

# National Shellfisheries Association

## QUARTERLY NEWSLETTER



SPRING 1995

SOUTHAMPTON, NEW YORK

### **87th Annual NSA Meeting Aquaculture '95**

The 87th Annual NSA Meeting was held January 31-February 4 at San Diego's Town & Country Hotel in conjunction with Aquaculture '95. The triennial meeting, jointly sponsored by the Fish Culture Section of the American Fisheries Society, the World Aquaculture Society and the National Shellfisheries Association, broke all previous attendance records. Approximately 2900 visitors from over 2 dozen countries attended more than 50 technical sessions and production seminars and the trade show, which featured 190 exhibitors. The meeting was an overwhelming success. We extend our thanks to Sandy Shumway, the NSA representative to the Steering Committee, and Steve Tettelbach, who represented NSA on the Program Committee for a job well-done.

One of the most enjoyable highlights of the meeting was Wednesday's standing-room only plenary session. Over 1500 people turned out to hear Dr. Stephen Jay Gould delighted us with a humorous discussion of natural history and evolution. Also during the plenary session, The World Aquaculture Society presented our very own Ken Chew with the Honored Life Member Award. NSA members of course beat WAS to the punch and gave him one in 1982. Congratulations Ken!

While student participation at this triennial meeting was lower than at some recent meetings, there were several excellent student presentations. Five students participated in the Thurlow C. Nelson Best Student Paper competition and two students participated in the competition for the best student poster. The Awards Committee selected Caroline O'Farrell as the recipient of the Thurlow C. Nelson Award for her oral presentation, entitled "Acute Osmotic Tolerance of Cultured Cells of the Oyster Pathogen *Perkinsus marinus* Acclimated to Low Salinity". Caroline's talk was very well organized and professionally presented. Aswani Voley's poster entitled "Biochemical Characterization of the Oyster Parasite, *Perkinsus marinus*: Lipid and Fatty Acid Composition" was awarded best student poster. Congratulations Caroline and Aswani!

Congratulations also to the five students who received support from the Student Endowment Fund to help defray their costs for attending Aquaculture '95: Marnita Chintala, Karin

Tammi, Caroline O'Farrell, Liu Xin, and Aswani Voley.

The Awards Committee decided that in future years a minimum of 3 - 4 students must participate in each competition. This year's Committee included Evan Ward, Carolyn Friedman, Rob Armstrong, Pete Haaker, Pat Gaffney, Christine Hodgson, Jay Parsons, Hal Beattie, Dennis Hedgecock, Fred Conte, and Susan Bower. Thanks to the committee for volunteering their time.

Aquaculture '95 proved to be a most profitable meeting for the Student Endowment Fund. We grossed over \$5,000 from the sales of pins, hats, cookbooks, and mugs. Some industry groups were so attracted by the pins that we couldn't keep enough *Tilapia*, salmon, or shrimp pins in stock! A special thanks to all the students and NSA members who assisted at the NSA booth during the meeting. Thanks as well to Margaret Dekshenieks, who organized the students for the meeting despite the fact that she was unable to attend.

The now traditional NSA auction to support the Student Endowment Fund was an equal success. The evening of fun generated over \$3,100 for the SEF! Thanks to Sandy Shumway for displaying superior auctioneering skills and special thanks to all of you who donated items for the auction.

### ***Congratulations***

*Vic Kennedy, our newest Honored Life Member  
and*

*John Manzi, recipient of the Wallace Award*

### **President's Message**

Here we are in our 88th year and there's been no better time to participate in NSA. Over the past decade this organization has maintained a prominent stature in the shellfish and scientific communities, has generated a journal with international recognition, and has established fiscal growth and stability. Yet our approach to meeting and Association business remains informal, voluntary, and lively. This has proven to be a good formula for communicating research, developing new ideas, overcoming administrative obstacles, and planning for the future.



It is true, I think, that we are more fiscally sound than at any other time. This is due in large part to our participation in the "Aquaculture" mega-meeting every third year. Although I sometimes feel disoriented at these meetings, they have certainly helped NSA financially and they project the organization to the outside world. As we come closer to fiscal stability, we will enjoy the opportunity to support further ongoing activities. Personally, I recommend more support for student activities and attendance at meetings. Student participation has always been a strength of NSA, even without major funding catalysts. Additional awards, memberships, travel costs, and even research support should be considered. Over the past few years, students and members of the student committee have been enthusiastic and have become an important facet of our progress. Hopefully, we will soon be able to support that involvement in a more vital fashion.

When I first joined NSA there were exciting projects with lobsters, crabs and shrimp, both in aquaculture and basic science. In the last two years, we have not attracted many research presentation on decapod crustacea. I hope we make progress this year in reintegrating these other shellfish back into our research and meeting agenda. If you have an idea, contact me or Roger Newell who is our Program Chair for the 1996 Baltimore meeting.

Bill Fisher

## 1996 NSA Annual Meeting

The next NSA annual meeting will be held at the Holiday Inn in downtown Baltimore from Sunday April 14 through Thursday April 18, 1996. Although this still seems a long time in the future NOW is the time to start planning special sessions. TWO NSA MEMBERS HAVE ALREADY VOLUNTEERED TO ORGANIZE SPECIAL SESSIONS ON CRUSTACEAN FISHERIES AND SHELLFISH DISEASES. So, if you have always thought "Wouldn't it be nice if we had less talks on ... at NSA and more on ...." this is your opportunity to do something to rectify the situation. Why not organize a special technical session on the current hot topics in your field and help educate your colleagues? Please contact the program chairman Roger Newell to discuss your ideas (phone 410 228-8200, or preferably email at Newell@hpel.umd.edu). Due to the accessibility of Baltimore to many NSA members we anticipate a high attendance at this meeting. Remember that the President's reception will be held on Sunday at the nearby National Aquarium at Baltimore, which has very generously provided access to all aquarium exhibits in the building for the evening. The AGM and awards presentation will follow a Wednesday evening dinner at the hotel.

Roger Newell

## Why Participate in Triennial Meetings?

In addition to the scientific program of special sessions and contributed papers, the social activities, the opportunity to meet new colleagues, and the chance to learn about subjects outside of your immediate field of research, the triennial meetings are a financial boon to the NSA. These meetings generate 'profits', primarily through the trade show registrations, and we receive a percentage of those profits based upon our participation (registration), i.e. when they ask you to indicate on the registration form the society to which you belong, **be sure to indicate NSA**. We received approximately \$34K, compared to \$140K for the World Aquaculture Society and \$57K for the Fish Culture Section of the American Fisheries Society. Financially speaking, Aquaculture '95 was the most successful triennial meeting yet; however, based on member participation, our share of the profits from Aquaculture '95 was less than we received from Aquaculture '92, either because fewer NSA members attended or fewer members remembered to check the box marked NSA. Your participation is needed, not only through attendance and presentation of papers at the conference, but also as a possible organizer of a special session, moderator, or as a helper at the NSA booth. If you are interested in organizing a special session for Aquaculture '98 (Las Vegas), please contact me soon--you need to start planning NOW! In the meantime, mark your calendar for February 14-19, 1998 and start making plans to attend Aquaculture '98.

Sandy Shumway

## Recent Metamorphoses

CONGRATULATIONS to Ken Chew who received of the Honored Life Member Award from the World Aquaculture Association.

Trevor Avery, Acadia University, Wolfville, Nova Scotia, has successfully completed his M.Sc. dissertation entitled "Hydrodynamics of swimming in the sea scallop, *Placopecten magellanicus*". Trevor has started toward his Ph.D. at the Ocean Sciences Centre, Memorial University of Newfoundland, St. John's.

What a salesman! Jay Parsons recently attended the Great Atlantic Shellfish Exchange and sold \$444 (Canadian) worth of cookbooks and pins. All monies will benefit the Student Endowment Fund. Great going, Jay!

Dr. Frank Perkins has recently relocated to North Carolina. His new address is: Dept. of Zoology, North Carolina State University, Box 7617, Raleigh, N.C. 27695-7617.

If you have an item for this column, please send it to Jay Parsons at: Biological Station, St. Andrews, N.B. E0G 2X0, or email to jparsons@fisheries@gill.ifmt.nf.ca



## Recruits Corner

Aquaculture '95 was a successful meeting for the NSA recruits. We would like to take this opportunity to thank everyone who helped at the NSA sales booth - we were well represented. THANK YOU!

Plans are now underway for a recruit information packet. This packet, which will describe the NSA Student Endowment Fund, the Thurlow-Nelson Student Award, the jobs database and upcoming meeting events, will be distributed to all recruits. The purpose of this packet is to improve understanding, as well as to foster communication among NSA students. The student contacts who will be listed in this packet are: James Anderson (anderj1@ducvax.auburn.edu), Margaret Deksheniks (deks@ccpo.odu.edu), and Karin Tammi (KTAM1734@uriacc.uri.edu).

Look for updates on The Recruits information packet in your next NSA newsletter!

Margaret Deksheniks, Karin Tammi



## NSA Recruits Report

The following are excerpts from this year's annual report from the Recruits, which briefly details the history and goals of our student organization.

The National Shellfisheries Association student organization, *The Recruits*, was formed at the 1991 annual meeting in Portland, Maine, as a goal of Sandy Shumway's presidency. Founding members were Greg Shatkin, David Bushek, Maureen Krause and Jay Parsons.

The objectives of this student organization are to

1. encourage student involvement in NSA and
2. assist the society as needed.

Recent activities of The Recruits have included writing an article for the *Quarterly Newsletter*, maintaining the on-line jobs database (on SHELLFISH discussion group) and preparing for the 1995 Aquaculture meeting. In the past year, columns for the newsletter were written by David Bushek, Margaret Deksheniks, and Karin Tammi.

### **GOALS, DIRECTIONS AND NEW IDEAS FOR 1995-1996**

1. continue student involvement in and assistance to the NSA.
2. improve communications among student members
3. prepare and distribute information packets welcoming new student members
4. investigate new avenues for the jobs and resume listings
5. include student sponsor's name on back page of newsletter.

## Resolutions

The following resolutions were passed by the EXCOM at its annual board meeting:

**Whereas**, the National Shellfisheries Association, Inc. (NSA) is a not-for-profit corporation; and, **Whereas** members serve on committees on a voluntary basis; **BE IT RESOLVED** that on February 2, 1995, the National Shellfisheries Association formally recognizes and thanks the Steering Committee: John Nickum, Joe Tommaso, and Sandra Shumway, and the Program Committee: Jim Tidwell, Stephen Tettelbach, and Mike Masser for their outstanding efforts on its behalf for organizing Aquaculture '95, held in San Diego, California, and Katherine Westcott of the Town and Country Hotel and John Cooksey of Sea Fare Expositions, Inc. for services above and beyond the call of duty.

**Whereas**, the National Shellfisheries Association, Inc. (NSA) is a not-for-profit corporation; and, **Whereas** Stephen Tettelbach has faithfully served the National Shellfisheries Association as Treasurer for three years ending October 1994; and **Whereas** the National Shellfisheries Association has flourished and prospered during the term of Stephen Tettelbach in a critical period of economic challenge when many other associations have floundered; **BE IT RESOLVED** that on February 2, 1995, The National Shellfisheries Association formally recognizes and thanks Stephen Tettelbach for his long and successful service as Treasurer.

**Whereas**, the National Shellfisheries Association, Inc. (NSA) is a not-for-profit corporation; and, **Whereas** Robert Hillman has served the Association over the years on various committees and as Vice-President and as President; and **Whereas** Robert Hillman has worked as Editor of the *Journal* (both when it was the *Proceedings of the National Shellfisheries Association* and the *Journal of Shellfish Research*); **BE IT RESOLVED** that on February 2, 1995, the National Shellfisheries Association formally recognizes and extends to Robert Hillman its thanks and best wishes on the occasion of his retirement from Battelle after 30 years of service.

### **1994 Annual Meeting Abstracts Available**

If you would like a FREE copy of the abstracts and program from the 1994 NSA Annual Meeting, held in Charleston, South Carolina, please send a self-addressed 8 1/2 x 11 envelope to Sandy Shumway (address on back page).



# Master's Roundtable

## An Editorial

Dot Leonard organized the second Master's Roundtable which was held during Aquaculture '95. Participants included Jack Pearce, Mike Castagna, Ken Chew, John Glude, Bob Stickney, Dave Aiken, Dana Wallace, Mel Carriker and John Manzi. John Kraeuter served as moderator and the topic of discussion was "The role of science in aquaculture and industry."

Mel Carriker started the discussion with a thoughtful and insightful overview of technology to date and the value of science and technology to aquaculturists, which set the tone for the ensuing discussion. Jack Pearce noted that there is a real lack of information and Mike Castagna, with his unique combination of wit and wisdom, discussed the real need for collaboration and *long-term* research programs between scientists and members of industry. Ken Chew noted that research has to be focussed and directed and that problems should be solicited from groups and individuals who know the needs of the industry. This was reiterated by Bob Stickney who pointed out that industry needs to specify their problems and be realistic in their expectations. Dave Aiken discussed problems and progress experienced in Canada where industry and science seem to enjoy a more constructive level of collaboration than is often experienced in the United States. John Manzi, who crossed the bridge from scientist to full-time culturist and businessman several years ago, noted how much he values communication with researchers now that he is in the private sector.

The overall consensus was that there is a very real need for open dialogue between scientists and the industry regarding future research programs, and the need for an understanding, by both the industry and the funding agencies, that many research projects will require long-term funding if they are to provide "real" help for industry production problems. The point was also made that industry should not be the sole driving force for selection of research topics, i.e. sometimes the scientists do know something!

The only downside of the evening was the size of the audience -- a mere 21 people. This general level of apathy is in some part responsible for the current gap that exists in the communication highway between science and industry. Too many scientists are trying to "sell" their science as useful to the industry when, in fact, they are only trying to justify their pet project to a funding agency. On the other hand, some industry members have unrealistic expectations of what the scientists can tell them, especially based on the results of short-term research projects. Many scientists have a lot to offer industry and industry can provide some very interesting and challenging research problems.

Funding is most certainly going to become more difficult to obtain before it gets easier, so why not join forces and get the most "bang for your buck"? Both the NSF and USDA have funding programs designed specifically to foster collabora-

tion between scientists and small businesses. Saltonstall-Kennedy funding is still available, Sea Grant encourages practical and applied research, and NOAA is currently funding projects designed to aid the fishing and aquaculture industries. All that's needed are the team players.

If you missed the Roundtable, you missed a special opportunity. We'll try again in Baltimore.

Sandy Shumway

**Aquaculture '98, the next triennial meeting of WAS, NSA and the Fish Culture Section of AFS will be held February 14-19, 1998, in Las Vegas, Nevada. Mark your calendars and start planning now!**

## Audit-Budget-Finance Update

Total revenues for the 1994 fiscal year (October 1993 through September 1994) were \$99,067, and expenses were \$117,900 for a decrease of \$18,833 to our overall balance. This loss is not quite as bad as it appears, however, as there was about \$15,000 in undeposited checks that Steve Tettelbach held before he passed the treasurer's books along with those funds to Christine Hodgson. Although 1994 did not show the growth of our financial base as we saw the two previous years, and was a step back in terms of reaching our five-year goal, we are confident that we will more than make up the difference as a result of a fantastic Aquaculture '95 meeting in San Diego. We ended the 1994 year with a balance of \$42,427 compared to \$61,260 at the end of 1993, \$34,809 at the end of 1992, and \$10,155 at the end of 1991.

If the revenues and expenses for the proposed 1996 fiscal year budget are realized, it would increase the Association's balance by \$10,300. Changes in our accounting procedure will shift money from administrative revenues to publication revenues, and newsletter costs will be covered by administrative revenues as well; this should help reduce the decrease encountered by publications each year.

A review of the NSA financial ledgers was conducted at the end of the 1994 fiscal year after the books were transferred from Steve Tettelbach to Christine Hodgson. A review consists of analyzing the financial data presented by the treasurer and is substantially less in scope than an audit. Based on this review, there appear to be no material modifications that should be made to the 1993-94 financial statements in order for them to be in conformity with generally accepted accounting principles for not-for-profit organizations.

George Abbe, Chairman  
Audit-Budget-Finance Committee



## Publications: we've come a long way .....

As more and more of our membership is comprised of the 'under-50s' crowd and fewer and fewer of our members have actually had the opportunity to meet the likes of Loosanoff, Galtsoff, Truitt, Quayle, Nelson, and others, I think it is important that we keep a perspective on our past and educate our membership regarding the history of the NSA.

Steve Tettelbach recently brought me some old files to peruse which include newsletters from the late 1950's. These are all being passed along to our Historian, but I thought I'd share a few interesting notations regarding publications of the NSA. It seems that in 1958, The Fish and Wildlife Service informed the Association that "because of technical restrictions they no longer would be able to duplicate our NSA *Proceedings*, masters for which are typed under the supervision of NSA Editorial Committee and paid for by the Oyster Institute" and it was noted that "it is probably time for the NSA to shoulder more responsibility for support of its activities." This particular newsletter carries a 3¢ stamp.

Editor Jay Andrews and President Mel Carriker left "no stone unturned to cope with this crisis. At its fall meeting the Executive Committee decided to proceed immediately to obtain competitive bids for processing Volume 48 at a cost not to exceed \$700, our approximate treasury balance." The job went to the University of North Carolina Duplicating Department.

Plans were discussed to finance the cost of future proceedings: "1) increase membership dues, possibly from the present \$2 to \$4 or \$5 per year; 2) establish a library subscription cost for the *Proceedings*, possibly as much as \$6 per volume, instead of the gratis distribution practice in the past; 3) request a subscription from authors of as much as \$10; request an annual contribution from laboratories and other institutions of about \$25; 4) request an increase in subsidy from the Oyster Institute." Serious consideration seems also to have been given to giving the membership a microcard as an alternative method of duplication of the *Proceedings*.

Justification for these expenses rested in part on the "increasing importance and interest in shellfish research reflected in our growing membership. As of December 1, we have 4 honorary and 155 active members (Canada - 5; Maine through New York - 37; New Jersey through Georgia - 69; Florida through Texas - 29; Pacific - 18; Japan 1). Our *Proceedings* are also distributed to State laboratories - 17." We now have 880 members from 39 countries and 320 institutions and libraries subscribe to the *Journal*.

It might also interest you to know that during this time (1957), reprints of the *Proceedings* (1956) could be purchased (on 20 lb. paper with or without covers; "if covers are purchased, they will be on 65 lb. antique paper and include the title of the paper, the author or authors, their addresses and the journal source.") at a cost of 60¢ per page and that stapling cost \$1.50 extra! It now costs between \$15-25K to produce and

mail a single issue of the *Journal* and about \$1300 for a single issue of the *Newsletter*. Stapling is, however, free!

The Editorial Committee was made up of Jay Andrews (Chairman), Thurlow C. Nelson and Sewell H. Hopkins. Officers included: Melbourne R. Carriker (President), L. Eugenie Cronin (Vice President), Philip A. Butler (Secretary-Treasurer), and G. Robert Lunz (New Executive Committeeman). Honored Life Members for that year included: Paul S. Galtsoff, Trevor Kincaid, Thurlow C. Nelson and Reginald V. Truitt. It was duly noted that "President Mel Carriker, as you know, was in England at the time presenting a paper at the XVth International Congress of Zoology."

Thanks to the efforts of our predecessors, the NSA and its publications are firmly established and prospering. We owe them all a debt of gratitude and a commitment to continue the work they began in the same professional manner and with at least equal enthusiasm.

Sandy Shumway

## New Partners, New Format for Northern Aquaculture *Shellfish Coverage to Return*

A partnership of three veteran Canadian aquaculture journalists is behind the launching of a totally revamped and revitalized *Northern Aquaculture* in April. The trio, Peter Chettleburgh (founding editor/publisher of *Northern Aquaculture*), John Gracey (former editor of *Atlantic Fish Farming*) and Catherine Egan (Publisher of *Pacific Coast Aquaculture*) announced the new venture at Victoria, B.C. on March 17th.

With 23 years of aquaculture journalism between them, the team plans to create a publication that will satisfy all the informational needs of cold-water aquaculturists across North America.

To meet these goals the revitalized *Northern Aquaculture* will be published in a newsy tabloid format that will be delivered to readers on a monthly rather than bimonthly basis.

"It will cover the latest news in finfish and shellfish culture from the West Coast to the East Coast and everything in between," said Chettleburgh. "It will combine the best of the old, plus offer a whole lot more."

East coast and central coverage will be handled by John Gracey who will also edit the publication from his base on Prince Edward Island. Peter Chettleburgh will provide news and feature articles from the West Coast and Catherine Egan will handle advertising sales and subscriptions from her office in Courtenay, B.C.

"It's going to be an exciting new publication," added Chettleburgh, "providing one single source of information for aquaculturists across the country."

The first issue of the new *Northern Aquaculture* will be mailed in early May. For subscription information, contact Catherine Egan at (604) 338-2455.



## Industry Update

Robert Rheault has agreed to help write a column geared toward the industry members of NSA. If you would like to contribute to this column, please contact him at [skid@gso.sun1.gso.uri.edu](mailto:skid@gso.sun1.gso.uri.edu) or (401) 783-6007.

### **Highlights of the 15th Annual Milford Aquaculture Seminar**

Over 175 growers, researchers and regulators packed the Milford, CT Ho-Jo's to hear 34 talks on various aspects of aquaculture. Here are some highlights:

Gary Wikfors, from NMFS's Milford Lab, showed dramatic growth rate improvements in juvenile scallops and oysters fed new high-lipid *Tetraselmis* algal cultures. These cultures had been collected by Ralph Levin (Scripps) for their high lipid content for potential bio-fuel production, but Wikfors found they had good concentrations of essential fatty-acids (20:5n3 and 22:6n3) as well as key sterols. Unfortunately, there are no good data on sterol biosyntheses in most bivalves, so Wikfors could only speculate that certain classes of sterols are essential components of bivalve diets.

There were seven presentations and a long roundtable discussion on the oyster-killing syndrome known as "Juvenile Oyster Mortality" (JOM). JOM has been causing mass mortalities in hatchery-reared *Crassostrea virginica* in New England since 1990. While the cause is still undetermined, the syndrome follows a well-described pattern. Typically the mortalities start in mid-summer in seed that are 8 - 25 mm in size. Seed that had been growing well stop growing and mortalities of 50 to 90% soon follow. Survivors exhibit a pronounced shell check (indicating mantle retraction) and brown conchiolin deposits in the inner shell. JOM has been hitting growers from Maine to Long Island, and there are concerns that it may have spread to the Chesapeake region.

Two groups working independently (Austin Farley and Jay Lewis from Oxford, MD working with F.M. Flowers in Long Island and Chris Davis working with Bill Mook in Maine) reported that there is a strong genetic component to resistance to JOM. Offspring from parents that survived exposure to the disease had MUCH better survival than those from parents who had never been exposed. This bodes well for efforts to breed a resistant strain of oysters.

Farley and Lewis also showed that JOM is not transmitted in low salinity waters (<14 ppt). They also repeated earlier filtration experiments that appeared to indicate that the culprit occurs in the 5 to 25 mm size range of the oyster.

Eugene Small from UMD presented compelling evidence that JOM may be caused by an undescribed suctorian ciliate that is a parasite in a stichotrich ciliate. At some point the smaller ciliate breaks out of its host and invades the mantle tissue of small oyster seed, causing lesions and bleeding. Farley believes that the small juveniles are unable to repair the

tissue damage, but that at some point they gain the ability to fight off the infection, explaining why JOM rarely causes mortalities in animals over 25 mm.

Abstracts from this meeting will be published in the June issue of the *Journal of Shellfish Research*.

Robert Rheault

## Notes from the Treasurer

Transition of the books from past Treasurer, Steve Tettelbach, to myself has proceeded relatively smoothly. By now, you should be in receipt of your annual dues notice for 1995. To help out in the bookkeeping, I urge you to pay your dues promptly. Below are a few reminders which will help ensure the smooth operation of the NSA treasury.

**Credit Card Payments:** Some of the members are choosing to use the VISA/MC option to pay their dues. This service was originally set up for foreign members only, but several U.S. members are using the service as well. Please remember that if you choose to pay your dues with a credit card, you will be charged the \$2 surcharge to cover the cost of this service. Please read the bottom paragraph of your invoice carefully before selecting your method of payment.

**Please pay in U.S. Currency:** It is a little unusual for the Treasurer's position to be located outside of the U.S., but the NSA bank account is currently located at a bank in Bellingham, Washington to avoid any difficulties in moving it across the border into Canada. Please remember to pay all NSA invoices in U.S. dollars. Although I am located in Canada, all transactions are carried out in U.S. dollars. It is particularly important to remind the comptroller's office for those of you who pay for page charges, etc. through your institution. Recently, I have received a few payments in Canadian dollars and have had to re-invoice those parties.

**1995 Meeting in San Diego:** Initial estimates indicate that NSA will receive \$34,170 in proceeds from Aquaculture '95. In total, 146 attendees indicated that they were a NSA member. The student endowment fund grossed over \$8,000 in four short days (see cover story). This is a great boost towards our goal of providing increased financial assistance to NSA students.

**Missing members:** If anyone knows the whereabouts of the following members, please forward their address to Christine Hodgson (see back page for address):

Dale Mulholland (last address in Tampa, FL)  
Lee R. Crockett (Washington, D.C.)  
Caroline L. Baier-Anderson (Springfield, VA)  
Thomas Watson (Rockport, ME)  
Roy Gordon (San Francisco, CA)

Christine Hodgson



## Noteworthy Newsgroups

For those of you who ride the information superhighway, here are a few listings of Usenet newsgroups that might be of interest. For those of you still trying to figure out what all the fuss is about, let me very briefly explain: Usenet newsgroups are basically electronic discussion groups. You access them through Internet, the world's largest computer network of networks that reaches every continent and just about any country with which you'd care to communicate. Usenet is basically a huge computerized bulletin board containing googolplexes of messages and articles, subdivided into newsgroups which discuss topics of related interest. You can access a specific newsgroup by subscribing to that group. Access to newsgroups varies depending on your local computer system, but it's usually pretty simple to master (try it!). Once you have the hang of it, you can pick up all sorts of useful tidbits, start or enter discussions, beg for help on sticky experimental problems, locate colleagues, and make announcements. Listed below are a few newsgroups that might contain topics of interest to NSA members.

- [bionet.molbio.molluscs](#) (mollusc molecular biology network moderated by Elizabeth Boulding)
- [bionet.announce](#) (announcements of general interest to biologists)
- [bionet.jobs](#) and [bionet.jobs.wanted](#) (say no more!)
- [bionet.journals.contents](#) (just tables of contents - the list is growing all the time)
- [bionet.molbio.methods-reagents](#) (a great resource for gel jocks)
- [bionet.sci-resources](#) (funding agency information)
- [news.newusers.questions](#) (go here first to learn "netiquette" and basic rules)
- [sci.bio.ecology](#) (general ecology)
- [sci.aquaria](#) (strictly scientific postings about aquaria)

Usenet newsgroups are a bit different from standard email mailing-list discussion groups in that you don't automatically get messages sent into your mailbox in Usenet and you do with mailing lists. There are three mailing-list discussion groups that NSA members should know about. I hope that most of you are already aware of the SHELLFISH discussion group. Scott Siddall coordinates this forum for job announcements and a wide variety of shellfish-related information. Job seekers can send their single-spaced, one-page resume to the NSA recruits, who will post the resume on the network. Resumes will automatically be reposted each month. To join this discussion group, send the message **SUBSCRIBE** to [SHELLFISH-REQUEST@KENYON.EDU](mailto:SHELLFISH-REQUEST@KENYON.EDU). After you've subscribed you can post messages to [SHELLFISH@KENYON.EDU](mailto:SHELLFISH@KENYON.EDU). Another discussion group of interest is [AQUA-L](#), a general aquaculture forum, which can be subscribed to by sending the message **SUBSCRIBE <YOUR NAME> AQUA-L** to [LISTPROC@UPEL.CA](mailto:LISTPROC@UPEL.CA). Messages can then be posted to [AQUA-L@UPEL.CA](mailto:AQUA-L@UPEL.CA). The **COASTNET** Listserv list is a forum to discuss national and international coastal management issues, and is jointly facilitated by The

Coastal Resources Center and The Department of Marine Affairs at the University of Rhode Island. This forum encourages dialog on coastal management issues from all nations, and is based on the belief that coastal resource planners, managers, researchers, and users from the developed and developing world have much to learn from and contribute to each other. To subscribe, send the message **SUBSCRIBE COASTNET** to the address [LISTSERV@URIACC.URI.EDU](mailto:LISTSERV@URIACC.URI.EDU).

The Aquaculture Network Information Center, [AquaNIC](#), is a gateway to the world's electronic resources in aquaculture. [AquaNIC](#) is maintained at Purdue University in West Lafayette, Indiana. [AquaNIC](#) uses a Gopher server located in the libraries of Purdue University Cooperative Extension Service. You can access [AquaNIC](#) through Gopher, Mosaic, and telnet. To reach [AquaNIC](#) through Gopher, use the address (or so-called uniform resource locator, or URL) <gopher://thorplus.lib.purdue.edu/11/databases/AquaNIC>. If you want to "telnet" to Purdue directly, telnet to the address: <lib.purdue.edu>. When the connection is established you will be prompted to login. At the login prompt type: **lynx** (this must be lower case letters). You will then be prompted for a password. There is no password, so press return. The first screen contains a list of 10 menu items. [AquaNIC](#) is located in the menu "Purdue University Databases".

Resources connected to the Internet are expanding at an exponential rate - shellfish information is no exception! The most rapid growth is happening in the World Wide Web - a system somewhat like Gopher with one important exception. Instead of having to browse through menus of information presented by individual institutions, the Web links related subject materials regardless of location. Find a document on Prince Edward Island's shellfish growing area classification program and it points to other related resources, which in turn point to still other resources. For those of you who enjoy a direct connection to the Internet and can use Mosaic or Netscape or any of the other "browsers" for the World Wide Web, you ought to connect to one of the many Web search sites out there. Do a keyword search on "shellfish." On January 15, 1995, one such search revealed 76 unique resources on shellfish. There's really no point in printing a list of all these resources here - the list is already out of date, and if you can access the information through the Web, you can use Web searching tools to get the latest list anyway. To make information access particularly easy, the list you get from a Web search is itself a "living" Web document - point and click on each resource on the list and you're taken there... wherever "there" is for that information.

Some examples of shellfish resources discovered on the Internet recently:

From the UK comes the table of contents of the Journal of Fish and Shellfish Immunology - from Vermont comes information on the Commercial Fish and Shellfish Technologies program - NMFS Oxford Lab gives us a summary of their research projects - the FDA has a Web site mentioning several shellfish-related issues including *Vibrio* - ICES has a detailed World Wide Web "homepage" full of information - and don't



miss the Creole and Cajun Recipe Page - more than one shellfish recipe!

NSA members should also be aware that NSF now has an electronic information dissemination service through Internet which provides access to all of their publications. There are various methods for accessing the system (a flyer is frequently attached to program announcements), but an easy way to receive a list of all of the documents available on the Science & Technology Information System (STIS) is to send an email message to [stisserv@nsf.gov](mailto:stisserv@nsf.gov) with the text of the message reading: **get index**

If you know of other newsgroups or electronic mailing lists of interest, please drop an email to [mkrause@sunburn.liunet.edu](mailto:mkrause@sunburn.liunet.edu) (IF our network is working). Faxes work, too (see back cover).

Scott Siddall and Maureen Krause

## Upcoming Meetings

***Parasitism in Aquaculture: Strategies for Immunological Control:*** May 11, 1995, Rimouski, Quebec, Canada. Component of the 1995 Parasitology Section, Canadian Society of Zoologists annual meeting. Contact Simon Jones for information at Atlantic Veterinary College, Prince Edward Island, Canada, email: [SIMJONES@UPEI.CA](mailto:SIMJONES@UPEI.CA)

***Pearls '95 International Conference & Exposition:*** May 13-18, 1995, Maui, Wailea, Hawaii, USA. International forum for the pearl industry. For an idea of the scope of this meeting, see the abstracts from Pearls '94 which appeared in the *Journal of Shellfish Research*, vol. 13(1). For information contact Crest International. Phone: (415)595-2625; FAX: (415)595-3379.

***Association of Marine Laboratories of the Caribbean:*** June 3-6, 1995, MacLean Marine Science Center, St. Thomas, US Virgin Islands. The 27th meeting will cover biology, ecology, oceanography and archaeology. Contact James F. Battey for more information at MacLean Marine Science Center, University of the Virgin Islands, #2 John Brewer's Bay, St. Thomas, U.S. Virgin Islands 00802. Phone: (809)693-1381, FAX: (809)693-1385, email: [jbattey@uvi.edu](mailto:jbattey@uvi.edu)

***Aquaculture Canada '95:*** June 4-7, 1995, Coast Bastion Inn, Nanaimo, BC, Canada. 12th annual meeting and trade show of the Aquaculture Association of Canada. This year's theme is "Aquaculture and the Environment: an Essential Partnership." For information write to Aquaculture '95, Unit 537 9-B, 150 Terminal Ave., Nanaimo, B.C. V9S 5T8, fax (604)753-6329, or call (506)529-4766.

***Sustainable Aquaculture '95:*** June 11-14, 1995, Honolulu, Hawaii. International symposium and exhibition fostering sustained aquaculture in both developing and developed countries. If interested, please contact: PACON International, P.O. Box 11568, Honolulu, Hawaii 96828. Phone: (808)956-6163; FAX: (808)956-2580; email: [saxena@wiliki.eng.hawaii.edu](mailto:saxena@wiliki.eng.hawaii.edu)

***II Congreso Latinoamericano de Malacologia:*** July 11-16, 1995, Pontificia Universidade Catolica do Rio Grande do Sul, Porto Alegre, Brazil. Sessions will be held in both Spanish and Portuguese. For information contact: Office Marketing Ltda., Rue Cel. Andre Belo, 452 cj 301, Menino Deus, CEP 90110-020, Porto Alegre, Rio Grande do Sul, Brazil.

***48th Annual Maine Lobster Festival:*** August 3-6, 1995, Harbour Park, Rockland, Maine. Contact Maine Lobster Festival, Rockland, Maine for information. Phone: 1-800-LOB-CLAW.

***International Society for Invertebrate Reproduction, 7th International Congress on Invertebrate Reproduction:*** August 5-11, 1995, Santa Cruz, California, USA. An international forum for all those interested in any aspect of the reproductive biology of invertebrates. For more information, contact John Pearse. Phone: (408)459-2455; FAX: (408)459-4882; email: [pearse@biology.ucsc.edu](mailto:pearse@biology.ucsc.edu) or Hans Laufer. Phone: (203)486-4117; FAX: (203)486-4331. Deadline for registration and receipt of abstracts is March 31, 1995.

***Larval Biology Meetings:*** August 16-19, 1995, Harbor Branch Oceanographic Institution, Ft. Pierce, Florida. Second biennial meeting. Contact Dr. Craig Young for information at: Dept. of Larval Ecology, Harbor Branch Oceanographic Institution, 5600 U.S. Hwy 1 N, Ft. Pierce, FL 34946, U.S.A.. Phone: (407)465-4200, FAX: (407)468-0757, email: [youngc@roo.fit.edu](mailto:youngc@roo.fit.edu)

***Larvi '95:*** September 3-7, 1995, University of Ghent, Belgium. Fish and shellfish larviculture symposium. (Note new dates!) For further information please contact: Larvi '95 Conference Secretariat, Laboratory of Aquaculture and Artemia Reference Center, University of Ghent, Rozer 44, B-9000 Gent, Belgium. Phone: 32-9-2643754; FAX: 32-9-2644193, email: [magda.vanhooren@rug.ac.be](mailto:magda.vanhooren@rug.ac.be)

***The 5th International Tasmanian Aquaculture Exchange:*** October 14-16, 1995, Hobart, Tasmania. The Exchange includes a conference and trade show. The theme of this year's meeting is "From Culture to Customer", and will focus on practical aspects of aquaculture. For details contact Tony Smithies, Exec. Officer, Tasmanian Salmonid Growers Association, GPO Box 1614 C, Hobart, Tasmania, Australia 7000. Phone: +61 02 242521, FAX: +61 02 243006, email: [tonys@ozemail.com.au](mailto:tonys@ozemail.com.au)



### Meetings, continued

**Estuarine Research Federation:** November 12-16, 1995, Corpus Christi, Texas. This year's theme is "Estuaries: Bridges from Watersheds to Coastal Seas." The absolute deadline for receipt of abstracts is June 15, 1995. Email for more information: ERF95@utmsi.zo.utexas.edu or call (512)985-9266.

**World Aquaculture '96 and Bangkok Seafood Show:** January 30 - February 2, 1996, Queen Sirikit National Convention Center, Bangkok, Thailand. Annual meeting of the World Aquaculture Society. Abstract deadline is July 15, 1995. For information contact Sea Fare Expositions, Inc., 850 NW 45th St., Seattle, WA 98107. Phone: (206)547-6030, FAX: (206)548-9346.

**Aquaculture America '96:** February 14-17, 1996, Arlington, Texas. Joint conference of the National Aquaculture Association and the U.S. Chapter of the World Aquaculture Society, hosted by the Texas Aquaculture Association. Abstract deadline July 15, 1995. For details contact Sea Fare Expositions, Inc., 850 NW 45th St., Seattle, WA 98107. Phone: (206)547-6030, FAX: (206)548-9346.

**Second World Fisheries Congress:** July 28 - August 2, 1996, Brisbane Convention & Exhibition Centre, Brisbane, Queensland Australia. Hosted by the Australian Society for Fish Biology, the congress theme is "Developing and sustaining World Fisheries Resources: The state of science and management". The meeting will bring together industry, scientists, and managers from around the world. Deadline for abstract submission is August 31, 1995. For details contact the Congress Secretariat at P.O. Box 1280, Milton Qld 4064, Australia. Phone (+617)369-0477, FAX: (+617)369-1512, email: im@cc.uq.oz.au



### How to Join the National Shellfisheries Association

Fill out and mail a copy of the application form below. The dues are US \$45.00 per year (\$25.00 for students). Membership entitles you to receive the *Journal of Shellfish Research* and the Quarterly Newsletter!

#### NATIONAL SHELLFISHERIES ASSOCIATION - APPLICATION FOR MEMBERSHIP (NEW MEMBERS ONLY)

Name \_\_\_\_\_ For Calendar Year \_\_\_\_\_ Date \_\_\_\_\_

Mailing Address \_\_\_\_\_

Institutional Affiliation, if any: \_\_\_\_\_

Shellfisheries interests: \_\_\_\_\_

Regular or Student membership? \_\_\_\_\_

Student members only - Advisor's signature REQUIRED \_\_\_\_\_

Make checks (MUST be drawn on a US bank) or international postal money order for \$45.00 (\$25.00 for students with advisor's signature) payable to the National Shellfisheries Association and send to Ms. Christine Hodgson, BC Ministry of Agriculture and Fisheries, 2500 Cliffe Avenue, Courtenay, BC V9R 5M6 Canada. Note: Effective October 1994, dues have been raised from \$40.00 to \$45.00.



## Books and Publications

Soon to be released . . .

### SPECIAL ISSUE

#### *Journal of Shellfish Research* *Perkinsus marinus* Disease of Oysters

William S. Fisher, Guest editor

This special issue of the *JSR* was initiated at the 1993 NSA meeting in Charleston, South Carolina. A full-day session was presented on *Perkinsus marinus* disease of oysters, and many of those papers are included in this upcoming issue. Due to the importance of this disease to the oyster industry and to oyster populations that have a vital role in the environmental condition of estuarine ecosystems, this issue is sponsored by the National Oceanic Atmospheric Administration, Chesapeake Bay Office and the U.S. Environmental Protection Agency, Center for Marine and Estuarine Disease Research. NSA members will receive one copy of this volume free of charge, and additional copies are available for \$20.00 (U.S.). Please send your order for additional copies to Dr. Sandy Shumway (see address on back page).



#### *Swimming through Troubled Water,* *Proceedings of the Special Session* *on Shrimp Farming, Aquaculture '95*

Edited by Craig L. Browdy and Stephen Hopkins

This volume contains papers presented at Aquaculture '95, February 1-4, 1995, in San Diego, CA. The session was organized by George Chamberlain, Craig Browdy, Steve Hopkins, Bob Rosenberry and Gary Pruder, and the proceedings were published by the World Aquaculture Society with support from The South Carolina Department of Natural Resources, Ralston Purina, and The Oceanic Institute's Asian Interchange Program. Copies of the special session papers are available from the World Aquaculture Society, 143 J.M. Parker Coliseum, LSU, Baton Rouge, LA, USA 70803. The price is \$35.00 (U.S.) for non WAS members or \$30.00 for members plus \$5.00/volume shipping and handling.

Reviews of the following books will be published in upcoming editions of the *NSA Quarterly Newsletter*:

*Cold Water Aquaculture in Atlantic Canada, 2nd edition.* Edited by Andrew D. Boghen, Université de Moncton. Canadian Institute for Research on Regional Development, Université de Moncton, Moncton, New Brunswick, Canada E1A 3E9. \$59.00 (Canadian) plus either \$3.00 postage and 7% GST in Canada, or \$5.00 postage (\$3.00 each additional copy) in the U.S. Overseas orders should include \$15.00 postage (\$5.00 for each additional copy) for airmail shipment.

*Strombus gigas: Queen Conch Biology, Fisheries and Mariculture.* Edited by R.S. Appeldoorn and B. Rodriguez. Proceedings of a two-day workshop and roundtable discussion on queen conch fisheries, biology, mariculture and management, July 15-18, 1991, in conjunction with the First Latinoamerican Malacological Congress, Caracas, Venezuela. Available from Bladimir Rodriguez Quintal, Distribuidora Iocus, N. 9497, POBA International No. 100, P.O. Box 02-5255, Miami, FL 33102-5255, USA. \$30.00 (U.S.) for delivery to the American Continent and the Caribbean, and \$45.00 in other continents (includes postage and handling).

*Folk Management in the World's Fisheries: Lessons for Modern Fisheries Management.* Edited by Christopher L. Dyer and James R. McGoodwin. University Press of Colorado, P.O. Box 849, Niwot, CO 80544. \$24.95 (U.S.) plus \$3.00 shipping and handling (\$1.00 for each additional copy).

### Sponsor a Clam!

If you're looking for the unique or hard-to-find shellfishy gift, the Shellfish Series is for you. This company specializes in the unusual - for just \$2 you can sponsor a clam (complete with a letter from Clamlet, a laminated clam sponsor card, and a photo of the clam's pond)! The Shellfish Series graciously donated several items for recent Student Endowment Fund auctions, from bumper stickers to posters, so you may already be familiar with their product line. To subscribe to "Clam-O-Gram", their humorous newsletter/catalogue, send \$2 to Shellfish Series, 115 N. Race St., Georgetown, DE 19947, or call (302) 856-0026 for more information. Scallop O'Hara and Oyster Wilde thank you!



### ***Back issues - Get them while they last!!***

The supply of *Journal of Shellfish Research* back issues is rapidly dwindling. If you're interested in ordering volumes 1(2), 2(1), 2(2), 5(2), or 6(1), this may be your last chance. Price: \$5.00. Postage: one issue postage-free, all other orders, add \$4.00.

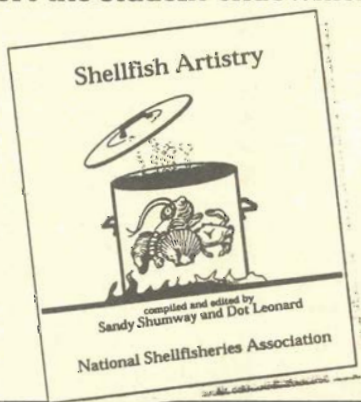
### ***Hats, Hats, Hats***

We still have a fantastic selection of official NSA baseball caps available! They come in a rainbow of colors and feature the NSA logo shown on the back page of the newsletter - and they're just \$10! Please specify your first two colors of choice with order. Profits benefit the Student Endowment Fund.

To order, please send your complete mailing address, list of items requested, and a check, money order, or VISA number payable to National Shellfisheries Association to Sandy Shumway, Division of Natural Science, Southampton College, Southampton, N.Y. 11968.

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SOUTHAMPTON, NY 11968

## **Pacific Coast Section**

The fall meeting of the Pacific Coast Section of the National Shellfisheries Association will be held at the Embassy Suites Hotel in Lynnwood, Washington (near Seattle) on October 1 - 3, 1995. Please contact Susan Bower (604) 756-1077 for more information.

Results from the recent PCS elections are as follows: Susan Bower, Chair; Anja Robinson Vice-Chair; Sylvia Yamada, Secretary-Treasurer. Joth Davis, Dominique Hervio, Bob Sizemore and Doug Thompson were elected as Members-at-Large. Carolyn Friedman will continue as Newsletter Editor for the rest of this year.

Carolyn Friedman

## **Loco?**

If you haven't already done so, check out the October '94 issue of *Natural History*. The magazine featured an article by Louis H. DiSalvo, "Adiós, Locos?" which describes the biology and fishery of the unusual relative of the abalone, *Choncholepas concholepas*, or the "loco". DiSalvo's studies are an important step toward the conservation of this carnivorous gastropod, which is rapidly disappearing from its range along the Peruvian and Chilean coasts. Louis DiSalvo and Mel Carriker recently published some of their "loco" research in Volume 13 (1) of the *Journal of Shellfish Research*.

### ***Employment Opportunity***

**Research Associate Position**, Department of Fisheries and Wildlife Sciences, Virginia Tech, Blacksburg, VA. I seek a qualified aquaculturist to participate in the propagation of freshwater mussels in indoor and outdoor tanks at our aquaculture facility. Prefer an MS with experience in shellfish culture or recent Ph.D. Position to run for at least 2 years, with a salary of approximately \$30,000 / year. Starting date is July 1, 1995 or whenever a suitable candidate is selected. Closing date for application is June 1. Send your resume and cover letter to Richard Neves, Department of Fisheries and Wildlife Sciences, Virginia Tech, Blacksburg, VA 24061-0321.



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