

# National Shellfisheries Association

## QUARTERLY NEWSLETTER



WINTER 1991

LEWES, DELAWARE

## Final Call for Papers - 1991 NSA Annual Meeting

The final call for papers for the 1991 NSA Annual Meeting has been announced by Vice-President and Program Chair Arnold Eversole. The meeting is scheduled for June 23-27, 1991 at the Sonesta Hotel in Portland, Maine. Our line-up of scheduled special sessions (to date) is as follows, with session chairs noted:

*Lobster Biology and Ecology* - Lew Incze (Bigelow Lab, Maine) and John Pringle (DFO, Nova Scotia)

*Economic Analysis for Shellfish Enterprises* - Bob Pomeroy (Clemson University, South Carolina)

*Oyster Recruitment in the Mid-Atlantic States* - Stephen Fegley (Rutgers Shellfish Research Lab, New Jersey)

*Scallops* - Mike Kaill (Marine Resources, Alaska) and Sandy Shumway (Marine Resources, Maine)

**NEW!** *Video Session* - Evan Ward (Memorial University, Newfoundland)

There are also sessions tentatively scheduled on Biology and Management of Economically Important Crabs, Molluscan Recruitment, Shell Microstructure and general contributed papers on reproduction, growth, culture, genetics, etc. Also in the planning stage is a special session on Zebra mussels, a recent invader in the Great Lakes (see article in this newsletter). Eric Slaughter will be coordinating the second "Master's Roundtable" the first of which was conducted at the 1990 Williamsburg meeting. As noted above, Evan Ward is coordinating a video session for any and all aspects of shellfish biology (see session details on page 2). Please contact Arnie Eversole as soon as possible if you have suggestions for additional sessions or if you are interested in participating in any of the above sessions.

### Trade Show Update

Trade Show Organizer Carter Newell still has about nine spaces available for vendors for the 1991 NSA Annual Meeting in Portland, Maine. Trade exhibits will be displayed in the same area as NSA poster sessions and will be in close proximity to coffee break areas so as to be readily viewed by meeting participants. The \$150.00 display fee includes a draped table, electrical hookup, and all coffee breaks. Don't let this opportunity pass you by - showcase your products and

services to a very interested and enthusiastic audience. For further information and to reserve your space, please contact: Carter Newell, Great Eastern Mussel Farms, P.O. Box 141, Tenants Harbor, ME 04860, Phone: (207) 372-6317. Deadline for reservations is May 1, 1991, so contact Carter as soon as possible!

## President's Message

Our membership ratified the suggested changes to the NSA Constitution by a vote of 232 to 5. In an upcoming issue of this newsletter, we will print the new Constitution and By-Laws (an earlier copy is in the Winter 1988 newsletter). I have received about 33 completed questionnaires. In general, the respondents appear satisfied with NSA, its meetings (contents, timing, costs), and JSR. It is not too late to send me your completed questionnaire (see Fall 1990 newsletter). We value your ideas and comments at any time.

Our officers and representatives are busy planning the 1991 meeting in Portland, Maine. This newsletter contains preliminary details of that meeting and a final call for papers. We hope to have sessions of interest to a wide spectrum of members, from carcinologists to malacologists.

It is not too early to think about Aquaculture '92, and the triennial meeting to be held in Orlando, Florida in late May 1992. Please send me your ideas for plenary and special sessions. One thought is to examine the past, present, and future of aquaculture in three plenary sessions. Another is to have a workshop on aquaculture economics, including "inflation-proofing" your business. We hope to attract scientists, managers, culturists, etc. from many regions beyond North America to Aquaculture '92. The Orlando Marriott provides large and small conference rooms, spaces for a trade show and posters, and quiet meeting areas all on one floor. The Program Committee is looking for innovative ways of avoiding large numbers of concurrent sessions and of scheduling to avoid competition among papers of similar interest. If you can help, write or call me (see address on back cover of the newsletter). One last item - Help our cash flow! Please pay your dues now! Thanks.

Vic Kennedy

ABSTRACT FORM ENCLOSED --->>>>

### *In This Issue...*

Final Call for Papers and abstract form  
1991 Meeting Registration form  
Annual Meeting special session details  
Zebra mussel invasion  
Another Asian clam invasion

### *From the NSA Quarterly Newsletter Editor...*

As you know, we are in a transition year during which John Ewart and I are sharing the editorial duties of the NSA Quarterly Newsletter. We are now into our third issue of that year. My thanks and appreciation go to John for making this transition time go as smoothly and painlessly as possible. John has set up a wonderfully organized operation for newsletter production and has been a limitless source for contacts and information; I hope to maintain the high standards that John has set. You've no doubt noticed the change in masthead and paper color for the last few issues; our aim is to maintain the same high-quality style for the newsletter while providing a little color variation from year to year. Please feel free to send me your comments and suggestions for improving the newsletter since this is really YOUR newsletter. We are here to serve the NSA membership with our regular features (meeting and job announcements, educational opportunities, short communications, etc.) as well as special features such as your original commentaries and short general interest articles. The newsletter should ideally serve as a focal point for communication between members and also serves as a means of communication between members and NSA officers and staff. I look forward to hearing from you in the near future (address on the back cover of this newsletter) - submission deadline for the next issue is March 1, 1991!

Karolyn Mueller Hansen

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### *1991 NSA Meeting Registration Information*

Enclosed in this issue of the newsletter you will find a registration form for the Portland meeting. Please note the early registration dates and the difference in cost if you register prior to April 15, 1991!! Also note that the registration fee includes the President's reception, the Business Luncheon, all meeting sessions, coffee breaks and banquet. Additional tickets for the President's Reception, Tuesday evening Banquet and Wednesday Business Luncheon are only necessary for those guests that are not registered for the meeting. Also, please take this opportunity to pay your current dues. Information on hotel accommodations will be included with the Spring 1991 Newsletter scheduled to be published by April 1, 1991. For questions concerning registration, please contact Sandy Shumway (address on back cover of this newsletter) or call her at (207) 633-5572.

### *Annual Meeting Special Session Details*

**NEW! NEW! Video Session** - Videos on any aspect of shellfish biology, ecology, or culture may be presented (e.g. hatchery and production systems, image analysis of structures, larval development). Format will be standard VHS-NTSC (standard in North America) and length will be a total of 15 minutes (12 minute presentation and 3 min question period). Abstracts should be submitted on the same form as for oral/poster presentations. Write "VIDEO" on the "preferred method of presentation" line and send the original abstract and two (2) copies to Dr. Arnold Eversole (address on form); send one (1) additional copy to Dr. J. Evan Ward, Memorial University of Newfoundland, Ocean Sciences Centre, St. John's, Newfoundland, A1C 5S7 Canada.

**"Master's Roundtable"** - The first annual "roundtable" conducted last year (1990 Williamsburg) was coordinated by John Kraeuter and the distinguished participants included Jay Andrews, Neil Bourne, Mike Castagna, Ken Chew, Hall Haskins, Dexter Haven, Sammy Ray, Aaron Rosenfeld, and Dana Wallace. Topics discussed included past, present and future aspects of molluscan shellfish research. Their informal discussion was lively and exciting and set the stage for an encore "Master's Roundtable" at the 1991 Portland meeting. It is anticipated that a report summarizing the 1990 Williamsburg roundtable will be available in Portland. Anyone interested in recommending a Master or in observing the roundtable should contact Eric Slaughter at (301) 443-8843 or 443-8921. In order to maintain the informality of the discussion, the number of observers will be limited so call Eric soon!

**Lobster Biology and Ecology** - A full day session on lobster biology and ecology is planned for the Portland meeting. Both oral and poster presentations are invited and there will be an opportunity for "workshop"-format discussions. For more information and submission of titles contact: Dr. Lewis Incze, Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor, Maine 04575, Phone (207) 633-2173, FAX (207) 633-6584 or Dr. John Pringle, Halifax Fisheries Research Laboratory, P.O. Box 550, Halifax, Nova Scotia, B3J 2S7 Canada, Phone (902) 426-6138, FAX (902) 428-2698.

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### *Calling All Shutterbugs: Photographs Wanted!!!*

In celebration of publication of Volume 10 of the *Journal of Shellfish Research*, we will be printing a color cover on Volume 10(1). Send along your best color print or slide for consideration... you never know, it could be the start of a new career! Be sure to put your name and address on the back of the print or slide and indicate whether you would like it returned to you. A self-addressed envelope would help, too. Volume 10(1) should be hot off the press and in your hands just before the 1991 NSA meeting in June. Dig into those slide and print files!! Send all slides/prints to: Sandy Shumway, Department of Marine Resources, West Boothbay, Maine, 04575.

**FINAL CALL FOR PAPERS** for the 1991 Annual Meeting of the National Shellfisheries Association, June 23-27, 1991, Portland, Maine

### ● INSTRUCTIONS FOR ABSTRACT FORMS

#### **ABSTRACTS FOR PAPERS MUST REACH THE PROGRAM CHAIRMAN BY FEBRUARY 15, 1991**

At its annual meeting, the National Shellfisheries Association will have papers for both oral and poster presentation. Any individual may submit as many abstracts as she or he desires; however, no more than two abstracts from any author or co-author will be accepted for presentation. Submission of the same subject for a paper for oral or poster presentation is permitted, however only one of the two will be accepted. For poster sessions, tackboards will be provided but no electrical outlets, projection equipment, or tables will be available.

Abstracts will be selected for inclusion in the program on the basis of significance in fields of shellfish research, informative nature and broad interest. Subject matter must not have been previously published. The first author will be notified in writing concerning the acceptance of the abstract for inclusion in the program.

A page charge of \$20.00 must be submitted with each abstract. This payment will be returned only if the abstract is not accepted. An additional charge of \$10.00 will be assessed if an accepted abstract has to be re-typed because of errors, etc.

### ● PREPARING THE ABSTRACT

All accepted abstracts will be re-typed and included in the *Journal of Shellfish Research*. Therefore, it is not necessary as in previous years to have abstracts in camera ready form. However, it is important that the abstracts comply with the instructions below.

Type the title (all capitals) and name(s) of the author(s) (all capitals for last names), indenting lines and punctuating as shown in the accompanying example. An asterisk (\*) should be placed after the last name of the author presenting the paper. DOUBLE SPACE all typing on the abstract form. Do not leave more than one space between the title information and the body of the abstract. The body of the abstract should not be indented, although paragraphs other than the first should begin three (3) spaces in from the margin.

The entire abstract must be placed within the rectangular outline of the abstract form. THE SPACE IS DESIGNED TO ACCOMMODATE AN AVERAGE OF 250 WORDS TYPED DOUBLE-SPACED WITH A STANDARD ELITE TYPEFACE. When using abbreviations, spell out in full at first use, followed by the abbreviation in parentheses. Any symbols, such as Greek letters, not in your typing element may be drawn by hand in black ink. PLEASE PROOFREAD ABSTRACTS BEFORE SUBMISSION.

The accompanying abstract form can be used for both oral and poster presentations; specify the preferred method of presentation in the space provided on the form. Check the appropriate box if the first author is a student or recent graduate and is therefore eligible for the Thurlow Nelson Award. In order to maintain and expand student participation in the Association, a Student Endowment Fund has been established. For those students wishing to apply for travel support for presentation of a paper or poster, please fill out the Endowment Fund application form and submit it with your abstract.

Prepare one original abstract form and send it with two (2) copies and your personal or institutional check for \$20.00 (checks must be drawn on a US bank and made out to NSA) to the Program Chairman at the address below. Additional abstract forms may be obtained from the Program Chairman. All abstracts MUST reach the Program Chairman NO LATER THAN 5:00 P.M., FEBRUARY 15, 1991. If you desire an acknowledgement of the receipt of your abstract, please enclose a self-addressed, stamped envelope.

#### **Send all abstracts to:**

Dr. Arnold Eversole  
Department of Aquaculture, Fisheries and Wildlife  
Clemson University  
Clemson, SC 29634-0362 USA

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

Objective: to maintain and expand student participation in the Association

Approach: establish an Endowment Fund by soliciting charitable contributions from members and non-members. Appoint or elect a committee to administer the endowment fund and recommend disbursements. Disburse funds as necessary and when available to meet the above objectives.

#### **GUIDELINES**

1. Contributions to the Fund will be accepted from members and non-members throughout the year. Contributions will be solicited through the Associations Quarterly Newsletter, direct mailings and personal contacts. The non-profit nature of the Association and potential tax benefits of donations should be emphasized. The Executive Committee can elect to transfer Association funds to this account as well.

2. Funds will be maintained in a separate, interest-bearing bank account under the management of the Secretary-Treasurer. The account will have the same signators as do other accounts of the Association. Costs of administering the fund will be borne by the general funds of the Association.

(continued on page 4)



*NSA Student Endowment Fund*  
(continued from page 3)

3. Unless otherwise stated by the donor, all funds will be held as principal in the endowment fund; this principal will be used only to generate interest. Only 80% of the interest can be disbursed. The remaining 20% of earned interest will be used to augment the principal of the fund and as a hedge against inflation.

4. Endowment funds can be used to defray costs incurred by students presenting papers at the Association's annual meeting. Examples of costs include travel, lodging, drafting and slide preparation, etc.

5. If a donor stipulates how their contribution is to be applied, all of that donation should be used for the stipulated purposes, however the Endowment Committee will be responsible for choosing the recipient of the award. If there are no student papers qualifying for the stipulated support, the funds will be held over for the next year or their use respecified by the donor.

6. The NSA abstract form will be accompanied by instructions for filing an application for support from the fund.

The application should consist of (a) the abstract itself, (b) a single page form to be filled out by the student indicating the details of costs for which support is sought, relevant academic accomplishments such as publications, thesis title, etc., and signatures of the student and an advisor who can confirm the applicant's status as a bona fide student. In addition, a letter of recommendation from the advisor may also be submitted.

7. At each annual meeting, the Executive Committee will appoint an Endowment subcommittee to examine all student abstracts and applications submitted for the next annual meeting. The Endowment subcommittee will consult the Secretary-Treasurer on availability of funds, then make recommendations to the Executive Committee for the awards. The Endowment subcommittee will submit brief minutes of meetings and a summary of applications received and actions taken. The Secretary-Treasurer's annual report should include a separate section on the Endowment Fund.

8. The Secretary-Treasurer will disburse award checks directly to successful applicants as soon as possible prior to the annual meeting. If a recipient cannot use the funds as intended, the check or funds must be returned immediately.

**STUDENT ENDOWMENT FUND APPLICATION**

Fill out a copy of the application blank below or provide the requested information on a separate sheet of paper. Mail your application WITH YOUR ABSTRACT by February 15, 1991 to NSA Program Chairman Arnold Eversole, Department of Aquaculture, Fisheries and Wildlife, Clemson University, Clemson, SC 29634-0362, USA.

Student Name: \_\_\_\_\_

STUDENT SIGNATURE

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ADVISOR'S NAME AND SIGNATURE  
(please print name)

Institution: \_\_\_\_\_

Telephone: \_\_\_\_\_

Costs for which support is sought: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Title of enclosed abstract: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Relevant academic accomplishments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Invaders From Europe: Zebra Mussels Appear in the Great Lakes

Zebra mussels, *Dreissena polymorpha*, were virtually unheard of in North America until 1985-1986 when the species was accidentally introduced into the Great Lakes region of the U.S. and Canada. Introduction is attributed to discharge of ballast water from a European tanker into Lake St. Clair sometime during 1985 or 1986. The ballast water likely contained zebra mussel larvae and possibly some juveniles which readily colonized the Lake St. Clair area. As of 1989, the prolific mussels had extended their range to include all of Lakes St. Clair and Erie and "hot spots" in Lakes Ontario and Superior and possibly Lake Michigan. The species is currently colonizing the Erie Canal system on a slow trek towards the east. *Dreissena polymorpha* readily colonizes any available hard substratum, including docks and pilings, boats and ships, engines, power plant intakes and screens as well as the shells of native mollusks and carapaces of native crustaceans (e.g. crawfish).

What is known about this invader? It is originally from the Black and Caspian Seas area of eastern Europe where reports of its occurrence date as far back as 1790. The mussel extend its range by the 1800's to include most of Europe, and now occurs in England and parts of Scandinavia as well. *Dreissena polymorpha* appears to readily adapt to a variety of environmental conditions but for the most part occurs in temperate waters. The successful colonization of the Great Lakes region is primarily due to the niche it fills - it is an epifaunal, byssally-attached species which was accidentally introduced into an hospitable environment that had no known competitor or predator species. So BOOM!, the invasion took off with a bang.

What can be done to control this invader and what impact will *Dreissena polymorpha* have on the Great Lakes ecosystem? The Ohio Sea Grant Program held a conference on December 5-7, 1990 in Columbus, Ohio to address such questions and

to determine the extent of research conducted so far on the biology and ecology of the zebra mussel. Many researchers reported the occurrence of zebra mussels in densities greater than 50,000 individuals/square meter in the impacted areas. Also noted was the tremendous filtering capacity of zebra mussels and the resulting decline in phytoplankton and zooplankton species. The impact of zebra mussels on native mollusks was noted particularly by one study that found an inverse correlation between the occurrence and density of zebra mussels versus the occurrence and density of native unionid bivalves.

Many municipal and industrial facilities that use the lakes as a source or drinking and cooling water are having severe fouling problems on their intake pipes and trash bars and screens. One lakeside town was literally shut down for several days in December 1989 due to lack of water. Utilities are returning to the days of chlorination in an attempt to reduce larval settlement on intakes and screens. Chlorination only goes so far though - most facilities have permits for intermittent chlorination and have discharge criteria for chlorine levels. Intermittent chlorination will probably reduce larval settlement but won't entirely eliminate it. The efficacy of alternative chemical treatments (ozone and proprietary agents) is being explored. For those facilities that already have juvenile and adult populations, mechanical removal is the only method of choice. Chemical treatment may kill adult individuals but the remaining attached debris continues to clog pipes and screens. Dead mussels may eventually become dislodged and can wreak havoc if drawn into these facilities.

The Federal and State governments have responded to the invasion problem by appropriating monies to be spent directly on zebra mussel research and public education programs. A clearinghouse for information on zebra mussels has also been established (see box). No solution to the invasion is forthcoming, but we are learning how best to live with and limit the spread of *Dreissena polymorpha*.

## A WORD OF CAUTION:

Due to the prolific nature of *Dreissena polymorpha* and the potential for range expansion into several major watersheds, we encourage you to exercise extreme caution in transport and handling of *D. polymorpha*. The species is also known to survive in waters of up to 17 parts per thousand salinity. Our advice: **PLEASE DO NOT TRANSPORT LIVE MUSSELS OUTSIDE OF THE IMPACTED AREAS.**

Zebra Mussel Information  
Clearinghouse: contact Ms.  
Susan Grace Moore, SUNY -  
Brockport, (716) 395-2638.

## Another Asian Clam Invasion - Here We Go Again...

Just when you thought it was safe to go back in the water, another Asian clam has entered the country! *Potamocorbula amurensis*, a byssally-attached clam, has recently invaded the San Francisco Bay area presumably from ballast water discharge into the Bay during 1986. The clam has readily outcompeted native and introduced molluscan species and has severely depleted the phytoplankton standing stock in the Bay. It readily colonizes soft bottom communities. Take note: this invader is known to survive the full range of salinity encountered in an estuary (fresh to oceanic water) and may survive periods in hypersaline water. The good news is that there have been no reports as yet on occurrence of *Potamocorbula amurensis* outside the San Francisco Bay area, but please be especially careful of potential transfer of this organism. For more information contact: USGS, MS496, 345 Middlefield Road, Menlo Park, CA 94036. See also: articles in Marine Ecology Progress Series (1990) Vol. 66:81-94 and 95-101.

## Meetings/Conferences/Courses

### *Sea Fare International '91 and the California Seafood Festival*

Sea Fare International '91 is scheduled for February 12-14, 1991 at the Long Beach Convention Center, Long Beach, CA. The event is sponsored by the California Fish and Seafood Institute and Seafood Leader magazine. Features include aisles of seafood exhibits, buying seminars and seafood cooking demonstrations. The California Seafood Festival is scheduled for February 16-17, 1991, immediately following Sea Fare International '91. For more information on both shows, please contact:

Sea Fare Expositions Inc.  
454 North 34th Street  
Seattle, WA 98103  
Phone: (206) 547-6030  
FAX: (206) 548-9346

### *Aquaculture '91*

The Atlantic Aquaculture Fair-St Andrews and the Aquaculture Association of Canada are sponsoring Aquaculture '91, June 10-13, 1991 at the Algonquin Hotel and Resort, St. Andrews By-The-Sea, New Brunswick. Topics for sessions include: Marketing and Marketing Promotion; Aquaculture Waste Disposal; Product Safety; Genetics, Physiology, Breeding Programs and Biotechnology. Deadline for submission of abstracts is April 1, 1991. For further information and to request abstract forms please contact:

AAC '91 Program Chairman  
c/o Agrodev Canada Inc.  
Suite 600  
222 Somerset St. West  
Ottawa, Ontario K2P 2G3  
Canada

### *Aquaculture Europe '91*

Aquaculture Europe '91 is scheduled for June 10-12, 1991 in Dublin, Ireland. This event will encompass conferences, workshops, poster and artwork exhibitions, and an aquaculture trade show and is being sponsored by the EC and 17 European-based aquaculture societies. The theme for this years conference is "Aquaculture and the Environment". For further information contact:

European Aquaculture Society  
Prinses Elisabethlaan 69  
B-8450 Bredene, Belgium  
FAX +32 59 320896  
Phone +32 59 325127

### *1991 NSA Annual Meeting - June 23-27, Portland ME*

Don't forget that abstracts are due no later than February 15, 1991. If you are interested in participating in one of the special sessions, please contact Program Chairman Arnold Eversole or the special session chairman as soon as possible.

## Publications of Interest

### *American Malacological Union Special Publication Series*

The Special Publication Series of the *American Malacological Bulletin* has, to-date, published three Special Editions: *Perspectives in Malacology* (Sp. Ed. 1), *Proceedings of the Second International Corbicula Symposium* (Sp. Ed. 2), and *Proceedings of the Symposium on Entrainment of Larval Oysters* (Sp. Ed. 3). Additional Special Editions are planned for the near future. Prices range from \$10.00 to \$20.00 for AMU members and \$15.00 to 28.00 for non-AMU members. For more information and to place an order contact:

Dr. Clement L. Counts III  
AMU Secretary-Treasurer  
University of Maryland Eastern Shore  
Box 1106  
Princess Anne, Maryland 21853 USA.

### *American Fisheries Society Special Publications*

*Common and Scientific Names of Aquatic Invertebrates from the United States and Canada: Mollusks*. 1988. Donna Turgeon, et al., Editors. AFS Special Publication #16, 277 pp. \$30.00 hardcover/24.00 softcover.

*Common and Scientific Names of Aquatic Invertebrates from the United States and Canada: Decapod Crustaceans*. 1989. Austin Williams, et al., Editors. AFS Special Publication #17, 77 pp. \$17.00 softcover only.

Both are available from:  
The American Fisheries Society  
5410 Grosvenor Lane  
Suite 110  
Bethesda, Maryland 20814.

### *New Journal*

*Journal of Aquatic Food Product Technology*, to be published by Haworth Press. Editor: George M. Pigott, Ph.D.

The *Journal of Aquatic Food Product Technology* is a quarterly, refereed, international journal that will feature original research articles, review articles and short communications. General interest columns geared toward the practical information needs of academia, industry and government and on marketing and marketing statistics of aquatic products will be featured. Publication is scheduled to begin in 1991; no prices were available at time of newsletter publication. For a copy of "Instructions for Authors" contact:

Dr. George Pigott, Editor  
*Journal of Aquatic Food Product Technology*  
Institute of Food Science and Technology  
School of Fisheries, HF - 10  
College of Ocean and Fisheries Sciences  
University of Washington  
Seattle, WA 98195.

## Employment

### *Postdoctoral Position: Harbor Branch Institution*

A limited number of postdoctoral fellowships are available in 1991; selections will be made by April 15, 1991 for research in marine sciences, aquaculture, coastal and environmental studies, biomedical marine research, and ocean engineering. Stipends are \$22,540 for the annual appointment. Specify area of interest when requesting information brochure and application from:

Kathy Morton  
Postdoctoral Program  
Harbor Branch Institution, Inc.  
5600 Old Dixie Highway  
Fort Pierce, FL 34946

### *Aquatic Biologists*

Wildlife International has immediate openings for supervisory-level aquatic scientists at their new aquatic toxicology laboratory. Experience in testing marine and freshwater algae, invertebrates and fish is preferred. For more information contact:

Dr. Greg Peters  
Wildlife International Ltd.  
305 Commerce Drive  
Easton, MD 21601  
(301) 822-8601

### *Postdoctoral Fellowships: Scripps Institution of Oceanography*

Applications are invited for postdoctoral awards from new or recent Ph.D.s in all major areas of research conducted at Scripps. Awards are competitive and are for one year with stipends commensurate with experience. Renewals for a second year are possible. Applications should include complete graduate transcripts, C.V., addresses and phone numbers of three references and a concise synopsis of the applicant's doctoral research and research interests to be pursued at Scripps. Deadline for application is January 30, 1991. Application and questions should be addressed to:

Chairman, Graduate Department  
Scripps Institution of Oceanography  
University of California, San Diego, 0208  
La Jolla, CA 92093-0208

### *Environmental Science Internships*

The Chesapeake Research Consortium currently has two positions available for Environmental Science Interns, one to work with the Chesapeake Bay Program Living Resources Subcommittee and the other to provide staff support to the Implementation Committee. Both positions involve interaction with officials from State and Federal environmental regulatory agencies. Salary: \$7-9 per hour. Submit resumes and direct questions to:

Betsy Henry, Intern Coordinator  
Chesapeake Research Consortium  
P.O. Box 1280  
Solomons, MD 20688

## THE NATIONAL SHELLFISHERIES ASSOCIATION WANTS YOU!!!

### HOW TO JOIN

--Fill out and mail a copy of the application blank below. The 1990 dues are only \$30 (US) per year (\$20 for students) and that includes the Journal and Newsletter!!

### NATIONAL SHELLFISHERIES ASSOCIATION - MEMBERSHIP APPLICATION

(New Members Only)

NAME \_\_\_\_\_ For calendar year \_\_\_\_\_ Date \_\_\_\_\_  
MAILING ADDRESS \_\_\_\_\_

Institutional Affiliation, if any \_\_\_\_\_  
Shellfishery interests \_\_\_\_\_

Regular or Student membership \_\_\_\_\_  
Student members only -- advisor's signature REQUIRED \_\_\_\_\_

Make cheques (MUST be drawn on a US bank) or international postal money orders payable to the National Shellfisheries Association and send to Tom Soniat, Dept. of Biological Sciences, University of New Orleans - Lakefront, New Orleans, LA 70148, USA.





Abbreviated title: (seven words or less):		
First author's mailing address if different from above:		
First author's telephone number:		
Preferred method of presentation:	<input type="checkbox"/> Oral	<input type="checkbox"/> Poster <input type="checkbox"/> Either
First author is a student or recent graduate? (eligible for Nelson Award)	<input type="checkbox"/> No	<input type="checkbox"/> Yes

# USE OF DISPERSION MODELS FOR PREDICTION OF BIVALVE LARVAL RECRUITMENT

SIDDALL,\* Scott E., MALOUF, Robert E., Marine Sciences Research Center,  
State University of New York, Stony Brook, NY 11794; VIEIRA, Mario E.,  
Chesapeake Bay Institute, Johns Hopkins University, Baltimore, MD 21218.

In support of efforts to manage Long Island's economically important fisheries for the hard clam (Mercenaria mercenaria) and the bay scallop (Argopecten irradians), computer models calibrated against hydrographic data have been developed to predict distribution of larvae in the Great South Bay and the Peconic Bays Estuary. The goal of the research in Great South Bay was to evaluate the potential contributions to recruitment from populations of hard clams in uncertified waters and in man-made "spawner sanctuaries." This quantitative evaluation required the simulation of advective and diffusive dispersal of particles whose number was reduced over time to simulate larval survival. Results of the model forecast locations of maximum recruitment from chosen sanctuary sites. Town shellfish management programs have created spawner sanctuaries at sites predicted to result in maximum recruitment in areas favorable for growth and survival.

The goal of the modeling for the Peconic Bays Estuary was to predict sites for spawner sanctuaries of bay scallops which will be created to help rebuild scallop populations following an apparent failure of natural recruitment caused by an extraordinary phytoplankton bloom in 1985. This more qualitative evaluation of recruitment required forecasting the dispersal of larvae from proposed spawner sanctuaries and hindcasting the locations of spawning stocks whose larvae recruit to areas favorable for growth and survival. The utility of this modeling approach in shellfish management is discussed in view of the physical and biological assumptions inherent in the models.

Abbreviated title (seven words or less): Dispersion models of bivalve recruitment

First author's mailing address if different from above:

Same

First author's telephone number:

(516) 632-8668

Preferred method of presentation:

☒ Oral

☐ Poster

☐ Either

First author is a student or recent graduate?  
(eligible for Nelson Award)

☒ No

☐ Yes

NSA Quarterly Newsletter  
College of Marine Studies  
University of Delaware  
Lewes, DE 19958



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## Officers, Committee Chairs and Staff of the National Shellfisheries Association

Dr. Victor S. Kennedy, **President,**  
**NSA Representative to the Aquaculture**  
**'92 Steering Committee**  
Horn Point Environmental Laboratories  
University of Maryland  
Cambridge, MD 21613  
(301) 228-8200

Dr. Sandra Shumway, **President-Elect,**  
**Chair, Site Selection Committee,**  
**Arrangements Committee and Editor,**  
**Journal of Shellfish Research**  
Department of Marine Resources  
West Boothbay, ME 04575  
(207) 633-5572

Dr. Arnold Eversole, **Vice President and**  
**Chair, Program Committee**  
Department of Aquaculture, Fisheries and  
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