



# THE TRIBUTARY

A Newsletter of the Western Division,  
American Fisheries Society



*American Fisheries Society*  
*Western Division*

Volume 13, No. 2/May 1988

## THE PRESIDENT'S CORNER

INFLUENCE WDAFS AFFAIRS, CAST YOUR BALLOT! If I could say at the end of my year as President that I have convinced you that your input was important and your vote really counted it would be enough to call my effort a roaring success. Will you help me say that? Eighty-one percent of you are following around the 19 percent who voted for WDAFS officers in the last election. That appears to mean only one in five of you have the right to complain about anything we do in AFS and WDAFS. That includes: how we spend your dues; how we represent you and your profession; what we say on your behalf concerning fisheries-related issues; and whether we hear your chapter voice or just ignore your input. My, but you are a trusting lot! Are your WDAFS leaders hearing a smashing mandate in support of their leadership, or did you just forget to send us your message at last election time? Let's work this time to get that vote up to at least 50 percent. It takes a little effort from your elected and appointed leaders to keep this machine humming along. Give them some support and let them feel you are behind them and interested in what they do and say on your behalf. Your vote is a strong message that you are interested and appreciative of their efforts. Your failure to vote also transmits a

message. It is not my intent to offend the 81 percent of you that did not vote last year—but I hope my message is clear.

The AFS Mid-Year Meeting (and first ever National Retreat) of the parent Excom is

now history. The WDAFS had a stronger contingent of officers than probably any other Division has ever had for a national meeting. I want to commend the chapters who made the effort to have their Presidents attend. They were vocal and supportive of your needs. Seattle put on her best show for weather, the facilities were excellent and Don Martin and Don Chase outdid themselves with outstanding preparations for the Retreat and Arrangements, respectively. The issue of a chapter dues rebate of \$2.00 to \$3.00 was reintroduced by WDAFS and was by far the most controversial issue on the business agenda. After considerable debate and some backroom arm-twisting by all the WDAFS players (especially the chapter presidents who came to my rescue) it was passed in concept. The mechanics of implementation will be worked out at the September national meeting in Toronto. It looks like chapter treasuries will be enhanced annually by a few hundred to more than a thousand dollars (depending on the number of AFS members in your chapter).

**CHECK AND MAIL  
YOUR BALLOT AND MAKE  
AFS YOUR PROFESSIONAL  
ORGANIZATION**

**The Tributary** is distributed to 2700 WDAFS members and exists as a forum to present fisheries-related information. As the editor, I cannot accomplish this goal unless YOU participate! Deadlines for submission of articles for **The Tributary** are November 15 (for the December issue) and April 15 (for the May issue). Discussions are underway to possibly expand publishing to three or four issues per year. If you have information you would like included in **The Tributary**, send it to:

**ROGER W. OVINK, TRIBUTARY EDITOR**

P.O. Box 428  
Corvallis, Oregon 97339

Time for your non-member friends to become AFS members and add their talents and leadership to the Society and its various subunits. There's plenty for all to do. Chapters making the effort will receive the rewards.

This is my last chance to address you via the Tributary and I have some strong feelings of appreciation to share. First I want to thank YOU. Not him or her—but YOU, the source of enthusiasm, leadership and energy giving AFS a strong and influential voice in protecting and improving aquatic resources. YOU who join with others to share common interests and build strong chapters which in turn produce a strong Divisional voice to guide AFS toward its great potential as an effective voice for our fishery resources. I also want to express sincere appreciation on behalf of your WDAFS officers for your hospitality as we attended your chapter meetings and were made to feel like members of your home team. I do have a selfish complaint however: you could have let me win a raffle prize or two!

Nearly all of your chapters are moving toward resolving the Non-Member/Member issue by registering non-AFS members as guests and charging them appropriately to help share the costs of AFS. This practice is a pleasure for me to report and a joy to President Stan Moberly who will be known as one of the strongest Presidents AFS will see. Stan is a strong supporter of the real meaning of the word "professional" and struggles to understand those who profess to be fisheries professionals but who do not support AFS by their participation and membership.

If it were possible to cover in a brief newsletter I would like to share with you all the great things in which AFS is involved. I would tell you about the strength and vitality I have seen as I visited your chapters and participated in your business and technical sessions. I would share with you the exciting thoughts, ideas, plans and activities I have been privileged to share with chapter members. It boggles the mind to think how much additional influence we will have concerning aquatic resource issues when we get all of you excited enough to climb in up to your necks and get the AFS machine humming on all 16 cylinders. But alas, the space already runs short so the remainder of the story will have to be told through other means.

There is one last thought I would like to share with you (now that I am widely traveled and have partaken of the wisdom of numerous chapters, subunits and AFS leaders). Our current professional need is to become biopoliticians. Our challenge is understanding

how to tell (and sell) our story. We must effectively use the information available to us to successfully manage and improve the aquatic resources under our stewardship. In accomplishing this we will ensure that our children (and, now I must say, grandchildren) have the aquatic resources available to them that once captured our curiosity and lured us to the professional pursuits that join us through AFS.

Fisheries folks are the greatest. It has been (and will continue to be until September) my privilege and pleasure to serve you and share with you the wet and wonderful world of WDAFS and AFS. Go For It!!

Al Mills

## **SOCIETY NEWS**

### **RIPARIAN EXCELLENCE**

WDAFS's Riparian Excellence Award is being actively sought by nearly 150 applicants from a variety of subunits of the U.S. Forest Service and the Bureau of Land Management. The inquiries and submissions have been fantastic and the closing date on late arrivals was April 1, no fooling. The AFS and the Western Division are quite thankful to the literally hundreds of individuals who took the time and effort to participate in the application process, but most of all for the fact of knowing that good folks are out there doing good "on the ground" work in riparian management.

The Committee's review and evaluations will be completed by the end of May. The most note worthy examples of excellence in riparian management from within both the BLM and the Forest Service will be announced at the joint 1988 WDAFS/WAFWA Annual Meeting in July.

### **JOURNAL COSTS / TURN-AROUND**

In spring 1987, a sample Society of subscribers and nonsubscribers of the Journal were mailed a survey. The primary purpose of the survey was to determine if readers felt that the current turn around time (14-18 months from submission to publication) was acceptable and if not, would they be willing to pay an additional \$5 U.S. to increase the number of issues from 4 to 6 per year.

Results of the survey showed that most of the active members appear satisfied with the content of the Journal and the quality of the papers. They feel that turn around time is too long and 2/3 are willing to pay an additional \$5 to reduce turn around time.

## AFS MEMBERSHIP

Estimates are that just under half of America's fisheries science professionals are members of AFS and we maintain and sustain a slowly succeeding effort to increase that percentage. A recent newsletter editorial from the American Institute of Professional Geologists reports that they have only about 7 percent of professional geologists as members and questions the organizations ability to speak for all geologists in professional affairs.

Canadians represent seven percent of AFS individual memberships. The 522 Canadians come from the following provinces and territories:

Alberta	47	Northwest Territory	1
B.C.	137	Nova Scotia	19
Manitoba	22	Ontario	180
New Brunswick	35	Prince Edward Isl.	3
Newfoundland	12	Quebec	46
Saskatchewan	20	Yukon	0

## MORE MANUSCRIPTS PLEASE

Production of AFS journals is being delayed because the publications rate has outstripped the flow of manuscripts. *The Progressive Fish-Culturist* currently is two months behind schedule, *North American Journal of Fisheries Management* is three months behind, and *Transactions* is seven months behind. Manuscript submissions to the *Transactions* are down. Submissions to the other two journals are stable, but the larger issues of recent years have accommodated all available manuscripts. Manuscript backlogs have been eliminated for all three journals, and publication now can occur in less than a year from manuscript submission if authors revise their manuscripts quickly after peer review. Please advise your colleagues that our editors want more good manuscripts immediately. If you know of authors who are "sitting on" their revisions, urge them on to rapid publication.

## INTERNATIONAL FISHERIES

The International Fisheries Section (IFS) was officially formed at the 117th Annual AFS Meeting in Winston Salem, North Carolina, September, 1987. Some of the activities we have initiated to date include:

- 1991 World Fisheries Congress (WFC)
- International Directory
- Scientist Award
- Workshops

Because international fisheries affairs are relevant to all aspects of fisheries, every AFS section should be

represented in the IFS. Participation in the IFS of all AFS members is strongly encouraged. We can learn a great deal from other countries, and we can help other countries solve their fisheries-related problems. To join the International Fisheries Section, please send \$5.00 for Section dues to AFS, 5410 Grosvenor Lane, Bethesda, Maryland 20814-2199.

**Dr. Tapan Banerjee**  
President, IFS

## ELECTION TIME - PLEASE VOTE

HOLD IT!!! Don't move another muscle, touch that dial or even blink an eye. NOW, very carefully—get out your sticky note pad and in LARGE letters write three times, VOTE! VOTE! VOTE! Next, tear off the page, take the sticky part and paste it on your forehead. It will now be constantly on your mind and all those you meet will help you remember to vote. In case you couldn't tell it's WDAFS election time. Past President Martin and his capable Nomination Committee have carefully lined up the enclosed slate of candidates. You will find your own personal ballot enclosed. Please take the time now while thinking of it, fill out the ballot, affix a stamp (\$.25) and send it along. As a wise sage expressed it in the last Tributary, "If it's valuable enough for you to be a member of AFS, it's valuable enough for you to participate in its leadership and success." Thank you for your support!

**Al Mills, President WDAFS**

## HELP

As many of you know, the ADAFS and WAFWA are partners for the annual meetings. Well, our partner needs some help with the current whereabouts of some of their honorary members. If you know any of the folks on the following list, please contact Sandra J. Wolfe, 1416 9th Street, Sacramento, CA 95814.

Thanks!

1935	Col. Arthur Foran - Washington, D.C.
	Carl D. Shoemaker - Washington, D.C.
	David Madsen - Salt Lake City, Utah
	Mrs. Harold Peck
	William J. Tucker - Austin, Texas
	Fred J. Foster - Seattle, Washington
	E.H. Smith - Colorado
1952	William Carpenter - Butte, Montana
1953	Virgil Bennington - Walla Walla, Wash.
	Elliott Barker - Santa Fe, New Mexico
1957	Lester Bagley - Afton, Wyoming
1959	Seth Gordon - Sacramento, California
	Fred Faver - Buckeye, Arizona
1962	Frank Butler - Vancouver, B.C.
1967	Wayne E. Krich - Las Vegas, Nevada
	Ben Glading - Sacramento, California

- 1969 Phillip W. Schneider - Portland, Oregon
- 1970 Walter Shannon - California  
John Biggs - Washington
- 1971 Cleland Feast - Denver, Colorado  
Tom Kimball - Washington, D.C.  
John R. Woodworth - Boise, Idaho
- 1972 Ross Leonard - Washington, D.C.  
Edward Macaulay - California  
Robert J. Smith - Washington, D.C.  
Walter J. Everin - Montana  
Frank H. Dunkle - Montana
- 1973 Harry Woodward - Colorado  
Frank Groves - Nevada
- 1975 R. Withers Cool - Colorado  
G. Ray Arnett - California
- 1976 Carl Crouse - Washington  
R.J. "Rocky" Holmes - Twin Falls, Idaho
- 1977 John W. McKeari - Oregon  
John E. "Bud" Phelps - Utah  
Arthur S. Coffin - Washington
- 1978 Ladd S. Gordon - New Mexico  
Homer C. Pickens - New Mexico  
Fred A. Thompson - New Mexico  
James B. White - Wyoming
- 1981 Glen Griffith - Nevada  
Robert A. Jantzen - Arizona  
Allan L. Kelly - Oregon
- 1982 Joseph C. Greenley - Nevada  
Earl Thomas - Wyoming  
Kenji Ego - Hawaii  
Michio Takata - Hawaii
- 1983 Ronald O. Skoog - Alaska  
E. Charles Fullerton - California
- 1984 Douglas F. Day - Utah  
Jack Grieb - Colorado  
Donald J. Robinson - British Columbia  
Robert L. Salter - Idaho
- 1985 Jean K Tool - Colorado  
Frank Lockard - Washington
- 1986 Don Dexter - Wyoming
- 1987 Spencer Hegstad - Montana  
Dr. John Donaldson - Oregon  
Bud Bristow - Arizona

### ACHIEVEMENT AWARDS

AFS is negotiating with EPA to assist them in a program of annual Scientific and Technical Achievement Awards. If the plan goes forward, AFS will assist in identifying and rewarding outstanding contributions by professionals in the area of aquatic environmental sciences. Awards would be presented at the AFS annual meetings, possibly beginning in 1988. Similar cooperative awards are contemplated for other societies such as the Wildlife Society, Society of Environmental Toxicology, etc.

### FISH USE GUIDELINES

The "Guidelines for Use of Fish in Field Research" have been approved by the AFS Special committee and by AFS officers. Such approval was an Ex:com condition before AFS would endorse the new guidelines. They will soon be published in *Copeia* as a

product of ASIH, AFS and AIFRB. The guidelines have already been published in *Fisheries* with a preface explaining their development and limits. Dr. John Nickum headed this effort for AFS, working very closely with ASIH President (and active AFS member) Dr. Clark Hubbs. Hubbs and Nickum have earned many plaudits for their patient and methodical efforts.

### ADVANCE SALE - WDAFS FISH PINS

The WDAFS will be selling beautifully hand-crafted fish pins at the 1988 WDAFS Annual Meeting in Albuquerque. The pins are about 1.5 inch in diameter and will come in three styles depicting a bass, a cutthroat trout and a chinook salmon, each vividly portrayed in its natural color and accented with a colorful background setting. The pins were designed and made for the WDAFS by Wm. Spear Design of Juneau, Alaska, a company famous for quality and artistic detail. The pins will most certainly become a collector's item.

The pins will be sold with a MONEY BACK GUARANTEE (because we are certain of your satisfaction) for \$10.00 each at the WDAFS meeting. However, the WDAFS is offering an advance sale of the pins at a 20 percent reduction in price, or \$8.00 per pin. These special prices are in effect only until the beginning of the WDAFS Annual Meeting (July 10, 1988) so ORDER YOUR PIN(S) NOW!!! Complete the order blank below and send payment with your WDAFS meeting pre-registration materials. By purchasing (and wearing) these pins you're not only helping the WDAFS financially, you're also showing support for the AFS.

Name: _____	
Address: _____	
Number of pins requested:	Cutthroat ( )
	Chinook ( )
	Bass ( )
	Total pins ordered ( )
Cost: ( ) @ \$8.00 each = \$ _____	

▶▶▶ Please make checks payable to the Western Division of the American Fisheries Society. Return payment with WDAFS Meeting Registration Forms.

## WANTED - NEW MEMBERS

Your active membership and your pride in the society have made it what is today, a powerful and active force in fishery related conservation issues. Although the Western Division membership is large and active, approximately 50 percent of the fishery workers in the west are non-members. We are all acquainted with non-members and it is our responsibility to invite them to join AFS and share the pride of membership.

Some non-members will immediately ask, "What will AFS do for me?" AFS cannot benefit fishery professionals unless they actively participate in the society. AFS provides current technical information through Transactions, The North American Journal of Fishery Management, Progressive Fish Culturist, many special publications (including the new symposia series), and Fisheries. AFS also has sections for special interests such as fish culture, fish management, computer users and many others. Environmental issues are also of concern to the Society. The combined voice of 7,000 members carries far more clout than a few isolated individuals. The Society has begun to be more active in environmental affairs and this trend will continue to escalate. Members interested enough to be involved can make a real difference.

By now you have probably received information about the PRO Club from Joe Dillard, First Vice-President and Membership Chairman. This is a great incentive program, but the Western Division is going one step further. Those of you who are successful in signing up new members will receive the new Western Division ceramic clutch pin (see preceding article for pin description). You will receive one pin for one new member, two pins for three new members, and all three pins for signing up six people. Go for the Grand Slam!

This offer is open to Western Division members only, and only Western Division new members will count toward the pins. To receive your pin (or pins) send your name and address and the name of your new members to Pat Dwyer c/o USFWS, 4050 Bridger Canyon Road, Bozeman, Montana 59715. If you need AFS brochures or applications, call 406/587-9265.

**Pat Dwyer, Vice-President WDAFS**

## UPCOMING CUTTHROAT PUBLICATION

An agreement between AFS and USFS has been signed for printing and distributing the Western Division's cutthroat trout publication. The forest service is providing financial support. Project completion is set for September 30, 1988

## FISHERIES LAW

Efforts to form an AFS Fisheries Law Section are encouraging. If you are a biologist/attorney or know one who might be interested, write Winston Barkowski, Esq., Owens & Storch, 926 South Ridgewood Avenue, Daytona Beach, Florida 32014. AFS members who are not lawyers, but still interested in fisheries law are also encouraged to write. Such a Section would perform a valuable service to the Society and its members.

## DID YOU KNOW?

The Montana chapter bylaws read "The Membership of the Chapter shall be composed of those AFS members in good standing residing in, working in, or having a professional interest in the State of Montana." A similar membership provision is part of several other Western Division chapters. Chapter officers please note: achieving such a change in membership criteria can strengthen your Chapter and the Society. It can also make it easy for you to keep track of your membership by getting periodic printouts from the central office.

## GOOD NEWS !

From Southern Division Secretary/Treasurer Susan Shipman comes the following note: "At our recent Executive Committee meeting in Mobile, Alabama, the Southern Division AFS Excom voted to accept the challenge of the Western Division to contribute to the J. Frances Allen Scholarship Fund. ... I am transmitting the Southern Division's contribution of \$500 to this scholarship fund for female doctoral students. We hope other Divisions will meet the Western Division challenge."

## CARP

The AFS *Carp in North America* book recently sent to 1500 outdoor writers is stimulating wide interest. AFS sent along a personalized cover letter asking the writers' assistance in "turning Americans on to carp." AFS is receiving a great many calls and news clippings, and orders for the book are very encouraging. The many AFS members who served on the Carp Committee and participated in the preparation of the book should be proud of a job well done. Copies are available at \$10 each from AFS headquarters.

**CORRECTION:** Due to an error in volume and edition numbering, the last issue of The Tributary was incorrectly numbered. The last issue should have read Volume 13, No. 1. The numbering for this issue is correct as it stands. The editor regrets any confusion this error may have caused.

## **THIS AND THAT AROUND THE WEST**

### **OREGON CHINOOK**

As a current television ad says, "It just doesn't get any better than this." That's the way the Oregon Department of Fish and Wildlife is talking about chinook salmon this year.

Record-breaking ocean harvests and strong chinook returns to inland waters have biologists calling 1987 "The Year of the Chinook."

"I'm very pleased and a little bit surprised about the tremendous chinook production we have seen this year," says Oregon Department of Fisheries, Chief Harry Wagner. "Good things are happening just about everywhere we look, and prospects for next year appear excellent as well."

Wagner has good reason to be happy. So do a lot of commercial and sport fishermen. Some highlights include:

- Record chinook catches for ocean commercial salmon trollers off Oregon
- Record chinook catches for ocean sport anglers
- Outstanding recovery of fall chinook returns to the Columbia River
- Record sport chinook catches on the lower Columbia
- Excellent fall, lower Columbia commercial salmon gillnet fishery
- Good prospects for sport chinook fisheries in Oregon's coastal bays, including fish weighing more than 60 pounds
- Excellent in-river spring chinook returns on the Willamette, Rogue, and Umpqua rivers
- Strong fall chinook returns on the Rogue River

Wagner attributes this strong showing to excellent ocean survival, reduced harvests off Alaska and Canada, hatchery production improvements and expansion and improved downstream smolt passage at dams.

### **FISHING / BOATING EQUITY**

Maintaining equity between fishing and boating interests in Wallop-Breaux fundings was the goal of a March 1 meeting of ALAB (American League of Anglers and Boaters). Even though fishing and boating groups have agreed that the first \$60 million of marine fuel tax collections should be used for boating access and safety, ALAB has not been successful in persuading Congress to allocate it accordingly. Any part of the \$60 million which does not get used for boating "rolls over" into the sport fish enhancement fund. Though ALAB is delighted with the additional

\$15 million fish restoration dollars annually, they remain irrevocably committed to finding a way to have those dollars spent for boating purposes.

### **MORE OREGON FISH**

Oregon's fishermen harvested 139 million pounds of fish last year, worth a record \$94.1 million. The value of the catch has tripled since 1984, when it was \$34 million, according to Chris Carter, Department of Fish and Wildlife staff economist. The 1987 catch has an economic impact of \$325 million to the state, according to Hans Radtke and William Jensen of the West Coast Fisheries Development Foundation.

Radtke said although the fishing industry provides only about 1 percent of total Oregon earned income, it accounts for about 14 percent of coastal earned income. For Newport and Astoria, that percentage is about one-quarter of all community earned income. Radtke added that Astoria led the state last year in the value of fish landed at its docks, \$35.5 million. Newport had the second highest catch, valued at \$24 million.

### **MARINE MORTALITIES**

Marine debris, primarily plastic products, has become a problem. Plastic debris is ingested by or entangles birds and mammals causing mortality. Debris also gets caught in propellers and fishing nets. It's also unsightly washing up on the beach. The issue has been identified at the national level with the introduction of legislation (HR 2527) to require EPA to identify which of these plastic products could be made of biodegradable materials. It also requests the development of regulations requiring substitution of plastic products with the biodegradable substitute.

An "Entanglement Network Coalition" (NEC) has been formed, involving 24 organizations with a common goal of reducing marine life fatalities. Contact Kathy O'Hara for details at 202/429-5609.

### **GOOD IDEA!**

Signs using the official Sport Fish restoration (Wallop-Breaux) logo should be prominently located at all Sport Fish Restoration projects according to a North Central Division resolution passed at their recent annual meeting. Such signs tell the public where their tackle taxes are being used and are necessary for public support of Wallop-Breaux reauthorization.

## THE VOICE OF REASON

Conflicts frequently arise between biologists representing different interests relative to allocation of aquatic resources. In the classic situation, it is the state agency biologist protecting the "resource" against degradation from developers. The developers usually are represented by in-house or consulting biologists. Some agency biologists believe that developers' biologists have forsaken the "resource" in exchange for either a job or fees erroneously equated with profits. Some developers' biologists may view the agency biologists as simply representing another special interest group, tacitly resisting apportionment of the resource even though such sharing may not only be permitted by law, but also promoted through tax and other incentives. The conflict will be with us for years to come because it is socially mandated and institutionalized.

Resource allocation issues usually focus on differences in perceptions between special interest groups concerning impacts to resources. Each group needs to realize that the differences and resulting conflicts are part of our societal system. It is the responsibility of each group to put forth its position in the most persuasive and effective manner while producing lucid, well-researched technical briefs that carry the position argument. This will ease decisions made on emotions and misperceptions and could enhance easier and "right" decisions based on facts.

**Rick Cardwell**

## MARINE REFUSE

The United States National Marine Fisheries Service has provided \$97,000 to the Port of Newport, Oregon. The Port is conducting a one-year pilot Marine Refuse Disposal Project. The Project, according to Project Coordinator Fran Recht, has three primary goals: 1) Provide fishermen with convenient refuse disposal, 2) increase mariner awareness of the debris problem, and 3) report progress, problems, and results so that other ports can benefit from project experiences.

The Project, in operation since February 1987, has involved fishermen and other community members in development of the refuse disposal system and in the awareness building campaign. These efforts have been successful in encouraging mariners to dispose of their non-degradable refuse at dock-side. Though other ports may face different situations, some characteristics of the Newport experiment may be used as a model to other onshore refuse disposal systems.

The Port of Newport has been able to expand its

services to meet the refuse disposal needs of its fishermen, without increasing the costs for these services. By providing separate areas for the disposal of various types of unwanted items, the Port has an expanded plastics handling capacity, encouraged the recycling and reuse of items, provided a complete service to its fishermen, and minimized the cost of waste disposal. The facilities are located in convenient areas, are of simple and low cost design, and are visible and clearly labeled. In addition to the containers for plastics and other garbage, areas are specifically provided for nets, line, cable, metal, wood, cardboard, and oil. For further information contact: Fran Recht, Port of Newport, Marine Refuse Disposal Project, Newport, Oregon 97365.

## FLATHEAD WATER QUALITY OBJECTIVES

Concerns relative to proposed developments in the Canadian portion of the Flathead River basin have led to management efforts to conserve Canadian interests while minimizing the potential for disputes over water quality in the basin. The Flathead River headwaters are in the southeastern corner of B.C.; the river then crosses the International Boundary, eventually reaches Flathead Lake in Montana, and ultimately joins the Columbia River System.

Management would be facilitated by defining water quality objectives. Water quality objectives require a basis in criteria for specified water uses, e.g., the site-specific water quality requirements to support agreed-to water uses.

Nitrogen chemistry in the aquatic environment is determined by the major nitrogen cycling processes including ammonification, direct assimilation, nitrification, and denitrification. A number of physical, chemical, and biological factors modify the nitrogen cycling processes in streams and rivers. Thus the relative proportions of various highly toxic and less toxic compounds of nitrogen will vary in a site-specific manner. Further, the particular species of fish present in the system, as well as their life stage and state of stress from interacting environmental factors, modify the toxicity of these compounds in a site-specific manner. These water quality and biotic factors were taken into consideration and used with laboratory toxicology information in development of site-specific water quality criteria for nitrate, nitrite and ammonia for the Flathead River basin.

For more information or a free report contact: Don MacDonald 604/666-8003.

## USFS PLANNING

Forest Service progress in fish and wildlife matters was the subject of a February 20 briefing in the Chief's office. Approximately two dozen conservation organization representatives heard Forest Service Chief Dale Robertson and Fish and Wildlife Head Bob Nelson express their determination to give real, "on-the-ground" substance to fish and wildlife planning. There was recognition that Forest Service regional supervisors hold the key to true multiple resource management, and Region 9 supervisor "Butch" Marita was singled out for getting his region off to a fast and productive start.

## COOPERATIVE RESTORATION

An historic partnership was formed last December between Trout Unlimited (TU) and the U.S. Forest Service (USFS) to help anglers catch more trout and salmon. This agreement between TU, a non-profit conservation organization of more than 50,000 volunteer fishing enthusiasts, and the USFS, will develop joint trout and salmon habitat improvement projects in our Nation's national forests. The USFS manages 128,000 miles of streams plus 2.2 million acres of lakes and reservoirs as well as 16,500 miles of coastline, comprising 50 percent of the trout and salmon habitat in the U.S.

As one highlight, the memorandum of understanding directs the 465 TU chapters in the U.S. to meet with USFS regional personnel to agree on guidelines for initial projects. Joint trout habitat projects will benefit from TU volunteered labor and funds.

For its part, the USFS will make national forests available for the projects, provide technical leadership, and assume project operation, maintenance and other management costs upon completion of projects.

For more information, contact: Robert L. Herbst, Executive Director, Trout Unlimited, 501 Church Street, N.E., Vienna, Virginia 22180, 703/281-1100.

## MORE COOPERATIVE RESTORATION

A cooperative program to create and restore fisheries habitat is being explored by the Corps of Engineers and the National Marine Fisheries Service. Major General R.J. Hatch has written AFS about the Pilot Study and has stated further, "One of the most significant accomplishments to this point has been the opening of the lines of communications between the two agencies. Both agencies have high hopes for successful and productive Pilot Study results."

## SALMONID IDENTIFICATION

A cooperative agreement between the Bonneville Power Administration and the National Marine Fisheries Service was initiated in 1983 to evaluate the technical and biological feasibility of adapting a new identification system for salmonids. The system is based on a passive integrated transponder (PIT) tag. The tag's operational life is unknown at this time; however, it is thought to be ten or more years. The tag can be detected and decoded in situ eliminating the need to handle fish during data retrieval.

Tests have shown that the PIT tag did not adversely affect growth or survival, nor was there any appreciable host tissue response. No evidence of infection due to tagging procedures was observed. Swimchamber tests showed no significant effect of the PIT tag on respiratory rate, tail beat frequency, stamina, or post fatigue survival of juvenile salmonids. Tag retention within the body cavity was near 100 percent for salmonids weighing from 2 to 10,000 g. Previously PIT tagged mature salmonids which were hand stripped of sperm and eggs showed high tag retention with no adverse effects.

During outmigration, PIT tagged juvenile salmonids were successfully interrogated using automatic tag monitoring equipment at dams. All data were automatically recorded and stored on computer and hard copy. PIT tag reading efficiency was 96 to 100 percent, while reading accuracy was over 99 percent. The tag monitoring equipment proved to be reliable under field conditions. For more information call Earl Prentice 206/842-7181

## A GOOD POINT...

The (recreational) value of a fish is directly related to the expectations of the angler. In other words, "trash fish" aren't. There is a long-fostered (almost natural) traditional belief that the only "real" recreational fisheries are those that target on high-profile, popularized species.

Evaluations of "traditional" recreational fisheries in our country currently place significant emphasis on esthetics, success rates, monetary expenditures, and other factors that can easily imply that the highest priority recreational fisheries have productive catches of high profile species. The unfortunate corollary is that those fishery situations that do not meet these standards are unproductive and it can be (and often is) completely lost that the quality or value of a recreational fishery is directly aligned to the anglers expectations.

For example, it is common for species that have

received little, if any, previous recreational fishery utilization to dominate the catches of recreational fisheries in marine waters. This is currently the situation in pier fishing in Washington, where Pacific hake (*Merluccius productus*) and squid (*Loligo opalescens*) form transient fishery resources that are seasonally aggregated to the pier lights and far exceed any other species in the catch, in both numbers and weight, as well as attracting the majority of the angling effort.

We must take care not to view, evaluate, or manage recreational fishing from just the "traditional" set of standards.

**Raymond Buckley**

## **BRAVO!**

A resolution in support of staff participation in the American Fisheries Society and The Wildlife Society was recently signed by BLM, USFS, and BOR administrators in the Southwest. The resolution states: "Now, therefore, be it resolved that the Lower Colorado Regional Office of the Bureau of Reclamation, the Southwestern Region of the U.S. Forest Service, and the Arizona State Office of the Bureau of Land Management do hereby support the Arizona Chapter of The Wildlife Society and the American Fisheries Society by: (1) Encouraging their respective professional fish and wildlife personnel to engage themselves as active members of the societies; (2) Encouraging their respective personnel to attend meetings and workshops of the societies and providing transportation and travel expenses when feasible; (3) Providing assistance for the publication of abstracts from proceedings of annual meetings; (4) Providing an agency liaison to meet with the executive boards of the respective Chapters for annual planning sessions."

## **SUSPENDED SEDIMENT MODEL**

Suspended sediment is an important consideration for water quality in freshwater systems. Activities that increase the availability of inorganic sediment to stream systems can result in elevated levels of suspended sediment.

Unfortunately, the effects of suspended sediment on aquatic biota are not easily predicted, and pre-development environmental impact assessments are difficult. In an attempt to improve predictive ability, Don MacDonald and Chuck Newcombe have reviewed much of the available literature and extracted relevant information. Regression analyses of the resultant data indicate that suspended sediment effects are poorly correlated with concentration alone. Analysis of the

data using intensity of the pollution episode (concentration times duration of exposure) yielded better results.

Don and Chuck want to expand this data base and calibrate a suspended sediment model currently being developed. If you have any information on the effects of inorganic sediment on fish and aquatic life (concentration, duration, and effect), please contact Don MacDonald, Water Quality Branch, Environment Canada, 604/666-8003.

## **SOUTHERN ACTION PLAN**

A fisheries action plan for the USFS Southern Region has reached our attention. It features their "Rise to the Future" cover art and in his preface, regional forester John Alcock writes: "Today there are an estimated 60 million American men, women and children who spend \$28 billion annually in their pursuit of a high quality fishing experience. Sport fishing is now the second most important form of recreation in America and the demand for quality streams and lakes on our national forests is increasing significantly. The Southern Region, with its vast network of streams and thousands of acres of lakes and reservoirs plays an important role in providing the American public quality water, aquatic habitat, and high quality fishing experiences. Therefore, it is necessary that we develop a strong, well balanced fishery program that will ensure the public we are committed to protecting, restoring and improving fisheries habitat and fishing opportunities in our national forests."

## **SALT LICK SOLUTION**

The gnashing of teeth of aquatic biologists can often be heard throughout the west, as they come upon some streamside site, trampled to smithereens by livestock, due to a salt block dropped off along the creek. In due and just consideration of all the future toothless aquatic annuitants who will, in time, be forced to gum their tuna sandwiches, we conducted an ad hoc survey to find the reason for this situation. The answer? It says on the label to "put this salt block near a water source." Eureka!

The Idaho Chapter's Riparian Committee members are working on the prospects of modifying the instructions on Salt Block labels to include "Best Management Practices" endorsed by the AFS and other professional groups such as the Society for Range Management.

Salt can be a useful tool in riparian grazing management practices, and this group is attempting to

use this fact, plus a little public relations work, toward improving the distribution and management of salt on our western riparian systems. Their goal is to develop a special label affixed to each salt block recommending improved management practices for placing salt off the creek and using it as a management tool.

We are all licking our chops to see what the Idaho group comes up with on this one! This could really make a difference over large areas throughout the west.

## RIPARIANS

Dan Guthrie and Alan Thomas are collecting an informative assemblage of riparian case history slide programs, videos, and special reports which, along with the reference system developed by Paul Turner, will provide the basis for an extensive network upon which to draw for assistance or referrals. If you or anyone you may know should have a good case history program, please send a copy to Dan or Al. If you know of persons needing riparian management assistance, please refer them to the WD Riparian Reference Library at Dan's address. To help promote these services, a listing of materials available should be coming out in the future.

As an example, a recent inquiry was received from the Iowa Department of Transportation—Bridge Design Department. It seems that throughout western Iowa, the stream channels are downcutting and undermining the footings of bridge crossings. After exhaustive studies, the solutions developed were engineering and money intensive—they work, but nobody can afford them. A project engineer has appealed to the AFS for help. He thinks maybe they shouldn't have taken all of the bends out of the creeks; maybe they should try to figure out how to stabilize the stream channels so they don't continue downcutting.

Does this sound like a riparian problem? It's more common than any of us would think...and the WDAFS was there to help!

## LAKE MEAD

According to an article "Fertilization Shows Signs of Success," published in the October 1987 issue of the *California Angler*, fertilization of the 20,000 acre Overton Arm of Lake Mead with 20,000 gallons of liquid fertilizer (ammonium polyphosphate) this past spring show promise of improving the sport fishery.

For many years, Lake Mead provided one of the most productive sport fisheries in the nation. However,

productivity was substantially reduced after completion of two upstream reservoirs, Lake Powell and flaming Gorge on the Colorado/Green River watershed, which acted as nutrient traps. Nutrients in Lake Mead were further reduced by the near total elimination in 1981 of phosphorous from effluents from the wastewater treatment discharged in the Las Vegas Wash Arm of the Lake. The adverse impact of the reduced nutrients on sport fishes was further aggravated by the increase of striped bass, introduced several years ago, that had virtually decimated the already limited plankton feeding forage fish base (primarily threadfin shad).

The fertilizer application was accomplished May 30, 1987, by over 1,000 volunteers in over 300 boats, and was timed to increase peak plankton production levels just as the larval threadfin shad were hatching. Trawl samples taken just 18 days after the application showed a significant increase in the number of shad compared to other, untreated areas of the lake. The number of larval shad collected were also higher than historical numbers in the same area.

According to this experiment, large-scale lake fertilizations can be done without having any adverse affects on water quality. The Gregg Basin on Mead has been proposed for fertilization for next year, and the lower portion of Lake Powell, which is also suffering from a loss of nutrients, is another spot being targeted for an enrichment boost. Fertilization may be a key to keeping the sport fisheries of the Colorado River reservoirs productive in the future.

(SFI Bulletin; Nov./Dec., 1987)

## FOOD FOR THOUGHT

The Izaak Walton League of America sponsored and organized a conference on the subject of outdoor ethics during November, 1987. Recreational angling is generally available to all Americans. It is suitable for participation by all age groups, and all social and economic classes. There are approximately 60 million Americans that currently participate in recreational angling, and the sport is growing in popularity. Fishing is now the second most popular recreational pursuit in this country; one in four Americans participate in recreational angling. Because of the large number of participants and continuing growth rate of the sport, there is no assurance that the resource base will expand in proportion to the increasing participation. As a consequence, anglers must become increasingly conscious of outdoor behavior and fishing ethics.

Three broad categories of angling ethic considerations were identified: (1) poor ethical

behavior, or poor ethical standards; (2) undue national emphasis on taking or exploitation as the basis of a successful angling trip; and (3) the growing opportunity for personal commitment to aquatic resources protection and restoration.

Poor ethical standards— With regard to poor ethical behavior, or poor ethical standards, no fewer than nine practices of growing concern to the angling community were identified at the Conference. These included vandalism, alcohol abuse, land owner abuse, littering, angling law and regulation violation, crowding of our nation's waterways, abuse of non-targeted fish species, improper handling of catch, and waste of catch. Certainly, additional practices of concern could easily be added to this list, but those listed constitute a substantial and potentially troubling list of abuses.

The recommended approach to resolution of these unacceptable practices is built on a foundation of education. Education of our youngsters—a new generation of anglers, and the new generations of non-anglers must be imbued with increased respect for our aquatic resources and their fellow outdoorsmen. In that regard, it was recommended that the Izaak Walton League of America and the Conference steering committee accept the challenge to get involved at the national level with the educational community; to embark on a major, national outdoor ethics educational program through the nation's school system. Such an effort at the national level would give credence, support and guidance to similar programs at state and local levels.

To specifically address the educational needs of recreational anglers with respect for our nation's aquatic heritage, it was recommended that *all* states quickly adopt and implement aquatic resources education programs. This funding is readily available as a result of the Wallop-Breaux Amendments to the Dingell-Johnson Act. As a result of that amendment, ten percent of the appropriations to each state from the D-J Program may be used by the states to implement aquatic resources educational programs. Next year, some \$15 to \$17 million will be available for this purpose. As yet, only 29 states have developed and implemented aquatic resources education programs.

Measures of angling success— The second topic was the broad issue of reducing emphasis on the harvest as a measure of angling skill or success. It was recommended that all angling interests, including government agencies, popular angling media, and service and product industry ads, curtail depiction of angling success with pictorial presentations of heavy

stringers and full fish boxes. Every effort should be made to stress aspects of the art, and enjoyment of the fishing experience, rather than dwelling on the size and number of fish harvested.

Personal involvement in management— The workshop participants consider there is no greater reflection of an individual's true concern for our nation's aquatic resources than the dedication of personal time, labor, and financial resources to forge the protection and enhancement of aquatic systems. To expand the application of this ultimate ethic, it was recommended that all organized angling groups be challenged to implement waterways adoption programs in concert with local land owners and to pursue habitat monitoring and restoration projects which are increasingly available through federal and state challenge grant match programs. Notably, any such cooperative effort must be conducted in complete and close cooperation and coordination with local state and federal management authorities.

In conclusion, conference participants emphasized this thought: an ethical angler realizes that fishing is fun, and that fishing pleasure is not measured by the heft of the stringer, but by the size and scale of angling difficulty offered by the particular fish caught (and often released) in an aesthetically pleasing environment.

## **MEETINGS, SEMINARS, SHORT COURSES & PUBLICATIONS**

### **NATIONAL FISHING WEEK**

A national recreational fisheries conference will be held June 6-8, 1988 at the Old Country Inn in Alexandria, VA. Held during National Fishing Week, the conference is planned in celebration of the National Recreational Fisheries Policy. For details write the USFWS c/o G.B. Edwards, 18th and C Street N.W., Washington, D.C. 20240, 202/343-6394.

### **FISH MARKING**

Preparations for the June 27-July 1, 1988 Seattle, Washington, Fish Marking Symposium (International Symposium and Educational Workshop on Fish-Marking Techniques) are going like "gang busters."

Nearly 300 papers and posters have been submitted from 32 states and 14 foreign countries. If all goes well the AFS Continuing Education Committee will arrange for certifying continuing education units for participants. It will cover everything there is to know about fish marking so plan now to attend.

### **1988 WDAFS ANNUAL MEETING**

The Annual Western Division AFS meeting, which is held jointly with the Western Association of Fish and Wildlife Agencies (WAFWA) is scheduled for July 10-13, 1988, in Albuquerque, New Mexico. See attached brochure for more information.

**SPECIAL NOTICE !**  
**WDAFS Business Meeting will be**  
**Sunday evening, July 9, 1988**  
**from 6:30 to 9:30 p.m.**

### **BILLFISH SYMPOSIUM**

The billfishes of the Atlantic, Pacific and Indian Oceans will be the topic of discussion at the International Billfish Symposium August 1-5, 1988 in Kailua-Kona, Hawaii. The purpose of this symposium, the 13th conference in the annual Marine Recreational Fisheries series, is to review and evaluate science and management relative to billfishes—the marlins, broadbill swordfish, sailfish and spearfishes—in order to foster more effective management and conservation domestically and on a worldwide basis.

### **CHEMORECEPTION MEETING**

A conference on Chemoreception in Aquatic Organisms will assemble international experts whose research involves the detection and processing of chemical information by freshwater and marine animals. The meeting will be held at Louisiana State University, Baton Rouge and at Louisiana Universities Marine Consortium Laboratory in Cocodrie, Louisiana, August 6 - 9, 1988. For more information, contact Dr. John Caprio, Department of Zoology and Physiology, Louisiana State University, Baton Rouge, Louisiana, 70803. 504/388-1132.

### **AFS ANNUAL MEETING**

The 118th Annual Meeting of AFS will be held September 9-15, 1988 at the Royal York Hotel, Toronto, Ontario. For more information contact: Carl R. Sullivan, Executive Director, AFS, 5410 Grosvenor Lane, Bethesda, Maryland 20814, 301/897-8616.

### **BIOENERGETICS**

Fish Bioenergetics: A Computer Modeling Approach is the topic of a workshop to be held September 10-11, 1988 during the 118th annual meeting of the American Fisheries Society. This year the annual meeting will be held in Royal York Hotel, Toronto, Ontario, Canada.

Participants will use a microcomputer model of fish bioenergetics to address questions of fish growth, consumption and production. We will discuss the basic ideas behind the bioenergetics approach, general strategies for its application and data requirements, then construct data files, run the model and analyze output on IBM microcomputers. Participants are encouraged to bring their own data to address a question of interest to them.

Enrollment will be limited to 20 people with a registration fee of \$200 U.S. Participants will need a copy of the microcomputer model and documentation which can be purchased for \$20 U.S. either at the time of, or prior to the workshop.

For more information contact Cathy Catanzaro, UW Sea Grant Institute, 1800 University Ave., Madison, Wisconsin 53706, 608/262-0645.

### **CHINOOK / COHO WORKSHOP**

The North Pacific International Chapter is hosting the first of what promises to be a biennial workshop on Northeast Pacific Chinook and Coho Stocks. The workshop is scheduled for October 3-4, 1988 at Nendels Inn, Bellingham, Washington. Sessions are currently planned on the topics of: Present and Future Status of Stocks; Freshwater Factors; Enhancement Strategies; Management Techniques; Management Politics and Policies; Estuarine/Marine Ecology and Migration; Case Histories (Spring Chinook—On the Verge of Extinction?); and International and Economic Forces. Attendance will be limited to 150 participants on a first-come-first-served basis. Phone or write: Bruce Shepherd, Department of Fisheries and Oceans, 555 W. Hastings Street, Vancouver, B.C. V6B 5G3. 604/666-0115 (work) or 604/931-3121 (home) for further information.

### **BIOENGINEERING SYMPOSIUM**

A fisheries bioengineering symposium will be held October 24-28, 1988 at the Columbia River Red Lion Inn, Portland, Oregon. This conference will focus on solutions to major bioengineering problems that can limit fish production in developed river systems and will cover five major topic areas: (1) habitat improvement, (2) upstream/downstream fish

movement, (3) improved hatchery operation, (4) alternative hatchery production systems and (5) implementation of change.

For general information contact David Owsley, U.S. Fish and Wildlife Service, Dworshak National Fish Hatchery, P.O. Box 18, Ahsahka, Idaho 83520. Telephone 208/476-4591.

### **RIPARIAN MANAGEMENT SYMPOSIUM**

The Montana Chapter and Western Division of the American Fisheries Society are co-sponsoring a symposium addressing "Practical Approaches to Riparian Resource Management." Other sponsors include the Bureau of Land Management, Forest Service and Society for Range Management.

The workshop will focus on "how to manage." Contributions will be invited from leaders in the field of riparian management including professionals and landowners who would not normally publish their management experiences in a professional journal or magazine.

Topics will include: Management strategies for maintaining or improving riparian values, inventory and monitoring techniques as they apply to management, regional considerations in riparian inventory and management, riparian grazing strategies, riparian management and watershed dynamics, streamside silviculture and harvesting alternatives, urban and suburban development, road construction practices, riparian habitat rehabilitation, and riparian-stream processes.

Information will be presented by oral presentations and poster displays. The proceedings will be published prior to the workshop and will be available to participants as part of the registration package. The workshop will be held May 9-12, 1989 at the Montana Convention Center, Holiday Inn, Billings, Montana.

For a Preliminary Program and symposium details (available in January 1989) write to: Glenn Phillips, Montana Department of Fish, Wildlife and Parks, Capitol Station, Helena, Montana 59620. Or call Marilyn Goetzinger at 406/444-2406.

### **ASIAN FORUM**

The second Asian fisheries forum has been scheduled for Tokyo, Japan, on 18-21 April 1989. For information write the Asian Fisheries Society, c/o MC P.O. Box 1501, Makati, Metro Manila, Philippines.

### **1989 NATIONAL MEETING**

Preparations for the 1989 Anchorage, Alaska annual meeting are going well. The Alaska Chapter,

under the leadership of President Kelly Hepler, has taken the challenge of being the first Chapter to independently host a national meeting. With contagious Chapter enthusiasm and strong leadership, the meeting should be a huge success. Arrangements co-chairmen Carl Burger and Bill Wilson are considering every detail. Program chairman Randy Bailey is making progress in technical session planning with the theme "Fisheries Management Controversies: Biology, Politics, or Economics." For information or input regarding program planning, contact Randy at USFWS, 1011 E. Tudor Road, Anchorage, Alaska 99503-6199.

### **CREEL CENSUS SYMPOSIUM**

Preliminary planning for an International Creel Census Symposium has begun. The symposium target date is January 1990. Cosponsors will likely be AFS and the U.S. Fish and Wildlife Service. The subject matter will be considerably broader than creel census and will include opinion surveys, angler preference studies, socioeconomic values, etc. The AFS Socioeconomics and Fisheries Management Sections will be active participants. For additional information contact the central AFS office.

### **TIDAL POWER**

The recently approved AFS policy statement "Tidal Power Development and Estuarine and Marine Environments" has been printed for addition to our loose-leaf styled book "Environmental Policy Statements of the American Fisheries Society." Anyone wanting to update their book with a copy of the new statement and a revised Table of Contents should contact AFS headquarters. Complete copies of the book are also available on request.

### **CANADIAN WATER QUALITY GUIDELINES**

Canadian water quality guidelines have been published by the Canadian Council of Resource and Environmental Ministers. Copies of the 396 page report are available at no cost from the Chief Water Quality Objective Division, Water Quality Branch, Environment Canada, Ottawa, Canada K1A 0H3. When ordering a copy from the U.S. enclose an 8-1/2" by 11" self-addressed envelope plus \$2.00 for postage.

The guidelines, which apply to inland surface waters and groundwater, contain recommendations for the chemical, physical, radiological, and biological properties of water necessary to protect and enhance designated water uses. If you have questions, contact Don MacDonald, 604/666-8003.

## WETLANDS REPORT

Last October, the National Wildlife Federation released a 46-page status report on the nation's wetlands. The informative publication contains succinct reviews of the characteristics, functions, values, distribution, status, and trends of United States' wetlands. The numerous pressures to develop and destroy wetlands are then examined, followed by a treatment of the tools and means available to interested individuals and organizations to protect and preserve remaining wetlands from destruction. Finally, the booklet discusses procedures available to mitigate, restore and create new wetlands.

Illustrated with color photographs, the booklet provides a serious primer on our nation's wetlands that would be of interest to enlightened conservationists of all ages. The narrative materials frame a reasoned and articulate call to action to prevent the continuing degradation and destruction of the nation's dwindling wetland resources. For more information contact: The National Wildlife Federation, 1412 Sixteen Street N.W., Washington, D.C. 20036-2266. 202/797-6800.

## USFWS RECREATIONAL POLICY

Have you given thought to what trout angling or bass fishing might be like in the 21st century? Are you concerned about catfish or worried about walleye?

While questions about the future of fishing in America may not concern individual anglers, they are very much on the minds of a number of state, private and federal fishery managers. The result of their collective efforts is the draft National Recreational Fisheries Policy published recently by the U.S. Fish and Wildlife Service.

The draft document, authored by more than a dozen fishery experts from government, industry and conservation organizations, outlines the national economic and social importance recreational fisheries have achieved in recent decades and offers long-term common goals for conserving and enhancing the Nation's recreational fishery resources.

The final policy, incorporating public input, is scheduled to be issued for National recognition during the first week of June (National Fishing Week) 1988. The draft policy was published in the January 8, 1988 *Federal Register*. Copies of the draft can be obtained from the Assistant Director of Fisheries, U.S. Fish and Wildlife Service, Washington, D.C. 20240.

## INDIAN RESOURCES

Management of this nation's Indian Fish, Wildlife and Outdoor Recreation Resources is the title of a

handsome and colorful brochure newly received from the BIA. For copies write the Fish, Wildlife and Recreation Program, Bureau of Indian Affairs, DOI, Washington, D.C. 20245.

## GENETICISTS' DIRECTORY

A directory of fish geneticists is being produced by the Fish Genetics Section. For information write Section Secretary Julie Claussen, Aquatic Biology Section, IL Natural History Survey, 607 E. Peabody Drive, Champaign, IL 61820, (217) 333-6897.

## AQUATIC RESOURCE CURRICULUM

The aquatic resources education curriculum developed by the Aquatic Resources Education Council is now available. It is an easy-to-use, 28-lesson-page instructor's manual which provides comprehensive information on all aspects of aquatic resource education.

Developed as a mechanism to encourage implementation of the aquatic education features of the Wallop-Breaux Act, the curriculum is a product worthy of extensive exposure to junior and senior high school students as well as adult continuing education councils. The Aquatic Resources Education Council is sponsored by the International Association of Fish and Wildlife Agencies and includes several AFS members as council participants and technical reviewers. Dr. John Nickum was the principal AFS representative.

Federal, state, and local government agencies may purchase the curriculum for \$10 ;the cost to all others is \$20. Please include \$2 for postage and handling. Attractive volume discounts are available. Send orders to Kendall Hunt Publishing Company, 2460 Kerper Blvd., Box 539, Dubuque, Iowa 52001, 800/338-5578.

## KEEPING CURRENT

A brochure describing continuing education for wildlife and fisheries professionals has been produced by the U.S. Forrest Service. It's an excellent job produced by Bob Nelson and Mike Dombeck of the USFS fish and wildlife staff. For information about the continuing education program call 703/235-1348.

## **JOB OPPORTUNITIES, VOLUNTEERS & OBITUARIES**

### CAREER OPPORTUNITIES

The District of Columbia Fisheries Management Program has four Fisheries Biologist positions available. Applicants must have a minimum of a Bachelor's

Degree with a major in fisheries science and one year experience or a Master's Degree in fisheries science. The positions will involve resident and anadromous fish surveys, creel surveys, artificial reef development, telemetry, contaminant assessment, submerged aquatic vegetation management, and aquatic resource education. The program is also seeking a Biometrician. Applicants must have a Master's Degree in fisheries science with experience in data management and biometrics. Duties will include development of computer applications for storage, retrieval and data analyses, and serving as a statistical consultant to fisheries field personnel in the design and analysis of fisheries survey data. Salary range for all positions will be \$19,008-\$23,255 annually. For additional information, contact: Jack Buckley or Sylvia Whitworth, Fisheries Management, 5010 Overlook Ave., S.W., Washington, D.C., 202/787-7370.

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Kansas Department of Wildlife and Parks has recently issued a new publication which details fisheries career opportunities in Kansas. Send for your copy from Fisheries Division, R.R. #2, Box 54A, Pratt, Kansas 67124.

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Population Dynamics Fellowships are available from the Electric Power Research Institute for graduate

level research. A total of 5-10 fellowships will be awarded annually over the next three years, with the first awards to be made in March-April, 1988. For specifics contact the Sport Fishing Institute at 202/898-0770.

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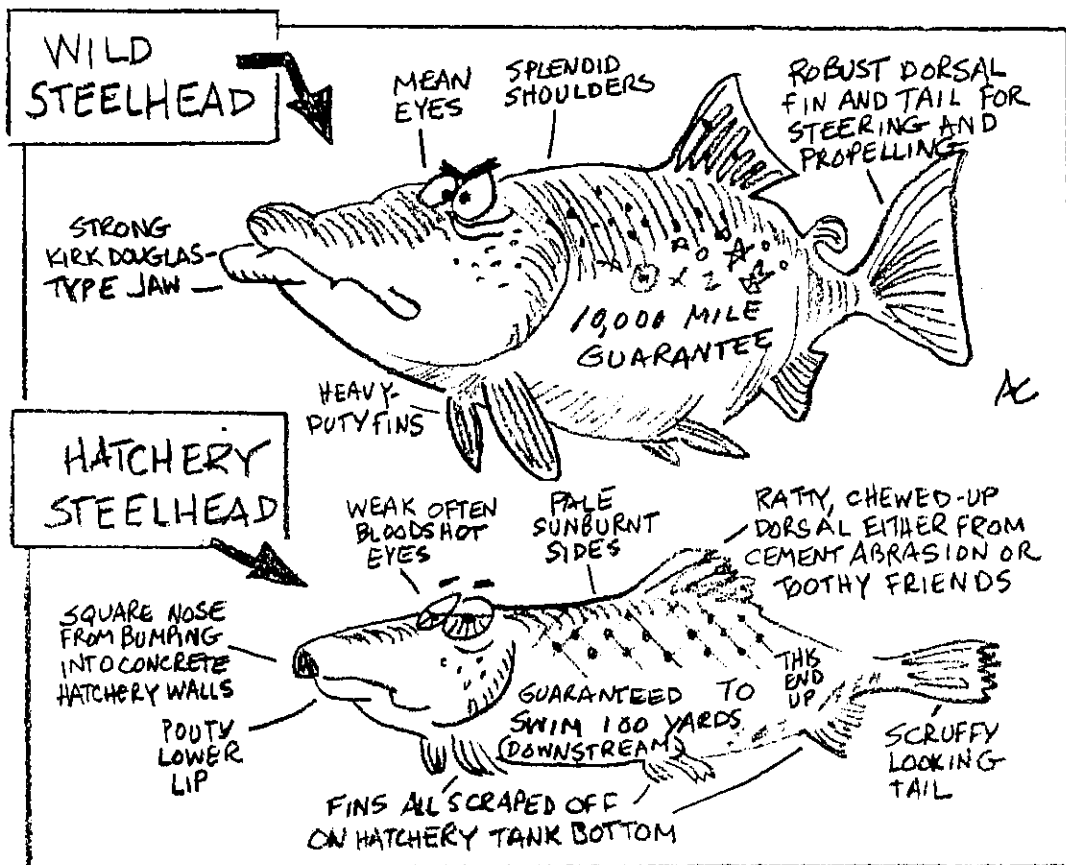
Virginia Institute of Marine Science, College of William and Mary has available several Graduate Research Assistantships involving research on life histories and population dynamics of marine fishes. Positions commence in January 1988 and September 1988. More information about these assistantships is available from Mark Chittenden, College of William and Mary, VIMS, Gloucester Point, Virginia 23602.

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JOBSource has a new phone number, 1-800-727-JOBS, although the service can still be reached at 1-800-327-4728. Call the number, ask for job information and receive a packet which explains the services and contains a form to be returned to JOBSource.

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Colorado State University, Department of Fishery and Wildlife Biology announces the availability of a Graduate Research Assistantship for a Ph.D. student to research trout population response to habitat enhancement in high altitude Rocky Mountain streams. Candidates must have good quantitative background and



EDITOR'S NOTE: This comic was featured in the November 1987 Idaho Chapter Newsletter. Pretty funny stuff! Let's see some more humor from the other WDAFS Chapters too. Maybe it could appear on a regular basis.

practical field sampling experience, as well as excellent academic records and work references. Students may begin January through June 1988. Applicants should submit a resumé with academic and work references, transcripts, G.R.E. scores, and M.S. abstract to Dr. Kurt D. Fausch, Department of Fishery and Wildlife Biology, Colorado State University, Fort Collins, Colorado 80523, 303/491-6457.

## **JOB OPPORTUNITIES**

Montana State University - Cooperative Fishery Research Unit, Biology Department - M.S. graduate student research assistantship - one position. One assistantship available in March or June 1988 for the study of the spawning and rearing ecology of fluvial Arctic grayling in Montana. Applicants should have a 3.0 or greater G.P.A. and 1000 or greater G.R.E. Interested parties should contact: William Gould, Biology Department, Montana State University, Bozeman, Montana 59717. Phone: 406/994-2450.

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Normandean Associates, Inc. (NAI) - Senior Marine Ecologist - one position. NAI has an opening for a senior marine ecologist to work at their Bedford, NH facility. Individual should possess at least five years of experience in the field of marine fisheries, shell fisheries, and/or benthic ecology. Must be able to demonstrate good technical writing skills through the publication of technical reports and/or journal articles. A good working knowledge of statistics is required. Project or major task management experience is also preferred. Minimum of a Master's degree along with actual work experience is required. Salary will be commensurate with experience. To apply send resumé to: Leslie Minassian, Personnel Manager, Normandean Associate, Inc., 25 Nashua Road, Bedford, New Hampshire 03102.

## **GRAD SCHOOL OPPORTUNITY**

Applicants wanted for graduate school to study fisheries policy and planning. Contact Dr. Barbara Knuth, Department of Natural Resources, 114 Fernow Hall, Cornell University, Ithaca, New York 14853. Work could start August of 1988 and focus on Great Lakes fisheries and water quality issues.

## **EMPLOYMENT WANTED**

New Zealander Jeremy McKenzie, a 28 year old M.S. Fisheries Science technician for the New Zealand Ministry of Agriculture and Fisheries, has written for help. He says: "It is my intention to visit the United

States in the near future, and I would like to spend part of the stay employed in biological research. Ideally, the work would be pertinent to practical aspects of either fisheries ecology, or the broader field of biological resource management. I hope to assist in some current project, presumably on a temporary wage-work or contract basis." Anyone interested in helping Jeremy should contact AFS (WDC) for a resumé.

## **FOREIGN LIAISON**

The International Fisheries Section is looking for volunteers to maintain international liaison with individuals and organizations from the following regions:

- Region I - Asia and the Pacific
- Region II - Caribbean and Latin America
- Region III - Africa and the Middle East
- Region IV - Europe and the U.S.S.R.

If you are interested and have experience in dealing with the above regions, please send your name to Tapan Banerjee, President, International Fisheries Section, U.S. Department of Commerce, Room 3130, Washington, D.C. 20230.

## **OXYGEN INFORMATION**

The use of pure oxygen in hatcheries is of interest to the Bioengineering Section of AFS and the Bonneville Power Administration. If you are using pure oxygen or planning to do so, you are urged to contact Jerry Bouck, Bonneville Power Admin., P.O. Box 3621, Portland, Oregon 97208.

## **SEEKING EXPERTS**

There is a need for experts in matters of lake restoration and/or non-point source runoff. Contact Allan Hirsch, Dynamic Corporation, 11140 RockvillePike, Rockville, Maryland 20852 or call 301/468-2500.

## **OBITUARIES**

Dr. Donald G. Denning (2016 Donald Drive, Moraga, California 94556), died of a heart attack the first week of February 1988. Don was an expert on the order Trichoptera and will be missed by the scientific community and friends alike.

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Dr. Gail Grodhaus of Kensington, California died on December 23, 1987. He had brain tumor surgery in November, 1986 and the illness recurred. Gail was a noted taxonomist/ecologist with certain groups of Chironomidae.

# 1988 WDAFS CANDIDATES FOR OFFICE

## NATIONAL NOMINATING REPRESENTATIVE

**Patrick J. Graham, Montana Chapter**

Chief of Fisheries, Montana Department of Fish, Wildlife and Parks. Previously head of the department's Management and Special Project bureau and liaison with the Northwest Power Planning Council and Columbia Basin Fish and Wildlife Council. State coordinator for Montana Rivers Study. Western Division AFS member 1975 to present; Secretary/Treasurer, 1981-82; member Water Development and Streamflow Committee. Montana Chapter AFS member 1977-present; Secretary/Treasurer, Vice-President and President 1981-84; Chairman, Legislative Committee 1984-present and member of Resolution Committee, WAFWA. Member of Water Resources and Inland Fisheries committees, IAFWA. B.S. Montana State, 1975; M.S.

**Richard S. Wydoski, Colorado-Wyoming Chapter**

Twenty-eight-years of professional experience with fishery resource problems and management in eastern United States, Midwest, Pacific Northwest, and Intermountain West. Life member of AFS and a Certified Fisheries Scientist. Member of the Board of Professional Certification, 1977-80; Science Editor of Fisheries, 1978-86. Distinguished Service Award, AFS, 1981. Member of the Bonneville Chapter of AFS and the Fishery Educators Section. Presently working with AFS as a co-chairman for the external tag session to be held with the "International Symposium and Educational Workshop on Fish Tagging", Seattle, Washington, last week of June, 1988.

## VICE-PRESIDENT

**Cay Goude, California-Nevada Chapter**

Fish and Wildlife Biologist with the USFWS Ecological Services Branch, Sacramento, California. B.S.c., 1976, UC-Davis; M.S.c. Fisheries, California State University, 1981. Works on environmental issues through local AFS Chapter as well as on the job. Spearheaded efforts on outer continental shelf oil exploration issues and the preservation of the Sacramento River winter-run chinook salmon. President of the Sacramento Chapter, AFS, 1982. President-elect of the California-Nevada Chapter, 1985; President of the California-Nevada Chapter, 1986. National Nominations Representative

**John Baughman, Colorado-Wyoming Chapter**

Fisheries Management Coordinator, Wyoming Game and Fish Department, Cheyenne. B.S. in Fishery Science, Colorado State University, 1972; M.S. in Zoology, University of Montana, 1978. Formerly Wildlife Planner and Reservoir Research Supervisor, Wyoming Game and Fish Department. President of Colorado State University Chapter AFS (1972) and Colorado-Wyoming Chapter (1984-85). Member of Chapter committees for Program, Best Paper and Award of Excellence. Chaired the WDAFS Award of Excellence committee, 1980.

## SECRETARY-TREASURER

**Al Espinosa, Idaho Chapter**

Currently Forest Fishery Biologist, U.S. Forest Service on the Clearwater National Forest, Orofino, Idaho. B.S. in Fisheries, Humboldt State College, 1962; M.S. in Aquatic Ecology, U.N.-Las Vegas, 1968. Research Biologist for the Oregon State Game Commission and Department of Biological Sciences U.N.-Las Vegas; Zone Fisheries Biologist, Nezperce and Clearwater National Forests. Interested in habitat protection, enhancement and evaluation, and resolving problems concerning fishery and timber interactions. President of Idaho Chapter, AFS, late 1970's. Instrumental in

**Donald L. Chase, North Pacific International Chapter**

Microcomputer support manager for the Washington Department of Wildlife. B.S. in Biology and Environmental Science, Washington State University, 1979; M.S. in Fisheries, University of Idaho. Formerly a wildlife biologist and project leader of the hatchery computerization program, Washington Department of Wildlife. Member of AFS since 1981. Helped create and promote the Computer User Section of AFS and served as its president from 1984-87. Earned the AFS Distinguished Service Award in 1986. Member of the AFS Continuing Education Committee. Has worked extensively for computer use in fisheries and hatchery computerization. Promotes continuing education, fisheries and environmental issues and pro-

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