

## ... BRIEFS ...

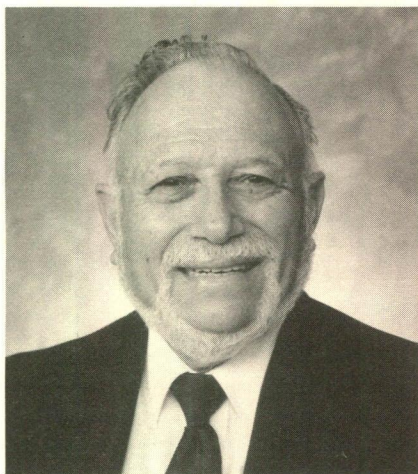
VOL. 25, NO. 2

MARCH-APRIL 1996

### President's Message

President Hubbs declined burdening the minds of members with a message this bimensis but did request that the Editor replace the twice used photo of the tee-shirt clad prez with one more befitting the dignity of his office - Anyone out there with a truly special (including outrageous) photo of Clark? Send it in! *Editor*

### Sammy Ray Recognized by Texas Academy of Science



1996 Texas Distinguished Scientist

Dr. Sammy M. Ray, Professor Emeritus and Director of Community & Youth Programs Texas A & M University at Galveston.

Dr. Ray is recognized as the Texas Academy of Science's Distinguished Texas Scientist for 1996. Dr. Ray has been a member of the Department of Biology at Texas A&M University since 1959. His work has been primarily at the Galveston Marine Science Facility in Galveston. He graduated with a B.S. in Zoology from Louisiana State University in 1942 and, subsequently, received his M.A. and Ph.D. in Biology from Rice University in 1952 and 1954. He was Director of the Texas A & M Marine Laboratory in Galveston from 1963 through 1972 and was principally responsible for keeping the research and teaching program alive in the early days of the laboratory. His efforts ultimately culminated in the creation of Texas A & M University at Galveston. In addition to Director of the Marine Laboratory, he has held positions as Head of the Marine Sciences Department, Director of the School of Ma-

rine Technology, Dean of the College of Marine Technology, and Interim President of Texas A & M University at Galveston.

Dr. Ray's research has been largely with shellfish, and he has gained world renown for his contributions to oyster ecology and aquaculture. His published papers deal mostly with some aspect of the biology of oysters. His classic publication in Science described a technique for culturing the oyster parasite, *Dermocystidium marinum* (*Perkinsus marinus*). This paper made it relatively easy for biologists to study the epidemiology of and diagnose the level of infection of this parasite. He subsequently authored and coauthored a series of papers describing various aspects of the biology of *Dermocystidium*. Additionally, he published several papers on the toxin of, and toxicity of, the red tide organism *Gymnodinium* (now *Ptychodiscus*) *brevis*, and on *Gonyaulax monilata*, causative agent of paralytic shellfish poisoning. Dr. Ray was also chosen to evaluate the effects of lunar material on oysters and other lower invertebrates. Other published research by Dr. Ray are on *Vibrio parrahaemolyticus* in oysters and the effects of the parasitic snail, *Boonea impressa*, on oyster growth.

Today, Dr. Ray continues as Director of Sea Camp at Galveston, an extremely popular summer program for youth interested in marine science as a career. He is currently Director of all Community and Youth Programs (the outreach programs) at Texas A & M University at Galveston. Dr. Ray is a long-time member of the Texas Academy of Science and was elected as a Fellow in 1982. Dr. Sammy Ray's distinguished career embodies all the best that the Texas Academy of Science strives to promote in the area of science education and research. Sammy Ray is Membership Chairman of the AIFRB. We salute you, Dr. Ray!

### AIFRB In Action Texas Bycatch Symposium

The Texas District put on a special symposium at the annual meeting of the Texas Academy of Science, "Ecological Implications of Commercial Fishery Bycatch."

The Texas Academy of Science was very supportive of this symposium and worked with us to make sure it was a success. The AIFRB display was set up at the meeting by Sammy Ray to promote the institute and membership. After the symposium, the district members in attendance met and discussed the symposium and possible future efforts. It was agreed that the symposium was worthwhile and that the district should try to continue this relationship with the Academy at their annual

cont. on page 2

## Texas Bycatch Symposium... *cont. from page 1*

meetings. The symposium presented information on an ongoing area of concern for Texas' fishery resources and provided students attending with an insight into "real world" issues they may address once they leave academia. We will be seeking suggestions for future symposia from members, as well as volunteers to assist in preparing the symposium for next year. Any suggestions can be sent to me.

I would like to recognize and thank the members who helped with the symposium. First, Jim Nance, the District Vice Director, who helped in planning and securing speakers. Sammy Ray and Judy Wern were instrumental in helping organize the symposium and obtaining the institute's display for the meeting. Clark Hubbs provided several helpful suggestions and introduced the symposium for the institute at the meeting. Other members, such as Lynne Benefield and Lance Robinson, provided timely questions and prompting to keep the panel discussion moving. I know I am probably forgetting someone and hope they forgive me and recognize my appreciation for all those participating in the symposium.

David Sager, Texas District Director

### **Titles presented were:**

#### **State Bycatch Regulatory Issues**

Gene McCarty and Hal Osburn, Texas Parks and Wildlife Department, Austin, Texas

#### **Federal Perspectives With Regards To Shrimp Trawl Bycatch In The U.S. Southeastern Atlantic And Gulf Of Mexico**

James M. Nance, NMFS Galveston Laboratory, Galveston, Texas

#### **Industry Perspectives With Regards To Shrimp Trawl Bycatch In The U.S. Southeastern Atlantic And Gulf Of Mexico**

Gary L. Graham, Texas Marine Advisory Service, Galveston, Texas

#### **Bycatch Issues From The Perspective Of Recreational Fishermen**

Jim Ehman, Gulf Coast Conservation Association, Houston, Texas

#### **Bycatch Policy: The Next Step**

Priscilla Weeks and Robert Heath, Environmental Institute of Houston, Texas

#### **A Commercial Fisherman's View On Evaluating Bycatch Impacts**

Richard Moore, Dickinson, Texas

## **Whatever Happened to Gulf Menhaden?**

### **AIFRB Members at Work**

At one time supporting U.S. largest fishery (by volume) Gulf menhaden continue as one of the Nation's most important marine resources. Carolina District Director Vaughan and coauthors provide this update on status of Gulf Menhaden.

## **Population Characteristics of Gulf Menhaden, *Brevoortia patronus***

The status of the Gulf menhaden, *Brevoortia patronus*, fishery was assessed with purse seine landing data from 1946 to 1992 and port sampling data from 1964 to 1992. These data were analyzed to determine growth rates, biological reference points for fishing mortality from yield per recruit and maximum spawning potential analyses, spawner-recruit relationships, and maximum sustainable yield (MSY). Virtual population approaches were used to obtain point estimates of stock size, recruits to age 1, spawning stock size, and fishing mortality rates. Exploitation rates ranged between 14% and 45% for age-1 fish, between 30% and 72% for age-2 fish, and between 36% and 71% for age-3 fish. Biological reference points from yield per recruit ( $F_{0.1}$ : 0.7-0.9 yr<sup>-1</sup>) and maximum spawning potential ( $F_{20}$ : 1.6-2.9 yr<sup>-1</sup> and  $F_{30}$ : 1.0-2.1 yr<sup>-1</sup>) were obtained for comparison with recent estimates of  $F$  (0.4-0.8 yr<sup>-1</sup>). Parameters from Ricker-type spawner-recruit relations were estimated, although considerable unexplained variability remained. Estimates of long-term MSY from fits of the generalized production model ranged between 664,000 metric tons (t) and 897,000 t. Declines in landings since 1988 have raised concerns about the status of the gulf menhaden stock. However, gulf menhaden are short lived and highly fecund. Thus, variation in recruitment to age 1, largely mediated by environmental conditions, influences fishing success over the next two years (as age-1 and age-2-fish). Comparisons of recent estimates of fishing mortality to biological reference points do not suggest overfishing.

NOAA Technical Report NMFS/25 February 1996

## **Endangerment Of Marine Species A Maturing Issue**

Two recent workshops have focused on the issue of imminent or potential extinction of marine organisms including fishes. The Center for Marine Conservation (CMC) held a workshop entitled "Endangerment and Extinction in the Sea" in Washington, DC, March 15-18, 1996. It was convened by Elliott Norse the Chief Scientist.

Although attention to the worldwide loss of biological diversity has increased dramatically, the scientific community, decision makers, the media and funders have tended to focus on terrestrial species and ecosystems. For example, 67% of the papers in the journal *Conservation Biology* have focused on terrestrial species and ecosystems, 13 times as many as concern the sea. There is a common, although often unstated assumption that marine algae, invertebrates and fishes are effectively "extinction-proof" because they produce large numbers of planktonic eggs, spores or larvae that disperse over long distances.

Yet since 1991, it has become clear many marine species need attention to avoid becoming commercially, ecologically and even biologically extinct. But, although the conservation needs of marine species can be quite different than their

*cont. on page 3*

## Marine Species... *cont. from page 2*

terrestrial counterparts', there is no coherent set of principles specifically tailored to conserving marine species. Thoughtful multidisciplinary examination of marine endangerment and extinction would help agency officials make better decision, and would provide important stimulation to the infant science of marine conservation biology.

As a result CMC invited leading thinkers in marine sciences, including systematics, biogeography, ecology, genetics and paleontology, and expertise in protozoa, plants, invertebrates and vertebrates, to share their insights and advance understanding by interacting on topics including:

- what do we know about marine extinctions and endangerment in historic times; what's gone and what's going?
- what is the relevance of the Plio-Pleistocene fossil record to endangerment and extinction today?
- what are circumstances under which marine species can disappear today?
- how do life histories, dispersal patterns, patterns of endemism and population genetics of marine organisms differ from those of terrestrial organisms, and what do these differences imply for conservation?
- what species groups (taxa, functional groups or ecological communities) are at special risk?

The workshop concluded that man-induced extinction of marine organisms had occurred for some invertebrates, and was likely to occur for many organisms subject to fisheries. Groupers, worldwide, were regarded in jeopardy and their loss was engendering changes in reef ecosystems. The workshop concluded with a press conference at the National Press Club.

Great Britain's Institute of Zoology, in collaboration with The International Union for the Conservation of Nature (IUCN) and The World Wildlife Fund (WWF) held a workshop to examine threatened status in marine fish species from 29th April -1st May, in London. The aim of the workshop was to evaluate selected species of marine fish using the new IUCN categories and criteria for immediate inclusion in the 1996 IUCN Red List of Threatened Species. The workshop included 20-30 invited participants with expertise in threatened status evaluations from the following groups: tuna, sharks, billfish, marlin, coral reef fish, seahorses, pipefishes and others.

The output of the meeting included:

- a list of fully evaluated marine fish species with their categories and criteria of threat for immediate inclusion in the 1996 IUCN Red List of Threatened Species
- a list of marine fish species which could not be fully evaluated due to inappropriate or inadequate data. This will lead to an assessment of the information needed for future, more complete assessments
- a brief summary of issues relating to the application of the new IUCN criteria to marine fish
- recommendations for IUCN/SSC to develop an effective network for assessing the threatened status of marine fish

Organizers were: Elodie Hudson (Tel: 0171 449 6690, e.hudson@ucl.ac.uk) and Georgina Mace (Tel: 0171 449 6692, g.mace@ucl.ac.uk)

For more information contact Editor of BRIEFS

## A QUIZ - within a quiz

To prove that scientists can be literate, I am reprinting my favorite passage from fisheries science.

Walton never wrote better.

The QUIZ - From what document did the passage come?

The QUIZ within a quiz - which co-author (a hint) penned this paragraph? I don't know and very much want to.

"A few years ago the sauger was, to the few elect who knew where to find it, the choicest game-fish of the lower Wabash River; and we knew a minister who always went "saugering" when he failed in other ways to get the proper inspiration for his next Sunday's sermon. Starting in at the Vandalia bridge, he would direct his oarsman to get out into the current, then row slowly up stream, even to old Fort Harrison and beyond, perhaps to Durkee's Ferry; then, turning slowly drift with the current home again. Meanwhile, with a small, silvery minnow (a satin-fin, creek chub, or river chub) at the end of 50 feet of line, trolling through the quiet ripples and over the deep pools, he patiently waits for the sauger's strike; and, while waiting, his eyes take in the beauties of the river, the shore, and the sky; ideas come readily, his thoughts fall together in logical sequence, and when Sunday comes, the sermon that he preaches is filled with sunshine, and love, and faith in humanity; and his flock know that their pastor has spent a day upon the river."

American Food and Game Fishes,

Jordan and Everman - but which one?

If you know correct answer call me to claim prize  
(919) 447-4061.

Editor

## Acknowledgment

The interesting graphics in the January-February 1996 Briefs were unascrbed, but came from:

"Catching the Limit" A Poster by the Population and Environment Program

Population Action International

1120 19th Street, N.W. Suite 550

Washington, D.C. 20036

Telephone (202) 659-1833

FAX (202) 293-1795

email: re@popact.org.

gopher: gopher://gopher.igc.apc.org:70/11/orgs/pai

## Conferences of Note

### The Third Marine and Estuarine Shallow Water Conference

#### The Interrelationship Among Habitats and Their Management

December 1-5, 1996

Atlantic City, New Jersey

The objectives of this year's conference are to elevate the public's perception of the importance of habitats; and to compare and contrast "higher value" habitats (submerged aquatic vegetation, natural reefs, wetlands, shellfish beds) with "undervalued" habitats (mud flats, beach zones, artificial reefs, water column, unvegetated bottoms). **The habitats identified above fall within the consensus definition of the shallow water zone established from the results of the last two conferences (the zone of maximum interaction between human activities and biological resources: the intertidal zone to four meters below mean low water).**

The 1996 conference will include session topics related to specific habitats in the shallow water zone identified by the conference Steering Committee to be of critical importance along our coasts. Some of the habitats mentioned above as "undervalued" are ecologically important and do not get the recognition and protection they deserve. Therefore, recognizing one definition of shallow water and the interrelationship of all habitats, both "valued" and "undervalued" will bring an equal level of protection and recognition to all habitats in shallow waters.

### 1996 William R. and Lenore Mote International Symposium on Marine Stock Enhancement: A New Perspective

November 21-23, 1996

Sarasota, Florida

Florida State University is sponsoring an international symposium on Marine Stock Enhancement: A New Perspective

The topic has emerged as a major element of modern research in fisheries management, however, its biological and economic effectiveness remain controversial. It represents the intersection of several lines of inquiry in fisheries research, including traditional population studies, life history, and aquaculture.

Invited papers will address the following area:

Field studies on the efficacy of stock enhancement. Methodologies for identifying cultured juveniles entering the fishery. Statistical and mathematical models. Biological constraints in marine stock enhancement (the relevance of life history strategies; interactions of cultured and wild stocks; pre-release acclimation; habitat considerations for release of cultured fish; genetics). Economic evaluations and the sociopolitical landscape. Focus on Florida problems in marine stock enhancement.

## Membership Report

### Promoted to Fellow

Wayne J. Daley ..... WA

Carl V. Burger ..... AK

### Promoted to Member

John DosSantos ..... MT

Dr. Bob Danehy ..... OR

### Emeritus

Dr. Douglas B. Jester ..... OK

Gordon J. Peltonen ..... WA

Dr. Ronald R. Garton ..... OR

Dr. Theodore H. Kersteter ..... NY

Dr. Janice S. Hughes ..... LA

Dr. John Fryer ..... OR

Dr. Frederick A. Copes ..... WI

Dr. John E. Thorpe ..... UK

Dr. E. J. Crossman ..... ONT

Richard F. G. Heimann ..... CA

### New Fellows

Dr. John J. Govoni ..... NC

Dr. Stephen A. Bortone ..... FL

### New Members

Dr. Stephen M. Waste ..... MD

Steven M. Atran ..... FL

### Associate-Professional

John J. Mello ..... CA

### Associate-Student

Jarrold Kosa ..... MA

Xianbin F. Nickel ..... OR

Matthew J. Gray ..... PA

Joseph Paul Foy ..... IN

Andrew Fayram ..... WA

Jose Carrasquero ..... WA

Mark Terwilliger ..... VA

Cindea Rathbone ..... WA

Tanya Peterson ..... FL

Craig Adams ..... WA

Andrew Hendry ..... WA

Dr. Sammy M. Ray, Membership Chairman

Texas A&M University at Galveston

5007 Avenue U

Galveston, Texas 77551

Direct membership inquiries to the membership chairman

## Books Of Interest

### Guide to Freshwater Fishes Now in Paperback

Chapel Hill, N.C.--A valuable reference on freshwater fishes of the mid-Atlantic region is now available in paperback. *Freshwater Fishes of the Carolinas, Virginia, Maryland, and Delaware*, provides information on how to identify some 260 species from this region.

The book by Fred C. Rohde, Rudolf G. Arndt, David G. Lindquist, and James F. Parnell, was published in hardcover by the University of North Carolina Press in 1994.

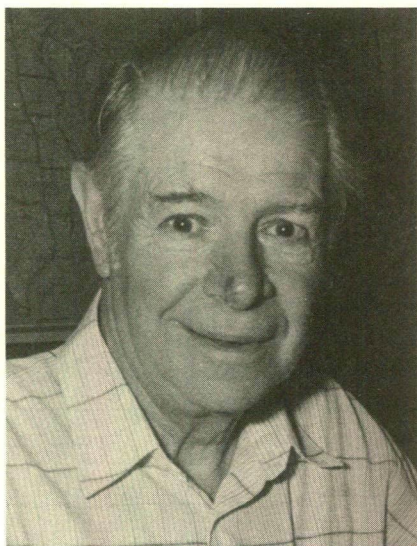
The new paperback, also published by UNC Press, is available for \$16.95.

Illustrated with more than 200 color photographs, the book provides a detailed description of each species as well as notes on its distribution and abundance, habitat, and natural history. Numerous range maps show the distribution of each species.

*Freshwater Fishes of the Carolinas, Virginia, Maryland, and Delaware* is available in bookstores or from the University of North Carolina Press. Toll-free orders: 1-800-848-6224.

### Beverton's book remains available.

The late Professor R.J.H. Beverton at the Beaufort, North Carolina, National Marine Fisheries Service (NMFS) Laboratory autographed copies of his book, *Notes on the Use of Theoretical Models in the Study of Exploited Fish Populations*, published by the AFS Marine Fisheries Section and released in association with a tour of NMFS laboratories.



The book, developed from recordings of a series of lectures, is an easy-to-read introduction to the ideas covered more complexly in the famous *On the Dynamics of Exploited Fish Populations*, published in 1957 by Beverton and S.J. Holt. Because each chapter represents an individual lecture, the book makes an excellent course outline. Copies are available for US \$20 from Gene R. Huntsman or Douglas S. Vaughan, Beaufort Laboratory, Southeast Fisheries Science Center, NMFS, 101 Pivers Island Rd., Beaufort, NC 28516-9722. Checks should be payable to Marine Fisheries Section AFS.

## "Fizzing" and Walleye Survival

*Deflating is a perennial issue in both marine and fresh water arenas. A new look.* Active deflation of swim bladders in walleye captured from deep water has become a common procedure among anglers who practice "catch-and-release". The intent of this procedure (often referred to as "fizzing") is to increase post-capture survival of walleye by providing an artificial release for expanded swim bladder gases, and thus allowing fish to return to deep water. To assess the effects this technique on walleye survival, the Western Walleye Council in association with the Alberta Fisheries Management Division contracted R.L. & L. Environmental Services Ltd. to experimentally determine survival rates of "fizzed" and "control" fish captured at different depths (2.6 to 10.1 m) and placed in large holding pens for a period of five days. The experiment was conducted on 27 August to 1 September, 1994 in Lesser Slave Lake. Of the 188 Walleye captured by volunteer anglers, 35 fish were sacrificed immediately to assess pathophysiological effects of depressurization, 76 fish were fizzed and placed into holding pens, and 77 fish were placed in the same holding pens without being fizzed. Results indicated that swim bladder deflation did not affect survival rates of walleye captured from depths less than 6.0 m. All fish captured from this depth category survived for at least five days, regardless of whether they were fizzed or not. Fish captured from depths between 6.1 and 7.5 m exhibited survival rates that varied between 88% and 94%. Survival rates were approximately the same for the fizzed and control treatment groups, indicating that fizzing did not affect survival of fish captured from this depth category. Statistically significant differences in survival rates between the fizzed and control treatment groups of walleye were recorded only for the fish that were captured from depths between 7.6m and 10.1m. Whereas the survival rates of the control fish varied between 89.5% and 90.0%, survival rates of fizzed fish were significantly lower (between 42.9% and 66.0%). This indicated that, contrary to the popular belief among anglers, releasing of deep-caught walleye after deflating their swim bladders results in higher mortality rates than releasing them intact.

The results of necropsies and blood analysis indicated that fish caught in deep water and held for five days had decreased serum sodium, chloride, and osmolality compared to fish caught at shallow water and held for five days. These decreased concentrations indicated impaired ability to maintain electrolyte and protein balance. In addition the deep-caught fish had significantly higher serum aspartate aminotransferase, potassium, and lactate concentrations, which indicated increased hypoxia and muscle injury in comparison to the shallow-caught fish.

Fizzing did not appear to result in a generalized bacterial infection in the tested fish, and there were not histological abnormalities that could be attributed to being captured in deep water or being fizzed. Nevertheless, puncturing the swim bladders of deep-caught fish resulted in a significant reduction in hematocrit or packed-cell destruction or loss.

cont. on page 6

## **Walleye Survival... *cont. from page 5***

Levels of other serum parameters appeared to be impaired in the fished group, but did not differ significantly from the control group. *Contacts: John Patelas Tel: 403-483-3499; Trent Bollinger Tel: 306-966-5153; Dave Walty Tel: 403-624-6405; Trevor Rhodes Tel: 403-849-7110.* From AFS Fishing Lines

## **Recreational Quota for Giant Bluefin Tuna Reached**

### **Fishery Closed Until January, 1997**

The National Marine Fisheries Service closed the recreational fishery for giant bluefin tuna in federal waters along the east coast effective March 17, 1996.

NMFS set a limit of four metric tons this year for bluefins. As of Sunday, March 3, 3.7 tons had been caught.

Now it is illegal to keep bluefin tuna longer than 73 inches. Anglers may catch and release the fish, and keep one per day, under 73 inches. The commercial fishing season for bluefin tuna opens in June.

According to Bill Hogarth, Director of the NMFS highly migratory species division, almost all of the bluefin tuna caught since the opening of the recreational fishing season two months ago have been caught off Cape Hatteras, North Carolina.

Anglers fishing off charter boats and those catching tuna from private vessels were limited to one giant bluefin tuna per boat per year, due to the weight of the fish and the low quota.

According to Chris Rogers of NMFS, the quota for giant bluefins has never been reached before, so this is the first time they have had to close the fishery.

Questions concerning permits to fish for tuna may be directed to the Gloucester, Mass. office of NMFS at (508) 281-9370.

The recreational fishery for bluefins will reopen for the next fishing season, beginning January, 1997.

South Atlantic Fishery Management Council

## **MMS Engaged in Intertidal Study in California**

MMS, one of the smallest bureaus in the Department of the Interior, is charged with managing America's offshore natural gas, oil and other mineral resources and collecting and disbursing about \$4 billion a year in revenues from onshore and offshore federal land Indian mineral leases. MMS is also engaged in valuable long-term biological studies along the west coast.

A team of scientists located in MMS's Pacific Regional Office is studying the rocky intertidal sections of the beaches of California. In 1992, these scientists formed an in-house team, (called the "MINT" team for "MMS Intertidal" team) so that long-term monitoring of several sites could continue along the California coast despite research budget cuts.

The goal of the team is the multiyear study of the plant and animal communities that reside in the splash zone, or intertidal zone, along the coast. One part of the effort is aimed at determining how much time is needed for communities of plant and animals living along the rocky shore to recover from man-made disturbances. The second part of the research focusses on monitoring communities to understand natural changes in the environment.

At a few locations along the coast, small sections of the algae and mussel beds were scraped clean (down to bare rock) in the mid-1980's. This experiment, now a decade in progress was done to mimic a severe man-made disturbance, such as a construction project. The growth of the new plants and animals in these cleared plots has been measured regularly for the past ten years. The recovery study was originally contracted to Kinnetic Laboratories, "but when the contract ran out, the mussels were still not close to recovery," said Mary Elaine Dunaway of the Pacific OCS Region. "MMS did not want the study to stop or to lose the data that had already been collected, so we took the study over and began conducting it completely in-house." Data collected by the team indicate that the mussel beds are recovering, but at a slow pace. The team will be releasing a report with their findings in 1996.

The team is also involved in a cooperative effort with the University of California at Santa Barbara, where nine sites along the Santa Barbara County shoreline are monitored twice yearly. Sites are selected at 10-mile intervals in order to obtain a good geological characterization of the coast.

The work will continue, and the initial results from the Mussel Recovery Study should be published early next year. Other sources of information available include "The Inventory of Shoreline Resources Database," now available on diskette; and, a handbook on the Resources of Santa Barbara County. For more information, contact Mary Elaine Dunaway at (805) 389-7848.

-Mary Elaine Dunaway

-Donna Cedar-Southworth

From Today's MMS February 1996

## **ASMFC seeks closure of sturgeon fishery**

### **2-year ban would protect Hudson River stock**

In an attempt to halt a continued stock decline, the Atlantic States Marine Fisheries Commission is calling for a closure of the last remaining Atlantic sturgeon fisheries along the East Coast.

The commission's Atlantic Sturgeon Management Board recommended a two-year moratorium on sturgeon harvests to protect the Hudson River stock, the last major population along the coast outside Canada.

"If they shut down—and there is some indication they will—that really protects the last remaining self-sustaining stock on the East Coast," said John Field, anadromous species coordinator at the ASMFC.

*cont. on page 7*

## **Closure of Sturgeon Fishery...** *cont. from page 6*

New York and New Jersey fishermen continue to take several hundred of the Hudson River fish each year. Outside those two states, the only other state reporting Atlantic sturgeon catches last year was Georgia, where six fish were caught.

The call for a moratorium was spurred by a continued drop in juvenile reproduction, which has fallen to less than 5,000 a year. In addition, according to the ASMFC, the present 7-foot minimum catch size for females is thought to be protecting only about half of the mature females. Also, the ratio of males to females has fallen from 6-to-1 to 3-to-1, an indication that the number of males is declining.

Some people in the Bay region are contemplating a stocking program to help rebuild the Chesapeake stock. If that were to happen, it is likely that the hatchery program would have to rely on Hudson River fish. No mature Atlantic sturgeon has been caught in the Bay since 1979, though juvenile sturgeon are occasionally found- fishermen have caught two in their nets so far this year.

Sturgeon are the Bay's largest and most long-lived fish, growing up to 800 pounds and living as long as 60 years. They were once abundant in the Bay, but declined dramatically early this century, largely as the result of overfishing, the damming of rivers and degradation of habitat.

Sturgeon are particularly vulnerable to overfishing because females typically do not mature until they are at least 15 years old, and they produce far fewer eggs than other fish. Sturgeon are an anadromous fish that spend most of their life in brackish or salt water, but return to coastal rivers to spawn.

The U.S. Fish and Wildlife Service, the Chesapeake Bay Foundation and the Maryland Department of Natural Resources are offering a \$100 reward for live sturgeon caught in the Bay. The captured fish will be tagged and released by USF&WS biologist

Anyone who catches, or sights, a sturgeon in the Bay is asked to call the USF&WS Sturgeon Information Hotline at 1-800-448-8322.

From Bay Journal April 1996 (Alliance for Chesapeake Bay)

**Alaska, Northern**

Steven K. Davis

LGL Research Associates, Inc.

4175 Tudor Centre Dr. #101

Anchorage, AK 99508

**Alaska, Southeast**

Malin M. Babcock

11305 Glacier Highway

Juneau, AK 99801-8626

**Atlantic Maritime**

Vacant

**Arizona - New Mexico**

G. Morris Southward

Department of Experimental Statistics

New Mexico State University

Box 3130

Las Cruces, New Mexico 88003

**California, Northern**

Daniel F. Howard

SW Fisheries Sci. Ctr., Tiburon Lab

3150 Paradise Drive

Tiburon, CA 94920

**California, Southern**

John L. Butler

5194 Galt Way

San Diego, CA 92117

**District Directors****Capital**

Frank M. Panek

National Park Service

4401 N. Fairfax Dr., RM 810-D

MD-820 ARLSO

Arlington, VA 22203

**Carolina**

Douglas S. Vaughan

214 Shell Landing Road

Beaufort, NC 28516

**Florida**

Vacant

**Great Lakes, South Central**

Dora R. Passino-Reader

National Fish. Center

1451 Green Road

Ann Arbor, MI 48105-2897

**Gulf of Mexico, Northeast**

Vacant

**Keystone**

Barbara E. Warkentine

1329 Balcom Avenue

Bronx, NY 10461

**New England**

John B. Pearce

Northeast Fisheries Center

166 Water Street

Woods Hole, MA 02543-1097

**Oregon-SW Washington**

John F. Palmisano

1990 NW 156th Avenue

Beaverton, OR 97006-5307

**Texas**

David R. Sager

Texas Parks &amp; Wildlife Dept.

4200 Smith School Rd.

Austin, TX 78744

**Washington, NW**

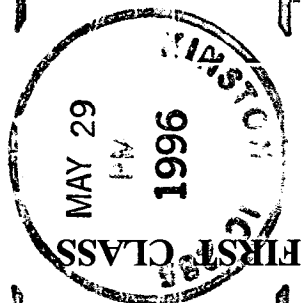
John Strand

16535 188th Ave. NE

Woodinville, WA 98072

**BRIEFS**, the newsletter of the American Institute of Fishery Research Biologists, is published six times a year. It is intended to communicate the professional activities and accomplishments of the Institute, its District, and Members; the results of research; the effects of management; unusual biological events; matters affecting the profession; political problems; and other matters of importance to the fishery community. Comments and contributions should be sent to the Editor, Dr. Gene R. Huntsman, 205 Blades Road, Havelock NC 28532. Subscription \$20 a year to Institutions and Non-Members. Officers-Clark Hubbs, University of Texas, Department of Zoology, Austin, TX 78712, President; Barbara Warkentine, 1329 Balcom Ave., Bronx, NY 10461, Secretary; Joseph Rachlin, Lehman College Bio., Bedford Park Blvd. West, Bronx, New York 10468, Treasurer.

ISSN-8755-0075



Address Correction Requested

Lehman College, Biology  
c/o Joseph Rachlin  
Bedford Park Boulevard West  
Bronx, NY 10468-1589

*American Institute of Fishery  
Research Biologists*

# American Institute of Fishery Research Biologists

## ... BRIEFS ...

VOL. 25, NO. 4

JULY - AUGUST 1996

### Jennings Solves Quiz - Probably!

In the March- April issue of BRIEFS, a quiz was posed as to the authorship of the following quote, the Editor's favorite passage from fisheries literature.

"A few years ago the sauger was, to the few elect who knew where to find it, the choicest game-fish of the lower Wabash River; and we knew a minister who always went "saugering" when he failed in other ways to get the proper inspiration for his next Sunday's sermon. Starting in at the Vandalia bridge he would direct his oarsman to get out into the current, then row slowly up stream, even to old Fort Harrison and beyond, perhaps to Durkee's Ferry; then, turning slowly drift with the current home again. Meanwhile, with a small, silvery minnow (a satin-fin, creek chub, or river chub) at the end of 50 feet of line, trolling through the quiet ripples and over the deep pools, he patiently waits for the sauger's strike; and, while waiting his eyes take in the beauties of the river, the shore, and the sky; ideas comes readily, his thoughts fall together in logical sequence, and when Sunday comes, the sermon that he preaches is filled with sunshine, and love, and faith in humanity; and his flock know that their pastor has spent a day upon the river."

The paragraph comes from American Food and Game Fishes by Jordan and Evermann, but does not indicate which co-author produced it.

Mark R. Jennings, National Biological Service, Davis, California provided the following thoughtful analysis.

"Although I am always interested in the information provided by this newsletter, I was somewhat surprised to read about your quiz regarding the authorship of a passage from American Food and Game Fishes (a book that has gone through 13 editions and sold over 60,000 copies). As I am the biographer of Barton Warren Evermann (1853- 1932)[that's Evermann with a double "n" after 1881], I was intrigued by your request. After reviewing my notes and a number of writing samples by both Jordan and Evermann, I believe that the author of the passage in question is probably Evermann. The location where the minister conducted his fishing excursions is in the vicinity of Terre Haute, Indiana. Since Evermann was Professor and Department Chair of Zoology at Indiana State Normal School in Terre Haute from 1886- 1891, I would presume that he really knew the minister in question and probably attended a sermon or two (although Evermann was never much of a religious fellow). David Starr Jordan did a good deal of collecting with Evermann and other students around the state of Indiana during the 1880s, but I doubt if he spent much real time in Terre Haute.

Evermann's biography will be in the upcoming Pietsch and Anderson "Collection Building Volume" (Special Publication Number 3 of the American Society of Ichthyologists and Herpetologists). I understand that it is going to the printers next month (July)."

Jennings has yet to arrive in Beaufort (NC) to claim his prize, one metric ton of Atlantic menhaden. Meanwhile can any reader of Briefs comment on the current status of sauger populations in the Wabash River?

### Report: 1996 Research Assistance Award Program

Seventeen AIFRB associate members received Research Assistance Awards in 1996. Fourteen recipients were awarded \$180 each, while three received \$90 because they had received two, and in one case, three previous awards. The total awarded was \$2,790. In the interest of fiscal prudence, the total award was kept well below the authorized \$4,000 annual limit for the program. Of the 17 recipients, five are graduate students at Pennsylvania State University, four are at Oregon State University, three are from the University of Florida, and one each are from the University of Washington, the College of William and Mary, South Dakota State University and the University of Hawaii. One is a biologist with the California Department of Fish and Game.

Thanks to the generosity of my employer, Pacific Gas and Electric Company, I again had no expenses for administering the program.

#### Chair Research Assistance Award Program

Thomas R. Lambert

#### Committee Members

Joe Rachlin, Barbara Warkentine and Judy Wern

#### 1996 Recipients of AIFRB Research Assistance Award

✓ Ms. Traci Bishop California Dept. of Fish & Game 330 Golden Shore, Ste. 50 Long Beach, CA 90802	✓ Ms. Kelly L. Bryan The Pennsylvania State Univ. 9 Ferguson Bldg. University Park, PA 16802
✓ Mr. Christopher J. Donohoe Oregon State University Dept of Fish & Wildlife Nash Hall 104 Corvallis, OR 97331-3803	X Ms. Wen-Xian Du University of Florida Food Science Bldg. Room 359 Gainesville, FL 32611 WEI
✓ Mr. Andrew H. Fayram 7117 12th Ave. N.E. Seattle, WA 98115	✓ Mr. Matthew J. Gray PA Coop Fish & Wildlife Res. Unit 113 Merkle Building University Park, PA 16802-1100
✓ Ms. Elisabeth A. Hale 814 Walnut Street State College, PA 16801	X Mr. Lihan Huang Seafoods Laboratory Oregon State University 250 36th Street Astoria, OR 97103-2499 MORRISSEY
X Dr. Tung-Shi Huang Food Science & Nutrition Dept. University of Florida Gainesville, FL 32611 WEI	✓ Ms. Karen A. Kellogg The Pennsylvania State Univ. 9 Ferguson Bldg. University Park, PA 16802
X Mr. Jeongmok Kim 299-9 Diamond Village Gainesville, FL 32603 WEI	

x = 6

✓ = 11

cont. on page 2

## Research Assistance Awards...

cont. from page 1

Mr. Fugen Li  
Dept. of Food  
Science & Technology  
Oregon State Univ./ Wiegand Hall  
Corvallis, OR 97331-6602

Mrs. Xianbin F. Nickel  
250 36th Street  
Astoria, OR 97103

Mr. Kevin Pope  
P.O. Box 7074  
Brookings, SD 57007

Mr. Mark Terwilliger  
School of Marine Science  
Virginia Institute of Marine Science  
College of William and Mary  
Gloucester Point, VA 23062

Ms. Ellen S. van Snik  
9 Ferguson Bldg.  
University Park, PA 16802

Mr. Brad Wetherbee  
Dept. of Zoology  
University of Hawaii  
2538 The Mall  
Honolulu, HI 96822

## Research Assistance Award Recipients Since 1986

### 1986

Jerald S. Ault  
Gary D. Mary  
Babara Warkentine

### 1987

Mark Jennings  
Kathleen Matthews  
Barbara Warkentine<sup>2</sup>  
Katherine Yudin

### 1988

Standish Allen  
Haejung An  
Suzanne Boltz  
Richard Brodeur  
Roman Jesien  
Raymond Newman  
Gregory Ruggerone  
Barbara Warkentine<sup>3</sup>  
Bradley Wetherbee

### 1989

Haejung An<sup>2</sup>  
Patrick Harris  
Donald Pereira

### 1990

David Bushek  
Jon Chen  
Tung-Shi Huang  
Robert Mc Connaughey

### 1991

Dana Aultman  
Russell Brown  
T. Richard Busby  
David Bushek<sup>2</sup>  
Jon Chen<sup>2</sup>  
Paul Donaldson  
Joseph DosSantos  
Tung-Shi Huang<sup>2</sup>  
Lisa Pike

### 1992

Mark Benfield  
Nancy Bower  
David Bushek<sup>3</sup>  
Jon Chen<sup>3</sup>  
Gregory DeBrosse  
Jonathan Kennen  
David Love  
Mirella Martinez  
Gregory Ruggerone<sup>2</sup>

### 1993

Steven Fischer  
Martin Gutowski  
Polla Hartley  
Jonathan Heifetz  
Dongdong Lin  
Robert Neumann  
Trent Sutton  
Laura White

### 1994

J. Kevin Craig  
Gregory DeBrosse<sup>2</sup>  
Elizabeth Hale  
Tung-Shi Huang<sup>3</sup>  
Tein Lin  
Edda Magnusdottir  
Andrew Shadlock  
Ellen van Snik  
Vasana Weerasinghe  
Bradley Wetherbee<sup>2</sup>

### 1995

Kelly Bryan  
Wen-Xian Du  
Jennifer Frederick  
Karen Kellog  
Jeongmok Kim  
W. Ladd Knotek  
David Love<sup>2</sup>

Peter Perschbacher  
Greg Peters  
Siripom  
Pipatsattazanu Wong  
Timothy Stecko  
Ellen van Snik<sup>2</sup>  
Jirawat  
Yongsawatdigul

### 1996

Traci Bishop  
Kelly Bryan<sup>2</sup>  
Christopher J. Donohoe  
Wen-Xian Du<sup>2</sup>  
Andrew H. Fayram  
Matthew J. Gray

Elisabeth A. Hale<sup>2</sup>  
Lihan Huang  
Tung-Shi Huang<sup>†</sup>  
Karen A. Kellogg<sup>2</sup>  
Jeongmok Kim<sup>2</sup>  
Fugen Li

Xianbin F. Nickel  
Kevin Pope  
Mark Terwilliger  
Ellen S. van Snik<sup>3</sup>  
Brad Wetherbee<sup>3</sup>

<sup>2</sup>=Second Award

<sup>3</sup>=Third Award

<sup>†</sup>=Fourth Award

Traci L. Bishop, a Marine Biologist with the California Department of Fish and Game will be presenting her paper at the International Symposium on the Role of Forage Fishes in Marine Ecosystems to be held in Anchorage, Alaska. She was sponsored by CDF&G Associate Marine Biologist, Mary Larson.

### The recovery of the Pacific sardine (*Sardinops sagax*) and the effects on the Southern California Bight ecosystem.

The Pacific sardine (*Sardinops sagax*) population grew steadily during the 1980's reaching an estimated biomass of 320,000 metric tons in 1995. As the population increased, California Department of Fish and Game resource managers established quotas based on the take of 10-15% of the biomass to allow for continued recovery of the population, an adequate food supply for sardine foragers, and a limited commercial fishery. Since 1990, the quotas and landings of sardines have increased.

Pacific sardine and northern anchovy (*Engraulis mordax*) are the two primary forage fish species found within the Southern California Bight. After the collapse of the sardine population in the 1950's, birds, fish, and some marine mammals fed primarily on northern anchovy. Brown pelican (*Pelecanus occidentalis*) studies indicated that they fed almost exclusively upon anchovies, a diet that influenced brown pelican populations over the last 30 years. As the sardine population recovered in the 1980's, reliance on anchovy as a food source decreased.

Kelly L. Bryan, an M.S. student in Wildlife & Fisheries Science at Pennsylvania State University sponsored by Jay R. Stauffer, Jr., presented her paper at The American Society of Ichthyologists and Herpetologists annual meeting held in New Orleans.

### Origin and Status of the Fauna of French Creek (Allegheny River drainage), Pennsylvania.

Pleistocene glaciers that once covered the northern half of North America had a tremendous effect on the distribution of organisms. Principal effects were the elimination of fish populations and displacement of species southward. Stream captures have created an unusually diverse fauna in the upper Allegheny river in Pennsylvania and New York. French Creek in northwestern Pennsylvania is a refugia for much of the fauna. It is home to 53 fish species, of which 14 species are darters and 25 species of unionids. French Creek is unique to Pennsylvania streams in that in a single riffle 13 darter species can be found. These species are found elsewhere in the Allegheny River, however in no other portion of the system are they federally endangered species. French Creek is also a refuge to Pennsylvania's richest unionid assemblage, including two federally endangered species. French Creek is being threatened by deteriorating water conditions due to streambed modifications, effluents, and pesticides entering the stream. The fauna of French Creek theoretically, must also contend with competition from exotic species via bait bucket releases and the zebra mussel. French Creek is one of Pennsylvania's most unique streams and warrants protection to ensure the existence of its fauna.

Christopher J. Donohoe, a doctoral student in the Department of Fisheries and Wildlife at Oregon State University under major professor Douglas Markle, presented his paper at the American Society of Ichthyologists and Herpetologists meeting in New Orleans.

### Evaluation of growth synchrony in cohorts of settling Pacific sanddab (*Citharichthys sordidus*)

Otoliths contain a history of the growth of each surviving fish in a cohort. This history can provide valuable clues to the identity of processes that influence growth and survival of the year class. Synchronous growth among individuals suggests a common controlling process whereas asynchronous growth suggests multiple processes. Because processes act over different spatial and temporal scales, the scale at which synchrony is observed is informative. We examined the otoliths of Pacific sanddab (*Citharichthys sordidus*)

cont. on page 3

## Research Assistance Awards...

cont. from page 2

settling to the continental shelf and upper slope off central Oregon. A time series of daily increment widths was obtained for each fish, and compared to other fish collected from the same, near, and distant stations to determine if growth was synchronous within the cohort at these spatial scales. Preliminary analysis revealed both long-term and short-term variation in increment widths during the early life history. Patterns of otolith growth were similar among fish taken at stations up to 80 km apart, but also appeared to differ among fish taken at two stations only 9 km apart. These patterns suggest that local-scale processes strongly influence growth and may reveal the structure to the pattern of larval drift and settlement.

**Wen-Xian Du**, graduate student at the University of Florida studying under Cheng-i Wei, presented her paper at the Institute of Food Technologists annual meeting in New Orleans.

### Effect of Chlorine Dioxide Treatment on the Proximate Analysis and some Vitamin Contents of Salmon and Red Grouper Fillets

Chlorine dioxide ( $\text{ClO}_2$ ) has been considered as a substitute of aqueous chlorine for use in the food industry due to safety concerns of the reaction of the latter with organic matters. In an attempt to determine the effect of  $\text{ClO}_2$  on the nutrient status of treated food, model systems of duplicate fillets of Atlantic salmon (*Salmo salar*) and red grouper (*Epinephelus morio*) were treated for 5 min with five volumes (1:5, w/v) of aqueous  $\text{ClO}_2$  at 20, 40, 100, and 200 ppm total available  $\text{ClO}_2$  in brine water. The contents of protein, lipid, and moisture were determined using the modified macroKjeldahl method, the extraction of the homogenates with chloroform-methanol, and the AOAC method 950.46, respectively: while thiamine, riboflavin, and niacin were determined using the AOAC thiochrome method (942.23), fluorometric method (970.65), and colorimetric method (961.14), respectively.  $\text{ClO}_2$  solutions were freshly prepared for each experiment from Oxine concentrate (Bio-Cide International). The experiments were repeated two or more times and t-test was used to determine any significant difference between the means of the paired data at  $P \leq 0.05$ .

Treatment  $\text{ClO}_2$  did not affect the protein contents of salmon and grouper, and the moisture content of red grouper. Salmon treated with  $\text{ClO}_2$  had non significantly lower lipid contents than nontreated control. Red grouper treated with brine water of 20 ppm  $\text{ClO}_2$  had significantly higher lipid contents than nontreated control and that with 200 ppm. Salmon treated with brine water or 200 ppm  $\text{ClO}_2$  had a significantly higher moisture contents than nontreated control or those at 20 or 40 ppm.

Treatment with brine water and  $\text{ClO}_2$  solutions caused significant reductions of thiamine in salmon and grouper, and riboflavin in red grouper. Salmon fillets treated with 20 ppm  $\text{ClO}_2$  had a significantly higher riboflavin content than those with 40, 100, and 200 ppm. Treatment of salmon with brine water caused a significant reduction in niacin content when compared to nontreated control and those with  $\text{ClO}_2$  solutions at 20, 100 and 200 ppm, and in red grouper compared to nontreated control and those with  $\text{ClO}_2$  solutions at 20, 40, 100 and 200 ppm. Chlorine dioxide treatment thus affects to some extent the nutritional status of the fillets of salmon and red grouper.

**Andrew Fayram**, a graduate student at the University of Washington working under major professor Thomas Sibley presented his paper at the annual meeting of The American Society of Limnology and Oceanography held in Milwaukee, Wisconsin.

### Bass-Salmonid Interactions in Lake Washington

This study evaluates the extent of predation by smallmouth (*Micropterus dolomieu*) and largemouth (*Micropterus salmoides*) bass on sockeye salmon (*Oncorhynchus nerka*). In Lake Washington important commercial and sport fisheries for sockeye have declined dramatically during the past decade and increased predation on

juvenile fish during their residence in the lake is a potential cause of this decline. Very little work has been previously conducted involving bass predation (particularly large mouth) on sockeye salmon in a lake environment. Lake Washington provides a unique environment for such studies. Ultrasonic tracking data showed very limited spatial overlap between the bass and the juvenile salmonids during late summer and fall. However, there is substantial spatial overlap during the spring when the salmon smolts are outmigrating through the littoral zone. Stomach analyses were performed to determine the importance of juvenile salmon in the bass' diets. Juvenile salmonids were present in stomachs of both species. However, consumption of salmonids was apparently limited to the spring. Based on preliminary data, the predation by bass is unlikely to be the sole cause of increased freshwater mortality of Lake Washington sockeye. However, they may be compounding other factors which are detrimental to the sockeye.

**Matthew J. Gray**, master's candidate at Pennsylvania State University, working with Dean Arnold, presented his paper at the American Society of Ichthyologists and Herpetologists meeting in New Orleans.

### Short Term Biological Monitoring of Acid Mine Mitigation Using Total Body Sodium Loss of *Salmo trutta*, *Oncorhynchus mykiss*, and *Salvelinus fontinalis*.

Lick Creek in Lycoming County, PA has been polluted with acid mine drainage for over one hundred years. Recently, two limestone diversion well dosing devices have been deployed to treat the effluent in the head waters of Lick Creek. These wells have proven their ability to increase pH, subsequently decreasing the heavy-metal load of the mine drainage. We examined the short term effects of the treatment device on three species of salmonids. Total sodium loss is an indicator of stress in salmonids and can be a useful tool in short term monitoring of both acid mine and acid rain mitigation projects. Total body sodium loss was examined in *Salmo trutta*, *Oncorhynchus mykiss*, and *Salvelinus fontinalis*. Significant decreases in sodium loss have been demonstrated between the acid impacted site and the treated section of stream while no differences were observed between the clean reference site and the treated water.

**Elizabeth A. Hale**, a Ph.D. candidate in Ecology at Pennsylvania State University studying under Jay R. Stauffer, Jr., presented her paper at the annual meeting of The American Society of Ichthyologists and Herpetologists in New Orleans.

### Isolating the role of substrate in fish habitat selection:

#### A stream manipulation

Although habitat partitioning in freshwater streams is a phenomenon much examined, correlation among habitat variables including depth, water velocity and substrate size has hindered determining the specific effects of each variable. The purpose of this study is to assess substrate as a variable of ichthyofauna habitat preference via stream manipulation. The site, Venago, Pennsylvania, located on French Creek, a tributary to the Allegheny River is chosen for uniform depth and diverse ichthyofauna. During the summer of 1992, 1993 and 1994 the substrate in twenty, one meter square grids were excavated and replaced with either a treatment substrate type or control substrate type. A total of 13 collections and habitat assessments were made during the three year period. At each collection date, water velocity and depth are similar across all grids. Each grid was surrounded with a seine and DC electroshocked to collect the individuals in the grid. The number of each species is recorded. Although no preferences for substrate type is observed for the species, a notable trend is higher abundance and diversity on collection dates with the lower depths. This compression of species due to a decrease in available habitats during times of low water flow provides insight to the dynamics of community response to environmental changes

**Lihan Huang**, is a graduate student working with Michael T. Morrissey, Director of Oregon State University's Seafood Laboratory.

cont. on page 4

## Research Assistance Awards...

cont. from page 3

He presented his paper at the annual meeting of the Institute of Food Technologists in New Orleans.

### Coagulation of Proteins from Surimi Wash Water by Ohmic Heating

The surimi processing industry uses large volumes of water to wash fish mince. The wash water contains a number of proteins and other organic matter and is high in BOD and total solids. Reducing solids and recovery of proteins from seafood waste water by heat coagulation is one method available to the seafood industry. Ohmic heating, which employs an alternating electrical current through a medium causing internal heat generation, offers a new method of heating to facilitate this coagulation. The objective of this study was to investigate the possibility of applying ohmic heating to coagulate proteins from surimi wash water.

A batch-type ohmic heating device was developed. Surimi wash water was prepared from thawed frozen Pacific whiting mince. The average COD, total solids (TS), total suspended solids (TSS), and proteins were 11.6, 10.4, 1.21, and 9.14 g/L, respectively. The voltage applied was set at 90 VAC. The temperature of the wash water was raised to 40, 50, 60, 70, and 80°C, respectively, to investigate effect of the heating temperature on coagulation of fish proteins. The effect of holding time, from 0 to 9 min, at each set temperature was also investigated. Results showed that 60%, 37%, and 33% of COD, TS, and proteins, respectively, can be removed by ohmic heating at 80°C for 5 min. At temperatures above 50°C, more than 90% of TSS was removed. The interactive effect of time and temperature in the removal of different components of surimi wash water are presented.

**Tung-Shi Huang**, a Postdoctorate Research Associate working with Professor Cheng-i Wei at the University of Florida presented his paper at the Institute of Food Technologists annual meeting in New Orleans.

### Determination of the Effectiveness of Using Chlorine Dioxide in Controlling Bacterial Loads and Quality of Various Seafood Products Over a 7-day Period

Chlorine dioxide ( $\text{ClO}_2$ ) has bactericidal efficacy equivalent to seven times its concentration of aqueous chlorine in poultry processing water. The bactericidal activity is not affected by high pH and the presence of nitrogenous compounds; therefore,  $\text{ClO}_2$  has been explored as a potential substitute for aqueous chlorine for use in the food and seafood industries to clean products, containers and equipment. To help determine the potential usage of  $\text{ClO}_2$  in seafood industry, fillets of Atlantic salmon (*Salmo salar*) and red grouper (*Epinephelus morio*) headless brown shrimp (*Penaeus aztecus*) and Calico scallops, and gutted whole Atlantic salmon and red grouper were treated with freshly prepared aqueous  $\text{ClO}_2$  solutions (20, 40, 100, and 200 ppm available  $\text{ClO}_2$ ) in brine water for 5 min, and bacterial loads (using PCA plates + 1.5% NaCl) and sensory quality (by 10 trained panelists) evaluated on day 0 or 3 and 7 of cold storage on ice. Triplicate samples were used for each sample at each test condition and the experiment was repeated at least once. An analysis of variance (ANOVA) was performed using the general linear models procedure (SAS) with test results. Duncan's multiple range test was used for pairwise comparisons at a significant level of  $P=0.05$ .

Except for nontreated scallops, the number of natural microflora in each group of tested seafood samples increased significantly following cold storage for 3 or 7 days. Compared to nontreated control and brine water treated control and brine water treated group, treatment of fillets of red grouper and salmon, and whole salmon with  $\text{ClO}_2$  solutions on day 0 caused dose-related but nonsignificant decreases in numbers of natural flora. However, scallops, shrimps, and whole red grouper treated with  $\text{ClO}_2$  showed significant and dose-related decreases in bacterial numbers on day 0.  $\text{ClO}_2$  treated groups following cold storage for 3 and 7 days also had less bacterial numbers than nontreated and brine water treated groups. In most

cases, the differences in bacterial numbers were significant, especially for groups treated with 100 and 200 ppm  $\text{ClO}_2$ . The pH of the  $\text{ClO}_2$  solutions increased following dipping of test seafood samples. Treated  $\text{ClO}_2$  solutions contained very low or no bacterial loads. Discoloration occurred with treated seafood at 100 or 200 ppm. Discoloration of the skin of the red grouper and salmon to unnatural lighter color and the occurrence of chocolate color in the gills were the major drawbacks for these treated samples.

**Karen A. Kellogg**, a doctoral candidate working with Jay R. Stauffer, Jr. in the ecology program at Pennsylvania State University, presented her paper at the American Society of Ichthyologists and Herpetologists meeting in New Orleans

### Characteristics that Influence Male Reproductive Success in a Cichlid Fish Lek

Lake Malawi, Africa holds over 450 species of cichlid fishes which are thought to have arisen within the last two million years. The males of the sand-dwelling cichlid species aggregate and defend territories that encompass a sand-castle structure (bower) over which the males court. Females mouth-brood and are free to choose mates. The mating system characteristics, in conjunction with the rapid rate of speciation, make theories of sexual selection by female choice plausible. A multi-species lek, consisting primarily of *Lethrinops cf. parvidens*, was observed to evaluate characteristics that influence mating success. Males of intermediate length experienced the highest reproductive success. These males devoted more time to sexual displays, and less to foraging and aggressive behaviors. Males with a mixture of yellow and orange gular coloration also had a higher level of mating success. The study of bower characteristics revealed an interaction between bower height and location within the lek. In order to isolate the effects of bower size, several small, relatively unsuccessful bowers were replaced with taller artificial bowers. In general, the number of eggs being laid in the bowers significantly increased although males defending bowers in areas of high predation did not experience a gain.

**Jeongmok Kim**, a Ph.D. graduate student at the University of Florida studying with advisor Cheng-i Wei, presented his paper at the Institute of Food Technologist annual meeting in New Orleans.

### Effect of Chlorine Dioxide Treatment on the Proximate Analysis and Some Vitamin Contents of Salmon and Red Grouper Fillets

Chlorine dioxide ( $\text{ClO}_2$ ) has been considered as a substitute of aqueous chlorine for use in the food industry to clean products, containers and equipment due to safety concerns of the reaction of the latter with organic matters. In an attempt to determine the effect of  $\text{ClO}_2$  on the nutrient status of treated food, model systems of duplicate fillets of Atlantic salmon (*Salmo salar*) and red grouper (*Epinephelus morio*) were treated for 5 min with five volumes (1:5, w/v) of aqueous  $\text{ClO}_2$  at 20, 40, 100, and 200 ppm total available  $\text{ClO}_2$  in brine water. The contents of protein, lipid, and moisture were determined using the modified macro-Kjeldahl method, the extraction of the homogenates with chloroform-methanol, and the AOAC thiochrome method (942.23), fluorometric method (970.65), and colorimetric method (961.14), respectively.  $\text{ClO}_2$  solutions were freshly prepared for each experiment from Oxine concentrate (Bio-Cide International). The experiments were repeated two or more times, and t-test was used to determine any significant difference between the means of the paired data at  $P \leq 0.05$ .

Treatment with  $\text{ClO}_2$  did not affect the protein contents of salmon and grouper, and the moisture content of red grouper. Salmon treated with  $\text{ClO}_2$  had non significantly lower lipid contents than nontreated control. Red grouper treated with brine water or 20 ppm  $\text{ClO}_2$  had significantly higher lipid contents than nontreated control and that with 200 ppm. Salmon treated with brine water or 200 ppm  $\text{ClO}_2$  had a significantly higher moisture contents than nontreated control or those at 20 or 40 ppm.

Treatment with brine water and  $\text{ClO}_2$  solutions caused significant

cont. on page 5

## Research Assistance Awards...

cont. from page 4

reductions of thiamine in salmon and grouper, and riboflavin in red grouper. Salmon filets treated with 20 ppm  $\text{ClO}_2$  had a significantly higher riboflavin content than those with 40, 100 and 200 ppm. Treatment of salmon with brine water caused a significant reduction in niacin content when compared to nontreated control and those with  $\text{ClO}_2$  solutions at 20, 100, and 200 ppm, and in red grouper compared to nontreated control and those with  $\text{ClO}_2$  at 20, 40, 100 and 200 ppm. Chlorine dioxide treatment thus affects to some extent the nutritional status of the fillets of salmon and red grouper.

**Fugen Li**, a graduate student in the Oregon State University Seafood Laboratory working with major professor Haejung An, presented his paper at the Institute of Food Technologists meeting held in New Orleans.

### High Level Expression of Trout Cystatin in *Saccharomyces cerevisiae*

Utilization of many fish species is limited by rapid texture softening through proteolysis. In Pacific whiting surimi production, proteolytic degradation of myosin has been controlled through the use of bovine plasma protein, egg white or potato powder as proteinase inhibitors. Negative effects on flavor and odor have been observed with the use of these additives at concentrations above 1%. Therefore, development of an effective inhibitor of the proteinase associated with Pacific whiting surimi was undertaken in this study.

It has been reported that a cysteine proteinase is responsible for myosin degradation in Pacific whiting surimi. Cystatin is one of the most potent inhibitors of cysteine proteinases. To study the functionality of trout cystatin and its potential value for surimi processing, we isolated a molecular clone of trout cystatin cDNA and established a yeast system for this heterologous protein expression. We found that trout cystatin was successfully synthesized in yeast cells, by placing the cloned cDNA under control of the GAL1 inducible promoter. The induced cystatin mRNA level in this yeast system is more than 100-fold that of trout liver as determined by Northern blot. Western blot and SDS-PAGE gel of yeast extract showed multiple sizes of cystatin. The expressed cystatin was not effectively secreted into the yeast culture medium possibly because the trout cystatin signal sequence is ineffective in yeast. We are currently exploring the use of the yeast invertase secretion signal sequence to direct high level secretion of the protein.

**Xianbin F. Nickel**, a graduate student in the Department of Food Science and Technology at Oregon State University under major professor Haejung An presented her paper at the Institute of Food Technologists meeting held in New Orleans.

### Molecular Cloning of Cathepsin L From Trout

A large number of fish species have been underutilized due to soft textures. In Pacific whiting (*Merluccius productus*), the soft texture has shown to be caused mostly by cathepsin L, which belongs to the papain superfamily. The activity of cathepsin L has been associated with the infection by the Myxosporean parasites in fish muscle. Isolation of cDNAs encoding cathepsin L will elucidate the relationship between function and structure of this enzyme, and the regulation and gene expression during cell growth, differentiation and pathological condition of fish. The objective of this study was to identify the cDNA encoding cathepsin L from trout liver cDNA encoding cathepsin L from trout liver cDNA library.

The degenerate primers for PCR were designed based on two highly conservative regions around active site residues C25 and N175 in papain family. The codon usage of these amino acids in cathepsin L cDNAs from several species were referred to reduce the degenerate fold. The 500 bp-trout cDNA PCR product was subcloned into pUC19 and screened by the loss of  $\beta$ -galactosidase activity. Among the 26 white colonies screened, 17 were found to have the 500 bp insertion. Five clones were sequenced and 4 different sequences were obtained. The comparison of their deduced amino

acid sequences with cathepsins showed that one clone was a partial cathepsin L cDNA which had 80% identity with chicken cathepsin L and 75% with human and rat cathepsin L, and all other clones belonged to the cysteine proteinase group. The cathepsin L clone has been non-isotopically labeled as probes to screen the trout cDNA library. The sequence of the positive clones will be determined and compared to the propepcathepsin L cDNAs from other species.

**Kevin Pope**, a Ph.D. student at South Dakota State University working with major advisor David W. Willis, presented his paper at the annual meeting of the American Fisheries Society in Dearborn, Michigan.

### Comparison of Nest Sites Selected by

#### Male Black Crappies in a Reservoir and a Natural Lake

Black crappie *Pomoxis nigromaculatus* recruitment is typically consistent in South Dakota impoundments, but inconsistent in South Dakota natural lakes. To better understand these differences, a biotelemetry study was undertaken during spring 1995 to identify black crappie nest sites in an impoundment (Lake Richmond) and a natural lake (Brant Lake). Individually coded ultrasonic transmitters were implanted into 15 adult male black crappies in each water body prior to spawning. Available habitat characteristics were recorded at 75 random sites within each water body and habitat characteristics at nest sites were recorded for each male black crappie believed to be nesting. Of the habitat characteristics that we analyzed, only shore gradient and substrate firmness did not differ between random sites in Richmond and Brant lakes. In Richmond Lake, black crappies selected nest sites with live cattails *Typha* spp. that were protected from south winds. In Brant Lake, black crappies selected nest sites with vegetation (usually woody debris) and silty substrate that had warmer water and were protected from wind and waves. It appeared that black crappies in these two South Dakota water types did not simply nest in protected areas, they nested in the most protected areas available in both the reservoir and natural lake.

**Mark Terwilliger**, a graduate student at the College of William and Mary's Virginia Institute of Marine Science working with Professor Herbert M. Austin, presented his paper at the American society of Ichthyologists and Herpetologist annual meeting in New Orleans.

#### Annular growth patterns, age, and longevity in a temperate estuarine species of cynoglossid tonguefish, *Symphurus plagiusa*, with comparisons of growth parameters among sympatric *Pleuronectiformes*

Blackcheek tonguefish (*Symphurus plagiusa*) is the only cynoglossid flat fish occurring in abundance in shallow estuaries and coastal embayments in north temperate latitudes. In Chesapeake Bay, it ranks sixth in abundance in juvenile finfish surveys. Information on life history parameters for this species is limited, save for work describing factors influencing recruitment, size-related maturity patterns, distribution, relative abundance, length frequencies, and larval forms. Sex ratio for 566 male and female blackcheek tongue fish was 1: 1.54. Both sagittal otoliths were removed, embedded, sectioned transversely, and read for ageing. Annuli, validated by marginal increment analysis, are formed once yearly in June. The first annulus is formed at a size range of 88-138 mm total length. Macroscopic staging of ovaries revealed that blackcheek tonguefish reached sexual maturity between 80-130 mm. Length at 50% maturity was 97mm. First annulus formation reflects allocation of energy resources to gonadal growth at expense of somatic growth. Von Bertalanffy growth parameters were similar for males and females, with females having slightly higher values for K (.3205 compared to .2853). The von Bertalanffy equation for males was  $L_t = 196.5 (1 - e^{-.2853(t+.9195)})$ ; for females,  $L_t = 190.6 (1 - e^{-.3205(t+.9195)})$ . Growth is rapid during the first year for both sexes, then declines rapidly thereafter; males and females achieve 50% of  $L_\infty$  by age 1. Maximum age for both sexes was 5 years. Previous work described age structure of this population by length frequency analysis. The

cont. on page 6

## Research Assistance Awards...

cont. from page 5

present study revealed considerable overlap in total length between age groups, thus rendering interpretations based on length frequency analysis unreliable. Growth parameters for other cynoglossid species are not available, therefore no comparison could be made among other fishes of this family. Growth parameters of blackcheek tonguefish were compared with those of five sympatric pleuronectiform species: summer flounder (*Paralichthys dentatus*), southern flounder (*Paralichthys lethostigma*), windowpane (*Scophthalmus aquosus*), winter flounder (*Pseudopleuronectes americanus*), and hogchoker (*Trinectes maculatus*). A wide variety of growth schemes are exhibited by these Pleuronectiformes, indicating that several growth patterns exist in fishes that successfully endure the rigors of dynamic environments such as those of Chesapeake Bay and other north temperate estuaries.

**Ellen S. van Snik**, a doctoral candidate in Ecology studying under Jay R. Stauffer, Jr. at Pennsylvania State University, presented her paper at the American Society of Ichthyologists and Herpetologists meeting in New Orleans.

### A Comparison of Microhabitat Quantification Techniques for Stream Fishes

Previous investigators have demonstrated that quantification of the microhabitat used by stream fishes is necessary in order to reveal habitat partitioning. Investigators have typically used quantitative seining or snorkeling to quantify stream fish habitat use. Quantitative seining involves recording the number of each species caught in each seine haul; direct underwater observation through snorkeling is used in the second technique. In both techniques, habitat variables are recorded at the locality of each seine haul or fish, respectively. The objectives of this paper were to compare the results of quantitative seining and snorkeling in examining stream fish habitat use, to assess the utility of each technique for different fish groups, and to examine habitat partitioning in a diverse fish fauna. Two sites on French Creek, a tributary to the Allegheny River in northwestern Pennsylvania, were snorkeled and seined. The habitat variables recorded for both techniques included depth, bottom and mean water velocity, substrate size, and vegetation. While snorkeling, additional variables recorded included position of the fish with respect to the substrate, and direction of the fish with respect to water velocity. Habitat use relationships among the French Creek fauna were well defined; 75% of the species pairs habitat use were significantly different. Quantitative seining was the only technique useful in turbid water and was superior for quantifying the habitat use of cyprinids. Snorkeling was the best technique for examining the habitat use of benthic fishes, and required less field time and fewer field personnel than quantitative seining.

**Brad Wetherbee**, is a Ph.D. candidate at the University of Hawaii working with James D. Parrish, Leader of the Hawaii Cooperative Fishery Research Unit. He presented his paper at the American Society of Ichthyologists and Herpetologist meeting in New Orleans.

### Distribution, Reproduction, and Diet of the Grey Reef Shark

Distribution, reproduction, and diet of the grey reef shark, *Carcharhinus amblyrhynchos* was examined using data collected during shark control programs in the main Hawaiian Islands (MHI) and during research fishing in the Northwestern Hawaiian Islands (NWHI). A total of 469 sharks was caught between 1967 and 1980. Grey reef sharks had a restricted distribution in the MHI, occurring only in the vicinity of Niihau and Molokini islands, but were one of the most abundant sharks throughout the NWHI. Catch rate was higher for males than for females in standard longline fishing at all locations and during all seasons. Depth distribution of males and females was similar, although females were more common at shallower depths. Males ranged in size from 79 to 185 cm total length (TL), and matured at between 120 and 140 cm TL. Females ranged

in size between 63 and 183 cm TL and matured at about 120 cm TL. Litter size ranged from 3 to 6, with an average of 4.1 pups. Size at birth was estimated to be just over 60 cm TL. Most grey reef sharks (85%) consumed teleosts, but some sharks fed on cephalopods (29.5%), and crustaceans (4.9%). Larger sharks fed less frequently on teleosts and more frequently on cephalopods.

## W.F. Thompson Award Best Paper of 1994

Of 24 papers published in 1994 and submitted for consideration for the W.F. Thompson Award, the committee selected as best one by Ian A. Fleming and Mart R. Gross, published in *Evolution* (48: 637-57) and entitled "Breeding competition in a Pacific Salmon. . . measures of natural and sexual selection".

The authors are associated with the department of zoology, University of Toronto, Toronto, Ontario, Canada, M5S 1A1.

John B. Pearce

Chair, W.F. Thompson Award Committee

## District Activities

### Northeast States and East Canada

#### Regional Report/Keystone District Report

**Barbara E. Warkentine, Director**

The region was pleased to welcome W.B. Scott as District Director for the "Atlantic Maritime" District. Frank M. Panek, John B. Pearce and Barbara E. Warkentine remain District Directors of the "Capital," "New England" and "Keystone" Districts respectively.

As of June 1996 the current membership for the Northeast Region stands at 173, of which 70 are in the Capital District, 41 are in the New England District, 55 are in the Keystone District, and 7 are in the Atlantic Maritime District. The region and districts were pleased to welcome the following new members:

Stephen M. Waste (MD)	Member
Kelley Lee Bryan (PA)	Associate (Student)
Matthew J. Gray (PA)	Associate (Student)
Jarrad T. Kosa (MA)	Associate (Student)
Mark R. Terwilliger (VA)	Associate (Student)

Six (6) of our regional associate members were selected to receive research awards from AIFRB's 1996 Research Assistance Award Program. Our congratulations go to Kelley Lee Bryan, Matthew J. Gray, Elizabeth A. Hale, Karen A. Kellogg, and Ellen S. van Snik of Pennsylvania State University and to Mr. Mark R. Terwilliger (VA)

Promotion to Emeritus status was granted to two members of the keystone district. Theodore H. Kerstetter of NY and Phyllis Cahn (former District Director of NY/NJ) also of NY.

The Keystone District recruited two new members from the state of Pennsylvania.

### Texas District Report

**David R. Sager, Director**

The Texas District's two major events for this year were:

- 1) Active AIFRB member Dr. Sammy Ray was recognized by the Texas Academy of Science as the 1996 Texas Distinguished Scientist.
- 2) The Texas District organized and held a special symposium at the 1996 Annual Meeting of the Texas Academy of Science on "Ecological Implications of Commercial Fishery Bycatch."

The Texas Academy of Science was very supportive of this symposium and worked with us to make sure it was a success. The symposium presented information on an ongoing area of concern for Texas fishery resources and provided students attending with an insight into "real world" issues they may address once they leave academia. The AIFRB display was set up at the meeting by Sammy Ray to promote the institute and membership. After the symposium,

cont. on page 7

## District Activities...

cont. from page 6

the district members in attendance met and discussed the symposium and possible future efforts. It was agreed that the symposium was worthwhile and that the district should try to continue this relationship with the Academy at their annual meetings. The Academy had also been receptive to the idea of continuing this relationship. We will be seeking suggestions for future symposia from members, as well as volunteers to assist in preparing the symposium for next year.

I would like to recognize and thank the members who helped with the symposium. First, Jim Nance, the District Vice Director, who helped in planning and securing speakers. Sammy Ray and Judy Wern were instrumental in helping organize the symposium and obtaining the institute's display for the meeting. Clark Hubbs provided several helpful suggestions and introduced the symposium for the institute at the meeting. Other members, such as Lynne Benefield and Lance Robinson, provided timely questions and prompting to keep the panel discussion moving. I appreciate all those participating in the symposium.

### South Central Great Lakes District Report Central States and Middle Canada Region

*Dora R. Passino-Reader, Ph.D., Director*

Neal Foster and I are working together to reactivate this district and region after a period of about 15 years. As the contact person. I am starting to receive letters from the other officers in AIFRB with action items or news.

Dick Heimenn of Monterey sent the traveling display materials for AIFRB to display at the parent society annual meeting of American Fisheries Society in Dearborn, MI. August 25-29. The cost of a display in the exhibit area is about \$800, which we don't have of course. I arranged with Paola Ferreri, Poster Session Coordinator to have **free space** in the poster session area (Thank you, Paola!). The AIFRB display comes in flat pieces with Velcro on the back, so the poster session will be perfect.

In response to Gene Huntsman's desperate plea for news for the Briefs (Editors Note- still desperate!) I have sent several items about activities of Great Lakes fishery biologists. Great Lakes have been under-represented in the Briefs. Neal Foster has sent out some Internet messages to stir up interest in AIFRB. If we had e-mail addresses of all the AIFRB members in this district and region, we could inexpensively contact them all.

We are planning to have the preliminary planning meeting of AIFRB members in this area as a luncheon meeting next month.

### Capital District

*Dr. Frank M. Panek, Director*

#### Annual Report

##### 1. District Membership (As of May, 1996)

Associates	13	Total Delinquent Members:	17
Members	22	New Members(1996):	2
Fellows	23	Dr. Stephen M. Waste - Member	
Emeritus	12	Mr. Mark R Terwilliger - Associate	
Total	70		

The high incidence of delinquent members is of concern. Notices were mailed to all delinquent members urging them to renew their dues and become active in District activities. Also, many members are eligible for promotion. This will be addressed at the District's Annual Program and Business Meeting on July 20, 1996.

##### 2. Annual Program and Business Meeting

The 1996 Annual Business Meeting and get together of the Capital District membership was held on Saturday, July 20, 1996 at the National Aquarium in Baltimore. The meeting featured a presentation by Dr. Chris Andrews, Senior Director of Biological Programs, on the conversation and research programs of the National Aquarium. Following the Business Meeting, Dr. Andrews and his staff conducted a "behind the scenes" tour of the National Aquarium's displays and facilities for interested AIFRB members. The meeting

provided the first opportunity in many years for AIFRB members to get together in a casual setting, to meet new members, and enjoy a day at one of the nations's premiere public aquaria. The meeting and program was open to perspective members and graduate students.

### 3. Professional Accomplishments Committee

Dick Schaefer agreed to establish and chair a Professional Accomplishments and Awards Committee for the District. This committee is still defining its role and responsibilities but the general idea is to provide a means for acknowledging the professional accomplishments of the District membership. During 1996 the committee agreed to honor long-time AIFRB member Glenn Flittner by preparing a *Who's Who in AIFRB* article for *Briefs*. Dr Flittner retired from the National Marine Fisheries Service (NMFS) in early 1994 after more than 40 years of public service.

### Carolina District

*Douglas Vaughan, Director*

The primary activity within the Carolinas District since the 1995 Board of Control Meeting in Tampa has been the development of a special symposium during the 1996 AFS meeting in Dearborn. This symposium, "Forty Years of Controversy and Achievement in North American Fisheries", is in celebration of the 40th anniversary of AIFRB and is intended as a showcase of the society. Gil Radonski, at the request of the AIFRB Board of Control, has led this effort with assistance from John Merriner, Gene Huntsman and myself. At this point the full-day symposium is pretty well set, with all speakers lined up, and scheduled for Wednesday, August 28 (9 am to 5 pm in the Hyatt Regency Hotel, Dearborn).

Although I had hoped to have an election prior to this time, I hope to have candidates for Director and Vice-Director lined up soon.

#### Current membership:

Status	South Carolina	North Carolina
Active	6	13
Emeritus	1	6
Delinquent	2	5

I remain concerned about the number of delinquents. Our total membership for 1996 is at 33 (one less than last year). In South Carolina we gained one active member and reduced delinquents by two (one delinquent to active). In North Carolina we lost three active members and an increase of three delinquents. Two specific modes exist, one in the Charleston, SC, area and the in the Beaufort, NC, area. The potential continues to exist for a large group in the Raleigh area associated with NCSU which has yet to be fully tapped.

### Arizona - New Mexico

*G. Morris Southward, PhD*

Ten members live in Arizona and New Mexico. Of these, 8 have an emeritus status. I sent a letter to each and received replies from 3. One was from a fellow I worked with for about 20 years; one indicated that he had joined AIFRB largely at the insistence of colleagues and had never participated in the meeting and did not know his membership status; and one was an associate member working in Albuquerque who seemed pleased that AIFRB was trying to do something the AZ-NM. He suggested that fisheries research in NM was fragmented and hoped that AIFRB could help draw it together.

About the middle of August I will be in Santa Fe for about a week and will contact some of the biologists in the Department of Fish and Game in Santa Fe. If the response there is negative, then I suggest forming a district (division) of Arizona-New Mexico be considered a good idea that did not work.

### Southern California District

*John Butler, Director*

On December 6, 1995 the chapter held a meeting at San Clemente CA. During this meeting John Butler was elected District Director, Marija Vojkovich, Vice Director and Kevin Hill, Secretary-Treasurer. Blaise Eitner, National Research Council Fellow at the Southwest Fisheries Science Center, presented a talk entitled "A new look at the old problem of identifying Rockfish: Insights from the

cont. on page 8

## District Activities...

cont. from page 7

cytochrome b gene and identification of new species of *Sebastes*.

On February 28, 1996, the chapter held a meeting in San Clemente, CA. Plans were made to hold a workshop on fishery modeling at the campus of California State University in San Marcos. John Butler, Kevin Hill, Dick Bray and Larry Cooper volunteered to organize the workshop. Dan Margules, Inter-American Tropical Tuna Commission, presented "Studies on the Early Life History of Tunas conducted in Panama and Southern Japan".

The District awarded Ingo H. Gaida, ACLU, \$200 for the best student paper in fisheries at the Southern California Academy of Sciences meeting May 3-4, 1996. Mr. Gaida's presentation was entitled "Allozyme Variation & Population Structure of the Pacific Angel Shark around the California Channel Islands."

On May 15, 1996, the chapter held a meeting in San Clemente. Plans were finalized for the upcoming workshop. Dr. Ralph Appy, Assistant Director of Environmental Management for the Los Angeles Harbor Department presented "The Batiquitos Enhancement Project". Discussion centered on impacts to coastal fisheries.

The Southern California sponsored a Short Course in Fishery Modeling 29-30 May 1996 at California State University at San Marcos. Lectures were given by John Butler, National Marine Fisheries Service, Rick Deriso, Inter-American Tropical Tuna Commission, Larry Jacobsen, NMFS and Tim Gerrodette, NMFS. The course consisted of lectures and hands on computer laboratories emphasizing working models on spread sheets. Attendees consisted of 40 professional fishery biologists and 13 students.

The current chapter balance is \$7005.60.

### Northern California District *Daniel F. Howard, Director* Membership

The northern California District held elections in the fall to fill the positions of vice director and secretary-treasurer. Dan Howard assumed the directorship after serving two years as the vice director. The newly elected district officers are; Tom Moore, Vice Director; and Andy Jahn, Secretary-Treasurer. Officers are elected for two year terms that run through 1997.

Membership is holding steady at approximately 85 individuals. There seems to be a low level exchange between new members coming on and those more than three years delinquent paying their dues.

### Activities

The District continued with its annual schedule of meeting and get togethers during the year. This included a business and planning meeting to start the year in September, a dinner meeting with guest speaker in November; a social get together and holiday banquet in January, followed by two more dinner meetings over the remainder of the year.

The annual business and planning meeting was held at Dan Howard's residence in Fairfax. Dan got the yard clean in time for about 12 members and guests. Dick Heimann, the outgoing director, started by summarizing the Board of Control meeting in Florida. Following that, folks discussed possible topics and speakers for the upcoming dinner meetings. A pot luck meal ended the festivities.

The first dinner meeting in November was held at the Savannah Grill in Corte Madera which is about 20 minutes north of San Francisco. About 25 people attended to share a meal and listen to guest speaker Zeke Grader. Zeke represents the Pacific Coast Fishermen's Federation and discussed conservation strategies relating to coho salmon and their potential listing under the Federal Endangered Species Act.

In January, thirty members and guests gathered for the annual holiday banquet. Once again, AIFRB member Tom Jow selected the restaurant and the menu-seafood the theme of course included oysters, crab, fish, squid...it just kept coming. Smiling, content biologists, family and friends rolled out of the restaurant.

The March meeting, held at Yoshi's Japanese restaurant in Oakland, attracted about twenty four members and guests. Our invited speaker was Ken Goldman who had recently completed his thesis on thermal physiology and behavioral ecology of white sharks. Since Ken's field work was all conducted locally, people had a personal as well as professional interest in his work. The water people in the group were particularly interested in the movement and feeding aspects of Ken's research.

Our spring meeting has moved into summer and will be a pot luck barbecue at the Marine Sanctuary Office in San Francisco. The change in venue from using a local restaurant stems from the fact that the dinner prices are steadily increasing while biologist salaries seem to remain constant. Another consideration was to reduce costs and make our meetings more accessible to students and entry level professionals.

Former director Dick Heimann travelled to the CAL-NEV Chapter meeting of the American Fisheries Society in Ventura. Making the most of the situation, Dick set up the AIFRB display and passed out AIFRB information. Tom Lambert has remained active soliciting candidates and distributing information about the national W.F. Thompson award.

### Oregon-Southwest Washington District

*John F. Palmisano, Director*

The Oregon-Southwest Washington District of AIFRB held three District meetings and one joint meeting with the Northwest Washington District between September, 1995, and June, 1996. No more than four Oregon-Southwest Washington members attended any single meeting, and only six of more than 100 District members attended the 1995-96 meetings. Because the District includes Oregon and seven southwest counties of Washington, I held meetings in different locations to accommodate the membership. The lack of a current membership list, however, still inhibits complete District communications.

Our first meeting was held in Portland, Oregon, in mid-November. Our speaker was Dr. V.W. Kaczynski, an independent fisheries scientist, who spoke on the *Timber Industry Stream Habitat Survey and Improvement Projects In Oregon*. Only four district members attended.

The second meeting was held in Portland, Oregon at the end of January, 1996. Mr. William "Bill" Bradbury, former three-time Majority Leader of the Oregon State Senate, and Executive Director of the newly founded organization *For The Sake Of The Salmon*, described the goals and objectives of this new organization. Only three district members attended.

A third meeting was held in mid-April in Vancouver, Washington. Dr. John J. Pizzimenti, of Harza Northwest, presented *Informal Remarks About Recovery of Endangered Snake River Salmon and Issues Related to the Reform of the U. S. Endangered Species Act*. Four district members attended.

Our final assembly was the joint-meeting with the Northwest Washington District of AIFRB. We met on a Saturday afternoon in early May in Chehalis, Washington. Of the total audience 13 persons, which included the speaker and wives of some members, only four Oregon members were present. Our speaker Dr. William G. Pearcy, semi-retired from Oregon State University, who talked on *Salmon Production in a Changing Ocean*.

I formally invited over 20 persons to join AIFRB during 1995-1996, and sent membership information to the colleges and universities in our District that have fisheries and related programs. I was asked to help finance a *Symposium on Sea-Run Cutthroat Trout* in Reedsport, Oregon, in October of 1995; and a *Workshop on Estuarine and Ocean Survival of Northwest Pacific Salmon* in Newport, Oregon, in March of 1996. I had planned to have AIFRB co-sponsor these symposia but funds were not available. I also was asked to cosponsor the Portland Chapter of the American Fisheries Society's Second

## District Activities...

cont. from page 8

Annual Conference: *Seeking Common Understanding in Regional and Local Fisheries Issues*; and in honor of AIFRB's 40th Anniversary, to have one of our Emeritus Members speak on the history and contributions of the organization. Again, no funds were available, and no member accepted the invitation to speak.

As requested, I submitted an article on a District member, Gerald R. "Jerry" Bouck, for Who's Who in AIFRB. This article was featured in the December, 1995 issue of ...*BRIEFS*...

Finally, my appointed position, by Past President Vaughn Anthony, as Director of the Oregon-Southwest Washington expires in August of this year. No one has nominated a new director, nor has anyone volunteered to run for office. Thus, we were unable to hold a District election, and this District again will be without a Director.

### Northwest Washington District *John Strand, Director* Meetings and Technical Programs

The Northwest Washington District held four meetings between November 1995 and May 1996. The first meeting was held November 2, 1995. The occasion was the District's Annual Banquet which was held at the China Harbor Restaurant in Seattle, Washington. The banquet was arranged by Ken Chew of the School of Fisheries, University of Washington and John Strand, a private fisheries consultant. Glenn VanBlaricom also of the School of Fisheries provided a special presentation on the success of sea otter transplants in Washington and the implication for coastal fishery resources. The Annual Banquet was attended by 110 members, their guests, and the University of Washington students.

A second meeting was held for AIFRB members living in Idaho and Eastern Washington on January 12, 1996, in Richland, Washington. This was the first meeting on the eastside of the state that anyone can remember; it is difficult to be a member and be 200+ miles from where the nearest AIFRB meetings are held (e.g., Portland, OR; Seattle, WA). Nine members including the District Director attended this organizational meeting. Plans were made to develop a membership drive on the eastside; there are no less than 50 potential new AIFRB members living and working in the Moscow, ID; Spokane, WA; Tri-cities, WA; Yakima, WA and the Ellensburg, WA areas. Plans also were made to host a seminar and dinner meeting during October in Richland, Washington.

At our third meeting held February 27, 1996, in Seattle, Washington, Bill Dewey, Taylor United, Inc., presented an interesting and informative seminar on the status of shellfish culture in Washington, and the impact of tribal shellfish rights litigation. Bill is a shellfish biologist, a spokesperson for the Puget Sound Shellfish Association, and a newly appointed member of the Puget Sound Water Quality Authority Board.

Our fourth meeting of the year was held jointly with Oregon and Southwest Washington District on May 11, 1996, in Chehalis, Washington. Our speaker was Bill Percy of Oregon State University, Corvallis, Oregon. Bill presented an outstanding and provocative seminar on salmon production in a changing ocean. He suggested that recent higher sea levels, warmer surface temperatures, an intense Aleutian low pressure system, and weak up-welling condition along the California, Oregon, and Washington coasts, may have resulted in slow growth and poor survival of salmonids in the Northeast Pacific Ocean. Although the exact mechanisms that affect marine life-stage and survival are still speculative, ocean climate is clearly implicated and should be considered in future management decisions.

### New District Officers

In May 1996, a committee to find new Northwest Washington District officers consisting of Kate Myers (Chair), Greg Ruggerone, and John Strand announced that Bob Donnelly, Fisheries Research Institute, University of Washington had agreed to assume the duties of District Director on October 1, 1996. The committee also announced

that Pat Livingston, National Marine Fisheries Service, Alaska Fisheries Science Center had agreed to become District Vice-Director. Hal Michael and Mike Fredin will continue as District Treasurer and District Historian, respectively.

### World Wide Web Connection

Starting in May 1996, all AIFRB members can link with a home page established by the Northwest Washington District. The May 1996 issue of our Newsletter and other information can be found at: <http://www.halcyon.com/aolson/aifrb/welcome.html>. Alan Olson volunteered his time to format the newsletter into Hypertext Markup Language (HTML) and post it on a local INTERNET provider. The goal of this project is to make our newsletter and other information more accessible to both members and nonmembers and to save the District on publishing costs.

### Membership

There are presently 196 district members on our mailing list. Over the year, applications and letters of invitation to join AIFRB were sent to 44 perspective new members. Most of these fishery professionals are located in Eastern Washington.

### Treasury

Our District treasury as of May 1, 1996 is approximately \$50.00. In February, we asked the membership for a modest \$5.00 in dues to support the District newsletter, announcements of District Meetings, and other activities. To date, 23 members have responded with a donation of \$5.00 or more. As elsewhere, the cost of doing business continues to escalate. Printing and mailing a 2-page (double-sided) newsletter to 200 members costs approximately \$115. There are at least three mailings each year. In an effort to save on publication costs, we are offering our membership an AIFRB Northwest District Home Page. For the immediate future, the costs of maintaining the web site will be donated by one of our members. Our District Treasurer, Hal Michael, also is attempting to transfer our checking account to a bank that requires no service charge.

### Passages

Our membership was saddened to learn of Don Bevan's passing on May 2nd. Don was a highly regarded member of the faculty of the College of Ocean and Fishery Sciences, University of Washington, and was notable for his influences in controversial issues of fishery policy. He was a member of AIFRB since 1973, and actively supported Northwest Washington District activities. A memorial service and reception was held on May 16th, at NOAA and was attended by more than 200 of his friends and colleagues. The AIFRB Northwest Washington District will make a donation to a scholarship fund at the University of Washington in his memory.

### Northern Alaska

*Steven K. Davis, Director*

### Activities

This period has experienced a continued state of dormancy within the Northern Alaska District. As mentioned in my last annual report, AIFRB members that live and work here in the District are also members of a very active Chapter of the American Fisheries Society. Members here have made the choice of being active in only one organization and being content with little activity in the other. In this case they have chosen the AFS Chapter as the forum where they direct most of their energy. Therefore, AIFRB activity is limited to providing displays at local AFS meetings, sponsoring student papers, monitoring fishery research, and generally assisting AFS in meeting preparation.

As a result, I have defined my role as District Director to being to keep members informed through a newsletter of AIFRB activities which is intended to compliment *Briefs*, as well as co-sponsor scientific workshops and conferences with AFS and other organizations when I find projects that share a common goal with AIFRB.

## Treasurer's Report

8/5/95 Through 5/30/96		
Category Description		8/5/95-5/30/96
<b>INCOME/EXPENSE</b>		
<b>INCOME</b>		
Ck Recovery	18.00	
Dues Receipts	4,955.52	
<b>TOTAL INCOME</b>		<b>14,973.52</b>
<b>EXPENSES</b>		
Achievemnt Award	327.67	
AFS-Contrb.	500.62	
AIFRB Social	739.14	
Bank Serv Chg	100.06	
Bd of Control	5,710.42	
<b>BRIEFS</b>	<b>5,215.62</b>	
Correction	20.00	
District Reimbur	400.00	
DistServ Awrd	141.80	
License	32.00	
President Costs	56.00	
Production	1,463.88	
Res. Award	2,790.00	
Salmon Plaques	909.00	
Secretary Exp	110.00	
Travel Display	110.19	
Treasurer's Exp	896.84	
Expenses - Other	0.00	
<b>TOTAL EXPENSES</b>		<b>19,523.24</b>
<b>TOTAL INCOME/EXPENSES</b>		<b>-4,549.72</b>
Balance Forward		
1996 Chng-AIFRB	6,485.97	
<b>Total Balance Forward</b>		<b>6,485.97</b>
<b>OVERALL TOTAL</b>		<b>1,936.25</b>

Comparison Report 8/5/94 Through 5/30/96			
Category Description	8/5/94-5/30/95	8/5/95-5/30/96	\$ Difference
<b>INFLOWS</b>			
Check Return	0.00	0.00	0.00
Ck Recovery	0.00	18.00	18.00
Dues Receipts	15,821.00	14,955.52	-865.48
List Rental	440.00	0.00	-440.00
Transfer Funds	3,750.07	0.00	-3,750.07
<b>TOTAL INFLOWS</b>	<b>20,011.07</b>	<b>14,973.52</b>	<b>-5,037.55</b>
<b>OUTFLOWS</b>			
Achievment Award	0.00	327.67	-327.67
AFS-Contrb.	300.00	500.62	-200.62
AIFRB Social	0.00	739.14	-739.14
Bank Serv Chg	137.75	100.06	37.69
Bd of Control	9,014.29	5,710.42	3,303.87
<b>BRIEFS</b>	<b>4,112.75</b>	<b>5,215.62</b>	<b>-1,102.82</b>
Correction	0.00	20.00	-20.00
District Reimbur	670.82	400.00	270.82
DistServAwrd	0.00	141.80	-141.80
Editor's Expense	25.54	0.00	25.54

Category Description	8/5/94-5/30/95	8/5/95-5/30/96	\$ Difference
License	0.00	32.00	-32.00
President Costs	230.11	56.00	174.11
Production	2,295.95	1,463.88	832.07
Res. Award	3,500.00	2,790.00	710.00
Salmon Plaques	0.00	909.00	-909.00
Secretary Exp.	0.00	110.00	-110.00
Thompson Award	750.00	0.00	750.00
Travel Display	0.00	110.19	-110.19
Treasurer's Exp	905.26	896.84	8.42
Outflows - Other	0.00	0.00	0.00
<b>TOTAL OUTFLOWS</b>	<b>21,972.47</b>	<b>19,523.24</b>	<b>2,449.23</b>
<b>OVERALL TOTAL</b>	<b>-1,931.40</b>	<b>-4,549.72</b>	<b>-2,618.32</b>

### Recent Losses

Douglas Chapman      July 9,1996  
Peter Larkin              July 9,1996

### Grassy Island (MI) Remediation

Dr. Bruce A. Manny, Fishery Biologist (Research) at the Great Lakes Science Center of the National Biological Service, is leading the Technical Oversight Team for Grassy Island, one of three sites nationwide that the U.S. Department of Interior has selected to demonstrate innovative remediation technologies for contaminated water and soils under their new hazardous materials management (HAZMAT) program. Grassy Island is part of the 300+ acre Wyandotte National Wildlife Refuge in Michigan waters of the Detroit River managed as wilderness by the U.S. Fish and Wildlife Service.

In the 1870's Grassy Island was the site of a "pond" fishery. The seines used were 1650 feet long, drawn in with a windlass by horse power and emptied into a staked pond enclosure. A gang of 30 men were employed from September to November, working day and night, averaging about one sweep of the seine every hour to capture up to 40,000 lake white fish each season. In the 1920's the catch of whitefish decreased as limestone bedrock was removed from the Detroit River to create shipping channels. After the Wyandotte Refuge was created by Congress in 1960, Grassy Island and about 70 acres of surrounding shoals were diked and filled to a height of 18 feet above river level with dredge spoils from the Rouge River that were contaminated with heavy metals, solvents, oils, and PCB's.

Remediation of these spoils is the goal of the HAZMAT demonstration project. Drinking water intakes serving over 3 million people in the cities of Detroit and Wyandotte, Michigan are located less than a half mile from Grassy Island. Research is being designed to determine what contaminants are present at the site, if contaminants are leaking from the site, and if fish and wildlife are being contaminated by exposure at the site. Considerable potential exists for enhancement of habitat for fish and wildlife at the refuge, including a reputed spawning site for the state-endangered lake sturgeon near the island. For further information call 313/994-3331 x 255 or e:mail bruce\_manny@nbs.gov.

## A Victory: Lake Superior Lake Trout Restoration

### Stocking put on hold in some areas to foster self-sustainable lake trout populations

A major victory in efforts to restore lake trout in Lake Superior was declared during a recent meeting of the Great Lakes Fishery Commission's Lake Superior Committee in Duluth, Minnesota. The Committee — made up of fishery managers from the three Great Lakes which border Lake Superior, from the Province of Ontario, and from U.S. Tribes represented by the Chippewa-Ottawa Treaty Fishery Management Authority (COTFMA) and the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) — agreed that lake trout stocking programs, along with a coordinated effort of sea lamprey control, limits on sport and commercial fishing, and water quality protection and enhancements, has allowed lake trout to again become self-sustaining in areas of Lake Superior. With the return of self-sustainable lake trout populations, state, federal, provincial, and tribal management authorities have decided to eliminate stocking federally-reared lake trout in areas of the lake extending from the Apostle Islands in Wisconsin eastward to Grand Marais, Michigan. Similarly, a number of areas in Ontario waters have shown improvements in lake trout populations such that stocking has been reduced to about a third of what it was in the 1980's.

Currently, Lake Superior is the only lake in which lake trout populations are self-sustaining. According to a recent report by Dr. Michael Hansen of the National Biological Service, in some areas of Lake Superior, populations are up to 80% of those that occurred before the sea lamprey invaded and lake trout populations crashed. The ultimate goal of the Lake Superior Committee, as reported in the 1990 Lake Superior fish community objectives "is to restore self-sustaining stocks that can provide an average annual yield equal to that attained during 1929-1943 [the period prior to decline]."

Lake trout restoration efforts began in Lake Superior in the 1950's — coincidental with the beginning of sea lamprey control — and managers spread their efforts to the other Great Lakes during the ensuing decades. Since the 1950's, the U.S. Fish and Wildlife Service, the Ontario Ministry of Natural Resources, the states of Wisconsin, Michigan and Minnesota, and more recently the Keweenaw Bay Tribe, have been trying to increase lake trout populations through stocking. The Great Lakes Fishery Commission was created by Canada and the United States and has complimented these efforts by controlling sea lampreys and by coordinating fishery research and management on a binational level.

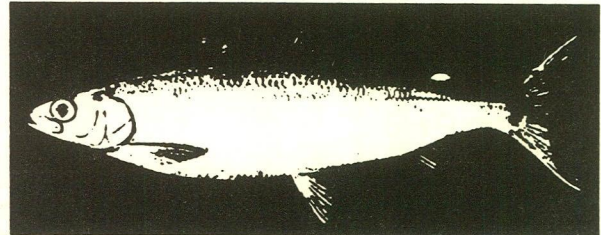
The return of self-sustaining lake trout populations is a major victory for the Great Lakes fishery because naturally occurring lake trout once supported a major commercial and a small sport fishery in the Great Lakes. Anglers came from far and wide to catch Great Lakes lake trout, and commercial fishermen sent millions of them to restaurants and packing houses annually, supplying the region and the world with some of the best fish available. In the middle part of this century, however, the species experienced the unthinkable: near extirpation in the Great Lakes. Overfishing and sea lamprey predation caused such devastation to lake trout stocks that harvesting in the Great Lakes fell from about 17 million pounds annually to almost nothing. The lake trout, once the king of the fishery, fell so quickly in numbers that many questioned whether the species, let alone the fishery, could survive.

"The recovery of lake trout in Lake Superior is indicative of what is possible in the other lakes," said Lake Superior Committee Chairman Bill Horns of Wisconsin DNR. "This achievement gives us renewed hope for ongoing lake trout restoration efforts in the lower lakes."

"This is sterling example of a cooperative effort between federal, state, and provincial agencies, and tribal governments,"

added John Robertson, Chief of Fisheries, Michigan DNR, "to be able to claim such a victory on the road toward a complete rehabilitation of the lake trout in Lake Superior and elsewhere in the great lakes."

In other areas of Lake Superior — such as Minnesota, western Wisconsin, and lower Keweenaw Bay waters — stocking will continue because natural reproduction has not yet taken hold at a level that would likely allow self-sustainability. In these areas, state or tribally-reared fish will continue to be stocked. Management agencies will continue to monitor the lake trout fishery, and, perhaps one day find it unnecessary to stock any lake trout in Lake Superior.



## And A Defeat: Biologists Conclude Cisco Extinct

The shortnose cisco (*Coregonus reighardi*) is now presumed extinct in the Great Lakes according to scientists from the NBS Great Lakes Science Center in Ann Arbor. The last members of this species were seen in Lake Huron as recently as in 1985, but none have been found in the last 10 years. The disappearance of the shortnose cisco for the Great Lakes is a significant loss, because this species occurred nowhere else in the world and at one time was abundant in Lakes Michigan and Ontario.

The shortnose cisco is a member of a closely related group of fishes called deepwater ciscoes that proliferated in and were largely endemic to the deep waters of the Great Lakes. Six similar-appearing species occurred and were collectively marketed as chubs in an important commercial fishery. No other group of fishes experienced such profound losses when the native fish community in the Great Lakes was disrupted in the mid 1900's. During this period, two exotic species, the alewife and sea lamprey, rapidly expanded their ranges and were largely responsible for the extinction of two of the six species, although these two species were heavily fished from before the turn of the century until they finally disappeared. With the recent extinction of the shortnose cisco, only three species of deepwater ciscoes remain and two of these exist solely in Lake Superior.

The six species of deepwater ciscoes were an important part of the biodiversity of whitefishes in the Lakes. The shortnose cisco was a significant component of this biodiversity because it was the only whitefish species that spawned in the spring. All of the other whitefishes, a total of ten species, spawned in the fall. The shortnose cisco was given its scientific name, *reighardi*, in 1924 by Walter Koelz in recognition of his mentor, Dr. Reighard, a professor of zoology at the University of Michigan. The student (Koelz), his professor, and now the fish that linked them are all departed. We must do better with our remaining legacy of Great Lakes fishes.

By: Randy Eshenroder

From: Forum, Great Lakes Fishery Commission

## Meeting of Note

Nov 8-9, 1996 - Fisheries and Pollution 1996: The Second Annual Conference on Population - Level Effects of Marine Contamination, Bodega Marine Laboratory, Bodega Bay, California. Contact Daniel Grosse, Rifkin and Associates, Suite 2332 World Trade Center, 401 East Pratt St., Baltimore, MD 21202; 410/962-1401; FAX 410-962-1065; drgrosse@access.digex.net.

**Alaska, Northern**

Steven K. Davis  
LGL Research Associates, Inc.  
4175 Tudor Centre Dr. #101  
Anchorage, AK 99508

**Alaska, Southeast**

Malin M. Babcock  
11305 Glacier Highway  
Juneau, AK 99801-8626

**Atlantic Maritime**

Vacant

**Arizona - New Mexico**

G. Morris Southward  
Department of Experimental Statistics  
New Mexico State University  
Box 3130  
Las Cruces, New Mexico 88003

**California, Northern**

Daniel F. Howard  
SW Fisheries Sci. Ctr., Tiburon Lab  
3150 Paradise Drive  
Tiburon, CA 94920

**California, Southern**

John L. Butler  
5194 Galt Way  
San Diego, CA 92117

**District Directors****Capital**

Frank M. Panek  
National Park Service  
4401 N. Fairfax Dr., RM 810-D  
MD-820 ARLSQ  
Arlington, VA 22203

**Carolina**

Douglas S. Vaughan  
214 Shell Landing Road  
Beaufort, NC 28516

**Florida**

Vacant

**Great Lakes, South Central**

Dora R. Passino-Reader  
National Fish. Center  
1451 Green Road  
Ann Arbor, MI 48105-2897

**Gulf of Mexico, Northeast**

Vacant

**Keystone**

Barbara E. Warkentine  
1329 Balcom Avenue  
Bronx, NY 10461

**New England**

John B. Pearce  
Northeast Fisheries Center  
166 Water Street  
Woods Hole, MA 02543-1097

**Oregon-SW Washington**

John F. Palmisano  
1990 NW 156th Avenue  
Beaverton, OR 97006-5307

**Texas**

David R. Sager  
Texas Parks & Wildlife Dept.  
4200 Smith School Rd.  
Austin, TX 78744

**Washington, NW**

John Strand  
16535 188th Ave. NE  
Woodinville, WA 98072

**BRIEFS**, the newsletter of the American Institute of Fishery Research Biologists, is published six times a year. It is intended to communicate the professional activities and accomplishments of the Institute, its District, and Members; the results of research: the effects of management; unusual biological events; matters affecting the profession; political problems; and other matters of importance to the fishery community. Comments and contributions should be sent to the Editor, Dr. Gene R. Huntsman, 205 Blades Road, Havelock NC 28532. Subscription \$20 a year to Institutions and Non-Members. Officers-Clark Hubbs, University of Texas, Department of Zoology, Austin, TX 78712, President; Barbara Warkentine, 1329 Balcom Ave., Bronx, NY 10461, Secretary; Joseph Rachlin, Lehman College Bio., Bedford Park Blvd. West, Bronx, New York 10468, Treasurer.  
ISSN-8755-0075

92037/1508

Dr. William H. Bayliff  
IATTC, Scripps Inst. Oceanog.  
8604 La Jolla Shores Drive  
La Jolla, CA 92037-1508

FIRST CLASS

Address Correction Requested

Bronx, NY 10468-1589  
Bedford Park Boulevard West  
Lehman College, Biology  
c/o Joseph Rachlin

*American Institute of Fishery  
Research Biologists*



Na 1 Card

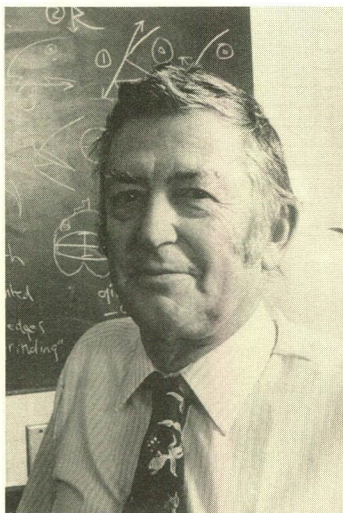
# American Institute of Fishery Research Biologists

## ... BRIEFS ...

VOL. 25, NO. 5

SEPTEMBER - OCTOBER 1996

### President's Report



I provide a brief summary of the Dearborn meeting.

The Board of Control had a successful meeting in Dearborn. They confirmed those intermeeting actions I had done, discussed brochures, *BRIEFS*, the Thompson award, and associated travel awards. Look for an election for President-Elect in a forthcoming *BRIEFS*. The bad news is that the budget has a negative balance for the third year in a row. Consequently, the board voted to raise the dues for

Professional Associates, Members, and Fellows from \$20 to \$30 per year. The dues will remain at \$20 for Student Associates. I hope this dues structure will mean that the budget will be balanced in the future. All members should recall that advancement in rank should be initiated by the member to signify individual achievements in research.

Groups that want to use the AIFRB display should contact Secretary Warkentine a long time before the scheduled meeting.

The good news is that Reeve M. Bailey was selected for the outstanding achievement award for an individual.

Clark Hubbs  
President

#### Editor's note:

Please observe that in this photo the supposed President Hubbs has exchanged the previously and often pictured sweatshirt for a necktie. Obviously this is an imposter. See the real President Hubbs on the last page.

### OUR INSTITUTE AT WORK

AIFRB 1996 Annual Meeting  
Hyatt Regency  
Dearborn, Michigan, 24-25 August 1996  
Summarized Minutes

#### The 1996 AIFRB Symposium:

President Hubbs distributed a copy of the 1996 AIFRB Symposium to the Board of Control (Appendix B). This Symposium celebrates the 40th anniversary of the establishment of the AIFRB. The Symposium theme was "Forty Years of Controversy and Achievement in North American Fisheries" and was held at the Hyatt Regency Hotel in Dearborn Michigan on Wednesday 28, August 1996.

*continued*



left to right: Jack Pearce, Joe Rachlin, John Butler, Sammy Ray, John Strand, Vaughn Anthony, Frank Pavek, Clark Hubbs, Barbara Warkentine, Doug Vaughan, John Palmisano, Dan Howard, Pete Cole, Tom Lambert, Jack Helle

The President suggested that A) symposium speakers be given some minimum level of funding, and B) that there be a 1997 symposium focusing on aspects of the endangered species act. Pending approval for a 1997 symposium by the BOC, Cindy Deacon-Wilson has agreed to chair this function.

A **motion** by District Director Vaughan to approve items A and B above was **seconded** and **unanimously** approved by the BOC.

President Hubbs discussed the taping of the symposium. After reviewing the state of the treasury, the President opted not to authorize a symposium taping. President Hubbs informed the BOC that Gil Radonski (former chair of the symposium committee believed taping of the symposium should be done.

District Director Strand raised the question: If AIFRB does not tape this or future symposia does AIFRB intend to have proceedings published? Treasurer Rachlin stated that AIFRB should publish a symposium document but that we must be careful as previous history with this type of venture has not been very successful. He cited two examples: The Juneau, Alaska 1982 Symposium Proceedings, which couldn't be given away and the book on Writing for Scientific Journals, which was published by AFS without any acknowledgement to AIFRB's contribution. President Hubbs stated that if AFS is to be involved in the publishing of our symposium proceedings, that AIFRB will insist upon a guarantee from them to acknowledgment of our contribution.

President Hubbs informed the Board that three speakers have already prepared manuscripts. President Hubbs will be meeting with all the speakers during the AFS meeting and will canvas them as to whether they would like to publish their work as part of a proceedings document. If the majority of speakers agree, President Hubbs stated that he would be willing to discuss publication procedures with various AFS individuals, if the BOC wished him to do so.

A **motion** by Treasurer Rachlin to allow President Hubbs to procure the procedures to publish the manuscripts of the symposium speakers was **seconded** and **unanimously** approved by the BOC.

President Hubbs along with the BOC acknowledged Gil Radonski for doing a superb job on this symposium.

A **motion** by Treasurer Rachlin that President Hubbs write up, for publication in BRIEFS, an acknowledgment of Gil Radonski's work on the symposium was **seconded** and **unanimously** approved by the BOC.

Past President Cole has volunteered to tape the symposium talks. No arrangements have, however, been made to transcribe these tapes.

#### **W.F. Thompson Award (Pearce)**

The Chairman of this Committee, Jack Pearce, reported that there were 30 papers submitted this year for consideration for the 1994 W.F. Thompson Award (Appendix C). Because of the volume of respondents Chairman Pearce established two review groups each charged with evaluating 15 papers. The top three scoring papers were then re-reviewed by the committee as a whole and the top scoring paper declared the winner. The 1994 W.F. Thompson Award, published in Evolution 48:637-657 is titled "Breeding competition in a Pacific Salmon...measures of natural and sexual selection". A congratulatory note, along with an invitation to attend this year's BOC, was sent to Ian Fleming by President Hubbs. Treasurer Rachlin was authorized to send the award check to Ian Fleming.

#### **Treasurer's Report (Rachlin)**

##### **a. Review of Assets and Investments:**

Treasurer Rachlin distributed an updated version of his report (8/5/95-8/12/96; Appendix D). The books were closed on August 12, 1996. The President appointed the BOC as the formal audit committee for the Treasury of AIFRB. Total income was \$19,419.57 (compared to \$25,745.07 for the same period in 1995). Total expenses were \$21,687.88 (compared to \$23,830.67 in 1995). Assets totaled \$51,143.61 from various money funds, stocks and mutual funds. The checkbook showed a balance of \$3,107.00 as of 24 August 1996.

A **motion** by District Director Vaughan to accept the Treasurer's report and audit of the books was **seconded** and **unanimously** approved by the Board.

Discussion: Treasurer Rachlin pointed out that the Society continues to take in less than it spends. To meet the Society's obligations the Treasurer was forced to sell gains in portfolio to cover these costs. The total sell off of asset holdings came to approximately \$5,000 for this year. President Hubbs stated that if we continue to take \$5,000 from our portfolio the Society has a relatively short life. We must reverse this trend.

##### **b. Delinquent Members**

Treasurer Rachlin distributed to the BOC a list of members who are three years in arrears. In accordance with the bylaws (page 7, Sec 7, Fees and Dues) "A member in arrears for three years for all or part of dues shall be dropped from membership". Treasurer Rachlin informed the Board that every effort was made to get the attention of these members to pay their arrears dues. Each had received, from the Treasurer, a minimum of three dues notices annually. In addition Treasurer Rachlin sent the names, addresses and years in arrears of delinquent members to their respective District Director. All District Directors present at the BOC meeting indicated that they sent letters and/or notices to their delinquent constituents. The current list of three year delinquent members stands at 26. Past Presidents Helle and Anthony noted that some of these members have retired and have probably assumed automatic Emeritus status. Treasurer Rachlin stated that unless he is informed that a person has retired the society has no way of knowing this. Questions were raised regarding reinstatement of membership after being dropped. Treasurer Rachlin informed the Board that according to the AIFRB bylaws (page 7, sec 7, Fees and Dues) "Members who have been dropped may be reinstated upon payment of the admission fee and of dues for two years, which shall include the year in which reinstatement is granted." With regard to delinquent members President Hubbs stated that we must work hard, particularly at the district level, to keep our members from becoming delinquent. The best way is to keep after the one year delinquent members and get them in good standing before too many years pass.

A **motion** by Treasurer Rachlin to discontinue the membership of those members that are three years in arrears was **seconded** and **unanimously approved** by the Board.

##### **c. Proposed plan to address treasury shortfall**

Treasurer Rachlin stated that there are a total of 109 delinquent members and that this has resulted in a short fall of \$3,980. The total membership is currently 978 of which 221 are Emeritus. If one assumes that all paying members are in good standing, these 757 members generate only \$15,140, which is short of our expenses. Based on these data Treasurer Rachlin made a recommendation that the Board consider raising the Society's dues from the current \$20 to \$30. This increase would yield a revenue of \$22,710. Treasurer Rachlin also submitted that Emeritus members be held harmless. (Editor's note: as a newly Emeritus member, I am uncertain as to whether being held harmless is a compliment or not!) Membership Chairman Ray, when sending letters to newly promoted Emeritus members, suggests that they make a donation to cover the cost of BRIEFS. District Director Passino-Reader spoke against a dues increase at the national level but suggested that there could be dues imposed at the local level. Treasurer Rachlin informed Director Passino-Reader that many Districts already have this in place. Local dues do not solve the problem of the national debt. President Hubbs curtailed discussion on this issue noting that this item is scheduled for discussion as a separate agenda item.

##### **d. Authorization of Treasurer**

A **motion** by District Director Vaughan to appoint Joseph W. Rachlin as Treasurer for the forthcoming fiscal 1996-1997 (from the AIFRB Annual Meeting in 1996 to the AIFRB Annual Meeting in 1997), which authorizes Treasurer Rachlin to conduct all of the

*cont. on page 3*

Fiscal Year 96-97 financial business of AIFRB, was **seconded** and unanimously **approved** by the BOC.

#### **Membership Committee Report (Ray)**

Membership Committee Chairman Ray distributed a copy of his report to the Board of Control. Chairman Ray noted that 44 new applications for memberships and six requests for promotion were reviewed by the Membership Committee. Of these 17 were assigned the rank of Associate-Student, 3 Associate-Member, 19 Member, and 5 Fellow. Chairman Ray also noted that 18 members have been granted Emeritus rank. The membership Committee consists of Sammy Ray (Chair), Judy Wern (Assistant to the Chair), Martin Golden, Kendall Warner, Barbara Warkentine, and Bruce Wing.

#### **Presentation of Distinguished Service Award**

President Hubbs presented the second AIFRB Distinguished Service Award to Dr. Sammy Ray, who has been the Chairman of the Membership Committee since 1981 (see BRIEFS Vol. 25, #3). Chairman Ray noted that he would like to share this award with Dr. Judy Wern as she has been a tremendous help to him.

#### **1996 AIFRB Reception (Palmisano)**

(Held at Dearborn MI, for all members and prospective members.)

District Director Palmisano noted that he sent a fax to both Treasurer Rachlin and District Director Warkentine outlining the estimated costs of the food and beverages for this function. A discussion as to whether AIFRB members should pay for beverages or should there be an open bar ensued. The Board decided that for this year the Society would pay for beverages. District Director Pearce suggested that in the future the Society might consider giving one beverage *gratis*. Director Palmisano proposed that the Society might consider having a hospitality room instead as this would reduce the cost considerably. President Hubbs and all members present commended Director Palmisano on a job well done.

#### **Research Assistance Award Program (Lambert)**

President Hubbs had copies of the winning abstracts, from this years Research Assistance Award Program, for review by the BOC. These abstracts were also published in the July-August 1996 issue of BRIEFS (Vol. 24 #4). There were a total of 17 award recipients (Appendix F). A number of issues regarding this award were discussed and are outlined below.

##### **a. Maximum Year of Awards:**

Chairman Lambert noted that five of these awardees had one previous award, two had two, and one was a fourth time recipient. Chairman Lambert suggested that there be a two year cap on repeat awards. Past-President Anthony expressed a concern that a two year cap may result in no one applying. Treasurer Rachlin stated that every Associate receives notice of this award, and, as there are a great many Associate members, there is a continual pool of applicants. After a considerable discussion on the issue of a two year cap on awards, President Hubbs polled the BOC regarding this issue. The majority of the BOC voted for the two year cap. Chairman Lambert will specify this new information on all award announcements.

##### **b. Maximum Amount of Funding Available:**

Past President Vaughan noted that only \$2,790 of the allocated \$4,000 was used. He questioned why all the allocated money wasn't distributed. Chairman Lambert informed the Board, in response to Past President Vaughan's question, that, prior to giving out awards, he routinely checks with the Treasurer to get a fiscal profile. President Hubbs posited, to the Board, the question: "Should we spend all \$4,000 allocated regardless of available funds, or should it be based on the fiscal profile at the time?" Committee Chairman Lambert spoke for keeping the process for the distribution of funding as it currently is. He feels that this process has worked well and is also fiscally prudent. President Hubbs, said that funding flexibility and consultation with the Treasurer, regarding the fiscal profile at the time of the awards, is the way to go.

Past President Cole reminded Chairman Lambert to send announcements to Academic Institutes with fisheries programs to let

them know of this program. Chairman Lambert informed the Board that he routinely does this, in addition to sending out announcements to all District Directors and all Associate Members. This Award is also announced in various fisheries newsletters.

##### **c. Imposition of Deadline Date:**

Chairman Lambert has received various complaints about the imposition of a deadline. These complaints were generated by individuals, submitted papers for meetings falling outside our funding time (e.g. Nov. or Dec.). Treasurer Rachlin suggested that he might consider giving an award to someone in this situation, but the award would be held up pending acceptance. Despite these complaints, Chairman Lambert spoke for keeping the deadline as they prevent this program from becoming an "administrative nightmare."

##### **d. "In Good Standing":**

Chairman Lambert stated that the flier indicates that the Associate Member should be in good standing. Last year a number of new Associates paid their dues after the deadline date of 1 April. The question was raised as to should an Associate be allowed to get an award if the Associate has not paid dues prior to the deadline date of the award. Membership Chairman Ray elaborated on this. In the case of new applicants the processing time is considerable. By the time the application is evaluated, approved, and the applicant notification of acceptance, their dues check may well be dated after the 1 April date. Is this individual in good standing? President Hubbs said that he would like to leave the determination of "in good standing" up to the Chairman of the Award Committee after consultation with both the Membership Chairman and the Treasurer.

The President and the Board of Control applauded Tom Lambert on a job well done.

#### **Reports from District Directors**

**a:** Written reports provided by District Directors were published in the July-August 1996 issue of BRIEFS (Vol. 25, #4). The following section includes oral comments and discussions of some of these reports.

**South Central Great Lakes District:** Director Passino-Reader has asked Stan Smith to help her get the Great Lakes District active again. Stan Smith was at the BOC meeting and was introduced to the Board. A current list of members within this District was Faxed to Director Passino-Reader. This District is defined as southeastern Michigan, northwestern Ohio, and southwestern Ontario. This District's boundary is roughly 100 miles from Ann Arbor.

**Capital District:** Director Panek sent out arrears notices to delinquent members. In an effort to recruit members to AIFRB he sent letters to various Universities highlighting the benefits of membership.

**Carolina District:** Director Vaughan sent out arrears notices to delinquent members. Director Vaughan has sent invitations to his constituency to attend a meeting on 9 September 1996. At this meeting Director Vaughan will report on the Board of Control Meeting.

**Southern California District:** Director Butler highlighted the value of running workshops as revenue generators. He cited his own District in how successful this venture is. As a result of this activity the Southern California district was able to generate \$4,000. Bringing their District revenue up to \$7,005.60. The attendees were mostly from California Fish and Game with two hailing from Alabama. President Hubbs stated that such workshops should be considered by other Districts. Director Butler stated that the interest was great and perhaps this type of activity could be done by AIFRB on a national level. Past President Anthony requested that Director Butler send to Secretary Warkentine the details for setting up the workshop. The Secretary will duplicate this document and forward it to the other District Directors.

**Northern California District:** Director Howard stated that there membership is steady. Loss of members from the District equals gains to the District.

*cont. on page 4*

**Oregon/Southwest Washington District:** Director Palmisano informed the Board that his term of office is ending. The District will once again be without a Director. Director Palmisano had, during his tenure, scheduled a meeting for the District. These meetings were poorly attended. President Hubbs suggested that one way to get members to attend meetings is to link the District meeting with other regional meetings such as NW Academy of Science. Director Palmisano stated that there is no such group in Oregon. Meeting attendance seems to be a general problem in most Districts. Past President Anthony and President Hubbs commended Director Palmisano on doing a good job in trying to reactivate the District.

**Northern Washington District:** Director Strand announced that as of 1 October 1996 Robert Donnelly will assume the position of District Director and Pat Livingston will be the Districts Vice-Director. Hal Michael and Mike Fredin will continue on as District Treasurer and District Historian, respectively. The Districts annual banquet at China Harbor Restaurant will continue as these are well attended. Director Strand attributes the high attendance rate to the fact that this District has the University and agencies are in close proximity. Director Strand also pointed out that his District has a Web page and that this is something that AIFRB should have.

**Web-page Discussion:** President Hubbs would like to have symposium abstracts put on Web page. Director Palmisano suggested that the Web page be associated with productions. President Hubbs would like to have this item seriously looked into and get done. Director Vaughan was asked to check on this and find out how this could be done and who would maintain the page.

**New England District:** Director Pearce sent arrears notices to delinquent members in his District and is trying to increase membership. Director Pearce noted that meetings have little attraction to members as they are "meeting to death." Director Pearce suggested that we may be able to increase membership if AIFRB broadens its goals. President Hubbs pointed out that AIFRB cannot be an advocacy group. But having symposia on controversial issues is something we can, and are doing. This will hopefully bring attention to AIFRB and increase membership.

**Southeast Alaska District:** Director Babcock has indicated no report for this District. Director Babcock, as a result of taking early retirement, has asked to be relieved from this position. Bruce Wing has agreed to serve as the Southeast Alaska District Director.

A **motion** by Past President Helle to appoint Bruce Wing as District Director of Southeast Alaska was **seconded** and **unanimously** approved by the Board.

A **motion** by Past President Helle to accept three District reports (Northern Alaska, Texas, and Arizona/New Mexico), for whom District Directors were not present, as information items was **seconded** and **unanimously** approved by the Board.

**b: Districts without Directors and Proposed Districts:**

**Florida District:** President Hubbs expressed a concern that this district has no Director. He requested that if anyone knows of anyone who would be willing to serve to please let him know. Past President Anthony suggested that this District, Because of its size, be split in two. President Hubbs noted that the primary concern at this point is to get the current District started. Unless you can get one started you can't begin to address the issue of two.

**Atlantic Maritime District:** W.B. Scott, due to extensive professional obligations, resigned as the Atlantic Maritime District Director.

**Eastern Washington District** was proposed by Director Strand. He stated that there is a critical mass and many are interested in getting involved. President Hubbs requested that Director Strand give him the names and he will act on this. Director Strands proposal for this new District was warmly received by the Board.

#### **Procedures Document (Hubbs)**

##### **a. Location of next AIFRB meeting:**

A **motion** by Treasurer Rachlin to keep location of AIFRB

meeting with AFS through President Hubbs term of office was **seconded** and **unanimously** approved by the Board.

##### **b. Appointment of 1997 AIFRB meeting coordinator:**

President Hubbs appointed North California's District Director Daniel Howard as coordinator of the 1997 AIFRB meeting, which will be held in conjunction with AFS in Monterey, California.

##### **c. Defining District Boundaries:**

Districts which include portions of a State (i.e. CA, WA, AK) have boundaries which are not clearly defined for their District Directors. California has operated under the notion that anything north of Santa Barbara belongs to the North California District. Director Palmisano expressed a concern as to which zip codes belong to the Oregon-Southwest Washington District.

According to the 1995 minutes AIFRB Districts are defined as:

- 1) Alaska and Western Canada Region
  - a) Southeastern Alaska District (approved 11 Apr. 88): not defined, but includes all of southeastern Alaska from Yakutat southward.
  - b) Northern Alaska District (approved 11 Apr. 88): All of Alaska north and west of Yakutat.
- 2) Northwestern States Region
  - a) Oregon-Southwestern Washington (approved 29 Dec. 61): Oregon and southern counties of Washington including Pacific, Cowlitz, Clark, Skamania, Klickitat, Lewis, and Wahkiskum.
  - b) Northwest Washington District (approved 1 June 59): Washington exclusive of Pacific, Cowlitz, Clark, Skamania, Klickitat, Lewis, and Wahkiskum.
- 3) Southwest States & Western Mexico Region
  - a) Southern California District (approved 10 Oct. 60): California counties of Santa Barbara, Ventura, Los Angeles, and San Bernadino, and those lying south of them in the State of California.
  - b) Northern California District (approved 11 Sept. 87): No official boundaries defined, however it has been referred to in 1978 minutes as the "Sacramento-San Francisco District".
- 4) Central states & Middle Canada
  - a) South Central Great Lakes District (approved 24 Jan. 68): Southeastern Michigan, northwestern Ohio, and southwestern Ontario.
- 5) Northeast States & Eastern Canada
  - a) Capital District (approved 26 Aug. 95): Washington, D.C., Delaware, Maryland, Virginia, & West Virginia.
  - b) Keystone District (approved 26 Aug. 95): Connecticut, New Jersey, New York, & Pennsylvania.
  - c) Maritime Province District (approved 26 Aug. 95): New Brunswick, Nova Scotia, Newfoundland, Prince Edward Island, & Quebec.
  - d) New England District (approved 26 Aug. 95): Maine, Massachusetts, New Hampshire, Rhode Island, & Vermont.
- 6) Southeast States & Eastern Mexico
  - a) Carolina District (approved 4 Mar. 75): North Carolina & South Carolina.
  - b) Florida District (approved 7 Jul. 70): Florida, exclusive of that portion including Tallahassee and west.
  - c) Northeast Gulf of Mexico District (approved 8 May 76): Mississippi, Louisiana, Alabama, and a portion of Florida (Tallahassee and west) {note: Original correspondence explains that the "Northeast" designation permits members living on the Gulf side of South Florida to maintain their membership with the Miami (i.e., Florida District) group.
  - d) Texas District (approved 26 Sept. 80): Texas.

##### **Production Editor (Merriner)**

John Merriner, who was unable to attend the BOC meeting had prepared a report which was distributed to the BOC. Past President Anthony expressed a concern over the fact that both the Principles of Conduct and the Charter, items that he had worked hard on during his

*cont. on page 5*

presidency, are not currently available for distribution. John Merriner's report states that the materials for these items, as well as for the membership directory, are in hand. Director Vaughan stated that he had no further information on the status of these items. President Hubbs suggested that Director Vaughan check with John Merriner as to their status.

#### **BRIEFS (Huntsman)**

BRIEFS Editor Gene Huntsman could not attend the BOC meeting. Editor Huntsman sent a letter, along with self-addressed stamped envelopes, to all District Directors requesting submissions for BRIEFS. Past President Anthony suggested that BRIEFS would be an ideal place to publish stock assessment reports as these are not favorably looked upon by peer reviewed journals. Director Palmisano agreed but would like to see them coming from all regions of the U.S. President Hubbs urged all members to submit short items for BRIEFS. Director Pearce discussed other publications, such as NOAA's newsletters, to demonstrate the types of articles that they publish. He also proposed that some of these articles might even be worth summarizing in BRIEFS. President Hubbs cautioned that we don't want BRIEFS to be an outlet for reprints. Past President Anthony said that the articles should be abstracted if they are of general interest.

President Hubbs noted that many times there is only a listing of members who have passed away. These individuals deserve at least a few words. The Board made a recommendation to BRIEFS Editor Huntsman that when he is given the name of a deceased member that he should contact that members District Director or Regional Director so that a brief obituary could be generated. The Board also noted that obituaries, published in BRIEFS, need not be restricted to AIFRB members but might include those for prominent fishery biologists.

President Hubbs, along with the BOC, commended Editor Huntsman on a job well done.

#### **Dues (Rachlin)**

Treasurer Rachlin suggested that the Board consider raising the dues for AIFRB membership from \$20 to \$30. Director Passino-Reader expressed a concern that a dues increase would hurt recruitment as members tend to correlate dues with what they receive in the mail. Her concern was that how can you ask for more if you don't give them more. Director Palmisano stated that AIFRB is a professional society and what AIFRB stands for is of great value to its membership. Membership Chairman Ray also expressed a concern as to how an increase might impact upon our Associate members, particularly the students, since many join because of the Research Award. Member Smith suggested that AIFRB might consider linking the increase to inflation when presenting it to its membership. Treasurer Rachlin stated that anyone looking at the treasurers report can clearly see that our income is considerably less than our outflow. Thus there is a real need for this increase. The Board discussed various dues increase amounts. General agreement was for a \$10 increase. Also discussed was the possibility of having a tiered dues structure. Past-President Helle spoke against this as it would discourage members from seeking promotion. Director Panek suggested that student dues be held at the current \$20 rate. Treasurer Rachlin spoke against the motion stating that most students are not that poor as to be unable to afford \$30. He also reminded the Board that as Associate members they are given the extra benefit of being able to apply for the Research Award. President Hubbs pointed out the society should do everything to encourage student involvement.

**A motion** by Past President Anthony that the dues for Associate-Student members be \$20, with all others, except Emeritus member, being \$30 was **seconded** and unanimously **approved** by the Board.

**Discussion:** Various members of the Board discussed putting a time limit on student reduced dues rates. Although no formal limit was imposed by the Board, Treasurer Rachlin was asked to prepare a note for BRIEFS indicating that a time limit may be put into action. Students will be required to have their mentors verify their student status by signing their dues notices.

### **AWARDS**

#### **a. Outstanding Achievement Award - Individual**

There were seven outstanding candidates nominated for this award. The Board of Control voted, unanimously, to give this years Outstanding Achievement Award to Dr. Reeve Bailey. President Hubbs graciously agreed to present the award to Dr. Bailey, as he will be attending the AFS meeting. Past President Helle showed the Board of Control the "Totem Fish Plaque" which will be presented to Dr. Bailey. The Board of Control has agreed to use the Totem Fish Plaque design for the next five award presentations under this category. Past President Anthony reminded the BOC that a picture of the award presentation must be taken and that a biography be written up for BRIEFS.

#### **b. Outstanding Achievement Award - Group**

Past President Anthony noted that this award, which was discussed at last years Board of Control meeting, should be given serious thought. President Hubbs designated Past President Vaughn as Chairman of a committee to deal with this award. This committee will report back to the Board of Control at its next meeting in Monterey California in 1997. Chairman Vaughn selected J. Helle, J. Rachlin, D. Vaughan and J. Pearce as committee members.

#### **c. Distinguished Service Award**

One name was brought forward. Although the candidate was a good candidate it was decided that an award to this individual at this time was a bit premature, therefore no Distinguished Service Award will be given this year.

#### **Report of Nominating Committee**

##### **(Helle, Cole, Warkentine, Pearce & Anthony)**

This Committee was charged by President Hubbs to present a slate of candidates for President Elect. The Committee was reminded of by-law constraints as to who may be nominated for this position. According to the bylaws (Article III, Sec. 8- Elections) the nominating committee "shall nominate two or more Fellows for President Elect. Nominees for President Elect must be from Different regions than those of the incumbent President and Past President." Since the current President is from the Southeast States and Eastern Mexico Region and the Past President is from Northeast States and Eastern Canada Region, nominees from these regions would be invalid.

Six names were brought forward by the Nominating Committee. All were valid nominees. The nominees were ranked. Starting with the first ranked nominee, the nominees will be asked if they accept the nomination. This procedure will continue until two nominees agree to stand for election.

#### **Old Business (Hubbs)**

##### **a. Logo**

Past President Anthony reminded the Board that it had agreed last year to pursue the use of the logo on hats, cups and tee shirts. Past President Helle pointed out that he had tried to reproduce a good black and white image of the Logo but that the image did not lend itself well to producing a good camera ready copy. District Director Butler agreed to try to scan the image into a computer to get a camera ready image. Sammy Ray agreed to look into the cost and production of these items. Dr. Ray stated that for his "Sea Camp" operation they got tee shirts printed for less than \$5. President Hubbs appointed Sammy Ray and Judy Wern as Co-Chairs of this Committee. Sammy Ray accepted under the agreement that if he can not get it done he will punt back to the President.

Further discussion centered on tee shirt design. After much debate the Board generally agreed that a small Logo on the front with AIFRB and a "catchy slogan" on the back would be the best design. All "catchy slogans" are to be forwarded to Sammy Ray and Judy Wern. (Editor's Note: All members are asked to provide "catchy slogans")

##### **b. Emeritus Status**

Board of Control agreed that Emeritus members will not be required to pay dues but will still be solicited for donations to cover

*cont. on page 6*

the cost of BRIEFS. Criteria for promotion to Emeritus will stay as in AIFRB bylaws (Pg. 6, Sec 4, Designation of Emeritus Fellow or Member).

#### c. Display

Director Passino-Reader arranged to have the AIFRB display set up in the exhibition area in Dearborn. President Hubbs requested that if anyone has any AIFRB archival pictures that could be used on the display to please send them to Productions Editor Merriner. President Hubbs also requested help in manning the display during the AFS meeting. President Hubbs had agreed to dismantle the display after the meeting and take it back to Austin, Texas. Past President Anthony queried the BOC if any District Director would like to use the display during the next 12 months. Director Butler requested the use of the display for upcoming meetings in October. Membership Ray will ship it to him. Director Pearce suggested that maybe we could have a smaller version of the display made for easy distribution. He volunteered to look into this and to see if Woods Hole could make one up.

The BOC has decided that the Secretary will be the contact person for anyone wishing to have the display shipped to them. The location of the display, not the display itself, must be made known to the Secretary at all times.

#### d. Principles

Past President Anthony pointed out that AIFRB must have, for next year's meeting, the Principles of Conduct available for distribution.

#### e. Brochure

Director Vaughan noted that any changes, to the brochure, should be directed to Production Editor Merriner or to himself.

President Hubbs noted that item 4 under How To Join The Institute must be amended to reflect new dues change. **Item 4** changed **FROM:** After approval, enrollment requires payment of \$30, of which \$20 is for annual dues and \$10 covers the cost of Diploma, Principles of Professional Conduct, and the AIFRB lapel pin.

**TO:** After approval, enrollment requires payment of \$30, of which \$20 is for annual dues and \$10 covers the cost of Diploma, Principles of Professional Conduct, and the AIFRB lapel pin for Student-Associate members.

For all other members after approval, enrollment requires payment of \$40, of which \$30 is for annual dues and \$10 covers the cost of Diploma, Principles of Professional Conduct, and the AIFRB lapel pin.

The on hand brochures were modified to reflect the new dues structure before distribution at the AFS meeting.

### New Business

#### a. Future Symposium

President Hubbs suggested that the 1998 AIFRB symposium might focus on by-catch. He asked for the BOC to consider this as a working theme. Also if anyone has any other suggestion to please let him know. He would also like to have input as to who might be willing to chair the 1998 symposium.

#### b. Appointments (Hubbs)

1) In accordance with the AIFRB bylaws (Article III, Sec. 4, Pg 8)

President Hubbs made the following appointments:

- a) Secretary - Barbara Warkentine
- b) Treasurer - Joseph Rachlin
- c) Co-Chairs Membership Committee - Sammy Ray & Judy Wern
- d) BRIEFS Editor - Gene Huntsman
- e) Production Editor - John Merriner

2) In accordance with the AIFRB bylaws (Article III, Sec. 6, Pg 9, Regional Directors) President Hubbs made the following appointments

- a) Bruce Wing\* - Regional Director Alaska & Western Canada
- b) Robert Donnelly - Regional Director NW States
- c) John Butler - SW States and Mexico
- d) Dora Passino-Reader - Central States & Middle Canada
- e) John Pearce - NE States & East Canada
- f) David Sager - SE States & East Mexico

3) Jack Pearce was appointed, by President Hubbs, as Chair of the 1996 W.F. Thompson Award Committee

4) John Palmisano was appointed, by President Hubbs, as District Director for the Oregon- SW Washington District for a one year term.

\*Since Bruce Wing will be serving as Regional and District Director, Membership Chairman Ray will ask him if he wishes to remain on the Membership Committee.

#### Arrangement for 1997

President Hubbs reminded the BOC that planning must begin for the 1997 AIFRB Board of Control meeting in Monterey, California. Northern California District Director Howard will be involved in setting up meeting room arrangements and the AIFRB display. Southern California District Director Butler volunteered to look into setting up the AIFRB reception at the Monterey Aquarium. Director Palmisano volunteered to help. The BOC gave him their approval. The Symposium can only be held on either Tuesday or Wednesday. Cindy Deacon-Williams has agreed to Chair this Symposium.

## Recollections of Leo Erkkila, Early Great Lakes Biologist

*By Ann E. Erkkila*

My husband, Leo Erkkila, died three years ago. The information from the Fisheries Research Biologists continues to come and I like that.

I am, of course, very interested in the article, "A Victory: Lake Superior, Lake Trout Restoration", especially since I have heard and read so much adversity, it is really great to hear the positive.

My husband Leo and I together with our two daughters, six months and a year and a half, moved to Marquette from California in 1950. It was quite an experience, having lived in California. We had 180 inches of snow that first year.

Leo's first office was in the Old R.R. building, Leo and his staff didn't work 8 hour days. All were very interested and devoted to the project. We lived in Marquette through the electric barrier stage and into the poison era. Then Leo's office was at the University of Michigan, Ann Arbor. In all he spent 23 years on the work. Many of his co-workers are gone. However, Bernard Smith is one who started in California with Leo and still lives in Marquette.

I appreciate that the BRIEFS has followed me. I am surprised that none of these hardworking biologists have been mentioned. They put in long hours and were ingenious!

After Leo retired we moved back to California. My grandfathers both came in the 1800's.

We were on the trip to Finland, Russia, and China with other fish biologists. Leo was a Finn. We made 7 trips to Finland.

522 W. Mill Street  
Ukiah, California, 95842-5323

## A Tribute:

### Dr. Lionel "Bert" Walford

by Jack B. Pearce

During the recent AIFRB Board of Control meetings, we discussed how best to recognize fisheries scientists who have made significant contributions to the profession. Special awards are one way to do this but written, published recognition may be an even more lasting honor, especially where an individual was once well-known, and recognized, but is now long deceased. The following is a first attempt to do this:

Lionel Albert (Bert) Walford was born in San Francisco in 1905. In his early years, and through graduate school, he was faced with special challenges including the support of his parent and finding ways to keep his house and home together during the Great Depression.

After graduating from Stanford University in 1929, he went to Harvard where he studied under the great fisheries oceanographer, Dr. Henry Bigelow, receiving his Ph.D. in 1935. An accomplished raconteur, Bert often would hold forth at great length about his times at Harvard, and "the yard", where he survived the vicissitudes of both graduate school and depression! Undoubtedly, his later comprehensive views of fisheries, fish management, and the marine sciences were forged in the New England days. Subsequently, he returned to the west coast to pursue various academic, research, and management positions. More than once he described how he spent his days supervising the untutored CCC staffs at fish weirs designed to garner knowledge about a variety of riverine and anadromous species. Eventually (1935-36), he found a position within the fledgling California State University system in Santa Barbara, teaching various courses in the marine sciences.

After less than half a decade, he left the academic life to pursue research endeavors which he felt could best be accomplished in a U.S. government position. He once confided to me that, "I looked over that 'sea of freshmen faces' and knew that 'I could and they couldn't'". This was not arrogance, only a realistic recognition that his earlier training and experiences could best be used in research, something hard to do at Santa Barbara in 1934-35. It was during this period, however, when he wrote "Gamefishes of the Pacific Coast", which was published by the University of California Press.

After joining the federal estate in 1936, he held a variety of jobs, quickly advancing to positions of leadership and establishing himself as a presence in Washington, DC, as well as at a range of research venues where state-of-the-art fisheries investigations were ongoing. It was during these times that Bert was able to view widely the field of marine science, especially in terms of fishes and fisheries. He recognized that while a variety of species were being studied, scientists then knew precious little about their genetics, histology, early life histories, disease, pathologies, and parasites. All of these matters became "grist for his mill", a series of topical papers and his culminating effort, "Living Resources of the Sea", Ronald Press (1959). This volume became a standard text at many colleges and universities offering courses in fish, fisheries, and living marine resources. It was not a text on methodologies, a listing and description of marine fishes, or a "cookbook" on biometrics; rather it was, and remains, a statement of what the truly big issues were in the mid-1950's and, in the latter half of the 20th Century!

The book dealt not solely with problems specifically related to the marine fisheries; significantly, it explored the habitats in which fishes exist, and the conditions necessary for their survival. Dr. Walford had an uncanny ability not only to recognize those issues which would soon become topics for exploration, but also, those matters which would become festering problems in the last decade of the Century. He noted that "natural" environmental change must be considered if we were to be effective in understanding the comings and goings of fishes; he also was one of the first to

hypothesize that DDT and other contaminants would be of concern at the time of the nation's bicentennial. During a major wildlife conference in 1948, Bert sat in on a series of papers which indicated that the halogens were already a serious problem for certain stream and riverine finfishes, and other wildlife. This became an issue frequently discussed with Rachel Carson, then an author, writer, and editor in the U.S. Fish and Wildlife Service headquarters. From such thinking evolved the idea that the future fisheries agencies must consist not solely of fisheries biologist -- rather the laboratories should house teams of scientist comprised of various disciplines to include, but not be limited to, physical oceanographers, biochemists and physiologists, embryologists, students of early-life history, geneticists and population dynamicists, mathematical ecologists, pathologists, parasitologists, and microbiologists.

Even then recognizing the urgency of the matter (that soon we could have on earth 8-10 billion souls which must be fed in part, from the seas) he set about hiring a new generation of marine scientists. Moreover, as a principal director of Federal marine fisheries research, he could direct the early efforts of these researchers. Most of this generation went on to produce new data and information with great distinction. Most, unfortunately, began to disappear in the mid-80's and early nineties. Retirement does take its toll! Fortunately the early efforts of Dr. Walford took root and today there are not only Federal laboratories dedicated to fish disease, aquaculture, and pollution effects, most marine science centers throughout the United States and the World have such facilities.

His book "Living Resources of the Sea", should be read in the context of similar offerings of the time (and today) to see just how far-sighted Bert Walford was. When he became director at the Sandy Hook Laboratory in 1960, he implemented the use of divers (scuba), submersibles, TV, and other innovative tools in fisheries research. Often this was accomplished with a very "thin" budget. Moreover, he counted Nobel laureates, as well as technicians, among his confidants, and suffered fools not at all well. When I consider him among his peers, the likes of Dennis Crisp, C.M. Yonge, Gunnar Thorson, Athelstan Spilhaus, and Willard Bascom, he stands very tall indeed -- and he casts an even longer shadow. His likes no longer stroll the beaches, nor stand watch from the bridge; the membership of the AIFRB should be proud that he was a founding father of the Institute.

#### Editor's thanks and a request:

My sincere thanks to Jack Pearce for two excellent contributions to this issue of BRIEFS. BRIEFS is available to all AIFRB members who have ideas, recollections, philosophies, or gripes that they would like to see in print. I would especially welcome speculative or controversial pieces based on long association with particular fisheries. Often these nearly intuitive insights, unpublishable most places provide the hypotheses which true hard science can test and which become the basis for better fishery management. If you have ideas on how to better run AIFRB or just BRIEFS, write them down. You deserve to be heard. I will accept e-mail (c/o shuntsman@hatteras.bea.nmfs.gov), snail mail, messages in bottles, smoke signals, or pigeon post, copy hard, soft or just a little mushy. If you won't write it, I can't print it.

P.S. Photos of meetings or of interesting fishy events are always needed.

## Way Ahead for AIFRB, 2001!

By John B. Pearce

When I was asked to serve as District Director for New England, I wrote to the entire district membership requesting its ideas about how the New England district of AIFRB could move ahead in coming years. I have had a half dozen responses, some by telephone, several by mail. There was an interesting theme to all of these: the AIFRB, in addition to being an "honorary society", should take upon itself to become more heavily involved in education. Some felt that the AIFRB should play a greater role in professionalism, but I recognized that a previous president had given a fair amount of attention to this matter some years ago.

Many of the ideas for promoting an educational thrust were fairly original. For instance, one respondent suggested that we should see AIFRB, along with AFS, in the same context that the Sigma Xi and American Association for the advancement of Science sometimes function together. The AAAS is a much larger organization and, obviously, has educational aspects to it. However, Sigma Xi, the science honorary, plays a very critical role in many facets of education. It has outreach programs with local schools, as well as with universities and colleges. Through its publication, *The American Scientist*, it tries to educate its membership and readers throughout the world in regard to new thrusts in science. Perhaps the role for AIFRB would be to increase its educational endeavors, trying to reach out to the citizenry, the general marine science community, and to individual students who want to make fisheries a career.

A second respondent stated very strongly that AIFRB, as an organization, could help to provide AFS with capabilities or guidance in terms of synthesis of fisheries research results, so that these can be distributed to non-professional user groups.

Almost all respondents indicated to me that it was most important for each member of the organization to take an active role in distributing AIFRB brochures, membership applications, and educational materials to appropriate offices of other "wet societies" as well as to the general public. It was mentioned that AFS uses its membership to maintain "hard" and computer bulletin boards; some felt that the membership of AIFRB should do the same.

Again, most members suggested that AIFRB should approach, proactively, faculty and students at departments or schools of fisheries, as well as marine scientists at all educational institutions offering degrees in fields such as oceanography, to promote fisheries research as an integral part of the marine and freshwater sciences.

At the same time all of this is going on, most respondents suggested that the AIFRB must maintain, and even increase its stature as a professional honor society. Part of this could involve the sponsorship of symposia to be held locally or regionally and dealing with the key fisheries issues before us today and in the future. For instance, we could promote the development of new ways to deal with overfishing, protection of biodiversity, and the protection of critical marine habitats.

In summary, all persons responding to my correspondence recommended that the AIFRB should continue, but with new emphasis on professionalism, education, and reaching out to the general public with regard to real solutions to problems. The key to moving forward will be to work with groups as AFS, the Estuarine Research Federation, and others, so as to make the best use of the talents of the AIFRB membership. This can be done in part at national meetings, but if we are to maintain a critical "head of steam", we will have to be working on an (between meetings) interim basis to ensure that the membership has the message and that they become far more proactive regionally than has been the situation in the past.

## MEMBERSHIP REPORT

Associate - Professional	Chris Herrala	CA
Associates - Student	Mark Skracic	CA
	Fugen Li	OR
	Cynthia Taylor	CA
	Lihan Huang	OR
New Members	Dr. Eduardo Guevara	TX
	Bob Stuart	WA
	Dr. Aaron Barkoh	TX
	David R. Geist	WA
	Gary E. Johnson	WA
	Dr. Timothy L. Hoffnagle	AZ
	Tom Barnes	CA
	Dr. Philip Unger	CA
	Arturo Acero	AZ
	Dr. Nagaraj Chatakondi	AL
Promoted to Fellow	Dr. Dean E. Arnold	PA
	Dr. Phillip R. Mundy	OR
New Fellows	Don W. Schloesser	MI
	Dr. Richard A. Cole	NM
	Dr. Barry Costa-Pierce	CA
Emeritus	Dr. Joseph B. Hunn	MO
	Dr. Gene R. Huntsman	NC
	Dr. Phyllis H. Cahn	NY
	Dr. Jack Van Hynning	AK
	Dr. Thomas F. Waters	MN
	Richard A. Ryder	ONT
	Donald G. Watson	WA

Dr. Sammy M. Ray, Membership Chairman  
Texas A&M University at Galveston  
5007 Avenue U  
Galveston, Texas 77551

Direct membership inquiries to the Membership Chairman.

### A Recent Loss

Robert G. Ferguson May 30, 1966  
Lost to a stroke (Obituary in next issue)

## Upcoming Meetings

North American  
Lake Management Society  
November 13-16, 1996  
Minneapolis, MN

Midwest  
Fish and Wildlife Conference  
December 8-11, 1996  
Omaha, NE

The work shop brought together over 50 fisheries scientists, physical scientists and environmental data specialists representing most line offices of NOAA, NASA, the Navy, NSF, Canada, Great Britain, and 7 academic institutions. Fisheries scientists described how environmental data are used; physical and computer scientists described environmental data, including that from ocean models and

## Jack Casey Retires

In 1961, John G. Casey had a visionary shark conservation plan centered around tag and release. For years, Jack worked against the tide of myths and misinformation about sharks. He was one of the first to clearly see the value of wild shark populations. After a lifetime of effort and 40 years of government service, Jack Casey retired in April of 1995. It is the end of an era, and we are glad to have been a part of it.

Through Jack's inspiration and hard work, NOAA's Cooperative Shark Tagging Program was created in 1961, at Sandy Hook, NJ, and moved in 1966 to the Narragansett Laboratory. Under his direction, more than 6,500 volunteer fishermen and cooperating scientists have tagged more than 120,000 sharks for research in the past 35 years. The scope of this work is a tribute not only to Jack, but to the thousands of fishermen of all kinds, ages, and nationalities who he

inspired. Jack assembled a team of scientists and support staff to study the confounding and little known lives of sharks. Age, growth, reproduction and food habits are among the topics of research that he integrated into the Apex Predator Investigation. Jack Casey has touched the lives of thousands of students from school kids on the docks to

candidates for advanced degrees. Jack leaves behind not just research papers, but decades of public interface; countless newspaper, magazine, book, radio and television reports that have subtly shaped public opinion about sharks. Jack's legacy is also a strong research program with a huge database promising many fruitful years of research on large Atlantic sharks.



geophysical investigations; Internet and video-based demonstrations described ocean model output and data management systems.

Four working groups addressed specific scientific topics within the general theme of the meeting as well as opportunities and mechanisms for cooperation in fisheries oceanography. The working groups developed more than 40 recommendations. A common thread among the working groups was the need for improved communication among fisheries scientists, oceanographers, and the physical and computer scientists who provide model and environmental data. There was also consensus that follow-up workshops, focused on specific topics (e.g. model data applications, remote sensing and fisheries) be developed. Applications of new environmental technology, including remotely sensed data multi-beam sonar technology, and numerical model output were highly recommended.

The workshop proceedings will be published as a NOAA Technical Memorandum before the end of the year. In the interim, a short workshop report along with the full text of recommendations is available on the world wide web at <http://www.pfeg.noaa.gov/workshop>.

The real President Hubbs in his autographed T-shirt commemorating a symposium in his honor at the meeting of the American Society of Ichthyologists and Herpetologists, Austin, Texas, 1993.



**Alaska, Northern**

Steven K. Davis  
LGL Research Associates, Inc.  
4175 Tudor Centre Dr. #101  
Anchorage, AK 99508

**Alaska, Southeast**

Malin M. Babcock  
11305 Glacier Highway  
Juneau, AK 99801-8626

**Atlantic Maritime**

Vacant

**Arizona - New Mexico**

G. Morris Southward  
Department of Experimental Statistics  
New Mexico State University  
Box 3130  
Las Cruces, New Mexico 88003

**California, Northern**

Daniel F. Howard  
SW Fisheries Sci. Ctr., Tiburon Lab  
3150 Paradise Drive  
Tiburon, CA 94920

**California, Southern**

John L. Butler  
5194 Galt Way  
San Diego, CA 92117

**District Directors****Capital**

Frank M. Panek  
National Park Service  
4401 N. Fairfax Dr., RM 810-D  
MD-820 ARLSQ  
Arlington, VA 22203

**Carolina**

Douglas S. Vaughan  
214 Shell Landing Road  
Beaufort, NC 28516

**Florida**

Vacant

**Great Lakes, South Central**

Dora R. Passino-Reader  
National Fish. Center  
1451 Green Road  
Ann Arbor, MI 48105-2897

**Gulf of Mexico, Northeast**

Vacant

**Keystone**

Barbara E. Warkentine  
1329 Balcom Avenue  
Bronx, NY 10461

**New England**

John B. Pearce  
Northeast Fisheries Center  
166 Water Street  
Woods Hole, MA 02543-1097

**Oregon-SW Washington**

John F. Palmisano  
1990 NW 156th Avenue  
Beaverton, OR 97006-5307

**Texas**

David R. Sager  
Texas Parks & Wildlife Dept.  
4200 Smith School Rd.  
Austin, TX 78744

**Washington, NW**

John Strand  
16535 188th Ave. NE  
Woodinville, WA 98072

**BRIEFS**, the newsletter of the American Institute of Fishery Research Biologists, is published six times a year. It is intended to communicate the professional activities and accomplishments of the Institute, its District, and Members; the results of research; the effects of management; unusual biological events; matters affecting the profession; political problems; and other matters of importance to the fishery community. Comments and contributions should be sent to the Editor, Dr. Gene R. Huntsman, 205 Blades Road, Havelock NC 28532. Subscription \$20 a year to Institutions and Non-Members. Officers-Clark Hubbs, University of Texas, Department of Zoology, Austin, TX 78712, President; Barbara Warkentine, 1329 Balcom Ave., Bronx, NY 10461, Secretary; Joseph Rachlin, Lehman College Bio., Bedford Park Blvd. West, Bronx, New York 10468, Treasurer.

ISSN-8755-0075

FIRST CLASS

LA JOLLA, CA 92037-1508  
LATIC, Scripps Inst. Oceanog.  
8604 La Jolla Shores Drive

Address Correction Requested

Bronx, NY 10468-1589  
Bedford Park Boulevard West  
Lehman College, Biology  
c/o Joseph Rachlin

*American Institute of Fishery  
Research Biologists*



## ... BRIEFS ...

VOL. 25, NO. 6

NOVEMBER - DECEMBER 1996

### Note From The President

I have received a letter from the American Fisheries Society President Chuck Coutant requesting that AIFRB join the Council of Aquatic Sciences (CAS). The initial membership fee is \$500. This is an effort to coordinate knowledge in aquatic sciences. The first CAS meeting will be February 15, 1997, in Santa Fe (following the annual meeting of the American Society of Limnology and Oceanography). I am tempted to attend as an observer so I can report to the Board of Control in Monterrey. I invite comments from all on this issue.

Clark Hubbs  
President

### Elections in Ol' Caroline

By mail ballot, Carolina District members elected Mark Collins of the South Carolina Wildlife and Marine Resources Department, Charleston Laboratory as Director, and Robert Lattimer Dixon of the National Marine Fisheries Service Laboratory in Beaufort, NC, as Vice Director. They assume duties January 1, 1997. Coincidentally both electees have long been associated with research on the reef fishes of the southeastern U.S.

Dr. Collins has extensive experience in research on aging and, especially, reproduction of reef fishes and was an early member of the National Marine Fisheries Service - sponsored MARMAP - (Marine Monitoring and Assessment Program) team which has had an extraordinary record of accomplishment towards defining the complex life histories of the more important of the 300 reef fishes of the area. Mark was educated at the University of South Carolina and the University of Florida. He is an avid deer hunter.

Bob Dixon was educated at the University of North Carolina in Wilmington and the University of Washington, joined the NMFS Beaufort Reef Research Team in 1972, is part of the reef diving team, and manages a survey of recreational reef fish catches extending from Cape Hatteras to Mexico. Dixon also enjoys slaying Bambi and is an accomplished and experienced semi-professional thespian.

### Districts at Work

#### Southern California District Sponsors Short Course

A short course sponsored by the Southern California District is an excellent example of an activity that can increase member interest, improve membership, provide funds for district activities, and deliver a valuable service to the fishery science community. District Director John Butler provided the following guidance to other districts that might want to offer a short course:

The financial success of this workshop was a result of several factors. We were able to hold the workshop at California State University at San Marcos (CSUSM) at no cost for the facilities.

AIFRB member Dr. Richard Bray is presently the Chairman of the Biology Department at CSUSM, and the president fully supported the workshop. In return for the use of the facilities, CSUSM students were allowed to take the course at no cost. The workshop was scheduled during spring break at CSUSM, so that there was no conflict with regularly scheduled classes. The facilities at CSUSM were ideal for holding the workshop. We used one lecture hall and two computer laboratories. Each computer laboratory had 24 microcomputers, one with PC's and the other with dual processor Power Macintosh computers so that we were able to accommodate the experience of all participants.

The District was able to obtain the services of instructors at no cost. Lectures were given by John Butler, NMFS, Rick Deriso, Inter-American Tropical Tuna Commission, Larry Jacobsen, NMFS and Tim Gerrodette, NMFS. Both Butler and Deriso are members and Rick Deriso is past winner of the W.G. Thompson Award.

The course consisted of lectures and hands on computer laboratories emphasizing working models on spreadsheets. The computer laboratories were already equipped with Excel spreadsheets. Thus the District did not have to pay royalties for one time use of special programs and the laboratories did not degenerate into an exercise in programming. Students were encouraged to bring floppy disks so that they could take home copies of the spreadsheet models.

Attendees consisted of 38 professional fishery biologists and 13 students. We charged \$100 for professionals and \$25 for students. Five California State University students were admitted gratis in return for use of the facilities. Most of the professionals were employees of the California Department of Fish and Game. Cal Fish and Game has dedicated funds for training which is separate from operating funds, and these funds also covered the cost of travel. We held the workshop during the week, so that there were no overtime considerations.

The only costs incurred for this workshop were for doughnuts, coffee and lunches. We preordered a variety of sandwiches from a local sandwich shop, and the menu was catch as catch can. The sandwiches were delivered at CSUSM so that no one had to leave the facility.

The format for this workshop could easily be duplicated at other districts. There are many AIFRB members who could give lectures on many practical topics and similar arrangements for facilities should be feasible. The course was very well received by participants and the response of supervisors in CDFG has also been positive. Participants were able to directly apply the training to their work. This is not often the case for training courses given at government agencies.

John Butler, Director  
Southern California District

#### Short Course in Fisheries Modeling

(This course consisted of four half day sessions on May 29-30, 1996, at California State University at San Marcos.)

##### Age Determination

This lecture will cover methods of determining age in fishes, methods of validating techniques and growth models used in fisheries.

cont. on page 2

The implications of age of first maturity and longevity to population dynamics will be discussed. The lecture will be followed by computer exercises fitting data on age and length to growth models in a spreadsheet program. (Instructor: Dr. John L. Butler, National Marine Fisheries Service, Southwest Fisheries Center)

### **Age Structured Models**

This short (half day) course will deal with age structured models commonly used in analysis of fisheries data. Starting with Baranov's catch equation, we will build models for individual cohorts and then simple models for populations containing multiple cohorts. The most common assumptions in age structured fishery models (constant natural mortality rate, age specific vulnerability to fishing gear, etc.) will be discussed and illustrated. The class will consist of two hours lecture followed by two hours of computer exercises involving a spreadsheet program (Excel or Lotus 1-2-3). At the end of the class, all participants will have a working spreadsheet for conducting "cohort analysis" that can be used to estimate trends in abundance and biomass of a fish population. (Instructor: Dr. Larry Jacobson, National Marine Fisheries Service, Southwest Fisheries Science Center, La Jolla, CA)

### **Yield per Recruit**

My lecture will cover the general topic of year-class models in fisheries. Issues dealt with in such models include the relationship of fisheries yield to growth and mortality of fish and the implication of fisheries harvest on the reproductive capacity of a population. Simple mathematical models and computer software will be used to illustrate the concepts. (Instructor: Dr. Rick Deriso, Inter-American Tropical Tuna Commission)

### **Production Models**

Production models are among the simplest types of population models. In such models, all individuals in the population are considered equal, and changes in the size of the population are controlled by how close the population is to its maximum possible level. Assumptions, strengths and weaknesses of this type of model will be discussed. Two applications of production models will be contrasted: in fisheries management and in marine mammal management. For fish, the usual objective is to maximize catch, whereas for mammals, the usual objective is to minimize it. Calculation of maximum allowable by-catch of marine mammals according to management guidelines specified in 1994 amendments to the Marine Mammal Protection Act is a specific example of the application of production models. (Instructor: Dr. Tim Gerrodette, National Marine Fisheries Service)

## **Pearcing Insights NOAA Fisheries Planning**

### **Strategic Planning for the New Century**

*John B. Pearce*

Some months ago NOAA Fisheries, read National Marine Fisheries Service (NMFS), developed a strategic plan which professed to outline those activities that NOAA and the NMFS believe to be most important to deal with in coming decades. This plan eventually went through some seven different drafts, the last of which provided a basis for regional meetings with so-called stockholders, or clients.

Nationally some twenty meetings were held in different areas to introduce the plan to the general citizenry, the industry, and the various fishers and representatives of other agencies. In the northeast, three meetings were scheduled, the first at Gloucester, Massachusetts; a second at Providence, RI; and the third in Philadelphia, PA (later cancelled).

As a retired federal employee and private citizen, I was able to participate in the Providence, RI, meeting. This meeting drew in about a dozen federals and general citizenry. The plan was introduced by Dr. Michael Sissenwine and discussions were led by a regional office employee. Generally, the plan outlined the NOAA Fisheries mission as: the "Stewardship of living marine resources for the benefit of the nation through science-based conservation and management and a promotion of the health of the fisheries environment." The plan had three broad strategic goals which include: 1) promoting a sustainable fisheries; 2) recovering protected species; and 3) fostering a "healthy coast". Research and management to be done under these goals would be carried out with results in the future in which "... the American people are able to enjoy the wealth and benefits of diverse and self-sustaining living marine resources."

Discussions by Northeast Fisheries Science center personnel, and regional office managers, noted that the new strategy would be output oriented: it would involve stewardship to be carried out via "science-based conservation" and would produce a future in which the American people are able to enjoy the living marine resources and the other amenities that coastal environments might engender.

In regard to coastal health, questions evolved during the session to the point, "... does NOAA have the authorities to deal with land-based threats, cumulative effects of development, and the effects which might be carried seaward via riverine systems, affecting resources scores or even hundreds of miles from the sources." Other discussions wove around who really has a stake in the living marine resources? Is it the fishers? The industry? The general citizenry? Or the various state and federal agencies which are involved in living marine resources. It was important to note that discussions suggested that there was a need for far-greater amounts of communication/education which could clarify these questions in the public's mind, as well as industrialists involved with living marine resources.

One particularly troubling area had to do with various objectives found under a goal having to do with maintaining or enhancing a "sustainable fisheries". Does this include reducing overfishing and rebuilding stocks so as to increase benefits? Does it have to do with advancing various mariculture endeavors so as to augment the yields of wild fisheries and to take the pressure off of these?

Sections of the Strategic Plan having to do with economic, health, and social benefits were also raised. For instance, one question dealt with whether the recreational fisheries could be seen as fostering the same degree of economic benefits as the commercial fisheries. Just how far do we go to promote a healthy fisheries involving yields which are free of contamination and disease? How far do we push various economic schemes so as to ensure that the citizenry, the industry, and the individual fishers all benefit?

With regard to mariculture, there was a fair amount of discussion having to do with exactly how such activities should be prosecuted in the future. Should economic analyses of mariculture endeavors define what is "environmentally sound"? How far do we go to identify the potential effects of traditional ways of harvesting fish, as well as techniques inherent in mariculture to reduce potential effects on protected species or habitat quality?

Discussions raised a question as to "just how much should we depend on NOAA fisheries for all of the research that might be involved". Should we not look at results that are forthcoming from international studies where mariculture is being much more aggressively pursued in places such as Chile, Norway and Scotland? Should we not be looking at information as it is developed within international groups such as the International Council for the Exploration of the Seas (ICES)? There must be cost effective processes to implement mariculture which could be based upon research already done, rather than research that might be funded in the future. Also, as mariculture is implemented, steps should be taken to mitigate the consequences to the traditional fishers.

As NOAA fisheries carries out its activities to meet the

*cont. on page 3*

aforementioned goals, is it possible to measure in any reasonable way NOAA's performance, especially in areas such as mariculture? What would be the value of stock enhancement activities?

Finally, as the discussions continued, there was a significant amount of talk about the interactions between prosecuting wild fisheries, and enhancing or implementing mariculture and mitigating effects on living marine resources that are protected, i.e. various seals, whales, birds and turtles. At least two people raised the specter of the *precautionary approach*, suggesting that NOAA Fisheries might manage things so that, "where we do not have sufficient amounts of information", the well-being of wild stocks, marine mammals, and other organisms would be held as sacrosanct and fishing pressures or activities would be carried out in a way that would not compromise these resources.

As these latter items were being discussed, one of the very real concerns was whether NOAA could develop performance measures that would allow assessments to be made over the next five years. Will NOAA be able to eliminate or reduce overfishing on all currently overfished stocks? Will it be possible for NOAA's Fisheries to protect fish that are not currently overfished? Would it be possible to look at those stocks which actively move through several regions as falling under the aegis of different elements of NOAA's Fisheries, as well as the States'?

As I sat through these discussions, I had an appreciation of the overall concern that the citizenry, environmentalists and others, have for our living marine resources today. Obviously, it is no longer going to be possible for federal or state agencies simply to make decisions *without* getting input from the general citizenry and the so-called stake holders. I felt the discussions and inputs to the session were very civilized, with relatively little rancor. It was obvious that there were ranges of opinion, but in almost all cases, eventually, "secretaries" were able to develop notes indicating general concurrence on most of the issues. This report will be important to Century 21, not just the next half decade.

## AIFRB Members At Work

### New Book by Iversen: Living Marine Resources

by Edwin S. Iversen - Fellow AIFRB,  
Chapman and Hall, Publisher

**Living Marine Resources** provides an up-to-date introduction to fisheries science. This text offers insight into a topic of increasing importance — the wise utilization and management of sea fisheries to maximize production without exceeding their carrying capacity. Adoption of the approaches presented will improve the conservation and management of the many world fisheries that are suffering from years of inefficient practices.

The book is divided into five sections, beginning with an introduction to the ocean environment and the various resource species. Part two examines fisheries biology, including age, growth, fecundity, and mortality, enabling readers to appreciate yield models designed to give estimates of maximum sustainable yield and maximum economic yield. The third part covers gear, methods, and landings and includes material on the handling and processing of sea food as well as aquaculture. In part four, yield models are presented to introduce students to theories on population dynamics, stock assessment, and management. The book concludes with coverage of recreational fisheries, including socioeconomic importance, catch and effort research, management techniques, and their interface with commercial fisheries.

Edwin S. Iversen is Professor Emeritus at the Rosenstiel School of Marine and Atmospheric Science at the University of Miami in Florida.

## Near Record Flows May Reverse Bay's Nutrient Trends

Freshwater flows into the Chesapeake Bay this year averaged 84 billion gallons a day through September, almost 1.6 times higher than average, according to the latest figures from the U.S. Geological Survey.

The only higher year was 1972, when flows averaged 85 billion gallons a day, largely as the result of floods resulting from Hurricane Agnes.

The high flows have dramatically increased the amount of sediment and nutrients flushed into the Bay, according to the USGS.

About 263 million pounds of nitrogen and 18 million pounds of phosphorus have accompanied the high flows that have dominated the Chesapeake from the January floods through Hurricane Fran in September.

"The amount of nitrogen is about 50% higher and phosphorus is about twice the normal amount that usually enters the Bay," said Scott Phillips, coordinator of the USGS Chesapeake Bay Science Program in Towson, Md.

The huge amounts of nutrients that this year's rains have washed off the land are likely to reverse the Bay's nutrient trends, which had been improving until a series of wetter than normal years. Besides this year, flows in 1993 and 1994 were also significantly higher than normal.

The Bay Program goal is to reduce the amount of the phosphorus and nitrogen entering the Bay 40% — during an average flow year — by the turn of the century. Excessive amounts of those nutrients spur algae blooms in the Bay which, along with increased sediment loads, can decrease the amount of light that is available for underwater grasses that provide habitat for crabs and fish and food for waterfowl.

Also, when the algae dies, it sinks to the bottom and decays in a process that depletes the water of oxygen needed by other organisms.

Because of this year's high nutrient flows, scientists have observed some of the highest concentrations of algae and lowest oxygen conditions reported in portions of the Bay.

Noting that nutrient concentrations in many rivers feeding the Bay had been declining prior to 1986, Phillips said this year's situation could have been worse.

Preliminary estimates made by the USGS, in cooperation with the Maryland Department of Natural Resources and the Virginia Department of Environmental Quality indicate that nutrient loads to the Bay would have been higher if not for sewage treatment plant upgrades and other actions taken to reduce nutrient pollution.

"The Potomac River, for example, has transported about 87 million pounds of nitrogen and 7 million pounds of phosphorus to the Bay during 1996," Phillips said. "If nutrient reduction methods had not been implemented within the Potomac River basin, we estimate that more than 100 million pounds of nitrogen and 10 million pounds of phosphorus could have entered the Bay."

"That's quite a reduction," Phillips said. "And when you take into account reductions in nutrients from all of the rivers monitored, it is clear that some of the efforts to clean up the Bay are working."

Still, the high flows may pose some problems for the Bay. The amount of Bay grasses in the Chesapeake have declined the last two years after having increased for nearly a decade.

Bay grasses are considered a key indicator of water quality, and their recent decline is thought to have resulted from the high flows of 1993 and 1994. Thus, a continued decline is possible next year as a result of this year's high flow.

From: Bay Journal, November 1996

---

## Meetings of Note

---

### ICES/NASCO Symposium

Interactions between Salmon Culture and  
Wild Stocks of Atlantic Salmon:

*The Scientific and Management Issues*

Bath, England, UK

18-22 April 1997

#### Organizers

International Council for the Exploration of the Sea and  
North Atlantic Salmon Conservation Organization

Financial support from a number of other organizations has been agreed or is under consideration. They will be listed in the Final Programme.

#### Objectives and Scope

The ICES/NASCO Symposium has the following main objectives:

- 1) to review the results of the research on the interactions between salmon culture (farming, ranching, or enhancement) and wild Atlantic salmon;
- 2) to examine the practical implications of such interactions for salmon management;
- 3) to identify gaps in current knowledge and to establish future research priorities.

The cultivation of Atlantic salmon has become a major industry in both Europe and North America in the course of the past 25 years. During the 1980s, scientists and managers became aware that substantial numbers of farmed salmon that had escaped from aquaculture facilities were present among wild stocks. There has been mounting concern in the meantime that interactions between wild and farmed salmon might prove deleterious to the wild stocks, leading to changes in their genetic composition, the introduction of diseases, parasites, and other effects with negative ecological consequences.

In response to this situation, ICES and NASCO have co-sponsored a series of meetings from 1989 to the present, to consider, initially, genetic threats to wild salmon posed by aquaculture, and subsequently with a widened remit covering other interactions.

These issues were also considered at an international symposium convened at Loen, Norway, by the Norwegian Directorate for Nature Management in 1990.

At these and other meetings held in Dublin, Copenhagen, Edinburgh, and Reykjavik, potentially serious threats have been identified, and in 1991 and 1994 NASCO was able to establish guidelines designed to protect wild salmon stocks. Although scientific knowledge regarding interactions between cultured and wild salmon remains incomplete, considerable progress has been made in all respects. The Symposium will evaluate the state of current knowledge of interactions and consider the implications for management of wild salmon stocks and the direction of future research.

The Symposium programme has been prepared by the Symposium Conveners, Dr. Lars P. Hansen, Dr. Malcolm L. Windsor and Mr. Alan F. Youngson with the advice of the Scientific Steering Committee.

#### For Information Contact:

Dr. Malcolm L. Windsor

NASCO, 11 Rutland Square, Edinburgh EH1 2AS,  
Scotland, UK

Tel: +44 131 228 2551; Fax: +44 131 228 4384

## An American Wetlands Month Celebration Communities Working For Wetlands

May 7-9, 1997

Radisson Plaza Hotel, Alexandria, Virginia

#### Sponsors: (as of August 19)

U.S. Army Corp of Engineers

Bureau of Reclamation and Office of Surface Mining,  
U.S. Department of Interior

U.S. Environmental Protection Agency, Wetlands Div.,  
Headquarters and Region 5

Federal Highway Administration,

U.S. Department of Transportation

National Oceanic and Atmospheric Administration,  
U.S. Department of Commerce

Natural Resources Conservation Service,  
U.S. Department of Agriculture

Tennessee Valley Authority

Terrene Institute

Wildlife Habitat Council

World Wildlife Fund

#### Purpose:

Communities Working For Wetlands will be a gathering of people interested in community-based wetlands conservation who will share their experiences and thus expand their wetlands knowledge.

Participants will discover new tools and build contacts and networks as they learn to work more effectively both within their communities and with government programs and the private sector.

#### Objectives:

1) Discuss methods for heightening public awareness of the value of wetlands to the community — to its physical, biological, economic, cultural and recreational well-being.

2) Foster the creation of voluntary, cooperative partnerships among communities, corporations, government, landowners, and private citizens for wetlands conservation and management.

3) Provide the background information, tools, contacts and support networks to identify priorities, assess needs and act to protect and restore our nation's wetlands.

4) Foster the exchange of practical and innovative information on wetlands management.

#### For Information Contact:

Terrene Institute

4 Herbert Street, Alexandria, Va. 22305

Tel: 800-726-4853 or 703-548-5473

Fax: 703-548-6299 e-mail: [terrene@gnn.com](mailto:terrene@gnn.com)

## Fifth Annual Southern Division AFS

### Midyear Meeting

February 13-16, 1997

Camberley Gunter Hotel

San Antonio, Texas

#### Co-Hosted by

the Oklahoma Chapter and the Texas Chapter AFS

#### For Information Contact:

Mark Webb, Program Committee

TPWD Inland Fisheries

1004 E. 26th St., Bryan, Texas 77803

Tel: 409-822-5067; Fax 409-823-5860

e-mail: [bryanif@mail.myriad.net](mailto:bryanif@mail.myriad.net)

## J.Y. Christmas Remembered



J. Y. Christmas, Jr.

J. Y. Christmas, Jr., 82, former Gulf Coast Research Laboratory (GCRL) assistant director for fisheries research and management, died in Ocean Springs on Dec. 26, 1995.

Christmas earned B.S. and M.S. degrees from Mississippi Southern College (now the University of Southern Mississippi) and took summer courses at GCRL while in graduate school. He served in the U.S. Coast Guard during World War II and worked as teacher, coach and administrator in public high schools before joining the Laboratory staff in 1957.

He spent the next 27 years investigating various fisheries and the associated environment to provide data to state and federal regulatory agencies for wise resource management.

In the late 1960's, Christmas assisted in planning the use of the Laboratory property at Point Cadet in Biloxi. He conceived the idea of a public use facility offering formal and informal opportunities for education and research concerning coastal resources and the environment. This vision led to the construction of GCRL's first marine education center in 1974 which was later replaced by the larger J.L. Scott Marine Education Center and Aquarium.

Christmas had a key role in the publication and implementation of the Gulf of Mexico's first regional management plans for both shrimp and menhaden in 1976 and the updated and expanded menhaden plan in 1983.

Another major career accomplishment was the project that resulted in the publication of the Gulf of Mexico Cooperative Estuarine Inventory and Study, Mississippi (GMEI). This was the first time that fishery biologists in the region worked together to standardize sampling and analysis and link data from several fields on estuarine resources to describe their status and condition.

Author of over 40 scientific publications, Christmas continued his commitment to fishery research and management after his retirement from the Laboratory in 1984. He was a commissioner of the Mississippi Marine Conservation Commission and was involved with the Gulf States Marine Fisheries Commission and the Gulf of Mexico Fishery Management Council. He was also a member of the American Association for the Advancement of Science, American Fisheries Society, Mississippi Academy of Sciences, Phi Delta Kappa and the American Institute of Fishery Research Biologists.

He is survived by three children, two grandchildren and a brother. His son and daughter-in-law, Jimmy and Leslie Christmas, are members of the GCRL scientific staff.

## Losses

Galen H. Maxfield,

February 17, 1995, Member 1962, Emeritus 1975

Harlan E. Johnson, October 5, 1996

James Y. Christmas,

December 26, 1995, Fellow 1975, Emeritus 1986

## More Walford Memories

Editor:

With all due respect to the author of the article on Lionel Walford (*Jack Pearce, ed.*) in the September-October 1996 issue of *Briefs*, I should like to point out that "Bert" did not go to Harvard immediately after graduation from Stanford—as the article intimates.

There is no mention of his work for the California Division of Fish and Game, during which time he prepared "Handbook of Common Commercial and Game Fishes of California" issued in 1931 as Fish Bulletin No. 28 before he went to Harvard. This Bulletin, known at the time as "The Picture Book" was one of the first fish manuals to use photographs rather than drawings, and to establish "official common names". It set a style for presentation, and Walford should be remembered for this rather than for his "Game Fishes of the Pacific Coast" which was mentioned.

On the trivia side, it might be mentioned that at least up to the time he was 33 years of age, Walford did not drive an automobile.

William Dill

Editor:

When I read Jack Pearce's tribute to Bert Walford, it kindled fond memories about my brief friendship with Dr. Walford from 1977 until his death in the early 1980's.

Ken Able and I were brand new Assistant Professors at Rutgers University in the fall of 1977. Dr. Walford had already retired from the Fisheries Service, and had become Director of New Jersey Sea Grant. Ken and I drove to Sandy Hook, terrified much of the way, being "country boys" unaccustomed to the congestion and competitive pace of New Jersey traffic, to introduce ourselves to Dr. Walford and discuss prospective Sea Grant sponsored research we might propose. We were somewhat apprehensive at the prospect of meeting him, having heard Dr. Walford's reputation for being a bit acerbic. And, after all he was "Walford-graph" Walford. Fortunately, Dr. Walford took a quick liking to us, I think mainly because we were what some might describe as over zealous fools about fish. He was so inclined himself, even in his late 60's, and I liked that.

During this first of many visits, Dr. Walford suggested that it might be interesting to do some research on golden tilefish, because a recreational and longline fishery was developing for them in the mid-Atlantic-Southern New England area. So, Ken and I drafted a proposal to Sea Grant to study their life history and population dynamics, and asked Dr. Walford to review the first draft. We got a small taste of his caustic pen, I recall a few editorial comments like "sophomoric". The project ultimately got funded, and Ken and I spent the next 7 years following Dr. Walford's advice, and working on one aspect or another of the biology and fisheries for golden tilefish.

I always went to visit Dr. Walford whenever I was anywhere near his Sea Grant offices at Sandy Hook. We grew to really like each other and we spent many an hour yapping about one aspect of fish or another. He fostered my career as a young scientist, and enriched my life in the process.

Churchill B. Grimes

## Alternative Method for Returning Fish to Sea

Dr. Colin Attwood, visiting as part of a U.S.-South African scientific program, provides information on a rather novel method for returning undersized fish to depth with minimum additional trauma. Commonly used by recreational fishermen in S. Africa, the method may be better than deflating air bladders by puncturing the fish.

A barbless stainless steel hook is run through the upper jaw lip from above. The hook eye is attached to a short line with a 200 g. (half lb.) weight. A second line, attached to the arch of the hook, is used to lower the fish (and weight) to the bottom. Once at depth, a sharp jerk on the line pulls the hook and weight free from the fish where it can be retrieved and used again.

cont. on page 7

## The Round Goby: Innocent Until Proven Guilty?

The round goby (*Neogobius melanostomus*) and the tubenose goby (*Proterorhinus marmoratus*) were first noted in North America in the St. Clair River in 1990. At that time, the announcement of a new exotic was given little attention. Concerns about non-indigenous invasions were dominated by the problems caused by zebra mussels. Three years later both gobies still remained within a few miles of their arrival point. The possibility that they might be confined or eliminated while they were still geographically limited still did not arise; attention was focused on confinement of the ruffe to western Lake Superior. In late 1993, the round goby began to expand its range, and by late 1995, it had spread to all of the five Great Lakes. Currently, the goby is poised at the opening to the Chicago canal system. Once it enters the Illinois River drainage, it has access to almost half of the United States through connecting waterways, from Montana to the west, New Orleans to the south, and Pennsylvania to the east.

Round gobies, like zebra mussels, are now a permanent part of the Great Lakes ecosystem. Gobies are likely to adversely affect native benthic (bottom-dwelling) species with which they share habitat or other resources. For example, gobies occupy a similar ecological niche to that of slimy sculpins (*Cottus cognatus*). Both species are benthic, spawn under rocks and consume invertebrate prey. Gobies tend to be more aggressive than sculpins, leading to competition for food and displacement of sculpins from spawning sites. Gobies have already become an annoyance to shore anglers, who find gobies on their hooks more frequently than the sought-after sport fish species. Consumption of fish eggs, including lake trout eggs, by gobies may lead to population declines in some native species.

A need for more information about the biology of the goby was highlighted at the *Round Goby Conference*, which brought researchers from around the Great Lakes Basin together in Chicago in February 1996. As with previous invasions from Europe, much of the relevant literature is in Russian or Polish and needs to be translated into English. Information on winter habitat, seasonal movement, territoriality and preference for flowing water will assist identification of vectors (transport mechanisms), which allow the goby to spread rapidly. Techniques for quantitative sampling and aging gobies are needed to track its population expansion.

Current concerns about the round goby and its effects on North American ecosystems highlight problems with our ability to respond to new invaders. When the two goby species first appeared in North America, little was known about either of them. Unlike the zebra mussel, neither had a history of invasion in Europe, nor a reputation as a pest. Consequently, there was a tendency to consider them as being benign unless proven otherwise. Although the round goby has already shown itself to be a potential nuisance, the tubenose goby is still being virtually ignored. The lesson learned from the round goby is that species invasions do not allow time for consideration to determine whether the invader will be a nuisance. Response must be immediate if there is to be any chance of eliminating the invader before it spreads.

Author: Ellen Marsden, Illinois Natural History Survey, 847-872-8677, jmarsden@uiuc.edu

From: ANS Update Spring 1996 Vol. 2 No. 2

## Fishing Supported by Large Majority

A large majority of the American public approves of fishing and believes it should continue to be legal. Additionally, the percentage of anglers among the adult population has slightly increased with more women taking up the sport. These were the major findings of a comprehensive survey of adult Americans sponsored by the U.S. Fish and Wildlife Service (USFWS). The three year study was conducted by Responsive Management of Harrisonburg, Virginia

and included a series of focus groups, a nationwide telephone survey, and an analysis of data collected as part of USFWS's "Survey of Hunting, Fishing and Wildlife-Associated Recreation". Randomly selected adults (2,085) were interviewed for the telephone survey in 1991 (with a follow-up in 1994). Findings of the survey are reported at a 95% confidence interval with a sampling error of +/-2%. Copies of the study, "Factors Related to Hunting and Fishing Participation in the United States" may be obtained by contacting Mark Duda, Executive Director, Responsive Management, P.O. Box 389, Harrisonburg, VA 22801 (Phone: 540-432-1888; Fax: 540-432-1892).

### Approval of Legal Fishing

The study found that 95% of Americans approve of legal fishing, with only 4% disapproving. Of those who approve of fishing, 65% strongly approve and 30% moderately approve. Similarly, 96% of the public agrees that "fishing should continue to be a legal activity," with 73% strongly agreeing with that statement, and 23% moderately agreeing. When asked if "in general, fishing is a safe recreational activity," 97% of the public agreed with the statement.

### High Level of Participation in Fishing

The survey found that the percentage of the population who are anglers rose from 26% in 1980 to 27.4 percent in 1990. At the same time, the number of hunters fell from 10.2% in 1980 to 9.3% in 1990. Also, the number of males in the population who fished was stable at 37% over the 1980-1990 period, while the number of women anglers rose from 15 to 17.7%.

Regarding fishing participation, 83% of respondents said they had fished when they were children (15 years of age and younger). Of the individuals who said they had not fished as a child, 36% said they had accompanied someone who was fishing. Also, 45% of general population respondents fished in the past two years, and 71% have fished since they turned 16 years of age. Of the active anglers, 65% said they have fished every year during the past 5 years. These anglers said that their level of fishing activity had mostly remained about the same (45%), while 35% reported a decreased level of fishing activity, and 20% an increase in their fishing outings. Active anglers were then asked the number of days they had fished during the past 12 months (1994 survey). Thirty-seven percent fished 1 to 5 days, 15% fished 6 to 10 days, 14% fished 11 to 20 days, 9% fished 21 to 30 days and 16% fished 35 or more days.

### Satisfaction Expressed with Fishing Experience

Active anglers were asked, "Overall, how satisfied were you with your fishing experiences over the past two years?". Seventy-nine percent were satisfied with only 19% being dissatisfied. When asked about their primary reasons for fishing, 33% of the active anglers said they fished primarily for relaxation (up from 14% in a 1980 survey), 25% said they fished to be with family and friends, 18% said they fished for the sport, 13% offered they engaged in the sport to catch fresh fish, 7% said they fished to be close to nature, and 3% mentioned the quest to catch large fish.

### Dissatisfactions of Active Anglers

Among issues that did take away from fishing enjoyment were work obligations (42%), pollution or litter (36%), interference from others while fishing (34%), not enough game fish (25%), not enough access to fishing areas/not enough places to fish (24%), too many anglers (22%), poor behavior of other anglers (21%). Interestingly, issues involving the regulation of fishing did not draw much ire from the active anglers. Only 16% complained about the cost of fishing licenses, with 14% unhappy about the complexity of regulations. Also, 12% felt the creel limits/season lengths were too short, 6% mentioned difficulty in finding a place to buy licenses and 6%

cont. on page 7

complained about the strictness of fishing officers.

### Concern Exists About Angler Lawbreaking

On the subject of angler ethics, 40% of the general population agreed that "a lot of fishermen violate fishing laws," with 39% disagreeing. Of those who responded affirmatively or neutrally to the assertion that many anglers violate fishing laws, 41% said that the laws anglers violate most often are "fishing over creel limits," with 27% saying "catching undersized fish," 15% offering "fishing without a license," 12% mentioned "drinking alcohol," 10% said "catching fish out of season," and 6% said "fishing in restricted areas". Respondents who felt anglers broke laws were then asked, "In general, when an angler violates a fishing law is it because the angler does not know what the law is or do you feel the angler knows what the law is but violates it anyway?" Sixty-four percent felt that the angler knows the laws, but violates them anyway.

From: ASA Bulletin No. 461 Fall 1996

## Federal Fisheries Reform

### Strengthened Act Begins New Era In Fisheries Management

With very little time left in the legislative session, Congress completed passage of major legislation to conserve America's fisheries for the future. As we go to press, the White House has said the President intends to sign the bill reauthorizing the Magnuson Fishery Conservation and Management Act through the end of the century.

Arguably the most important environmental achievement of the 104th Congress, this reauthorization of the Magnuson Act is the fruit of nearly four years of tireless work by thousands of concerned Americans: people who fish for a living and recreation, environmentalists and other interested citizens, the 100 member organizations of the Marine Fish Conservation Network, and dedicated congressional staff and key members of Congress. Having achieved this successful reform of our nation's foremost fisheries law, the Network is closing its doors.

It came down to the final days of the congressional session. After having reported the bill out of committee in May, the Senate passed S. 39, the Sustainable Fisheries Act, on September 19 by a vote of 100 to 0. The unanimous vote obscures the difficulty the Senate had in passing even this popular bipartisan legislation. Not only were small sectors of the fishing industry out to weaken or kill the bill, but during the summer months a filibuster threat from both Washington State senators kept the bill from reaching the Senate floor.

The vote came after many weeks of tense negotiations led by the bill's prime sponsors, Senators Ted Stevens (R-AK) and John Kerry (D-MA). They and their staffs shepherded the bill through.

Despite the differences between S.39 as passed and H.R. 39, which the House passed last fall, 388 to 37, no time remained for an official conference committee to work out the differences. The House was left with little choice but to accept and pass S.39. Otherwise, the session would have ended without reauthorizing the legislation and carrying it over to yet another cycle of Congress. Fortunately, the House did take up the Senate bill and passed it 384 to 30.

The House had set a high standard for federal fisheries reform last fall, and while the Senate procrastinated on final passage largely due to parochial problems, the end result does include many of the same solid conservation provisions as the House bill, as well as others.

While the bill is not perfect, it represents a significant improvement over the status quo and begins a new era in fisheries conservation and management in this country. Although some exceptions have been made for different regions and fisheries, for the first time, conservation of fish has been made the top priority of the Magnuson Act.

The bill contains strong language to address today's most critical fisheries issues. It expressly prohibits overfishing in all U.S. waters from three to 200 miles off our coasts, an area larger than all states west of the Mississippi River combined. It also mandates that depleted populations of fish be brought back to their most productive levels.

The bill also provides the tools to begin to adequately protect essential fish habitat, including fish spawning, breeding, and feeding areas. It sets a goal of reducing bycatch and waste of fish in all U.S. waters, a scandalous problem whereby indiscriminate fishing practices kill and waste more than one billion pounds of fish annually off both the coast of Alaska and in the Gulf of Mexico.

In addition, the Magnuson Act now requires that regional fishery council members, the ones responsible for proper stewardship of the public resource, must disclose any financial conflicts of interest and must forego voting on matters that directly benefit them financially at the expense of others in the fisheries. The bill also calls for long overdue common sense measures, including language to keep track of all fishing vessels through a vessel registration system, to reduce overall fishing vessel capacity, and to increase scientific research to facilitate effective management of our nation's recreationally and commercially valuable fisheries.

Keeping the pressure on Congress from the grassroots and media for such an extended time was challenging. But the groundswell of public pressure never relented. Everyone who helped deserves great credit for getting this done. Never before has the American public become so involved in conservation of marine fisheries. The Network would like to thank each one of you who took the time to write, call, fax, email, or visit your congressional representatives over the past few years, particularly those who responded to our seemingly endless requests to constituents to voice their concerns on this critical issue. *Your incredible persistence has paid off!*

Thanks also to the media for their increasingly good coverage of fisheries issues. The number of articles and editorials from local and national papers from coast to coast played an important role in developing and sustaining interest in fisheries reform with the public and in the Congress.

Magnuson reauthorization has historically fallen victim to parochial squabbling with favors and exemptions carved out of the legislation for corporate special interests and others with direct access to Congressional leaders. In this reauthorization, for the first time since original enactment, the debate was elevated to one of national policy and stewardship of the public's ocean resources.

This time around the knives were sharper but the slices they carved were thinner. Overall, very strong national conservation provisions were enacted. Now it is up to Congress and the American public to remain vigilant to ensure that the regional councils and Secretary of Commerce through the National Marine Fisheries Service properly implement this greatly improved Magnuson Act, our nation's major fisheries law. Their task remains formidable but the new law provides the overall directives they will need to put our priceless fisheries onto a sustainable path into the 21st century.

From Network News: October 1996

### Alternative Method . . . continued from page 5

Advantages of this method are: 1) the fish is rapidly recompressed which immediately reverses the gas expansion; 2) the fish does not have to swim to the bottom because of the attached weight; 3) the speed of the descent reduces the time of exposure to midwater predators; 4) the small hole through the lip is much less trauma than a puncture wound to the air bladder and body cavity; 5) there is less risk of infection; and 6) the method is simple to use and requires less knowledge by fishermen.

This is a great example of not having to rediscover the wheel and learning from our overseas colleagues. Jim\_Bohnsack@noaa.gov.

From: The South Atlantic Update September, 1996

**Alaska, Northern**

Steven K. Davis  
LGL Research Associates, Inc.  
4175 Tudor Centre Dr. #101  
Anchorage, AK 99508

**Alaska, Southeast**

Malin M. Babcock  
11305 Glacier Highway  
Juneau, AK 99801-8626

**Atlantic Maritime**

Vacant

**Arizona - New Mexico**

G. Morris Southward  
Department of Experimental Statistics  
New Mexico State University  
Box 3130  
Las Cruces, New Mexico 88003

**California, Northern**

Daniel F. Howard  
SW Fisheries Sci. Ctr., Tiburon Lab  
3150 Paradise Drive  
Tiburon, CA 94920

**California, Southern**

John L. Butler  
5194 Galt Way  
San Diego, CA 92117

**District Directors****Capital**

Frank M. Panek  
National Park Service  
4401 N. Fairfax Dr., RM 810-D  
MD-820 ARLSQ  
Arlington, VA 22203

**Carolina**

Douglas S. Vaughan  
214 Shell Landing Road  
Beaufort, NC 28516

**Florida**

Vacant

**Great Lakes, South Central**

Dora R. Passino-Reader  
National Fish. Center  
1451 Green Road  
Ann Arbor, MI 48105-2897

**Gulf of Mexico, Northeast**

Vacant

**Keystone**

Barbara E. Warkentine  
1329 Balcom Avenue  
Bronx, NY 10461

**New England**

John B. Pearce  
Northeast Fisheries Center  
166 Water Street  
Woods Hole, MA 02543-1097

**Oregon-SW Washington**

John F. Palmisano  
1990 NW 156th Avenue  
Beaverton, OR 97006-5307

**Texas**

David R. Sager  
Texas Parks & Wildlife Dept.  
4200 Smith School Rd.  
Austin, TX 78744

**Washington, NW**

Robert Donnelley  
200 Fish Ctr. WHIO, U. of Wash.  
Seattle, WA 98195

**BRIEFS**, the newsletter of the American Institute of Fishery Research Biologists, is published six times a year. It is intended to communicate the professional activities and accomplishments of the Institute, its District, and Members; the results of research; the effects of management; unusual biological events; matters affecting the profession; political problems; and other matters of importance to the fishery community. Comments and contributions should be sent to the Editor, Dr. Gene R. Huntsman, 205 Blades Road, Havelock NC 28532. Subscription \$20 a year to Institutions and Non-Members. Officers-Clark Hubbs, University of Texas, Department of Zoology, Austin, TX 78712, President; Barbara Warkentine, 1329 Balcom Ave., Bronx, NY 10461, Secretary; Joseph Rachlin, Lehman College Bio., Bedford Park Blvd. West, Bronx, New York 10468, Treasurer.  
ISSN-8755-0075

FIRST CLASS

*American Institute of Fishery  
Research Biologists*  
c/o Joseph Rachlin  
Lehman College, Biology  
Bedford Park Boulevard West  
Bronx, NY 10468-1589  
Address Correction Requested

Dr. William H. Bayliff  
IATTC, Scripps Inst. Oceanog.  
8604 La Jolla Shores Drive  
La Jolla, CA  
92037-1508