Fish Health Newsletter

Fish Health Section/American Fisheries Society

April 2000 **Volume 28, Issue 2**

PRESIDENT'S REPORT

Dzien dobry from Poland! It has been a busy new year for the Fish Health Section. The Technical Procedures Committe has received updates to the Bluebook and more are expected within the next few months. The plans are well underway for the 41st Annual Western Fish Disease Workshop which will be held in Gig Harbor, WA , June 28-29. The AFS/FHS Continiung Education Class, scheduled for June 27, will focus on various aspects of fish immunology. The annual Fish Health Section meeting planned for Pensacola FL, also promises to be a "don't miss" event, featuring a workshop on oyster diseases.

As president of the FHS, I was asked to represent the American Fisheries Society at the "nternational Conference on Risk Analysis in Aquatic Animal Health" sponsored by the Office International des Epizooties, known to most of us as the OIE. The conference was held at the OIE headquarters in Paris, February 8-10, 2000. Other prominent FHS sections members, Scott LaPatra and Kevin Amos also attended and presented research and case histories from their experiences with salmonid problems in the Pacific northwest. Although retired, Trevor Evelyn presented a keynote address on "Processing and the Product". The OIE organized the conference with "the objective of nutruring international dialogue and providing information on the subject to officials responsible for the preparation and application of import measures in the field of aquatic animal health". The OIE has the task of of bringing to the 155 member countries information on animal health , and of assessing all international agreements relating to animal health. In 1995 the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS), stipulated that the animal

Members of the Fish Health Section:

It is with great sorrow that I relay to you the sad news, Dr. Bill Klontz, one of our founding fathers, passed away on March 22. Dr. Klontz was instrumental in establishing Fish Health as the first specialty section of the AFS, some 30 years ago. He remained an active, integral member, and in 1994 was awarded our highest honor, The S.F. Snieszko Distinguished Service Award, for his professional achievements. Bill's dedication to the section did not fade with his retirement. Last June at our annual meeting, Bill voluntarily took on committee tasks. I still have on my computer an e-mail from him dated February of this year, with his 'plan" and apology for not being able to continue on the project for health reasons.

On behalf of the Fish Health Section I would like to express our deepest sympathies and sincere condolances to the Klontz family. Bill will always be remembered for his many contributions to our profession. We will sorely miss Bill's guidance, but most of all, his friendship.

(Continued on page 7)

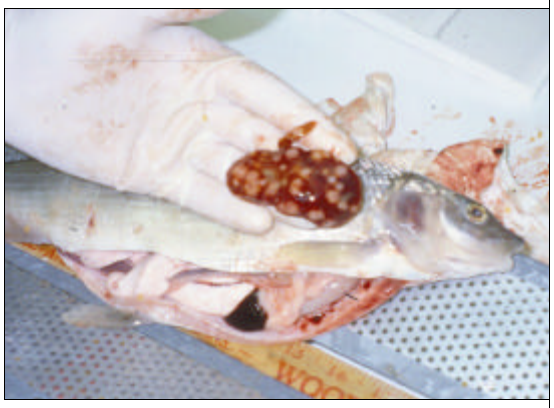
In this issue:

MYCOBACTERIOSIS IN THE MISSOURI RIVER, MONTANA

Jim Peterson, Montana Fish, Wildlife and Parks, 4801 Giant Springs Road, Great Falls, MT 59405. E-mail: fishlab@mcn.net

Mycobacteria (*Mycobacterium chelonae*) was first discovered in the Missouri River in Montana in the early 1980's. The bacteria was detected in mountain whitefish (*Prosopium williamsoni)* and rainbow trout (*Oncorhynchus mykiss*) in a portion of the river below Holter Dam in west central Montana. Identification of *Mycobacterium chelonae* was originally confirmed through culture by Cindy Arakawa at Oregon State University. This is the only location in Montana where mycobacteria has been reported in fish. The bacteria is not known to have caused serious problems among infected trout or whitefish populations, but individual infected fish demonstrate lesions in internal organs and in some cases gills.

Grossly, lesions are typically off-white nodules of various size ranging from nearly microscopic to about a centimeter or more in diameter. Lesions may be found in a variety of organs, including spleen, liver, kidney, intestine or gills. Lesions in gills appear as small white cysts scattered throughout gill filaments. The bacteria is present in lesions and can be observed when stained and examined microscopically. Heavily infected fish may demonstrate enlarged spleens and swollen kidneys. The bacteria has been observed only in older mountain whitefish and rainbow trout. Younger fish may be infected, but do not demonstrate gross lesions due to the slow growing nature of this bacteria.



A survey conducted in 1985 in the area of original detection in the Missouri River found 40 of 82 (49%) mountain whitefish examined exhibited gross mycobacteria lesions. No lesions were observed in 30 rainbow trout examined during the 1985 survey. However, several rainbow trout from this portion of the Missouri River with typical lesions containing mycobacteria have been examined since 1985.

In October 1999 a survey was conducted to determine if the prevalence of mycobacteria infection had changed since the 1985 survey. Of 61 mountain whitefish collected in this survey, gross lesions containing mycobacteria were observed in only three fish (5%). In addition, 35 rainbow trout were examined. Three of the rainbow trout were found infected with mycobacteria (8.6%). Demonstration of infection was achieved by observation of gross and microscopic lesions. Histological examination of liver sections showed multifocal granulomas typical of mycobacteriosis.

Mycobacterium chelonae has been isolated from humans, which has been reason for concern since both mountain whitefish and rainbow trout are abundant and actively pursued by anglers in this portion of the Missouri River. However, the strain of *M. chelonae* found in trout is likely different than strains found in man, and the human health risk is generally considered low. After the initial discovery of the bacteria in the Missouri River, Montana Fish, Wildlife and Parks consulted with the Centers for Disease Control (CDC) in Atlanta, GA. CDC advised that presence of this bacteria does not pose a serious human health threat.

Diagnosis of mycobacteriosis in these fish is based on presence of lesions typical of lesions caused by mycobacteria and presence of mycobacteria in lesions and cysts in internal organs. Efforts to culture mycobacteria from the fish collected in the October 1999 survey have not been successful. Cultures from various organs and lesions on MacConkey Agar produced bacterial growth, most of which was bacteria other than mycobacteria. Cultures were sent to the Washington Animal Disease Diagnostic Lab at Washington State University for assistance in culturing and identifying the bacteria. The culture work is continuing.

EFFICACY DATA NEEDED FOR HIGH PRIORITY AQUACULTURE DRUGS

R.A. Schnick. National Coordinator for Aquaculture New Animal Drug Applications, La Crosse, WI. E-mail: RozSchnick@aol.com

Your help is needed to gain approvals of several high priority drugs for aquaculture use. What is needed are data that will prove that a drug is effective in controlling or preventing certain diseases or mortalities on fish. Without these data, a label claim cannot be gained for that disease or fish group. Two kinds of efficacy studies are required: well-controlled (pivotal) or corroborating (supporting). The supporting studies can be performed at any production facility and the pivotal efficacy studies can be performed at production facilities with a few more controls. The following table lists the efficacy studies that have not been generated but are required before we can gain an approved label claim. Please e-mail or call me (phone: **608-781-2205**) to indicate your interest in performing at least one of these studies and I will get you in touch with persons who will help you through the process. Please help to gain approvals of the drugs you want to use on your fish!

Drug	Control or Prevent--Diseases or mortalities associated with disease pathogens	Type of study--Pivotal or Supporting	Fish group
Chloramine-T	Control--external flavobacteriosis	Pivotal/supporting	Cool- and warmwater fish
Copper sulfate	Control/prevent--fungi on fish eggs	Supporting	All fish eggs
	Control/prevent--fungi on fish	Pivotal	All fish
	Control--external flavobacteriosis	Pivotal	All fish
	Control--external parasites (except Ichthyopthirius)	Pivotal	All fish
Formalin	Control/prevent--fungi on fish	Supporting	Cool- and warmwater fish
Hydrogen peroxide	Control/prevent--fungi on fish eggs	Supporting	Cool- and warmwater fish eggs
	Control/prevent--fungi on fish	Supporting	All fish
	Control--external flavobacteriosis	Pivotal/supporting	Cool- and warmwater fish
	Prevent--external flavobacteriosis	Pivotal/supporting	All fish
	Prevent--external flavobacteriosis	Supporting	Salmonids
	Control--external parasites	Supporting	All fish
	Control--external parasites	Pivotal	Cool- and warmwater fish
Oxytetracycline	Control--*Aeromonas* sp.	Pivotal	Coolwater fish
	Control--systemic flavobacteriosis	Pivotal	Salmonids
	Control--systemic flavobacteriosis	Pivotal/supporting	Cool- and warmwater fish
Potassium permanganate	Control/prevent--fungi on fish eggs	Pivotal/supporting	All fish eggs
	Control/prevent--fungi on fish	Pivotal	All fish
	Control--external flavobacteriosis	Pivotal	All fish
	Prevent--*Ichthyopthirius*	Supporting	All fish
	Control--external parasites (except Ichthyopthirius)	Pivotal	All fish

Remarks For The Memorial Tribute To G. W. (Bill) Klontz,

29 March 2000

By Christine M. Moffitt

I am honored to share with you today a snapshot of Bill Klontz's contributions to the academic community at the university, and to the field of aquaculture and fish health.

John Ehrnereich recruited Bill to come to the University of Idaho. Bill was at Texas A&M University at the time, and he and Martha were both delighted at the opportunity to return to the palouse, where Bill had completed his veterinary training.

Bill joined the College of Forestry as a program chair for fisheries in 1972. Up to that point, the College did not have departments. Bill joined colleagues Mike Falter, Ted Bjornn, Craig Mcphee, Don Chapman, Rudy Ringe, and Verabel Abbott. Within a year or so, Don Chapman left the university and Bob White joined the faculty.

Bill developed aquaculture and fish health programs at the university. These were rigorous laboratory based classes. Bill wrote the text material for the students to learn the concepts and techniques of fish culture and fish health management.

Bill developed and promoted the concept of fish health management, which concentrates on the importance of the environment of the fish in the disease response, and the outcome of fish culture. This concept and its ramifications were instrumental in the academic program and the training of all Bill's students. Among the wisdom that Bill imparted to all was the practical and common sense approach to fish husbandry.

"Know your fish, feed the fish, not the pond" still echo in our halls, as Bill emphasized on the importance of knowing your animals, and looking at them every day. To facilitate this training in his students, he built glass aquaria for culture systems in the laboratory. The idea behind the glass aquaria was so the students could see their fish, how did they look? Where were they in the water column? This was a simple thing that promoted contact and familiarity with the fish.

Using a systems approach, Bill promoted water reuse technology and mastered the mystique of biofilters. Bill was a proponent of knowing the proper terminology for things. Be precise. "Say what you mean and mean what you say."

Bill was joined by graduate students and postdoctoral associates, in particular Jim Chacko and Spike Beleau in the early years, who helped him create the critical mass for his strong program. As a result, all undergraduate students leaving the U. of Idaho fisheries program were trained in concepts and practices of aquaculture and fish health. They were especially prepared and were highly sought after by state, and federal agencies, the private sector and the tribes. When you look at the list of Bill's former students, you are looking at the "who's who" of fish culture and fish health.

In fish diseases, Bill did pioneering work in understanding enteric redmouth disease that had its beginning in the Hagerman valley, furunculosis, bacterial kidney disease, and environmental gill disease. In fact he named environmental gill disease, as it was a manifestation of the environment, far more than the bacteria. He worked with the pioneers: Rucker, Snieszko, Wedemeyer, Yasutake, Wood, Wolf, Bullock, Smith and others.

His worldwide contributions were recognized by the American Fisheries Society that awarded Bill the coveted Snieszko Distinguished Service Award in 1994. This was a real highlight of his career and his former students assembled for a fine celebration after the ceremony. In addition, he was one of the founders of the Fish Health Section of AFS and served as its president in

1981-82. Bill was also a member of the European Association of Fish Pathologists, the World Aquaculture Society, the Aquaculture Association of South Africa, and the US Trout Farmers, and was on their board of directors at the time of his death.

A particularly noteworthy contribution by Bill in Idaho was a report on the aquaculture industry in Idaho that he published 1975. In this, he detailed all the fish farms and for the first time put aquaculture together in the 'industry' concept. This idea was revolutionary, for at the time, the industry was a group of loosely associated farmers, often with distrust of one another. Bill tried to get them to talk with one another, to evaluate what they were doing, and think of ways to improve their industry.

Bill was a master of the short course. He carried these outreach opportunities across the globe, the last one he taught was in the Arab middle east just in February. With these, he influenced hundreds of fish culturists. He brought the science into understandable principles, and helped the students learn the basics. His effectiveness was extraordinary, as his presentations were entertaining, as well as good learning experiences. His impromptu demonstrations and antics would take everyone's heart.

Last year we had the opportunity to get Bill out of retirement as with a sudden staff resignation at U. of Idaho, the aquaculture and fish health class was in need of instructors. I called bill to see if he wanted to make it a joint effort between us. I called him on a Wednesday, arranged to meet him on Friday, and when i arrived at his house he had already printed the proposed syllabus for the class. We had a great time together teaching, and it was an opportunity for me and assistant Yasu Kiryu to work more closely with bill in what we know now was his last year. The students in the class were impressed by his knowledge and enthusiasm for the subject, and this pleased Bill immensely.

Since the announcement for memorial, the communications have been astounding. Emails have come from former students and colleagues, they have sent cards, and made phone calls. Among the quotes from some of these:

- "Bill distributed parts of himself into the hearts, minds and souls of countless people around the world."

- "Bill had a great influence on hundreds of fisheries professionals around the world. He inspired faculty and students alike with fish health and culture. He was a real down to earth guy that always would stop to talk with the 'lowliest graduate students'"

John Nickum wrote very appropriately these remarks I share with you in closing:

"There are only a few individuals who are truly unique, who are irreplaceable. Bill was such a person, a person who contributed more than he took from life, a person who made the world a better, warmer place for those of us who remain. We will treasure our memories of him, and try to carry on the example he set as a scientist, a friend and a unique and wonderful human being."

UPCOMING MEETINGS

THE AFS/FISH HEALTH SECTION 2000 ANNUAL MEETING

SEE ATTACHED FLYER FOR DETAILS AND CALL FOR PAPERS

Mark your Year 2000 Calendars!
The 41st Western Fish Disease Workshop

The 41st West Fish Disease Workshop will be hosted by Washington Department of Fish and Wildlife at the Inn at Gig Harbor, Gig Harbor, Washington on **June 28 and 29, 2000.**

The workshop will include one and ½ days of oral presentations and posters of current research and clinical reports concern all aspect of fish health. If you are interested in presenting a paper or poster contact Mark DeCew at 360-985-2875 or e-mail. The cost for the Western Fish Disease Workshop is $50.00 including printed proceedings, break refreshments and lunch on June 28th.

A block of rooms has been reserved at The Inn at Gig Harbor: 1-800-795-9980 or 253-858-1111. Please make reservations directly and indicate that you are attending the Western Fish Disease Workshop. The room rate is $55.00 per night for single or double. Make your reservations before May 26th to take advantage of the workshop rate.

AFS - FHS Continuing Education Class - Fish Immunology June 27, 2000
A full day continuing education class devoted to fish immunology will be held on June 27, 2000 at The Inn at Gig Harbor. Several knowledgeable speakers are being lined up to speak on a slate of topics including: an overview of the fish immune system, the effects of stress on the immune system, how the immune system responds to viruses, bacteria and parasites, current and future vaccines, and nonspecific immune stimulants. Each lecture will be followed by a questions and answer period. The cost for the class is $40.00 including handouts, break refreshments, and lunch.
Any question or additional information about the workshop or class contact Steve Roberts at 509-255-5907 or e-mail robersdr@dfw.wa.gov.

PASSAGES

Retired - **Ron Goede** from the Utah Division of Wildlife Resources after 34 years. New address: 1685 E. 1185 N. Logan, UT 84341. (435) 752-9650. E-mail: rgoede@sisna.com.

New on the Scene - Pat Lopez, Fish Health Specialist, Arizona Game and Fish, HC66 Box 57201, Pinetop, AZ 85935. 520-367-1905 x16 plopez@gf.state.az.us

CALL FOR FISH HEALTH SECTION AWARDS

S.F. Snieszko Distinguished Service Award - the highest award of the FHS. Dr. S.F. Snieszko stands as one of the most prominent figures in the establishment of the modern fish health sciences in the U.S.A. and internationally. This award is presented to individuals to honor their outstanding accomplishments in the field of fish health. This is a career achievement award. The nomination must be made by a current member of the FHS to the awards committee. The nomination should consist of a current curriculum vitae of the nominee, a letter of nomination and six letters of recommendation that support the nominee=s dedication and contributions to research, teaching and/or service in fish health. **Nominations will be accepted until June 1, 2000.**

Special Achievement Award - award for a significant accomplishment in the field of fish health. This award is presented to a FHS member who has in the past year made a significant accomplishment in basic or applied fish health. The achievement must meet a high standard of science as determined by peer review. Candidates for this award must be nominated by a current FHS member. The letter of nomination should state the accomplishment, its importance to the science of fish health, and the implications of the accomplishment (regional, national or international). Copies of articles and other supporting documents should be submitted with the nomination. The nomination may be submitted any time within one year of the accomplishment to the awards committee.

Send nominations to: Dr. John Fryer, FHS Awards Committee, Dept. of Microbiology, 220 Nash, Oregon State University, Corvallis, OR 97331-3804.

FHS Student Paper Award - an award will be presented to a student whose paper is being presented at the National Meeting to be held in Pensacola, FL. Selection will be made by 3 judged (to be appointed prior to the meeting) based on (a) scientific content, (b) scientific merit of the research, (c) originality and (d) quality of presentation. Please note on your application if you wish to have you paper judged.

(President's Report - Continued from page 1)

health standards applied by countries to ensure the protection of animal and public health must be based on the international standards, guidelines and recommendations of the OIE. The conference held in Paris was the first opportunity to bring together experts to discuss the important aspects of risk analysis. Certain critical areas, such as diagnostic techniques and the environmental impact of pharmaceuticals, were the topics of heated debates among the international attendees. The OIE has prepared an international database on Aquatic Animal Diseases which is expected to be available on their website in May 2000.

I hope that the new millineum so far has been happy and prosperous, and that it affords you the opportunity to participate in the FHS workshops and scientific programs.

Do widzenia, Bev Dixon

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Fish Health Newsletter - Editorial Policy

The *Fish Health Newsletter* is a quarterly publication of the Fish Health Section of the American Fisheries Society. Submissions on any topic of interest to fish health specialists and preliminary case reports are encouraged with the understanding that material is not peer reviewed. Abstracts submitted to the *Journal of Aquatic Animal Health* are also encouraged. Articles should not exceed two newsletter pages and should not have more than five references. Submissions *must* be formatted in Microsoft Word, WordPerfect 6.x (preferred) or other major Windows word processors, and can be sent by electronic mail or via 3.5" floppy disk to the content editor's address below:

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