

National Shellfisheries Association

QUARTERLY NEWSLETTER

September 2012



ORONO, ME

President's Message

It's that exciting transitional time of the year, again! Educators and students have returned to their academic institutions and a new set of challenges, while field courses and summer research activities draw to an end. At home here in Florida, we vigilantly track hurricanes. Nonetheless, the "behind the scenes" efforts to provide membership services, up-to-date shellfish news, and a prize-winning scientific publication continue unabated, all a result of the unselfish contributions of our dedicated colleagues who volunteer so much time on behalf of the National Shellfisheries Association.



It's also time to make your plans to attend the 105th NSA conference in Nashville, Tennessee, February 21 to 25, 2013. The tradition continues as we co-host the Triennial Aquaculture Meeting with the World Aquaculture Society and the Fish Culture Section of the American Fisheries Society. The Triennial is the largest aquaculture meeting in the world with over 4,000 attendees from over 90 countries. As for me, I enjoy the opportunity to visit the trade show with over 200 exhibitor booths, meet and greet the current suppliers, inspect the latest in products and technological advances for the aquaculture industry, and make new contacts and friends.

NSA, along with our collaborating organizations, is putting together a comprehensive technical program featuring special sessions and contributed papers on a broad diversity of species, the latest in shellfish research, and many of the issues facing aquaculture producers. My heartfelt thanks go out to Sandy Shumway and Steve Allen for their tireless efforts to develop the NSA technical program and serve as our representatives to the Triennial Steering Committee and Program Committee.

Nashville, of course, is home to the Grand Ole' Opry, a mecca for musicians and songwriters alike, and some of the best honkytonks you'll find anywhere. Hence, the meeting motto "Strike a Chord for Sustainable Aquaculture". I can't

wait to see if we have any country and western celebrities pay a visit to our renowned Student Endowment Auction, perhaps one celebrity will even serve as auctioneer! There's more on the NSA program and activities for the 105th Annual Meeting from Sandy on page 2 of this *Newsletter*.

Another exciting conference on the horizon is "Aquaculture and Restoration: A Partnership", planned for December 12 to 15, 2012 in Groton, Connecticut. This conference will be a special joint meeting of the Northeast Aquaculture Conference and Exposition (NACE), the International Conference on Shellfish Restoration (ICSR), and the Milford Aquaculture Seminar. This is a great example of organizations joining

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Make plans now to attend Aquaculture 2013. The Triennial will be held in the Convention Center in beautiful and exciting Nashville, Tennessee. The venue is close by the Grand Ole' Opry, other notable attractions, and many excellent restaurants. More information on conference hotels and registration can be found at www.shellfish.org.

In this issue:

- ***Triennial Information***
- ***Shellfish Culture in Virginia***
- ***Book Review: The Seafood Industry***

Recruits' Corner



Hello Recruits!

We hope this edition of the *Newsletter* finds you well, busy with field work, and eagerly hitting the books as a new semester begins. We are excited to report that plans for Recruits' activities at Aquaculture 2013 in Nashville, TN are underway! Get

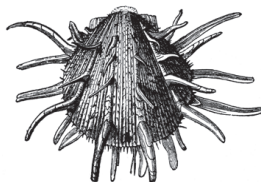
ready to explore Music City with a pub-crawl and marine-themed Karaoke, as well as joining in on the fun in our annual scavenger hunt. Also returning this year will be the quiz-bowl style game of Shellfish Trivia, which we'll play during the Student Reception.

The Triennial meeting convenes earlier in the year than our regular annual meetings so we hope everyone was on top of things and submitted a paper or poster abstract by the August 31st deadline. Don't forget, this also means that registration deadlines are earlier, so keep checking the NSA website for meeting updates. Applications for Student Endowment Fund travel awards are due October 15th so be sure to get your application in as soon as possible. Remember, there is no limit to how many times you can apply and receive an SEF travel award. Thus, even if you received a travel award for a previous meeting you are still eligible to apply for another travel award to the Triennial as long as you submitted an abstract for the meeting.

Once again, we will be coordinating a roommate finder service to help defray the cost for Recruits to attend the meeting. If you would like help with finding a roommate, just send us a quick email and we'll put you on the list. Make sure you like our Facebook page, where you can get updates about the meeting and keep up with what is going on in the organization.

Looking forward to seeing everyone soon! As always, feel free to contact either of us with any questions.

Maria Rosa
Allison Fitzgerald
Recruits Co-Chairs



AQUACULTURE 2013 (Nashville, Tennessee, February 21-25) is just around the corner and it promises to be a full and exciting meeting! The Program Committee has been busy assembling a comprehensive and very extensive agenda, and as always, the Trade Show will be a great opportunity to see what's new in the industry. You can view the full list of sessions and check updates on the conference at www.shellfish.org or www.was.org. There's something for everyone and plenty of shellfish, so make plans to head to the Music City for this Triennial extravaganza.

By the time you get this *Newsletter*, the abstract deadline will have passed, but there is always room for another poster, so feel free to contact me or Steve Allen if you would like to submit one.

See you in Nashville,

Sandy Shumway and Steve Allen

FUTURE NSA MEETINGS

AQUACULTURE 2013

Nashville, TN
February 21-25, 2013

NSA 106th Annual Meeting

Jacksonville, FL
March 29 – April 2, 2014

NSA 107th Annual Meeting

TBA

AQUACULTURE 2016

Las Vegas, NV
February 22 – 26, 2016

Student Endowment Fund Travel Awards

Attention students! Looking for travel assistance to help you attend the 2013 Triennial meeting in Nashville? Interested in a free NSA membership?

The NSA Student Endowment Fund awards registration waivers and/or free lodging (shared rooms) to students presenting their research at NSA meetings. *The deadline for travel award applications is October 15th 2012.* Awards are competitive, and late or incomplete applications will not be considered, so don't wait until the last minute to pull something together! More information and application forms can be found at <http://shellfish.org/endow/endowapp.htm>. Email completed applications to Lisa Milke lisa.milke@noaa.gov.

The Student Endowment and Awards Committee also coordinates evaluations of student presentations for the Thurlow C. Nelson (oral) and Gordon Gunter (poster) Awards. Both awards include free membership for at least one year and are a great addition to your CV. To be considered, you should have clicked the 'eligible for student award' option when you submitted your abstract. If you forgot to do so, but would still like to be considered for an award, just let us know. To be eligible for all awards, students must be NSA members and presenting their original research. Recent graduates may also apply if they present research performed while they were a student, and received their degree during the 12 months preceding the meeting.

Questions? Contact Stan Allen (ska@vims.edu) or Lisa Milke (lisa.milke@noaa.gov)

Stan Allen & Lisa Milke
Student Endowment and Awards Committee

Now's Your Chance to Attend Three Meetings in One!

This December, the Northeast Aquaculture Conference & Exposition will join forces with the Milford Aquaculture Seminar and the International Conference on Shellfish Restoration to hold a joint meeting at the Mystic Marriott Hotel & Spa in Groton, CT December 12-15. There will be a diverse program sure to appeal to everyone, including commercial aquaculturists, researchers, restoration managers and educators. With a variety of field trips, an industry trade show, workshops & forums, plenary sessions and well over one hundred speaker presentations, there will be something for everyone at an extremely low registration fee. For more information, visit the meeting web site (www.northeastaquaculture.org) or contact conference coordinator Chris Davis directly (cdavis@midcoast.com).

Presidents Message... continued from page 1

forces to provide more cost-effective and convenient meeting venues for the scientific research and aquaculture producer communities. The meeting coordinators are our very own Chris Davis and Gef Flimlin, and the meeting promises to be a well-organized and informative event. More from Chris about this conference can be found on the bottom left of this page.

I read with great interest the June 2012 issue of the *Journal of Shellfish Research* (Volume 31, No. 2). This volume was a special issue devoted to epizootic shell disease in American lobsters (ESD). The issue was divided into discrete sections on "The Disease", "Microbiology (The Pathogen)", "Pathology/Physiology (The Host)", "Environmental", and "Management and Stock Enhancement". Organizing the issue in this manner made the topics understandable to a reader, such as myself, unfamiliar with ESD issues and how they are being addressed. In particular, "The Fisherman's Perspective" by Lanny Dellinger, President of the Rhode Island Lobstermen's Association, was a highly informative addition to the discussion. Congratulations to our guest editors, Kathleen Castro, J. Stanley Cobb, Marta Gomez-Chiarri, and Michael Tlusty, for a job well done. And kudos to Sandy Shumway, *JSR* Editor, and all of the anonymous volunteer reviewers whose efforts assisted in the production of this outstanding issue. Finally, we extend our gratitude to NOAA and National Marine Fisheries Service for their generous support of this important initiative.

As a final comment, three years ago the NSA Presidents Committee drafted a strategic plan as a guide for the future of the Association. It is a working document that, like all strategic plans, should be routinely reviewed and updated. An assessment of our progress in achieving the objectives outlined in the plan is on my "to do" list for the upcoming Annual Business Meeting and luncheon in Nashville. "Goal # 1" of the Strategic Plan is to increase NSA membership by offering incentives for membership, such as novel NSA-based exclusive services on the website, and promoting student membership through achievement awards and scholarships, and by actively recruiting new international members. Thanks to Bill Walton, Peter Kingsley-Smith, and the Membership Committee for their efforts to keep this initiative in the forefront. If each of us introduce a colleague to the National Shellfisheries Association and to the professional and personal opportunities it has to offer, I am confident we will easily meet our strategic goals.

I look forward to seeing you and being introduced to your NEW recruit in Nashville this coming February!

LeRoy Creswell
President

Industry Perspective Shellfish Culture in Virginia

“Virginia Is For Lovers,” the popular trade-mark slogan for the state, could easily be changed to “Virginia Is For Lovers Of Cultured Clams and Oysters”. The molluscan shellfish culture industries of Virginia continue to grow. Every year, literally millions of our cultured hard clams and oysters are safely eaten by happy seafood lovers throughout the country. The shellfish growers of Virginia are proud of the wholesome, nutritious and good-tasting product that comes from their farms, and strive to raise and market the safest shellfish possible.



According to the most recent information from the Virginia Institute of Marine Science (VIMS), the shellfish culture industry of Virginia provides a significant economic benefit to the state, with an annual farm-gate value approaching \$50-million and a total economic impact over \$100-million. A majority of shellfish culture sales go to out of state buyers, generating “new” money and not just circulating in-state revenues. Since 2005, the *Virginia Shellfish Aquaculture - Cultured Shellfish Situation and Outlook Report*, produced by the Sea Grant Marine Extension Program at VIMS, has provided annual assessments of trends in the Virginia shellfish culture industry. Full copies of these reports can be found at: www.vims.edu/research/units/centerspartners/map/aquaculture/index.php.

Virginia continues to lead the nation in the culture of the hard clam (*Mercenaria mercenaria*), with record sales of 211.9-million “market” clams in 2007. Although the following two years saw declining sales, there has been a steady upward trend in hard clam sales since 2009, with 182-million market clams sold in 2011. At an average price received of \$0.16, this represents a \$26-million farm-gate value.

One of the reasons that the cultured shellfish situation and outlook survey was initiated was to track the rapid expansion within the oyster culture sector. The culture of eastern oysters, *Crassostrea virginica*, has experienced rapid growth along two different fronts – the production of single oysters destined for the half-shell market, and more recently the production of spat-on-shell for shucked-product.

The intensive culture of single oysters held within predator protection devices began in the early 2000s, but really started to expand around 2005. This coincided with the development of superior broodstocks and the reliable production of triploid *C. virginica* seed. In 2011, the oyster culture industry reported that fully 95% of cultured oysters in Virginia were triploid animals. From an initial production

of only 800,000 in 2005, the production of single oysters has grown to 23.3-million in 2011. Over that period the average price received per oyster has remained fairly constant at ~\$0.30 for a 2011 farm-gate value of ~\$6.7-million.

Since 2008, the most active expansion in oyster culture has been the production of spat-on-shell to produce oysters for the shucking market. Spat-on-shell is not a new technology; our friends on the west coast have been doing this for years. The development of broodstock with faster growth and better disease-resistance has stimulated some of this expansion. Spat-on-shell culture compliments the production of single oysters, as it serves a different market sector. The situation and outlook report has not yet begun to report spat-on-shell production. However, one can look at the production of eyed-larvae for remote setting as an indicator of trends for spat-on-shell culture. In 2010, Virginia hatcheries reported producing 1.7-billion eyed-larvae, with almost all of them used in Virginia. A drop in eyed-larvae production in 2011 to ~600-million sparked an industry-academia collaboration focused on gaining a better understanding the impact of water quality on hatchery production and the industry forecasts the production of two billion eyed-larvae for 2012.

Virginia is fortunate to have a regulatory climate that is favorable to shellfish aquaculture; but that doesn’t mean we are without problems. Despite our history of private culture and cooperative regulatory agencies, Virginia still is experiencing ‘not in my backyard’ issues, especially in our more populated areas. Efforts at the state-level are ongoing to ensure that shellfish aquaculture is not “zoned-out” of these areas. Infrastructure “growing-pains” have also interfered with expansion, in particular scaling-up of the hatchery capacity within the state to meet the needs for both the intensive single oyster and extensive spat-on-shell oyster production. Predators are a fact of life and Virginia has a couple of major ones – the blue crab (*Callinectes sapidus*) and the cownose ray (*Rhinoptera bonasus*) pose a significant challenge to extensive oyster culture. The Virginia Marine Products Board has been aggressively pursuing the development of a sustainable fishery for the rays. This is beginning to show promise in helping to control the ray population. Finally, like all shellfish producing regions, Virginia is challenged by the health issues surrounding the consumption of raw shellfish. In 2012, the Virginia Marine Resources Commission, in cooperation with the Virginia Department of Health, Division of Shellfish Sanitation, instituted revised summer oyster harvesting regulations designed to reduce the potential impact from *Vibrio* bacteria.

The shellfish culture industry is proud of our contributions to the economy of the Commonwealth of Virginia and we look forward to continued success. For more information contact the Shellfish Growers of Virginia, P.O. Box 1394, Gloucester, VA, or Mike Oesterling at mikeo@vashellfish.org.

Michael J. Oesterling
Shellfish Growers of Virginia

From the Editor's Desk

Why publish?

Scholarship *"a fund of knowledge and learning"*
and Knowledge *"the sum of what is known"*

I edit four international journals and I regularly receive manuscripts for all of them with cover letters telling me that the author's entire career hangs upon publication of the attached manuscript - be it granting of their degree, promotion, tenure, or job application. These are followed by regular requests for updates marked 'urgent' (the most recent request for a status update came exactly 1 week after submission!). Not only is this annoying, it is unfair and unprofessional. I know other editors experience the same as we discuss it regularly. While I try to help each individual as best I can, no editor should be made to feel that the editorial review process should be influenced by the author's personal needs and aspirations. Moreover, if any of these entities hinges upon publication of the one manuscript submitted, there is something terribly amiss somewhere. More likely, the authors simply see their plea as a means to speed the review process. It doesn't.

Scientific publication is for sharing research and furthering new scientific knowledge. Too often these days it is considered nothing more than a means to an end, and each publication nothing more than another entry on a resume. This is fueled by ambition, granting agencies that put a high value on 'productivity' (translate - number of publications from prior grant), and academic administrative bean counters who have put such a focus on numbers of publications, they have lost sight of quality. These are the same evaluators who use, misuse, and abuse the Impact Factor, but that's another entire issue.

As a result of this rush to publication, scholarly thinking, discussion, and integration are rapidly being lost. Many students and their advisors are no longer interested in (or even capable of) placing their research in context with prior studies, and have no idea how to do a proper literature search and review. Note: there is considerably more to it than Google. Just as an example, a few months ago I received a manuscript that I just knew I'd seen before. Turned out that almost the exact same study was published in 1948. Did I accuse the authors of plagiarism? No - I knew they simply didn't know the literature and had not taken the time to research it thoroughly. When I pointed this out to them, they didn't even know where to begin. Sadly, what that means in the bigger picture is that the student author just wasted 2+ years of their time (and someone's money) on an M.S. that was not publishable. There was nothing new to report, they had merely confirmed what we already knew. Had they (and here I include the advisor) taken the time to read the literature, they may well have been able to spend their time moving that prior study forward.

More and more, I am bombarded with 'least publishable units'. Authors try to get as many papers out of their data as possible - more often than not, it would have been a much better and scholarly effort had they kept their focus and told a complete story in one paper. Rarely is a Master's thesis worthy of more than one paper and sometimes not even that, but that doesn't stop the authors from trying to stretch it into three! More and more Ph.D. theses are designed for publication, not integration of thought or advancement of science. Students and scientists are more interested in 'how many papers can I get out of it?' than the research results they are actually trying to share with the community.

I suspect it is too late in the process to change a lot, 'number of publications' has become ingrained in the system. It is not too late to encourage the quest for knowledge and scholarship at all levels.

Sandy Shumway
Editor, *Journal of Shellfish Research*



Nominations Sought for Honored Life Member and David H. Wallace Awards

The National Shellfisheries Association offers two major awards. The Honored Life Member of the Association Award is given to individuals who, by their exemplary service to the Association or to the profession, deserve recognition. The David H. Wallace Award is given to individuals whose activities in shellfisheries, aquaculture and conservation have promoted understanding, knowledge, and cooperation among industry members, the academic community, and government, as exemplified by Mr. David H. Wallace during his lifetime. Recipients of both awards receive a plaque and lifetime membership in the Association.

Nominations for either award should be carefully considered by those making the nomination. Both awards are intended for truly deserving individuals, are prestigious to the individual receiving the award, and important to NSA and our long history. Initial nominations are reviewed prior to forwarding to a Committee of Past-Presidents for consideration. Nominations may then be forwarded to the NSA Executive Committee for final consideration. Nominations of individuals for either award should be forwarded to Joth Davis, Chair of the NSA Awards Committee by October 15, 2012.

Book Review

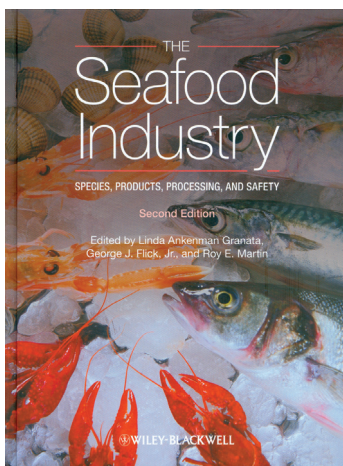
The Seafood Industry 2nd Edition, 2012. Granata, Flick and Martin (Eds). Wiley-Blackwell Science Publishers, 488 p., \$199.95 (e-book version available \$159.95)

The first edition of *The Seafood Industry*, edited by Roy Martin and George Flick, was published in 1990 by Van Nostrand Reinhold. The 2nd Edition has added a third editor, Linda Granata, and several new chapters. Being a bit of a packrat, I found my copy and my review - typed on an IBM Selectric! I liked the book then and I like the new version, although I believe there are a number of things that could have been done better. A better description of the user community would have better set the stage and lowered the expectations with regard to detail.

This volume is a major undertaking and covers a vast amount of material. Each topic has been carefully chosen for inclusion and the collection provides a good, but often superficial, overview of the topics. The 2nd Edition includes chapters on history of the seafood industry, harvesting techniques, groundfish, pelagic fish, molluscs, crustaceans, underutilized fishery species, freshwater fish, handling of fresh fish, shellfish biological safety, cleaning and sanitation, transportation, distribution, warehousing, and food security. My review of the 1st Edition noted that aquaculture was covered very superficially (shrimp and oysters each received less than one half page of coverage). That criticism stands for the 2nd Edition, in spite of the fact that aquaculture production has increased substantially in the two decades since the first edition. Chapter 5 (Major Cultured Species; 8 pages) was added, but is very superficial and weakly referenced.

The new chapters (10 and 11) on Surimi and Fish Protein Isolate and Waste (By-Product) Utilization are interesting, although Chapter 11 could use a summary. I found Chapter 16, Species Identification of Seafood, particularly interesting and a nice addition. Seems a very long time since Sam Naidu suggested back in the early 1980s that this would be possible, using sea scallops and Icelandic scallops as an example, and he was summarily dismissed! Another new chapter, Shellfish - Biological Safety, is a needed addition, but provides very uneven coverage and references. For example, algal toxins are covered in less than 6 inches of one column. I hoped to find more detailed information in the next added chapter, Allergens, Decomposition, and Toxins, but was met with 4 web page citations - 3 overview sites from the FAO and FDA and then a specific site from UC Davis on seafood. Even inclusion of a simple table providing closure levels for the different toxins would have provided some useful resource information. Chapter 23, Implementing the Seafood HACCP Regulation is particularly well done and comprehensive, but contains no references other than web pages. Chapter 24

covers all of 'aquaculture' in 9 pages, but does a remarkably good job of at least setting the stage for further reading. It would have been nice to mention in either the introduction or the 'future of aquaculture' that aquaculture now exceeds wild fisheries in production of seafood, rather than 'aquaculture is an established industry and appears to have a bright future'. It is the future. I was sorry to see that the original Chapter 15, Merchandising and Managing a Fresh Seafood Department was eliminated in the 2nd Edition. Given the number of supermarkets that are increasing the general standards and size of their seafood departments, this was a very useful inclusion and would have been more so today.



A few annoying minor points include mollusc spelled with a 'k', many of the figures look like printouts from Excel spreadsheets, axis labels appear on the figure panels rather than actually labelling the axes, and figure legends in boxes that appear more like axis labels. The line drawings, particularly those of fish and shellfish species and the diagrams of gear, are crude or simplistic and should have been redrawn or garnered from other sources. The index works reasonably well, but I couldn't find an entry for PSP, paralytic shellfish toxin, or even 'toxin' under the general listing - finally found them all under 'allergens'. Is *webliography* really a word, and are web pages that regularly will

change or even disappear overnight really suitable for a reference book? The dates that they were accessed are given in most instances, but that is of little help to a reader who wants access to the reference now or in the future.

The Preface notes there are few, if any, volumes offering the breadth and depth of information contained in this 2nd Edition. It also indicates that this volume is written to help the processor, wholesale buyer, retailer, or consumer understand the seafood industry, and that students and scientists will find much valuable information in the book. I agree with the first. I doubt the latter or whether any consumer is going to pay for such a book. The coverage of most topics is extremely superficial and over the entire volume coverage is uneven in terms of depth, references, and recommendations for further reading. It is pointed out that each chapter in this volume could receive - and in many cases has received - book length treatments. Given that this is true, the individual chapters presented here could (and should) be more detailed. A detailed introduction or overview to pull the work together would have been welcome.

In spite of these comments, the book has many interesting aspects and is still a very good introductory volume for those with little or no prior exposure to the field. Unfortunately, the price will preclude most from purchasing it.

Sandra E. Shumway
University of Connecticut

Student Research Grants Application Deadline: November 30th

The deadline for applications for two student research grants offered by the National Shellfisheries Association is fast approaching. The Melbourne R. Carriker Student Research Grant supports promising basic research in the area of shellfish while the Michael Castagna Student Grant for Applied Research supports applied areas of research in shellfish and aquaculture. Both of these competitive grants help cover the costs associated with conducting research in an era of dwindling financial resources. I strongly encourage students to apply for these awards. The process is relatively painless and the potential rewards are great! Students may apply for both awards, but must submit separate applications that highlight appropriate aspects of their research for each award. An applicant must be a student member in good standing and currently enrolled as a M.S. or Ph.D. student in a recognized, degree-granting institution. Students may not apply for an award they have received previously. The deadline for applications is **November 30th, 2012**.

Recipients of Carriker and Castagna Awards are expected to present the results of their research at an annual meeting of the Association and write a synopsis of their research for the NSA *Quarterly Newsletter*. Both awards provide students with \$1,250. The funds are intended for the purchase of supplies and equipment essential to perform their research, and are not intended to enable purchase of general items, such as computers, or to fund travel expenses associated with attendance at professional meetings. The good news is

that students can apply for travel support through the NSA Student Endowment Fund (see page 3).

To apply for either the Castagna or Carriker Award, send the following as a single pdf file to Past President, Joth Davis (jothpdavis@mail.com);

- Cover sheet with the applicant's name, professional address, phone number, email address, thesis title, degree being sought (M.S. or Ph.D.), date they entered the graduate program, and anticipated graduation date.
- Project description - 2-page limit plus one page for figures (if needed). Note, any literature cited is not included in the two-page limit.
- Budget (1 page) - Briefly itemize how the award will be spent (e.g., \$300 for micropipette supplies, \$200 for histology supplies, etc.).
- Resume (1 page) - List educational background, awards/honors, presentations at meetings, and any publications.
- Letter of endorsement (1 page) - The student's major advisor must provide a succinct letter of support commenting on the student's research and confirming that the funds are necessary.

Applicants will be notified of the status of their application by January 31st, 2013 and awards presented at the Annual Business Luncheon in Nashville in late February. Additional details are available online at www.shellfish.org/grants.htm.

Joth Davis
Past-President & Chair of NSA Awards Committee

Upcoming Events

Aquaculture and Restoration: A Partnership - Joint Meeting of the Northeast Aquaculture Conference & Exposition, Milford Aquaculture Seminar, and International Conference on Shellfish Restoration: December 12-15, 2012, Mystic Marriott Hotel and Spa, Groton, CT, USA. For more information visit <http://www.northeastaquaculture.org/>.

2013 Delaware Estuary Science and Environmental Summit: January 27-30, 2013, Cape May, NJ, USA. For more information visit http://www.delawareestuary.org/news_pde_science_conference.asp.

Aquaculture 2013 / National Shellfisheries Association, 105th Annual Meeting: February 21-25, 2013, Renaissance Nashville Hotel & Nashville Conference Center, Nashville, TN, USA. For more information visit www.shellfish.org or <https://www.was.org/WasMeetings/meetings/Default.aspx?code=AQ2013>.

9th International Conference on Shellfish Safety: March 17-22, 2013, Bayview Boulevard, Sydney, Australia. For more information visit <http://www.icmss2013.com/>.

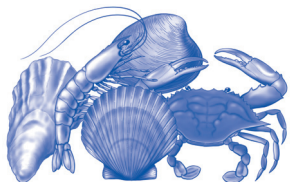
19th International Pectinid Workshop: April 10-16, 2013, Florianópolis, Brazil. For more information contact Guilherme Rupp, ipw2013@gmail.com.



If you would like to announce a meeting, conference, workshop or publication that might be of interest to NSA members, please contact the *QNL* Editor, Paul Rawson (prawson@maine.edu).

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