

# National Shellfisheries Association Quarterly Newsletter



Est. 1908

2014 (4)

## President's Message

I trust that your fall field work, lab experiments and/or aquaculture activities have gone smoothly. Here in Maine, we've had several tremendous fall storms, adding no small degree of excitement to the daily routine. Hearing accounts of both field experiments and commercial shellfish farms feeling the brunt of these storms reminds me that you can prepare for the worst, but more times than not, when it comes to working on the water, mother nature still gets the best of us all.

One benefit of inclement weather is that the "down time" allows one to catch up on indoor work and indeed this was the case for me in getting some behind the scenes work done on NSAs behalf.



Speaking of behind the scenes, plans for the 107<sup>th</sup> Annual Meeting March 22-26 in Monterey, CA are well underway. With nearly 250 abstracts submitted and twenty-plus special sessions, this is sure to be another great meeting in a fabulous location. Conference Manager Sandy Shumway and many others have worked hard on all our behalf to ensure that this meeting is a great success. If you have not registered for the meeting, please do so soon, as it helps tremendously with planning. Also, be sure to book your room early at the Monterey Marriott Hotel using the link on the NSA web site. This will ensure that your reservation is linked to our conference and you get the best room rate. With the Monterey Bay Aquarium, Cannery Row, and fantastic SCUBA diving (see Steve Allen's dive party plans on page two) nearby, there will be no shortage activities outside of the meeting.

Best regards and see you in Monterey,

**Chris Davis**  
President

## *Plans are firming up for MONTEREY!!*

### *Our 107<sup>th</sup> Annual Meeting*

#### *Seems we were just celebrating our 100<sup>th</sup>!*

Hopefully you have submitted your Abstract to meet the December 15<sup>th</sup> deadline. Check the web page for updates on the program - sessions are planned on abalone, biofouling, bivalve impacts on eutrophication, breeding and genetics, calcification, California shellfish, climate change and ocean acidification, commercial fisheries, crustaceans, disease, crustacean disease, Down on the Farm, echinoderms, economics, geoduck, green crabs, harmful algal blooms, IMTA/Offshore aquaculture, Olympia oysters, restoration, squid, and whelks - but things change and there may be additions and deletions as abstracts actually arrive. Even if you missed the deadline, there is always room for more posters on the program, so contact me if you still would like to contribute. The student session this year is on 'Alternate Careers' and there are four outstanding plenary speakers to open each day: Peter Cook (The world abalone market), Paul Dayton (The



*Continued on page 3.*

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

- ***Update on Monterey!***
- ***PCS report***
- ***Conus Book Review***

## Recruits' Corner

Registration for the 107<sup>th</sup> Annual Meeting in Monterey Bay, CA is now open! Take a moment to visit the NSA website ([shellfish.org](http://shellfish.org)) and see some of the early highlights of this meeting, including the tentative special sessions that are being planned. As you all know, student volunteers are a big part of the meeting's success and in the coming months we will be counting on your help to make this meeting happen.

Monterey Bay promises to be a great host city, and we have planned some amazing activities. As always, the student breakfast and orientation is scheduled to get all the recruits up to speed



on how to get the most out of this meeting. Social activities include the return of the scavenger hunt and our student mixer, designed for the recruits to experience all that local Monterey has to offer. Additionally, we have a behind-the-scenes tour of the Monterey Bay Aquarium, where recruits will get the chance to meet the aquarists and see some of the science taking place at this great institution. Steve Allen is putting together a local dive this year, so bring your bathing suit and have your dive certification ready to explore the Pacific up close! Finally, we are looking for interested runners and joggers to join the recruits in a planned a fun run around the area. This will be a great opportunity to stay active and see some of the town. The exact dates of these activities will be shared with the program, so keep an eye out and plan your schedules accordingly. If you have any ideas for activities, or saw something at a previous meeting and would like us to bring it back, please feel free to e-mail us.

The student panel, titled "The career path is rarely straight" is shaping up to be a very informative one. This year, we have confirmed participation from Linda Hiemstra, editor at Aquaculture North America and Industry Consultant, and Wendy Norden, Science Program Director of Monterey Bay Aquarium Seafood Watch. Currently, we are waiting on confirmation from a few other speakers as well. We are very excited about these guest panelists, and look forward to them sharing their experiences with us! Make sure you bring lots of questions, and don't miss this opportunity to engage scientists and industry members. Have someone you want to hear from at the panel? Remember, you can e-mail us ideas and we'll look into having them attend.

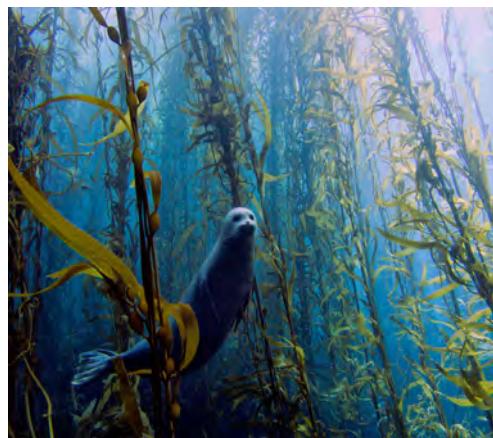
We hope the NSA recruits continue to make their presence felt and participate fully in this coming meeting. Keep an eye out for the call for student volunteers. Each year we need

help to run the registration table and sales booth, as well as the A/V during the sessions. Recruits' are crucial in making sure these activities run smoothly and ensuring a successful meeting. It would not happen without your participation!

We hope to hear from you soon! As always, email us with any problems. Additionally, keep an eye out for the new NSA website and revamped Facebook page to be launching soon—we will be communicating with the Recruits' on these pages, and can answer any questions you may have between this year and next year's meeting. If you are interested in getting involved for future meetings, the Student Recruits' Chairs are looking for a new student to help us with meetings and assisting fellow recruits. If you are interested, please email Hillary & Maria and we can give you more details. Looking forward to seeing you all in Monterey Bay!

**Maria Rosa and Hillary Lane**  
**Recruits' Co-chairs**

### DIVE WITH THE SEA LIONS!



If there is sufficient interest, a dive party will be organized during the NSA meeting in Monterey. All equipment and 2 dives included for \$150. Space is limited to the first 15 people who respond by January 15<sup>th</sup>. A deposit will be required.

Contact Steve Allen ([stevenmallen@gmail.com](mailto:stevenmallen@gmail.com)) if you are interested.

**See you in the kelp forest**  
**Steve Allen**

## ICSR Meeting Report

I just returned from Charleston, S.C. where a good number of NSA members enjoyed some warm sunshine and excellent talks on shellfish restoration as part of the 2014 International Conference on Shellfish Restoration. The theme for this year's gathering was focused on restoring shellfish under changing climate conditions. Sessions on techniques for shellfish restoration, the use of hatcheries in restoration aquaculture (including approaches for breeding and genetic conservation), water quality, habitat and ecosystem services and the development of metrics for evaluating restoration outcomes were the major focus areas of talks. Rick DeVoe, Dorothy Leonard and their team did a wonderful job



*Peter Malinowski and his students from the New York Harbor School.*

of organizing this meeting. This year's gathering was well supported with major sponsorship provided by The Nature Conservancy, The Chesapeake Research Consortium, the Association of National Estuary Programs and the NOAA Office of Habitat Conservation. Michael Rubino, (NOAA), Betsy Peabody (Puget Sound Restoration Fund) and Peter Malinowski (Billions of Oysters project) provided keynote presentations to start each day. These opening talks served to focus the meeting and remind the participants of the importance of the work they do in conservation. Of particular note this year was attendance by a number of students from the New York Harbor School. They are part of the Billions of Oysters project spearheaded by Peter Malinowski and the Harbor School. It was particularly gratifying to observe the enthusiasm of the students as they interact with scientists and graduate students. Next year's meeting will be held in Rotterdam with enthusiasm building already for the 2015 gathering.

**Joth Davis**

## Monterey Update *Continued from page 1.*

loss of nature and the nature of loss), Sam Dupont (A taste of ocean acidification), and Robert Vrijenhoek (Hot anoxic oceans and the history of chemosymbiotic shellfish).

The Recruits are working on some special activities, there is a plan to bring back the 'most beautiful oyster' contest, and perhaps an organized morning run along the spectacularly beautiful Monterey coastline. There are also plans for an organized dive among the kelp and sea lions - watch for details and contact Steve Allen (stevenmallen@gmail.com) if you have an interest in this one. Space will be limited. The PCS is also planning a special event, so watch for details on that one.

There will, of course, be all the usual activities - auction, student breakfast, opening reception with a shellfish feast, happy hours, and the business luncheon. The Monterey Marriott Hotel is a great venue (some of you will remember our last meeting there) and we've made arrangements to have posters and a seating venue similar to that in Jacksonville as it received a lot of good comments.

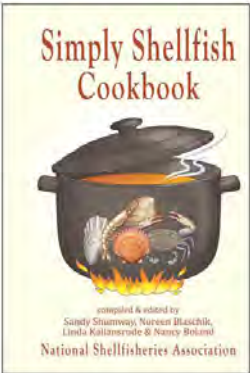
Don't forget to bring your auction items. If you can't make it to the meeting, you are still most welcome to contribute. Just sent your goodies to me (address on the back) prior to February 28th. Remember - contributions are tax deductible.

**So make your travel plans early and see you in Monterey!!**

**Sandy Shumway  
Conference Manager**

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## Pacific Coast Section Report

The 68<sup>th</sup> annual meeting of the Pacific Coast Section of the National Shellfisheries Association was held from September 22-25 at the Hilton in Vancouver, Washington in conjunction with the Pacific Coast Shellfish Growers Association. The conference provides a forum for academics, industry, government and tribal agencies, and environmental organizations to get together and increase knowledge of shellfish.



*Brett Dumbauld*

PCS sincerely thanks the shellfish industry, the conference planning committee, Margaret Barette and especially Connie Smith for making this annual joint conference a great

success. A record 265 people attended the event of which 65 were NSA members.

Dr. Edward Allison, Professor at the School of Marine Affairs, University of Washington gave the opening keynote address describing the new reality of climate change and what it will mean for shellfish and other aquaculture activities which, although constrained in the US, are growing most places – sobering news, but pointing to need for adaptation, life cycle analyses, and other constructive approaches. He also highlighted the need for widespread use of good stories like the Whiskey Creek shellfish hatchery narrative based on science and conveyed so effectively by Alan Barton, as tools to mobilize funds and direct societal focus. This was followed by speakers who are actively pursuing some of these approaches both within and for the shellfish industry. Afternoon sessions on how others view the shellfish aquaculture industry, forming partnerships to change those perceptions, and in-depth roundtable presentations and discussion of the status of local state efforts underway from Alaska to California and Hawaii to support the National Shellfish Initiative were enlightening and heartening. The following day and a half were then filled with lively concurrent sessions covering numerous relevant topics including ocean conditions and climate change, shellfish and public health, state agency management updates, the three c's (crabs, cucumbers, and clams of course), restoration and protection efforts, invasive tideland species, the latest developments in shellfish breeding and genetics, estuary shellfish interplay, and outreach and public engagement.

Student involvement continues to be the focus of the PCS mission and students from the University of Washington, University of Southern California, the Evergreen State College, University of Alaska, and Oregon State Univer-

sity gave 18 presentations at the meeting. The best student paper award was given to Natalie Coleman, an undergraduate at OSU for her presentation entitled “The dirty secret on burrowing shrimp growth: Verification of two alternative methods of age determination in the burrowing shrimp *Neotrypaea californiensis*”. She and graduate student Xiaoshen Yin (USC), who came in a very close second for her presentation on crossbreeding in Pacific oysters, were awarded NSA/PCS membership and Natalie received \$250. Support for students to attend the meeting was generously provided by the Ken Chew Student Endowment Fund, as well as contributions from Rock Point Oyster Company, Chuckanut Shellfish, BioAquatics International, Seattle Shellfish and Taylor Shellfish. Special thanks to Ralph Riccio and Molly Jackson for all of their hard work envisioning and setting up the Bivalvathon event (can you run a relay and shoot a nerfgun in waders and mudflat attire ?) and all those who solicited and donated items for the silent auction. Proceeds from both events helped make the meeting a success for PCS and sponsor students attending the meeting.

The NSA-PCS held its annual business meeting during the 2014 conference. Elections were held for several positions including Chair and Vice-Chair. The PCS welcomes Laura Hoberecht (NOAA Aquaculture Program) as our new Chair.



*Laura Hoberecht*

Other officers retaining their positions are: Sean McDonald - re-elected Vice Chair (University of Washington), Ralph Riccio - Secretary (Jamestown S'Klallam Tribe), Bethany Stevick - Treasurer (Washington Dept. of Fish and Wildlife), and Members at Large

Chris Burns (Jamestown S'Klallam Tribe), Sarah Dudas (Vancouver Island Univ.), David Fyfe (Northwest Indian Fisheries Commission) and Molly Jackson (Taylor Shellfish).

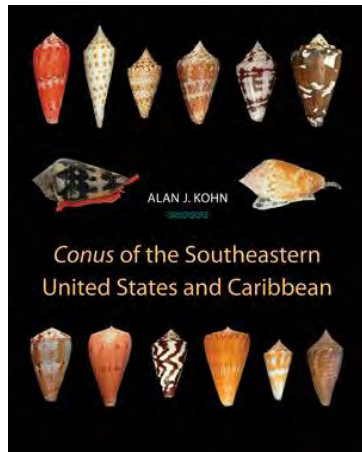
The 2014 PCSGA/NSA-PCS conference is scheduled to be held in Hood River, Oregon from September 20-24, 2015. Meeting details and a call for papers will be posted on the PCS/NSA and PCSGA websites in early spring. Let's keep spreading the word to student recruits about what a great opportunity this meeting is. I have greatly enjoyed my tenure as PCS Chair and look forward to seeing some of these students and a good PCS turn-out at the NSA meeting in Monterey!

**Brett Dumbauld**  
**Past-Chair, Pacific Coast Section**

## Conus of the Southeastern United States and Caribbean

This is a beautifully written and illustrated book that details the taxonomy and phylogenetic relationships of western Atlantic *Conus* - the most diverse genus of marine animal known. The author, Alan J. Kohn, is widely recognized as the world's premier scientific authority on the Conidae. Here, he has poured his deep passion for his subject into a scientific and technical masterpiece.

Kohn presents a much-needed systematic revision of the extant *Conus* species native to the region; of some 263 species-group names published since 1758, only 53 are accorded full, valid species rank here. Understandably, the author goes to great lengths to illustrate intraspecific variability in traditional shell characteristics and thus arm



the reader with the ability to identify and differentiate these often problematic taxa. This is accomplished via detailed descriptive comparisons as well as quantitative morphometric analyses of traditional shell characteristics and the less-studied radular tooth. In addition, data on precise geographical distributions, specific habitats, feeding ecology, egg capsules and molecular genetics are presented along with 2100+ color photographs. Kohn is the first to admit that "Classifications of species are scientific hypotheses" without the ability to "test the interbreeding criterion of the biological species definition concept in molluscs." While further genetic analyses should help define these species more precisely, Kohn has done an herculean job in his labors of untangling and defining *Conus* species from the Western Atlantic; the result is that he has raised the bar, by a couple of notches, for future iconographies.

Each of the species is treated in an intimate manner, as a treasured work of nature. Species accounts largely follow the format of Röckel, Korn & Kohn, 1995, Manual of the Living Conidae, Volume I: Indo-Pacific Region (Verlag Christa Hemmen), but here the author provides an often much greater level of detail in discussing etymology, anatomy and biology (where known) and in making comparisons to other members of designated species groups (clades). Tables of the latter will be especially valuable to collectors - although some may lament the lack of common names.

There is much more. Kohn devotes a chapter to describing the species concept and taxonomic approaches for characterizing taxa and understanding their relatedness; another provides the geological and geographical context for understanding the evolution of incredible diversity within the genus. A wonderful synopsis of shell character sets follows, with a brief treatment of statistical approaches. The synthesis provides invaluable insights and direction for future research on the ecology, phylogeny and biogeography of Western Atlantic *Conus*. As intimated throughout the text, Kohn advocates that we should strive to know the living animal - as it is far more interesting than the empty shell.

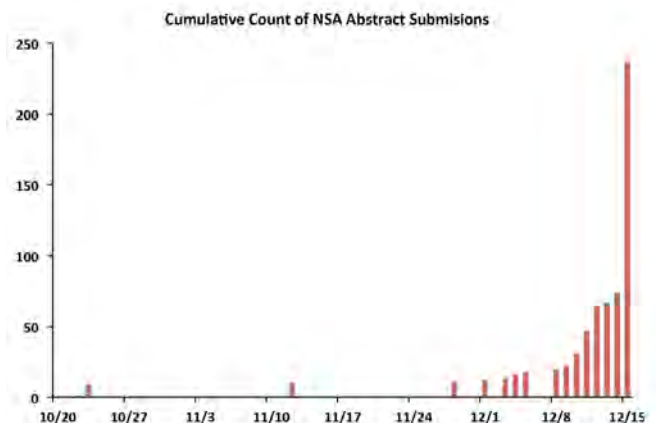
While the book is intended primarily for biologists, it most definitely will be welcomed (as Kohn hopes) by "all who are attracted by the wondrous variety and elegance of molluscs and their shells."

Alan J. Kohn, Princeton University Press, 2014; 480 pages; ISBN 978-0-691-13538-0 (hardback); US \$99.50

**Review by: Steven Tettelbach**  
Long Island University

## Down to the Wire...

We all know that submitting one's abstract for a conference tends to be put off until the last minute and indeed, this seems to be the case for members of the NSA. As the plot below illustrates, nearly 70 percent of the abstracts submitted for the upcoming 107<sup>th</sup> Annual Meeting in Monterey came in on the last day of the submission period. JoAnne Linnenbrink gets a gold star for the earliest submission! If you were the last to submit (11:55 PM EST on December 15), you know who you are...



## Green oysters, anyone?



“Les Vertes” (“the green ones”) — green oysters from Marennes-Oléron, France.

“One of the most lucrative branches of foreign oyster-farming may be now described – i.e. the manufacture of the celebrated green oysters. The greening of oysters, many of which are brought from the Ile de Re parks, is extensively carried on at Marennes, on the banks of the river Seudre, and this particular branch of oyster industry which extends for leagues along the river, and is also sanctioned by free grants from the state, has some features that are quite distinct from those we have been considering, as the green oyster is of considerably more value than the common white oyster. The peculiar colour and taste of the green oyster are imparted to it by the vegetable substances which grow in the beds where it is manipulated (*Navicula ostrea*). This statement, however, is scarcely an answer to the question of “why,” or rather “how” do the oysters become green? Some people maintain that the oyster green is a disease of the liver-complaint kind, whilst there are others who attribute the green colour to a parasite that overgrows the mollusc. But the mode of culture adopted is in itself a sufficient answer to the question. The industry carried on at Marennes consists chiefly of the fattening in claires, and the oysters operated upon are at one period of their lives as white as those which are grown at any other place; indeed it is only after being steeped for a year or two in the muddy ponds of the river Seudre that they attain their much-priced green hue. The enclosed ponds for the manufacture of these oysters --, and, according to all epicurean authority, the green oyster becomes “the oyster par excellence” – require to be watertight, for they are not submerged by the sea, except during very high tides”.

Note: this description is followed by a detailed assessment of how to build the ponds and maintain the oysters for the ‘greening’ process.

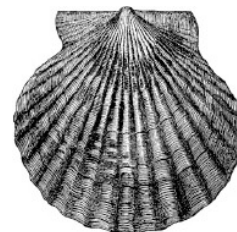
Bertram, James. G. 1866. *The Harvest of the Sea. A contribution to the Natural History and Economic History of the British Food Fishes.* p. 359.

## East Coast Shellfish Growers Association - Comings and Goings

As I type I am flying to the International Conference on Shellfish Restoration in Charleston SC where I will be participating in sessions on crosscutting issues such as ocean acidification, permitting seed transfers across state lines and permitting of restoration projects in closed waters. These issues are complicated and important to both growers and restoration practitioners alike, and we are hopeful that discussions will reveal common ground and novel solutions.

We just got the fall ECSGA newsletter off to the printers and members should get their copy inside a complimentary issue of Fish Farming News shortly. If you can't wait you can always catch up on industry happenings on our website; ECSGA.org. This is our Jobs and Economic Development issue and we have a nice contribution for Karen Hudson and Tom Murray describing the meteoric growth of oyster farming in Virginia. I also cover some recent developments on our five-year long trade war over shellfish importation with the European Union. Too much to explain here, but I encourage you to check out the newsletter online. We are busily preparing for our annual trip to DC where we educate our elected representatives and agency regulators about the issues that we face. We have a great story to tell, of green job growth, sustainable seafood production and ecosystem benefits; but we also have significant challenges with shrinking research budgets, thorny regulatory issues, and requests for assistance on research needs such as acidification, breeding, and *Vibrios*. If you can join us in DC for the first week of February we always find we get a better reception when we can bring a constituent with us to convey our message. We are also making plans to head up to Portland for the Northeast Aquaculture Conference and Exposition which is paired up again this year with the Milford Aquaculture Seminar, January 14-16 in Portland, ME. “Maine in January” you say? Better in a meeting and trade show than standing on a skiff busting ice. So join us for the ECSGA annual meeting, and more important sessions to discuss the latest research on acidification, *Vibrio* and much more.

**Bob Rheault, Executive Director**  
**East Coast Shellfish Growers Association**  
[www.ECSGA.org](http://www.ECSGA.org)



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

Dr. Christopher V. Davis  
President  
Pemaquid Oyster Company  
P.O. Box 302  
Waldoboro, ME 04572  
Phone: (207) 832-6812 (voice & fax)  
Email: cdavis@midcoast.com

Dr. Karolyn Mueller Hansen  
President-Elect, Webmaster  
University of Dayton  
300 College Park  
Dayton, OH 45469  
Phone: (937) 229-2141  
Email: khansen1@udayton.edu

Steven M. Allen  
Vice-President  
Darling Marine Center  
193 Clarks Cove Road  
Walpole, ME 04573  
Phone: (443) 994-5164  
Email: stevenmallen@gmail.com

Dr. Lisa Milke  
Secretary and Co-Chair, Endowment/Student Awards Committee  
NOAA  
212 Rogers Avenue  
Milford, CT 06460  
Phone: (203) 882-6528  
Email: lisa.milke@noaa.gov

Dr. John Scarpa  
Treasurer  
Texas A&M University, Dept. of Life Sciences  
6300 Ocean Drive (Unit 5800)  
Corpus Cristi, TX 78412  
Phone: (361) 825-2369  
Email: john.scarpa@tamucc.edu

R. LeRoy Creswell  
Chair, Past-Presidents', Elections & Awards Committees, Co-Editor, *NSA QNL*  
Florida Sea Grant Extension Program  
2199 South Rock Road  
Ft. Pierce, FL 34945  
Phone: (772) 468-3922  
Email: creswell@ufl.edu

Dr. Laura Hoberecht  
Chair, Pacific Coast Section  
WCR/NOAA/NMFS  
7600 Sand Point Way Northeast Bld #1  
Seattle, WA 98115  
Phone: (206) 526-4453  
Email: laura.hoberecht@noaa.gov

Dr. Sandra E. Shumway  
Editor, *JSR*; Conference Manager  
University of Connecticut/Dept. of Marine Sciences  
1080 Shennecossett Road  
Groton, CT 06340  
Phone: (860) 405-9282  
Fax: (860) 405-9153  
Email: sandra.shumway@uconn.edu

Dr. Nature McGinn  
2012-2015 Member-at-Large and Co-Chair,  
Endowment/Student Awards Committee  
613 Pennsylvania Ave SE, Apt. 3  
Washington, DC 20003  
Email: naturemcginn@gmail.com

Leslie Sturmer Taiani  
2013-2016 Member-at-Large  
Chair, Resolutions Committee  
University of Florida  
12260 SW 167<sup>th</sup> Court  
Cedar Key, FL 32625  
Phone: (352) 543-5057  
Email: LNST@ufl.edu

Julie Davis  
2014-2017 Member-at-Large  
South Carolina Sea Grant Consortium  
PO Box 189  
Beaufort, SC 29901  
Phone: (843) 255-6060  
Email: julie.davis@scseagrant.org

Dr. John Supan  
Chair, Industry Committee  
227C Sea Grant Bldg.  
Louisiana State University  
Baton Rouge, LA 70803-7507  
Phone: (225) 578-6527  
Email: jsupan@lsu.edu

Dr. Standish K. Allen  
Co-Chair, Endowment/Student Awards Committee  
Virginia Institute of Marine Science  
P.O. Box 1346  
Gloucester, VA 23063  
Phone: (804) 684-7710  
Email: ska@vims.edu

Dr. William C. Walton  
Co-Chair, Membership Committee  
Auburn University Shellfish Laboratory  
150 Agassiz St.  
Dauphin Island, AL 36528  
Phone: (251) 861-3018  
Email: billwalton@auburn.edu

Dr. John N. Krauter  
Chair, Audit-Budget-Finance Committee  
Co-Chair, Publications Committee  
148 Kings Highway  
Kennebunkport, ME 04046  
Phone: (207) 967-3302  
Email: krauter@hsrl.rutgers.edu

Dr. Susan E. Ford  
Co-Chair, Publications Committee  
4408 Julie's Way  
Williamsburg, VA 23188  
Phone: (856) 785 0074 ext. 4305  
Email: susan@hsrl.rutgers.edu

Maria Rosa  
Co-Chair, Student Recruits  
University of Connecticut  
1080 Shennecossett Rd.  
Groton, CT 06340  
Phone: (646) 413-1848  
Email: maria.rosa@uconn.edu

Hillary Lane  
Co-Chair, Student Recruits  
University of Maryland  
Biology Building #144, Room 1210  
College Park, MD 20742  
Phone: (301) 405-9701  
Email: hillaryannelane@gmail.com

Dr. Jonathan P. Davis  
Co-Editor, *NSA Quarterly Newsletter*  
10610 Manitou Park Blvd.  
Bainbridge Island, WA 98110  
Phone: (206) 799-7691  
Email: jothpdavis@mail.com

Linda Kallansrude, *Secretariat*  
14 Carter Lane  
East Quogue, NY 11942  
Phone: (631) 653-6327  
Email: lindajk@optonline.net

**HAVE YOU RENEWED YOUR NSA DUES FOR 2015?**

**If not, head on over to**

**[www.shellfish.org](http://www.shellfish.org)**

**Linda Kallansrude, NSA Secretariat**  
**14 Carter Lane**  
**East Quogue, NY 11942 USA**

*Forwarding Service Requested*

## Upcoming Events

**Northeast Aquaculture Conference & Exposition.** January 14 - 16, 2015 in Portland, Maine. For more information, visit: [www.northeastaquaculture.org](http://www.northeastaquaculture.org).

**Global Seafood Market Conference.** January 27-29, 2015, Las Vegas, NV. For more information, visit: <http://www.aboutseafood.com/about/global-seafood-market-conference>.

**Aquaculture America 2015 - "Aquaculture 2015 - Center of the Plate".** February 19 - 25, 2015, New Orleans, Louisiana. For more information visit: [www.was.org](http://www.was.org).

**Washington Sea Grant Shellfish Growers Conference.** March 2-3, 2015, Union, WA. For more information, contact Teri King at Washington Sea Grant or visit <http://wsg.washington.edu/>.

**10<sup>th</sup> International Conference on Molluscan Shellfish Safety.** March 15-20, 2015, Puerto Varas, Chile. For more information, visit: <http://icmss2015.com/>

**107<sup>th</sup> Annual Meeting of the National Shellfisheries Association.** March 22 - 26, 2015, Monterey, CA USA. For more information visit: [www.shellfish.org](http://www.shellfish.org).

**20<sup>th</sup> International Pectinid Workshop.** April 22-28, 2015, Galway City, Ireland. For more information visit: <http://ipw2015.com/>

**World Aquaculture 2015 – Aquaculture For Healthy People, Planet and Profit.** May 26 - 30, 2015 in Jeju, Korea. For more information, visit: [www.was.org](http://www.was.org).

**The Third International Symposium on Manila (Asari) Clam – Satellite Symposium of World Aquaculture 2015.** June 1 – 2, 2015 in Tsu City, Mie prefecture, Japan. For further information, contact: Satoshi Watanabe, Ph.D., National Research Institute for Aquaculture, Japan: [swat@affrc.go.jp](mailto:swat@affrc.go.jp).

**Aquatic Biodiversity and Ecosystems – "Evolution, Interaction & Global Change".** 30 August - 4 September, 2015, University of Liverpool, United Kingdom. For more information, visit: [www.aquaticbiodiversityandecosystems.org](http://www.aquaticbiodiversityandecosystems.org).

**NSA-PCS/PCSGA Annual Conference.** September 20-24, 2015, Hood River, OR. For more information, visit: [www.pcsga.org](http://www.pcsga.org).

If you would like to announce a meeting, conference, workshop, or publication that might be of interest to NSA members, please contact the *QNL* Editors, Joth Davis ([jothpdavis@mail.com](mailto:jothpdavis@mail.com)) or LeRoy Creswell ([creswell@ufl.edu](mailto:creswell@ufl.edu)).