now ready to respond promptly to everyone's needs. Jeffrey A. Long, Manager of Natchez Animal Supply Company, has requested that all persons with questions or problems regarding delivery of Formalin-F should write or call him at (601) 446-5611. Natchez has promised that they will answer every request promptly. Mr. Long also agreed to check manufacturing costs to determine if the price of Formalin-F could be reduced.

Rosalie A. Schnick, Technical Information Specialist  
National Fisheries Research Center-La Crosse, WI  
and  
Bernard L. Berger, Research and Development, Region 8,  
Office of Research Support, Washington, D.C.

✓  
2345  
12  
4690  
345  
8,140

# FISH HEALTH SECTION - COMMITTEE REPORTS

## EXECUTIVE COMMITTEE

This has been a busy past year for the Section and energy has been exerted in several major areas: (1) initiation of the new journal, (2) organization of the International Conference, (3) preparations of the shellfish health guide and the first administration of the examination for certification. A new committee to begin revisions in the Bluebook has also been established as a subcommittee in the Technical Procedures Committee. We will pay careful attention to see that a comprehensive review of the new edition occurs. A loose leaf format for the new edition is being considered at this time.

I would like to thank all of the chairs of the committees for your service in this last year; it was a pleasure working with such a conscientious group.

As most of you know the journal has received final approval and its first issues will contain papers from the International Conference in Vancouver. The journal concept was a Section initiative (Dr. Bill Rogers got the ball rolling) submitted to the parent society. I would like to preserve the association between the journal and the Section as both evolve. In this regard I would deem it appropriate to have the main Technical Editor of the new journal as a member of the EXCOM (as a voting or nonvoting member - to be discussed). The editor would present a yearly report on the status of the new journal and would report to the EXCOM when major changes or decisions regarding the journal are needed.

The "Procedures for the Detection and Identification of Certain Fish Pathogens" or Bluebook, are principal guidelines used by fish health scientists in the U.S. The manual serves as a guide to assist those conducting fish health inspections and certifications by presenting practical, current and sensitive techniques for the detection and identification of fish pathogens. Ongoing research on existing and new pathogens will require constant revisions of the Bluebook. A loose leaf format for the Bluebook is not a new idea and has been discussed repeatedly. Major problems associated with a loose leaf format are the need for a bound volume for legal citation and the lack of guarantee that all copies in different laboratories will contain the updated material. These do not seem to be unsurmountable problems and might be remedied by update codes on each page which would insure at any specific time that the manual was current.

The first step in this process has begun. Following a request by President Hedrick, John Thoesen has assembled a committee (Bluebook

### BOARD OF CERTIFICATION COMMITTEE

During the past year, five Fish Health Inspectors (FHI) were certified and one was recertified for an additional 5 year period. At present there is one FHI application under review. Currently, there are 37 active FHI, one retired FHI and one expired FHI.

Two Fish Pathologist (FP) applications were reviewed by the board and one is under review. Currently, there are 48 active certified FP, one honorary and three expired FP. Eleven FP received five year recertifications.

#### Board of Certification Summary

Fish Health Inspector:	
Total No of Applications:	62
No Certified:	39
Five Year Recertification:	1

Fish Pathologist:	
Total No. of Applications:	74
No. Certified:	52
Five Year Recertification:	11

Spike Bealeau  
Chairperson

### TIME AND PLACE COMMITTEE

The Fish Health Section will have its 1989 Annual Meeting in conjunction with the Eastern Fish Health Workshop. The meeting will be in Annapolis, Maryland and the dates are not yet available.

Ron Thune  
Chairperson

Committee). This committee is to be a standing subcommittee of the Technical Procedures Committee (in a similar fashion to the relationship between the Board of Certification and the Professional Standards Committee) and is charged with developing a revised edition of the Bluebook. In the future the chairman of the subcommittee would become a member of the Technical Procedures Committee (at present this committee is by appointment with no finite term). This committee will assemble a first draft and present this to the Technical Procedures Committee (TPC) which will be responsible for coordinating its proper review. This will include an internal review (within TPC) and a comprehensive review by academic and research scientists from within the Section. The draft, with reviews, will then be returned to the Bluebook Committee for preparation of the final copy. The final copy will then be approved by the TPC and finally by the Executive Committee of the Section. If a need arises for arbitration between the Bluebook Committee and the TPC, this will be the responsibility of the EXCOM.

The Section has come a long way since our origins 16 years ago. Many of the goals and objectives of the early years have been met. The Section has steadily grown in membership and programs, and although I have no problems with our general direction, I feel it might be appropriate to re-evaluate our mission, goals and objectives.

Our current committee structure has served us well but we could do more projecting into the future. We need to have some clear ideas of what we want to be in the year 2000. A few examples of the types of long range planning that are needed include: Where should we be going with our Section's publications (newsletters, procedure manuals and journals)? What do we want to do with our certification program? What are the priorities in fish health research and how do we get these recognized for funding? Should we be encouraging membership? What kind of members? Should we be interacting with overseas counterparts? Bylaw changes? etc.

An ad hoc Long Range Planning Committee will be established to evaluate the goals, missions and objectives of the Section. The committee would consist of one member from each standing committee plus additional members as needed. A report from the committee would be prepared for presentation to the EXCOM in 1990.

Ron Hedrick  
President

### PROFESSIONAL STANDARDS COMMITTEE

During the past year, the Professional Standards Committee (PSC) has processed and issued three certificates for Fish Health Inspector. Two additional certificates are in preparation. Three Fish Health Inspector recertification seals were issued. Nine individuals received recertification as Fish Pathologists and appropriate seals issued. Two additional are in preparation. The PSC reviewed one appeal for rejection as a Certified Fish Pathologist. The PSC, by majority decision, upheld the rejection of the application by the Board of Certification.

The qualifying written examination for Fish Pathologist has been completed. One successful applicant will take the examination at the conclusion of the International Conference.

John H. Schachte, Chairman  
Professional Standards Committee

### MEMBERSHIP AND BALLOTING

Current membership (May 1988) in the FHS is 527. One year ago, membership was 480. This is an approximate 10% increase. In December, 1987, there were 541 members. Those members not renewing as of May, 1988, were sent a letter requesting them to reconsider.

One election was held in 1988: Office of President-elect, Nominating (one for 3-year term) Committee and Board of Certification (two). Election of officers will be completed July 31, 1988.

Randy MacMillan, Chairman  
Membership and Ballotting

## AWARDS COMMITTEE

The main goals (in addition to its assigned task) of the Awards Committee in the last year was to further clarify the procedures to be followed for nominations for the Dr. S.F. Snieszko Distinguished Award. Guidelines were developed and followed for this year's nomination process. This new process more clearly defines the methods and needed materials for people nominating candidates for the award beyond what is available in the By-laws. A copy of the procedure is enclosed (see page 2) and will be available from the Chair of the Awards Committee for people wishing to make nominations in future years.

The Awards Committee considered the possibility of recognizing individual service in the fish health field in a capacity different from that embodied in the Dr. S.F. Snieszko award. Two important areas where individuals in the past have made major contributions to fish health are in management (state and federal) and pond side fish pathology.

**The Awards Committee moves that at least one or perhaps two additional awards for service be considered to recognize important contributors to the fish health profession.** The charge to explore the areas in need of recognition will be given to the Awards Committee for later review by the Executive Committee.

Dr. Emmett Shotts was put forth as a candidate and he was unanimously approved by the Awards Committee. A vote of the EXCOM on the candidate was also unanimous. Because of personal reasons Dr. Shotts was notified by me (as Section president) of this honor. Dr. Shotts will try to attend the meeting in Vancouver so we can make the award at the annual banquet. Dr. W.A. Rogers was asked to present the award at the banquet on July 20, 1988.

R.P. Hedrick, Chairmam  
J.L. Fryer, G.L. Bullock, Members

## PUBLICATIONS COMMITTEE

The Fish Health Section continues to receive compliments on the quality of the Newsletter. This is gratifying to the editors; however, a publication of the current form and length will no longer be possible without continued submission of articles and notes by the Section members. The last several months have seen a decline in the amount of material received by the editors. Please make a special effort to send something during the next year.

An area of concern to the editors involves the tendency of the Newsletter toward becoming a non-refereed "minijournal" similar to the Bulletin of the European Association of Fish Pathologists. Some recent papers have cited the Newsletter in the bibliography giving an impression the Newsletter is a scientific publication. While the editors are happy that articles in the Newsletter are worthy of reference, this trend may discourage some members from sending material of a more general nature. The editors will continue to include items of a broad nature in each issue and request that members continue to view the Newsletter as an appropriate place for any item of general interest to fish health professionals.

Sales of the Blue Book have remained above our projections. The American Fisheries Society office in Bethesda has been quite helpful and efficient in collecting funds for the Section from this source. In December of 1985, 1500 copies of the third edition were published by Oregon State University Press. Currently, about 1000 of these have been sold. At the present rate, we will need to have a second printing or a new edition within two years. This may be an appropriate time to begin to form a committee to consider the options for the fourth edition.

In addition, the Publications Committee was responsible for the printing and mailing of the announcements for the International Meeting in Vancouver, B.C. and for publishing the abstracts of the papers to be presented.

John Rohovec, Chairman  
Publications Committee

## ARCHIVES COMMITTEE REPORT

Arrangements have been made to store the Fish Health Section Archives at the AFS head office. The secretary-treasurer will be in possession of records for the current year and one previous year, other material can be accessed through the head office.

Roger Herman  
Chairperson

## NOMINATING COMMITTEE

The following is a list of names and offices of those willing to run for the various offices for the upcoming year:

President-Elect:  
Kevin Amos  
John Schachte  
Nominating Committee (3-year term):  
Rich Holt  
Ed Noga  
Board of Certification/Professional  
Standards Committee (select two)  
Ralph Elston  
A.K. Hauck  
Paul Janeke

Charlie E. Smith, Chairman  
Nominating Committee

## FINANCE COMMITTEE REPORT

The FHS General Account contains \$2269 and the Certificate Account \$3408. The funds are deposited in a checking and savings account at the Fulton Federal Bank in Athens, GA. The AFS head office holds two other accounts, the Blue Book Account at \$5999 and the Glossary Account at \$1651. Since glossaries are no longer being sold, the Glossary account will be closed and that money added to the General Account. A detailed account of this year's income and expenses are listed below.

Interim FHS/AFS Financial Report for Annual Meeting  
July 1, 1987 - July 10, 1988

	Transactions	Subtotal	Total
<b>FHS General Account</b>			
Beginning Balance			1687.87
Credits			
Blue Book	36.00		
Membership Dues	2940.00		
Meetings	332.56		
Interest	100.63	5070.01	
Debits			
Meeting Brochures	181.75		
Printing Letterhead	43.04		
Plaques	152.50		
Newsletter	2181.72		
Membership, Balloting	268.78	2827.79	
Ending Balance			2269.27
<b>FHS Certificate Account</b>			
Beginning Balance			3024.61
Credits			
Application Fees	400.00		
Interest	98.85	3523.46	
Debits			
Forms	74.00		
Embosser	41.95	115.95	
Ending Balance			3407.51
Blue Book Account			5999.00
Glossary Account			1651.80
<b>GRAND TOTAL</b>			<b>13327.65</b>

Vicki Blazer  
Chairperson

## CONTROL OF BACTERIAL GILL DISEASE WITH CHLORAMINE-T

G.L. Bullock and R.L. Herman  
National Fish Health Research Laboratory  
Box 700  
Kearneysville, WV 25430

Chloramine-T, a dairy sanitizer, was shown effective in control of bacterial gill disease (BGD), a serious cause of mortality among young trout and salmon in hatcheries. Chloramine-T at 6-8 ppm has been used effectively in Denmark to control BGD and is reported to have a wide safety margin. We tested the efficacy of chloramine-T and its toxicity to rainbow trout (*Salmo gairdneri*) as initial steps in the registration of the compound for use on hatchery salmonids.

We tested 6.0 and 9.0 ppm one-hour treatments on laboratory-induced BGD of rainbow trout. Trout were placed under crowded conditions and at oxygen levels of 4-5 ppm to induce development of BGD. Bacterial gill disease was diagnosed when long, thin, Gram-negative bacteria were observed on swollen gill lamellae. When BGD was diagnosed in each group, treatment began, using 6.0 and 9.0 ppm chloramine-T. Untreated groups served as controls. The one-hour chloramine-T treatment was delivered by a constant-flow siphon. Free and total chlorine levels were determined colorimetrically at 20, 40 and 60 minutes during treatment and 20 minutes after treatment. Mortality in all aquaria was recorded for ten days following treatment. Mortality of trout in the trio of aquaria receiving the 6-ppm treatment was 7.2%, 28.2%, and 4.5%. Of two aquaria receiving 9.0 ppm chloramine-T, mortality was 0.9% and 10%. In three aquaria left untreated the mortality was 59.1%, 45.4%, and 49.0%. During the treatment period, free chlorine was less than 0.2 ppm and maximum total chlorine was 2.5 ppm. When tested 20 minutes following treatment, neither free nor total chlorine were found.

Over a six-month period, three hatchery trials were carried out to test the effectiveness of chloramine-T under practical conditions. In each trial, one raceway of rainbow trout was treated; average trout size was 3.0 g in the first trial, 9.5 g in the second, and 54 g in the third. Untreated control trout were kept confined in the screened top fifth of the raceway. In all cases trout were treated for one hour with 8.5 ppm chloramine-T delivered by a constant-flow siphon. Free and total chlorine levels were determined at 20, 40 and 60 minutes during treatment and 20 minutes after treatment. Results of all trials are shown in Table 1.

Chlorine levels found during the hatchery trials were similar to those in the laboratory tests, with less than 0.2 ppm free chlorine and a high of 2.3 ppm total chlorine during the latter part of the 60-minute treatment.

Results from both the dose titration and field trials showed that the 9.0 ppm chloramine-T treatment level will control BGD ( $P < 0.0001$ ). However, if BGD is advanced before treatment is started or if fish remain under stress, more than one treatment will probably be necessary.

Besides effectively controlling BGD, chloramine-T has a low toxicity for trout. Preliminary tests showed a 40-ppm, one-hour treatment produced delayed mortality while a one-hour treatment at 50 ppm was acutely toxic. Because chloramine-T is not registered, we cannot recommend it for hatchery use at this time; however, it shows promise for future use in control of bacterial gill disease.

Table 1. Mortality among trout ten days post treatment with Chloramine-T.

Average size of trout (g)	Treated		Untreated	
	Number	Percent mortality	Number	Percent mortality
3	5,169	3.6	600	28.3
9.5	36,908	1.5	4,085	43.1
54	13,045	7.5	1,455	28.4

## A HISTOZOIC MYXOSPOREAN (PENTACAPSULIDAE) IN THE MUSCLE OF SMOOTH ANGLERFISH, *HISTIOPHYRNE BOUGAINVILLI*

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Osborn Laboratories of Marine Sciences  
New York Aquarium  
New York Zoological Society  
Brooklyn, NY 11224

Five smooth anglerfish, *Histiophyrne bougainvilli* (Cuvier and Valenciennes) 1837, collected from Adelaide, Southern Australia were found heavily infected with multivalvulid myxosporean parasite of the genus *Pentacapsula*. The myxospores were encysted only in muscles which appeared opaque and hypertrophy. The intramuscular cysts were pleomorphic and some filled the entire muscle fiber causing sarcoplasm marginally displaced. Histopathologic examination showed the affected muscles were atrophic, lack of striation and hydrolytically degenerated.

The spore (7.99 - 8.37  $\mu$ m in diameter) was characterized by the presence of 5 polar capsules and 5 shell valves arranged in stellate fashion and appeared pentagonal shape when viewed anteriorly. The polar capsules (2.9 x 1.33  $\mu$ m) pyriform shaped with pores centrally oriented. The spore membrane was delicate and suture lines were indistinct. There were 5 capsular and 5 valvular nuclei present in the spore. Sporonts (10 - 11  $\mu$ m in diameter) were disporoblastic with 10 distinct capsules.

It was noted that the morphologic and morphometric characteristics of the presently observed myxosporean were very similar to *Pentacapsula muscularis* Cheung, Nigrelli and Ruggieri (1985) reported from muscle of collare butterflyfish, *Chaetodon collare* Bloch, Indo-Pacific of the Philippines and differed from *Pentacapsula shulmani* Naidjenova and Zaika (1970) from dorsal musculature of a bream, *Nemipterus japonicus*. It is not certain at this time whether the myxospore found in smooth anglerfish is the same as *P. muscularis*. However, the present observations suggested that the members of *Pentacapsula* were widely distributed and affected fishes living in different temperatures, ranged from 11 to 30°C.



## FUTURE EVENTS

September 6-9, 1988 - **Aquaculture International Exposition**. Vancouver, British Columbia. For information: Project Coordinator, Aquaculture International, Box #202, 999 Canada Place, Vancouver, B.C., Canada V6C 3C1.

October 2-6, 1988. **Third International Colloquium on Pathology in Marine Aquaculture**. This meeting will be held in Gloucester Point, Virginia at the Virginia Institute of Marine Science and will include topics on viral, microbial, parasitic and chemical diseases of mollusca, crustacea, finfish and other marine and estuarine animals. For further information please contact: Dr. Frank O. Perkins, Virginia Institute of Marine Science, College of William and Mary, Gloucester Point, Virginia 23062, (804) 642-7102.

February 12-16, 1989 - **Aquaculture '89**. The Westin Bonaventure Hotel, Los Angeles, California. For information: Conference Headquarters, Crest International, 940 Emmett Avenue, Suite 14, Belmont, California 94002.

April 18-21, 1989 - **The Second Asian Fisheries Forum**. Fisheries Science and Communities: Partners in Development. Tokyo, Japan. For information: The Secretariat, The Second Asian Fisheries Forum, Department of Fisheries, Faculty of Agriculture, The University of Tokyo, Yayoi 1-1-1, Bunkyo-ku, Tokyo 113, Japan.

## WHIRLING DISEASE EMERGENCY CONFERENCE

Tony Amandi

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The Fish Disease Subcommittee of the Colorado River Wildlife Council hosted "Whirling Disease Management in North America, An Emergency Conference" on April 12-14, 1988 in Denver, CO. Representatives from private industry, 16 state agencies, USFWS, and University of California, Davis presented information regarding the presence of the parasite in their area of concern. The biology and management implications, including regulations, were discussed. After three days of presentations and open and panel discussions, a conference statement was prepared for the Colorado River Wildlife Council. The statement recommended that *Myxobolus cerebralis*/whirling disease no longer be considered as an emergency pathogen/disease. Guidelines were presented to the Council on how current and new findings of the parasite could be handled with consideration to be given to biological aspects and economic impacts of decisions. Recommendations were accepted by the Council. The full report from the conference will be available soon for a nominal fee. Please contact Dennis Anderson at Fish Disease Control Center, PO Box 917, Fort Morgan, CO 80701 or call him at (303) 867-9474, so he knows how many copies need to be printed.

## BRIEF REPORTS

A seasonal mortality of fishing worms occurs in Mississippi and Tennessee. Both red wiggler and golden wigglers are affected with "blister disease". Sporezoan parasites are associated with the blister but other environmental and infectious processes are being examined as the cause of the disease. Only adult worms seem to be affected and the disease appears to be associated with hot dry weather. Mortality has been so great that some worm producers are considering quitting business. J. Randy MacMillan, Mississippi State University, Drawer V, Mississippi State, MS 39762

\*\*\*\*\*

Striped bass/white bass hybrids developed "no blood" or "white lip" disease. The cause of the disease was thought to be a lack of antioxidants in their diet. J. Randy MacMillan, Mississippi State University, Drawer V, Mississippi State, MS 39762.

\*\*\*\*\*

The new sturgeon virus reported by Hedrick et al. in the FHS Newsletter 16(2) has been recognized at two additional sites in California. This new iridovirus was the major cause of mortality in fingerling sturgeon. In the previous report, the virus was demonstrated primarily in the gills of diseased fish; but, in the recent investigations, the skin was found to be heavily infected. R.P. Hedrick, UC Davis, Davis, CA 95616.

## DR. ERLING J. ORDAL - 1906-1988

Dr. Erling J. Ordal, long-time professor in the Department of Microbiology and Immunology at the University of Washington (UW) and pioneer in the study of microbial pathogens of fish, died February 11, 1988 in Seattle at the age of 81. Although by no means limited to the study of fish pathogens, Dr. Ordal's insightful early work on the etiology of bacterial kidney disease, his comprehensive studies of disease caused by *Flexibacter (Chondrococcus) columnaris* in the Columbia River Basin, and his detailed investigations on the taxonomy of marine vibrios, were among his more recognized contributions to the field of fish health.

Dr. Ordal, who was born in Paint Creek, Iowa in 1906, received his A.B. in mathematics from Luther College, Decorah, Iowa in 1927 and his Ph.D. in Bacteriology and Physical Chemistry from the University of Minnesota in 1936. He joined the faculty of the UW in 1937 and remained at this institution throughout his long and productive academic career.

Although known to many thousands of undergraduates for his teaching of General Microbiology, it was Dr. Ordal's long-standing interest in gliding bacteria, particularly those species producing the delicate and beautiful fruiting bodies, that served as the focus of the class he enjoyed teaching most—a graduate level course entitled, "Advanced Bacteriology". Perhaps rivaling Dr. Ordal's interest in the "gliders" was his life-long love of the outdoors, and indeed it is likely that the ability to combine these two "passions" in the study of fish disease contributed significantly to his decision to stay in the Pacific Northwest throughout his career.

Although held in the highest regard by his colleagues in the Department of Microbiology and Immunology, Dr. Ordal's interest in fish disease was somewhat of an oddity in a Department focusing on human pathogens and diseases and development of state-of-the-art means for their detection and treatment. Nonetheless, Dr. Ordal's interest never waned and in his 40+ years on graduate student committees, there are no doubt only a handful who escaped his inevitable questions on bacterial fish pathogens during general exams. Although such questions would not present much of a challenge to most fisheries students, one can certainly appreciate the difficulty these may have caused a fledgling microbiologist expecting questions on, for example, the extracellular products of *Streptococcus pyogenes* or the role of the alternate complement pathway on host defense against Gram-negative bacteria!

As a teacher and researcher in the laboratory, Dr. Ordal was without peer. What was so remarkable (and refreshing) was his equally strong interest in both graduate and undergraduate training. As Dr. Howard Douglas, a friend and colleague at the UW so succinctly related in a recent article in the ASM news, "Dr. Ordal had a particular talent for interesting young students in laboratory research and felt that his hands-on experience was probably one of the most valuable parts of a student's training. He was never too busy, nor was his laboratory ever too crowded to take on an interested undergraduate to work on whatever the laboratory was occupied with at the moment. He treated each student as if he were the most important person in the laboratory and he was unstinting in his advice and encouragement. In return, he expected students to become independent operators and apply themselves diligently and intelligently."

Dr. Ordal's door was always open to his many friends in fisheries. Whether they were students from the UW's College of Fisheries or seasoned professionals from the Washington State Departments of Fisheries or Game, they were always welcome and usually invited to join him for a cup of coffee—typically served in a laboratory beaker. Moreover, it was an extremely rare week that would pass when a distressed hatcheryman or aquaculturist would not call or stop by regarding a "mysterious" fish disease problem. Dr. Ordal would always take the time to discuss the problem, often offering to examine and culture the dying fish, and more times than not would solve the "mystery".

With the passing of Dr. Ordal, the fields of microbiology and fish health have lost one of their outstanding teachers and scientists. Like so many influential scientists, however, Dr. Ordal's insatiable scientific curiosity, enthusiasm and dedication will live on not only in the quality of his published work, but in the students, both graduate and undergraduate, that he so diligently (and lovingly) helped launch in their careers.

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### FISH HEALTH NEWSLETTER

The Fish Health Newsletter is a quarterly publication of the Fish Health Section of the American Fisheries Society. Submissions of any length on a topic of interest to fish health specialists are encouraged with the understanding that material is not peer reviewed and should be addressed to one of the editorial staff or to a member of the publication committee.

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**FHS NEWSLETTER**

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