

## President's Message

I hope that everyone is having a productive, enjoyable summer. With the long days and warm nights probably the last thing on anyone's mind is next January, and our Annual Meeting in Orlando (**Jan. 21-25**). However, it is now time to turn our attention to the meeting, at least for a while. Everyone should have received a special Aquaculture 2001 flier that outlines all of the important information for the triennial meeting. In summary, abstracts are due **July 31<sup>st</sup>**, early registration ends **December 5<sup>th</sup>**, and you should book your rooms at the Coronado Springs as soon as possible. When registering, remember to check the box next to NSA as one of your association memberships. Also, there is an error on the NSA membership application that came with the Aquaculture 2001 flier concerning membership dues. Dues for the current year (2000) are \$45.00 for regular and \$25.00 for student membership. Next year's dues (2001) are \$65.00 for regular and \$35.00 for student membership (also see Vice President Dave Bushek's column). More information about this meeting can be found in this *NSA Newsletter* and the NSA and WAS web sites.

Program Chairs Rick DeVoe and Jay Parsons, along with help from Sandy Shumway and Dave Bushek, are putting together a very exciting scientific program. The Chairs have organized a number of special sessions that focus on various aspects of shellfish culture, health, and physiology. There will also be sessions on broader topics that are relevant to shellfish such as aquaculture economics and management, and a special session especially for students on alternative careers for scientists. In addition, there will be the usual number of contributed sessions on a variety of topics related to shellfish biology and ecology, as well as sessions organized by the Fish Culture Section of AFS, and numerous sessions organized by the WAS. Such a combination of applied and basic science is sure to make for a very interesting and stimulating meeting, and I am certain there will be something of interest for everyone. Good science, a large trade show, and the Disney World venue, makes Aquaculture 2001 truly a meeting not to be missed.

On other topics, NSA **student members** should take note that

application information for the Carriker Student Research Grant, and Student Endowment Travel Awards are included in this *NSA Newsletter*. The Carriker Grant is a competitive award that provides \$1,000 for non-travel related expenses associated with undertaking Master's or Ph.D. research. I encourage all NSA student members to apply for this award. The Student Endowment Travel Awards provides meeting registration, hotel room, or both depending on merit of the application. Please be sure to include all of the supporting information that is requested for each application and pay close attention to application deadlines. Good luck to all student applicants!

Evan Ward  
President

## Membership Dues

***The new membership dues will  
be in effect January 1, 2001***

***Regular \$65  
Student \$35***

### ***In this issue:***

- ***Carricker Student Research Grant***
- ***Student Travel Award***
- ***Book Reviews***

## Aquaculture 2001 Program

Hopefully you've submitted an abstract to the Aquaculture 2001 Conference Manager or to your special session chair if you were invited to present at a special session. As of this writing, we have not yet compiled all the abstracts for invited or special sessions, but I can tell you the following.

There are 25 confirmed special session (see below), eight of which are specifically about shellfish and another 13 of which concern broader topics relevant to shellfish such as engineering, economics, sustainability, etc. Another 13 proposed special sessions were still pending confirmation (2 of which are specifically related to shellfish and 8 of which are on topics of interest to the shellfish community — legal issues, health management, careers, alternative species, etc.). Of course these will be bracketed by the always outstanding contributed poster and oral sessions on topics we've come to expect on shellfish biology, ecology, nutrition, genetics, reproduction, fisheries, culture, etc. And, for the first time, Aquaculture 2001 plans to dedicate a late afternoon session solely for the formal presentation of contributed posters.

The triennial meeting also hosts a wonderful trade show where you can meet representatives from many of the companies whom I am sure you purchase products from for your work and/or research. This is always a good opportunity to find out how new products (or even older ones you may not know about) can help you. This year's Trade Show is touted as THE MOST AQUACULTURE PRODUCTS, EQUIPMENT AND TECHNOLOGIES UNDER ONE ROOF! It will have the largest aquaculture trade show in the Western Hemisphere and one of the largest anywhere in the world with over 200 booths! The trade show will surround the poster session and will be situated adjacent to the oral presentation session rooms.

Several exciting activities are also planned. Aquaculture facilities are plentiful in Florida and the Florida Aquaculture Association is planning some very special tours. Details will be available in the final brochure that will be available at the web site below.

More detailed info about all aspects of the meeting is available on our web site ([www.shellfish.org](http://www.shellfish.org)), thanks to Karolyn Mueller Hanson, and you should have been mailed an information packet a few months ago. Here are some highlights:

**Registration:** The WAS web site (<http://www.wasmeetings.org/Pages/Orlando2001.html>) has all the information necessary for registering for Aquaculture 2001 meeting. In order to receive the lowest rates, your meeting registration form must reach the Conference Manager by **December 5, 2000.**

**Accommodations:** The meeting is being held at Disney's Coronado Springs Resort and you should book your room as

soon as possible – SPACE IS LIMITED. To receive discounted room rates for the meeting (only \$128.00 + tax !!) you must identify yourself as being registered for the Aquaculture 2001 conference. For reservations: 1-407-939-1020 or FAX 1-407-939-1012. Details about Disney's Coronado Springs Resort and other Disney hotels is available online at <http://disney.go.com/DisneyWorld/>.

**Travel:** For best airfares contact: Flight Coordinators, 800-544-3644, e-mail: [globaltc@gte.net](mailto:globaltc@gte.net), or via [www.flightcoordinators.com](http://www.flightcoordinators.com)

This is shaping up to be a fantastic meeting. I am looking forward to seeing you there.

Dave Bushek

### Special Sessions – Aquaculture '01

List of confirmed and pending special sessions and chair(s):  
Bivalves and Environmental Management (Voley & Fisher)  
Environmental Interactions and Shellfish Culture (Olin)  
Aquaculture Engineering (Summerfelt)  
Sustainable Shrimp Aquaculture (Browdy)  
Symposium - Aquatic Species Culture Since 1857 (Kelly)  
Ornamentals in Aquaculture (Creswell & Main)  
Innovative Approaches - Culture of Crustaceans (D'Abramo.)  
Biochemical-Physiological Approaches to *Perkinsus* (Chu & Reece)  
U.S. Trout Farmers  
American Tilapia Association  
U.S. Striped Bass Growers Association  
Stock Enhancement (Blankenship & Leber)  
Business Planning for Aquaculture (Rhodes)  
Responsible Marine Aquaculture (Stickney & McVey)  
Seafood Safety/HACCP in Aquaculture (Otwell)  
Aquaculture Education (Davis-Hodgkins & Landau)  
Salmonid Fish Nutrition (Dabrowski )  
Research for Sustainable Aquaculture (Costa-Pierce)  
In vitro Culture Systems for Shellfish Research (La Peyre & Moore)  
Gulf Coast Industry Program (Supan)  
Sea Urchin Culture (Devlin)  
Aquaculture BMPs and Codes of Practice (Boyd)  
AES Wksp - Intensive Aquaculture Technologies (Summerfelt)  
Toxic Algae and Shellfish Culture (Shumway)  
Shellfish Culture Diversification and Disease (McGladdery)  
Int'l. Assn. of Aquaculture Econ. and Mgmt. (Shang)  
Shellfish Sanitation (Moore)  
Legal/Regulatory Aspects - Offshore Aquaculture (Bridger)  
Overview of Chinese Aquaculture  
Alternative Aquaculture Species (Masser)  
Alternate Careers for Students (Ward)  
Aquatic Animal Health Management (Laramore)  
Propagated Fish/Wild Fish Genetic Interactions (Carmichael)  
Aquaculture and Water Supply and Quality (Flickinger)  
Aquaculture and Drug Resistance (Nickum)  
TBD (Jensen)  
Growth Processes-Farm-raised Salmon and Catfish (Kinnucan)  
Shrimp Sustainability (Chamberlain)

## Note Abstract and Membership Fee Errors for Aquaculture 2001

All NSA members should make note of the following errors regarding abstract submissions and registration for the upcoming Aquaculture 2001 meeting in Orlando.

First, our (that is, NSA members) abstracts get published in JSR. This is not a free service and is why there is an abstract fee during our annual meetings. The abstract submission forms produced by the Aquaculture 2001 Conference Manager inadvertently left off NSA abstract fees this year. Everyone submitting an abstract should include \$25 US to cover publication costs in JSR. If you already submitted the abstract you can send the fee to Dan Kreeger directly (see back of Newsletter), or pay when you get to the meeting. Without an abstract fee your abstract will not be published in JSR.

The registration forms also provide the opportunity to pay membership dues. This is intended for new members only. Current members will be billed after the new year as is normally done. Nonetheless, note that there was an error in student membership and the registration forms were printed before our last meeting in Seattle when we increased dues. For clarification, note the following regarding dues:

	For Year 2000	For Year 2001
Regular Membership	\$45	\$65
Student Membership	\$25	\$35

Sorry for any inconvenience and confusion that this might have caused.

Dave Bushek

## Application details for the Melbourne R. Carriker Student Research Grant

### **General Rules:**

Proposals will be reviewed by the NSA Awards Committee, which is an NSA standing committee chaired by the immediate Past-President. Notification of the successful applicant will be made by December 31, 2000.

The applicant must be a student member in good standing of the National Shellfisheries Association and currently enrolled as a MS or Ph.D. student in a recognized degree granting institution anywhere in the world. Students who have previously

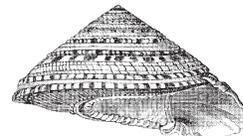
been awarded a Carriker Research Grant are not eligible to apply again. Grants will be made in the form of a check made personally payable to the recipient and no institutional overhead can be charged on these funds. The \$1,000 is designed to allow a student to purchase supplies and equipment essential to performance of their research. It is neither intended to allow purchase of general items, such as computers, nor to fund travel expenses associated with attending Professional Meetings. Students seeking travel support to attend NSA meetings should apply separately for money made available through the NSA Students Awards Committee. It is expected that students who are recipients of the Carriker Grant will present results of their research at one of the annual NSA meetings.

A completed application will consist of the following four components:

1. Cover sheet with the applicants name, professional address, phone number, email address, thesis title, degree being sought (MS or Ph.D.), date they entered the graduate program, and anticipated graduation date.
2. Text. Maximum of two pages single spaced 12 pt font plus one page for figures (if needed). This should include an introduction to the research problem being addressed and the objectives and hypotheses being tested. There should be a clear statement of how the funds being requested will further the student's research project. Literature cited section is not included in this page limit.
3. Budget page briefly itemizing how the \$1,000 being requested will be spent (e.g., \$150 for scintillation vials, \$200 for scintillation cocktail, \$120 disposable safety supplies, etc.).
4. A resume listing educational background, awards/honors, presentations at meetings, and publications.
5. A letter of endorsement from the student's major advisor must be attached at the back of the proposal confirming that the funds are necessary for the student's research.

Five copies of the application should be sent to reach the following address by **4 p.m. on September 30, 2000**. No faxed, electronic, hand written or late proposals will be considered.

Mr. Rick DeVoe, Chair NSA Awards Committee  
South Carolina Sea Grant Consortium  
287 Meeting Street  
Charleston, SC 29401



## **NATIONAL SHELLFISHERIES ASSOCIATION** **STUDENT ENDOWMENT FUND**

The National Shellfisheries Association Student Endowment Fund was established in 1989 to maintain and expand the participation of students in the Association. Contributions for the Fund are tax-deductible and are used to defray the costs associated with presenting oral and poster presentations at the Annual Meeting. The funds are administered by an appointed committee which reviews student applications and makes recommendations for disbursement of funds.

### **STUDENT ENDOWMENT/AWARDS** **AQUACULTURE 2001**

Students participating in the 2001 triennial meeting in Orlando are invited to apply for both **travel awards** and **presentation awards**. For consideration for either award, students must present only their original research. Recent graduates will also be considered if they present only research gathered while a student. A short description of these awards and the requirements for consideration follow. Please note that incomplete applications may not receive equal consideration for either type of award.

#### **PRESENTATION AWARDS**

At every annual meeting, the best oral and poster presentations by students are acknowledged.

The **Thurlow C. Nelson Award** is to be given for the outstanding **oral** presentation of research that represents a distinctive and valuable contribution to shellfisheries science. The award is named after the distinguished shellfish biologist who served as NSA President from 1931 to 1933 and contributed more than 125 papers, many relating to oyster biology. The award includes a certificate of accomplishment and membership for four years in the Association. Oral presentations are judged on the following aspects: a) written abstract, b) scientific content and relevance, c) oral and visual aspects of the presentation, and d) handling of questions.

The **Gordon Gunther Poster Award** is to be given for an outstanding **poster** presentation of research that represents a distinctive and valuable contribution to shellfisheries science. The award includes a certificate of accomplishment and membership for one year in the Association. Poster presentations are judged on the following aspects: a) written abstract, b) scientific content and relevance, c) quality of figures and text, and d) handling of questions.

#### **STUDENT TRAVEL AWARDS**

To facilitate student participation at the Aquaculture '01 meeting, travel awards will be granted to cover either registration and/or lodging. These funds are competitively awarded based primarily on abstract quality, and secondarily on financial need (i.e., distance of travel, support level).

## **AWARD REQUIREMENTS**

Students will only be considered for travel and presentation awards if they complete all of the following items. Students who do not need travel assistance but still wish to be considered for a presentation award **must** still complete these tasks.

1) Fill out the abstract submission form. Check the appropriate box(es) on the abstract submission form requesting consideration for student presentation awards and submit it to the **Conference Manager by July 31, 2000 deadline as instructed in the Call for Papers.**

2) Fill out the Student Endowment Award application form on the opposite page.

3) Obtain one letter of recommendation from your advisor or other faculty mentor. Letters may be included with your application or mailed separately.

4) Enclose in a separate envelope, the Student Endowment Award Application, a copy of your abstract and abstract submission form and the letter of recommendation, if available.

5) Mail your complete set of Student Endowment Award application materials (requirement 4) to Dr. Fu-Lin Chu or Dr. Maureen Krause (contact information on back page) by **August 31, 2000.**

Note that two envelopes must be mailed - the first should be sent to the Aquaculture '01 Conference Manager, and the second to the NSA Awards Committee. Please forward any questions concerning student awards to either Fu-Lin Chu or Maureen Krause (contact information on back page). Good Luck!

## **3<sup>rd</sup> ICMSS at** **Southampton College**

Sandy did it again. Over 150 participants from 31 countries came together from June 19 to the 23 at Southampton College for the 3<sup>rd</sup> ICMSS. Scientists, managers, and policy makers were all able to share information on topics ranging from water quality and disease to management and monitoring. By the end of the meeting all who attended had agreed to a few things: *Vibrio* is bad, PowerPoint Presentations are effective if you have a capable A/V person, and Publick House beer is very good. It was decided that the 4<sup>th</sup> ICMSS would be held in Galicia, Spain. Hope to see you there and again bravo to Sandy for putting together a great meeting.

Steve Allen (A/V person at the meeting)

## **Judges Wanted for Student Endowment Fund Awards**

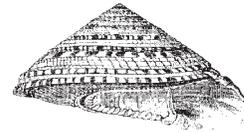
Have you ever bought a shellfish pin or silk tie emblazoned with blue crabs at an NSA Annual Meeting? Attended the Audacious Auction and bid on a T-shirt? Wonder where the money goes? It goes to the Student Endowment Fund of NSA, which provides travel and registration assistance to students presenting at our Annual Meetings. The NSA is deeply committed to helping our undergraduate and graduate students become active in the field of shellfish research and in our association, and we do so by encouraging students to attend our Annual Meetings. This year's Triennial meeting is an especially great opportunity for students to meet those involved in all aspects of the aquaculture industry, and for them to be seen and heard by a large audience. We need **your help**, however, to make this possible. If you are willing to judge travel award applications before the meeting, or to judge student presentations during the meeting, please contact the co-chairs of the Student Awards Committee, Dr. Fu-Lin Chu and Dr. Maureen Krause (contact information on back page).

**Attention faculty advisors:** Don't forget to write those letters of recommendation for your students applying for SEF awards!

## **Shellfish Courses**

**Intensive Shrimp Culture** - Course offered by Harbor Branch Oceanographic Institution - Aquaculture Center for Training, Education and Demonstration - Aug. 14-18 Ft. Pierce, FL The details of these practical aquaculture courses can be found on: [www.aquaculture-online.org](http://www.aquaculture-online.org) Or contact Megan Davis-Hodgkins, Kim Dees or Tina Powell for a 2000 course catalog: Tel: 1-800-333-4264 or 1-561-465-2400 ext. 416 FAX: 1-561-466-6590 email: [acted@hboi.edu](mailto:acted@hboi.edu)

**Bivalve Hatchery Operations** - Oct. 23-27- Course offered by Harbor Branch Oceanographic Institution - Aquaculture Center for Training, Education and Demonstration - Ft. Pierce, FL The details of these practical aquaculture courses can be found on: [www.aquaculture-online.org](http://www.aquaculture-online.org) Or contact Megan Davis-Hodgkins, Kim Dees or Tina Powell for a 2000 course catalog: Tel: 1-800-333-4264 or 1-561-465-2400 ext. 416 FAX: 1-561-466-6590 email: [acted@hboi.edu](mailto:acted@hboi.edu)



### **STUDENT ENDOWMENTS AND AWARDS**

#### **APPLICATION FOR THE 93rd ANNUAL MEETING OF THE NATIONAL SHELLFISHERIES ASSOCIATION Orlando, Florida, January 21-25, 2001**

**NAME:** \_\_\_\_\_

**INSTITUTION:** \_\_\_\_\_

**IS THIS AN ORAL OR POSTER PRESENTATION?      ORAL      POSTER      (Circle one)**

**DO YOU WANT TO BE CONSIDERED FOR A PRESENTATION AWARD?      YES      NO      (Circle One)**

**DO YOU WANT TO BE CONSIDERED FOR A TRAVEL AWARD?      YES      NO      (Circle one)?**

**PRESENTATION TITLE (Attach a copy of abstract form):**

\_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

\_\_\_\_\_

**PHONE:** \_\_\_\_\_ **EMAIL:** \_\_\_\_\_

**REFERENCE (Advisor / Mentor):** \_\_\_\_\_

**APPLICANT'S SIGNATURE:** \_\_\_\_\_

***DEADLINE FOR RECEIPT OF APPLICATION IS August 31, 2000!***

## Recruits Corner

Hello students! I hope everyone is having a fun and productive summer. The deadline is drawing near (**July 31<sup>st</sup>**) for submission of abstracts and travel/award applications for the upcoming triennial Aquaculture '01 meeting in Orlando. We would like as many students as possible to attend this years meeting.

As Lisa Milke mentioned in the last *NSA Newsletter*, we would like there to be more involvement by recruits. For those of you who would like to become more involved, there will be a variety of activities such as helping out with registration and A/V. Those of you who would like to work and get paid need to send their contact information and when you will be in Orlando to John Cooksey (worldaqua@aol.com or FAX: 1-760-432-4275).

As everybody knows rooms are limited and for students rather expensive (\$128/night). If you do not want to stay at Coronado Springs, but still would like to remain on Disney's property the nearest resort is the All Star Sports resort. It is located ½ mile away and rates start at \$77 per night. The only drawback is that there is no transportation between resorts and in order to get to Coronado Springs you need to cross a major freeway, which means you need to have a car. One other option is to stay at the local Days Inn that has rates starting at \$33 per night. If you have already made reservations at Coronado Springs and are looking for students to share the cost, send me your contact information and I will get back to you with the names of other students who are also in need.

And finally, if you have any questions, concerns, or comments about the upcoming meeting or NSA in general, do not hesitate to contact me. After all that is what I am here for, to help get the voice of the recruits heard. My email and contact information is located on the back cover.

Cheers,  
Steve Allen  
Student Contact

**Visit the NSA Web  
Site for the latest  
updates  
<http://shellfish.org>**

## NERRS To Offer Student Research Opportunities:

This is a 'heads up' for all you graduate students in need of support.

The National Estuarine Research Reserve System (NERRS) offers Graduate Research Fellowships (GRFs) at their 25 protected estuarine areas in the United States that are designated, developed, and managed for research and educational purposes. The NERRS GRF program is intended to fund high quality research focused on improving coastal zone management while providing students with hands-on training in conducting ecological monitoring. A formal announcement has not been made for this year's competition as of the writing of this article (7-13-00), but should be made in the Federal Register soon. These are excellent opportunities for graduate students to obtain support for themselves and their research, particularly if there is an environmental component to their research that involves estuaries. In 2000, 34 GRFs were available to qualified graduate students. In 1999, NSA member Rebecca Ellin was awarded a GRF at the North Inlet-Winyah Bay NERR in South Carolina. She presented some of her work last year in Seattle. Last year's recipients received up to three years of support at \$16,500/annum to be used for salary, living expenses, tuition, fees and/or research supplies.

The fellow's research must take place within at least one Reserve. Fellows must contact their host Reserve to discuss research and training opportunities must work with the Research Coordinator or Reserve Manager to develop an ecological monitoring education program for up to 15 hours per week. Fellowships must be matched by the applicant by at least 30% of the TOTAL project cost (see your advisor about creative ways to identify matching funds).

Students admitted to or enrolled in a full-time master's or doctoral program at U.S. accredited colleges and universities are eligible to apply. It is expected that they have completed a majority of their course work at the beginning of their fellowship, as well as an approved thesis research program.

Applications are usually due **November 1, 2000**. Now is the time to contact a NERR site near your university to see if they are interested in supporting your research at their site. For more information go to the NERRS web site: [http://www.nos.noaa.gov/ocrm/nerr/nerr\\_ad.htm](http://www.nos.noaa.gov/ocrm/nerr/nerr_ad.htm) or contact Erica Hubertz:

Program Specialist  
NOAA/Estuarine Reserves Division  
SSMC4, N/ORM5  
1305 East-West Highway  
Silver Spring, MD 20910  
[erica.hubertz@noaa.gov](mailto:erica.hubertz@noaa.gov)

## Book Review

**Oyster Reef Habitat Restoration: a Synopsis and Synthesis of Approaches** edited by Mark Luckenbach, Roger Mann and James Wesson. (1999) VIMS Press. 366pp. Hard back \$49.95 (+\$2.50 S&H), Softback \$29.95 (\$2.10 S+H). To order, contact Wanda Cohen at VIMS Publication Department, FAX: (804) 684-7573 or email wcohen@vims.edu.

The editors of a symposium proceedings entitled *Oyster Reef Habitat Restoration: a Synopsis and Synthesis of Approaches*, state that 'the primary purpose of the symposium was to bring together state fisheries managers involved in fisheries-directed oyster enhancement and research scientists to refine approaches for enhancing oyster populations and to better develop the rationale for restoring reef habitats'. They conclude that the symposium and the research behind it have successfully contributed to a broader acceptance of the ecological, rather than the fisheries, role of oysters in estuaries. And, although somewhat dated by 4 years in the making, the proceedings volume should add to that momentum. The chapters that elaborate the 'value-added' ecological aspects were enlightening. Two ecological functions were emphasized: the filtering capacity of oysters brings increased metabolism and nutrient cycling to the system and creation of 3-dimensional reef habitat supports a greater diversity of organisms that, over time, lead to increased specialization and organization of the community.

The potential role of oyster reefs as habitat for other organisms is portrayed in three chapters, including a field study in South Carolina (Chapter 9), field and mesocosm studies in North Carolina (15) and field observations in Chesapeake Bay (16). Taken together, these chapters begin to uncover the relatively obvious, but largely unheralded, fact that oyster shells provide substrate and refuge for flora and fauna, which in turn attract foragers and predators, all leading to a more diverse, more organized community and better ecosystem condition ('health'). The South Carolina field studies were incomplete, but ambitious and very relevant to understanding the use of oyster reefs by transient and resident species. Eventual reports from this study should establish a solid benchmark for future research and a strong basis for outlining habitat quality criteria.

The filtration capacity of oysters is perhaps more widely recognized as an important component of estuarine condition. The role of oysters as phytoplankton grazers and the control they can exert on phytoplankton biomass and dynamics is reiterated in Chapter 18. Using published data in trophic models, it is concluded that oysters speed the movement (flux) of nutrients through the estuary, thereby increasing the productivity and stability of the system. Another chapter (17) describes flume experiments that demonstrate influences of particle composition and flow speed on filtration rates of an oyster bed. Because rates were lower than previously reported in the literature, the authors contend that it is insufficient to

extrapolate in situ population-level filtration rates from laboratory measurements on single organisms. This type of critical examination is essential for developing a scientifically-defensible position on oyster restoration.

Given the added value of oyster reefs to the estuarine ecosystem, restoration could be motivated by several management goals (outlined in Chapter 14), that include recruitment to the fishery, a desire for increased spawning (for recruitment), increased biodiversity, and/or increased water filtration. This chapter offers a credible presentation of the options and contingencies that depend on the management objective and, in so doing, provide a framework to consider the placement, size, and shape of restored or replacement reefs. Other considerations, including susceptibility to disease, are described in subsequent chapters (22, 23).

Much of the proceedings volume, as indicated by its title, is dedicated to the different managerial practices currently available for oyster reef restoration. For those with general interest, Chapter 4 offers a straightforward overview of programs in the Gulf of Mexico and includes coherent definitions of terms and approaches used in oyster management. For those with a more specific interest, there are additional chapters relating to programs in Alabama (6), North Carolina (7) and Virginia (8), as well as one chapter on restoration efforts in Louisiana following Hurricane Andrew (5). Effectiveness of different management practices was also examined. In a section that emphasized alternative substrates for oyster settlement, two chapters (19, 21) describe the use of dredge materials a 'qualified success' and without adverse environmental consequences. Chapter 20 characterizes the differing qualities of clamshell, limestone, gravel, concrete and stabilized gypsum for cultch substrate. Other chapters (10-13) analyze the ability of oyster reefs to capture natural or cultured spat.

Historical perspectives of oyster reef evolution, geomorphology and physical oceanography (1-3) offer a unique view of how and why oysters live where they do (or did), particularly in the Chesapeake Bay. The information presented is not commonly available to oyster biologists working at the organismal level, but establishes a critical background for ecologically-relevant research at population and community levels. Chapter 1 also gives us a lamentable sense of the largesse that has been squandered during the last century.

This documentation of the Oyster Reef Habitat Restoration Symposium is a useful step toward recognition of oyster populations as critical, if not keystone, estuarine species. But the preliminary nature of several of these valuable contributions underscores the need for continued research to characterize the relationship of oysters to ecosystem integrity and to sustain critical examination of management techniques and restoration

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continue from page 7

strategies. Moreover, the document whets the appetite for additional information. For example, can water filtration by oysters provide ecosystem resilience through metabolism or sequestration of contaminants, harmful algal toxins and pathogens filtered from the water column? Can we begin to put an economic value on oyster reefs? How would the ecological value (in dollars) of oyster reefs compare to their value as a fishery? And is there similar historical information available for oyster reefs in the southeast U.S. and Gulf of Mexico as described for Chesapeake Bay? Perhaps we can look forward to a second volume in the near future.

Bill Fisher

## **Book Review**

**Bivalve Seashells of Western North America - Marine Bivalve Mollusks from Baja California to Arctic Alaska** by Eugene A. V. Coan, Paul Valentich Scott and Frank R. Bernard. (2000) Santa Barbara Museum of Natural History Monographs Studies in Biodiversity: Number 2; 764pp. \$99.00. (For ordering information see <http://www.sbnature.org/atlas/publicationindex.htm>)

Not since R. Tucker Abbott assembled *The Seashells of North America* has there been such a comprehensive treatment of bivalve mollusks. According to the Preface, this volume saw its beginnings some 35 years ago when Frank Bernard was asked to contribute a volume on the Bivalvia to a proposed series dealing with shelled marine molluscs of the northeastern Pacific Ocean. As often happens with such ventures, one does not fully comprehend the enormity of the project until well immersed therein. Frank Bernard wrote his Preface in 1989 shortly before his untimely death. Knowing that he would not be able to complete the volume, he had asked Gene Coan to complete the task and Gene in turn asked Paul Scott to help.

The volume contains descriptions of 479 species including 3 new ones. A welcome and novel component of the volume is the inclusion of questions that remain to be answered. This was done with the intent of enlisting malacologists in this work. There is a very comprehensive literature cited: 121 pages containing some 4800 references. The authors also include a geologic time scale and a geographic guide, a glossary, and a very usable index.

I enjoyed the Introduction wherein the authors present a 40 page primer on malacology including a short history of Eastern Pacific malacology, some general areas in need of further research (more specific areas are noted in the text), biogeography, basics of nomenclature, origin of the bivalvia, collection, preservation and study of molluscs, anatomy, shell structure, life habits and classification. I enjoyed even more

the chapter entitled "A Clam and Human Interactions". The next 10 pages are devoted to keys to superfamilies of bivalves covered in this volume and the book then goes into detailed descriptions of individual species.

There are a number of very helpful character tables, e.g., Species characteristics of the subfamily Mytilinae, Mactridae, etc. which clearly delineate the key characters (sculpture, shape, dorsal margin, ventral surface and beaks) of closely related species. These tables are easy to use and take the place of keys to individual species which do not appear in the text.

The descriptions of individual species vary with respect to detail, natural history information, and notable literature citations. This unevenness is clearly a direct result of the amount of information available for each species, e.g., consider the wealth of published data on the *Mytilus* complex or the Myids vs. that available for the Orcutt nakedclam, *Chlamydoconcha orcutti* or the Filatova dipperclam, *Rhinoclama filatovae*!

The book is lavishly illustrated with photographs of the individual species and a few randomly chosen line drawings of lesser quality and clarity. It is printed on high quality glossy paper. I truly believe this is an instant "classic". The 8 1/2 x 11 format coupled with a weight of >5 pounds will certainly preclude it being used as a field guide, but it will be a most welcome addition to any bookshelf and a must for libraries.

It is a sad note that Frank Bernard did not live to see the fruits of his labors ..... one has to believe he would be very pleased indeed.

Sandra E. Shumway

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## Book Review

**Marine and Freshwater Products Handbook** edited by Roy E. Martin, Emily Paine Carter, George J. Flick, Jr. and Lynn M. Davis. (2000) Technomic Publishing Co., Inc.; 964pp. Available from: Technomic Publishing Company, Inc., 851 New Holland Avenue, Box 3535, Lancaster, PA 17604. <http://www.techpub.com>; \$179.95

Billed as “the definitive seafood industry sourcebook”, what is most impressive about this volume is the breadth of information included—everything from descriptions of regional management councils to rules for kosher status. Chapters are included on: marine fisheries and management, harvesting, composition of marine and freshwater finfish and shellfish species and their products, osmoregulation in freshwater marine fishes, biology of commercial mollusk species (clams, oysters, scallops, abalone, Pacific snails, octopus, blue mussels), biology of commercial crustaceans (warmwater shrimp fisheries of the United States, lobsters, crabs), major marine finfish species, commercial harvest and biology of freshwater finfish species, other aquatic life of economic significance (eels, turtles, sea urchins, alligators, frog legs), processing and presentation of north Atlantic groundfish, processing of blue crabs, shrimp and king crab, handling and processing crawfish, the molluscan shellfish industry, preservation of squid quality, optional processing methods, further processed seafood, smoked, cured, and dried fish, specialty seafood products, processing of surimi and surimi seafoods, transportation, distribution and warehousing, introduction to HACCP, religious food laws and the seafood industry, design of quality and safety management systems for full-service retail seafood departments, seaweed products (red and brown algae of economics), fish meal and oil, fish protein concentrates, cultured pearls, industrial products (leather from fish skins, gelatin and isinglass production, insulin, hydrolysates, chitin and chitosan, waste composting), contamination in shellfish-growing areas, illnesses associated with consumption of seafood (human pathogens in shellfish and finfish, finfish toxins, shellfish toxins, health-related bacteria in seafood, viral diseases associated with seafood, health-related parasites in seafoods, seafood allergies and intolerances), consumer acceptance (marketing fish and shellfish, cookery, factors relating to finfish flavor, odor, and quality changes), aquaculture potential, fish and seafood import and export and future of the industry. All in all, a very interesting and informative read.

In what appears to be an effort to keep production costs low by not using high quality glossy paper, photographs are consequently of poor quality and low contrast. Illustrations in many cases should have been redrawn for this effort, e.g., there are many figures with hand written labels, dark backgrounds, and generally poor drawing. Some figures look more like cartoon renderings. Line drawings and photographs generally add to the text; however, this too is uneven. A quarter page drawing or photograph of a generic abalone or a hard clam

hardly seems necessary. Critical stippling did not reproduce well in some figures, and many photographs and figures do not provide credits.

I would also argue that all of the authors are not experts in the topics about which they have written. Depth of coverage varies between chapters, sometimes due to lack of data, sometimes due to lack of adequate coverage of the literature. How can one write about abalone without mentioning works by Scorseby Shepherd and the most recent proceedings of the International Abalone Conference, sea urchins without John Lawrence, oysters without Kennedy et al. (1996), or lobsters without mention of the recent tome by Jan Factor (1995)? The organism responsible for Neurotoxic Shellfish Poisoning has not been known as *Ptychodiscus* for many years, and reference to key reviews on commercially important shellfish and harmful algal blooms is absent from that section. Typos seem to be at a minimum; the index is good, and a list of pertinent web sites is provided. It will be interesting to see how many of these remain viable over time.

At ~4 pounds and an 8 1/2 x 11 format, this book hardly fits the handbook niche; however, as a reference volume it will be invaluable to a very wide readership.

Sandra E. Shumway

# AUCTION

**Spring cleaning? Unwanted Christmas presents? It's time to contribute to the next ANNUAL AUDACIOUS ACTION-PACKED AUCTION to benefit the STUDENT ENDOWMENT FUND.**

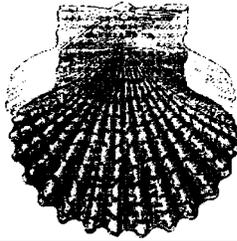
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## From the Newsletter Editor...

A big thanks goes out to Bill Fisher and Sandy Shumway for providing the book reviews in this current issue of the *NSA Newsletter*. The *NSA Newsletter* is a good vehicle for the promotion of new publications, so if you know of a recent publication (book, review, handbook, etc.), please let us know and we will arrange to have it reviewed by one of our members.

Jay Parsons



### Aquaculture '01 Auction

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**The aquaculture '01 meeting will be a large event so please start collecting any new or used shellfish-related items. These include, but are not limited to: books & other publications (historically important reprints), home brews and vintages, jewelry, artwork, and, of course, t-shirts and other articles of clothing.**

**Please bring items with you to the Aquaculture '01 meeting in Orlando, Florida or send to Sandy Shumway at the address on the back page.**

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## Upcoming Meetings

***ECSA-workshop on Community Ecology of Soft Bottom Mussel Beds:*** August 2-6, 2000, Wadden Sea Station Sylt, Island of Sylt, Germany. Topics to be covered include: (1) species interactions in mussel beds, (2) mussel beds and the influence of physical factors, (3) population ecology of *Mytilus edulis*, and (4) the role of mussel beds in the coastal ecosystem. For more information contact the Wadden Sea Station Sylt, Alfred -Wegener Institute for Polar and Marine Research (AWI), D-25992, Island of Sylt, Germany. Phone +49 4651 956 103, fax +49 4651 956 200 or email gbardt@awi-bremerhaven.de.

***2000 IV Latin American Aquaculture Conference & Exposition:*** October 25 - 28, at the Atlapa Convention Center in Panama, Republic of Panama. The official Annual Meeting of the Latin American Chapter of the World Aquaculture Society. For more information visit [www.was.org](http://www.was.org), or Director of Conferences and Sales: John Cooksey, voice +1-760-432-4270, fax +1-760-432-4275 or email [worldaq@aol.com](mailto:worldaq@aol.com).

***World Fisheries Congress III:*** October 31-November 3, 2000, Beijing International Convention Center, China. The conference is hosted by China Fisheries Society and jointly sponsored by Asian Fisheries Society, American Fisheries Society, World Aquaculture Society, and Australian Society for Fish Biology. The focuses include aquaculture, seafood technology, coastal zone management, fishery technology, management, and socioeconomic. For further information, contact web site [www.fisheries.moa.gov.cn](http://www.fisheries.moa.gov.cn) or email [csfish@agri.gov.cn](mailto:csfish@agri.gov.cn).

***East Coast Live: Marketing Live Aquatic Products 2000:*** November 1-4, 2000, Radisson Hotel, Annapolis, Maryland. For additional information contact: John Ewart, Delaware Sea Grant Marine Advisory Service, College of Marine Studies, University of Delaware, 700 Pilottown Road, Lewes, Delaware 19958 USA. Phone 302-645-4060, fax 302-645-4007 or email [ewart@udel.edu](mailto:ewart@udel.edu).

***Molluscs 2000:*** December 4-8, 2000, The University of Sydney, NSW, Australia. The conference is the second 3-yearly conference to be held by The Malacological Society of Australasia, aimed at bringing together people working on molluscs in the Indo-Pacific and Australasian regions. For more information contact Dr Winston Ponder phone 61 2 9320 6120, fax 61 2 93206050, or web site [www.austmus.gov.au/science/division/invert/mal/malsoc/confer3.htm](http://www.austmus.gov.au/science/division/invert/mal/malsoc/confer3.htm).

***Aquaculture 2001:*** January 21-25, 2001, Coronado Springs Resort, Disney World, Lake Buena Vista (near Orlando), Florida. Triennial meeting of the **National Shellfisheries Association**, World Aquaculture Society and the American Fisheries Society - Fish Culture Section. For more information

visit [www.was.org](http://www.was.org), or Director of Conferences and Sales: John Cooksey, voice +1-760-432-4270, fax +1-760-432-4275 or email [worldaq@aol.com](mailto:worldaq@aol.com).

***13th International Pectinid Workshop:*** April 18-24, 2001, Coquimbo, Chile. Deadline for submission of abstracts is November 1, 2000. For information contact the local organizing committee, IPW, Universidad Catolica del Norte, Facultad de Ciencias del Mar, Casilla: 117, Coquimbo, Chile. Fax (56) 51-209782 or email [pectinid2001@nevados.ucn.cl](mailto:pectinid2001@nevados.ucn.cl).

***Aquaculture Canada '01:*** May 6-9, 2001, Westin Nova Scotian in Halifax, NS, Canada. The theme for the 18th annual meeting of the Aquaculture Association of Canada will be "Moving Forward Through Partnerships". For more information contact Linda Hiemstra at email [hiemstra@mala.bc.ca](mailto:hiemstra@mala.bc.ca) or visit [www.mi.mun.ca/mi/aac](http://www.mi.mun.ca/mi/aac).

***International Commemorative Symposium 70<sup>th</sup> Anniversary of the Japanese Society of Fisheries Science:*** October 1-5, 2001, Pacifico Convention Plaza Yokohama, Yokohama, Japan. The symposium will consist of plenary sessions including keynote addresses, oral presentations, poster sessions and workshops on fisheries biology, environment and conservation, aquaculture, and others. The deadline for abstract submission is September 30, 2000. For more information contact web page [www.symp70yr.or.jp](http://www.symp70yr.or.jp) or secretariat Dr. Toshiaki Ohshima, Tokyo University of Fisheries, Konan 4-5-7, Minato, Tokyo 108-8477, Japan, phone +81-3-5463-0613, fax +81-3-5463-0627, or email [symp70yr@tokyo-u-fish.ac.jp](mailto:symp70yr@tokyo-u-fish.ac.jp).

If you know of any meetings, conferences or workshops that might be of interest to NSA members, please contact Jay Parsons at email: [Jay.Parsons@mi.mun.ca](mailto:Jay.Parsons@mi.mun.ca), phone (709)778-0307 or fax (709) 778-0535.

### ***13th International Pectinid Workshop***

April 18-24, 2001, Coquimbo, Chile. Deadline for submission of abstracts is November 1, 2000. For information contact the local organizing committee, IPW, Universidad Catolica del Norte, Facultad de Ciencias del Mar, Casilla: 117, Coquimbo, Chile. Fax (56) 51-209782 or email [pectinid2001@nevados.ucn.cl](mailto:pectinid2001@nevados.ucn.cl).

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