

National Shellfisheries Association

QUARTERLY NEWSLETTER

JUNE 2008

GROTON, CT

President's Message

As I start the second year of my two-year term, I'm uniquely honored to welcome you to a new 'Century of Shellfish' for NSA. We arrived here through a long history of collaboration, hard work, innovation, and discovery. What lies ahead for the Association will require no less, and I look forward to working with all of you to keep our organization healthy, fresh and growing.

If you missed the Centennial Meeting in Providence this past April you missed one heck of a gathering! This was clearly one of our most successful meetings, packed full of so much that I don't know where to start. I'm sure I'll leave many things out so be sure to read the other articles in this newsletter. First and foremost, Sandy Shumway must be thanked for serving as the meeting organizer and Karolyn Hansen as the Program Chair. Together, and with a small army of others, they arranged plenary lectures each day, focused workshops, special and contributed sessions, the NSA Hall of History, President's Reception, Oyster Tasting, SEF Auction, the Centennial Round Table, a private IMAX viewing of 'Volcanoes of the Deep, and plenty of food all around. The mix of shellfish science, industry workshops, camaraderie and food was simply splendid. There were well over 400 attendees, and a total of 226 oral and 87 poster presentations. More than 70 students gave presentations making it no small task for the 20 plus volunteer judges to review, assess and identify the best presentations. Thank you Ami Wilbur and Ryan Carnegie for doing a terrific job in orchestrating the judging effort. Sponsorships reached a record level and enabled us to expand offerings and events such as time-saving continental breakfasts, the "Fenway Park" Poster Session, the Centennial Round Table reception, and plenty of tasty shellfish at evening events (thanks to Gef Flimlin and 'Skid' Rheault for organizing shellfish donations). On behalf of NSA, I extend a sincere thank you to all our sponsors who are listed on a special page in this newsletter and on our website. Their donations helped make this meeting a success and a celebration.

The EXCOM began the week bright and early at 8 am on Sunday morning (5 am for PCS Chair Teri King via speaker phone). A number of action items were identified to help maintain and improve the Association with an emphasis on

member services. These include: improving the web portal; continuing the industry day and creating an industry page on the portal; invigorating the SEF Centennial Campaign; making arrangements for next year's meeting in Savannah and beyond. The growing demands of managing NSA continue to highlight the need for an Executive Director, but funding such a position remains elusive. Hence, a primary focus in the coming year will be the development of a strategic plan led by Past President Lou D'Abramo with input from our past Presidents. The objective is to set both a short and long-term course that will hopefully lead us well into the next century of NSA.

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President Dave Bushek raises an oyster shooter and joins in toasting the 100th anniversary of the National Shellfisheries Association.

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After a meeting that was so well packed with outstanding lectures, sessions, workshops and events there is a long list of individuals to thank. Behind the scenes, keeping Sandy sane, were Linda Kallansrude, Bridget Holohan and Dustin Kach. In addition to those I've already mentioned above, Sue Ford put together the photo loop in the Hall of History and did a tremendous job organizing and moderating the Centennial Round Table; the Round Table participants Neil Bourne, Ken Chew, Rich Lutz, Sammy Ray, Bob Malouf, Bob Hillman, Herb Hidu, and Aaron Rosenfield were a treat for everyone to hear. Maille Lyons did an excellent job organizing the 'Shellfish Pioneer' posters. Chris Dungan, Tom Soniat, Bill Anderson, Joth Davis, Gary Wikfors, Jay Parsons, and Corinne Audemard joined me in leading efforts at our respective institutions to put together histories of how each institution has been involved in NSA over the years. Gef Flimlin provided the massive quahogs that provided photo ops for all (John Ewart helped haul them up from an undisclosed location in New Jersey) and Gef negotiated the souvenir oyster knives we all got to keep as a memento of the Centennial Meeting.

Sandy Shumway is solely responsible for obtaining the opening lecturers and did a fabulous job filling in at the last minute after an unfortunate cancellation by Kevin Eckelbarger – Kevin we hope that all is well again with your family and hope to see you in the future. Sandy's lecture was preceded by updates from Tim Keeney (USDA) and Mike Rubino (NOAA) about national efforts related to shellfisheries and shellfish aquaculture within their agencies. On successive mornings we heard Roger Mann speak about the status of oyster restoration efforts in the Chesapeake Bay, Michael Greenberg discuss the basic structure and function of bivalve gills, and Rich Lutz present a talk on deep sea hydrothermal vents to an audience that included those arriving for the overlap day



Mr. Tim Keeney, Deputy Assistant Secretary for Oceans, NOAA, and local arrangements chair Sandy Shumway enjoy the 100th anniversary meeting in Providence.

with the Benthic Ecology Meeting. Thank you all for sharing a bit of your extensive knowledge in a most interesting, thought provoking and stimulating way.

A concerted effort to reach out to industry worked quite well. Bob Rheault, long-time NSA member and President of the East Coast Shellfish Growers Association, organized The East Coast Oyster Tasting Event held Monday evening. Growers from Maine to Louisiana, and one west coast grower, brought their best eastern oysters to be judged by an expert team of oyster connoisseurs for appearance and flavor. Nineteen varieties of oysters on the half shell made a good meal for those attending. A special thanks to Bob for organizing such a great industry event to coincide with our Annual Meeting. Hopefully, similar events will occur in the future. In addition to the scientific sessions on genetics and shellfish restoration, Bill Walton organized a special industry session 'Down on the Farm' that was followed by the World Wildlife Fund's Shellfish Dialogue workshop organized by Colin Brannen (see www.worldwildlife.org/what/globalmarkets/aquaculture), and the annual meeting of the Northeast Shellfish Sanitation Association.

Tuesday's events included an outstanding poster session and then the always entertaining Student Endowment Fund Auction. Sandy arrived at the auction in one of her more unusual costumes as the local drink, coffee milk, led by two dashing cheerleading students (Nature McGinn and Dustin Kach). The rousing and raucous event raised a record \$3,467 to support the SEF. Thanks to all of you that donated and purchased items! Speaking of the Student Endowment Fund, the EXCOM agreed to continue the SEF Centennial Campaign as we have about six months left in our Centennial Year of 2008 to reach our goal of raising \$100,000 for the SEF fund. Please consider donating if you have not, or increasing your donation so that we can create a principle investment large enough to increase and sustain student participation in shellfisheries. Students are the future so this is an important investment for all.

On Wednesday, Sammy Ray kicked off the Annual Business Luncheon with a toast over an oyster shooter donated by the Gulf Coast Oyster Dealers and Growers Association. Chris Davis (Treasurer) and George Abbe (ABF Chair) reported that we are in very good financial health, though the current transition of online publishing throughout the publishing world creates concern. Sue Ford announced that back issues of *JSR*, the *Proceedings*, and Convention Addresses are now available on-line at www.biodiversitylibrary.org. Susan reminded us that the best way to get access to current issues of *JSR* is by getting your institution to subscribe to the BioOne.2 collection. Several awards were presented including the Honored Life Member Award to Roger Mann of the Virginia Institute of Marine Sciences, the Melbourne Carriker and Michael Castagna Student Research Awards to Nature

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Roger Mann Presented with Honored Life Member Award

The Honored Life Member Award is the highest honor bestowed by the National Shellfisheries Association. The NSA Awards Committee, chaired by the immediate Past President, receives and reviews nominations and makes recommendations to the Executive Committee. At the recent 100th Annual Meeting of NSA, Dr. Roger Mann became the 53rd individual in the history of the Association to receive this coveted distinction which recognizes exemplary contributions to NSA and to his profession. Dr. Tom Soniat presented a brief summary of Dr. Mann's career and accomplishments, and concluded by stating that Roger is a much respected friend, and esteemed mentor and colleague. At this year's meeting, Dr. Mann presented one of the special plenary lectures that initiated the scientific and industry program each day.



Roger Mann received his Bachelor of Science degree from the University of East Anglia in 1972, and Ph.D. from the University College of North Wales in 1976. From 1977 to 1984 he held the position of Assistant and then Associate Scientist at Woods Hole Oceanographic Institution located in Cape Cod, Massachusetts. In 1985, he assumed the position of Associate Professor at the College of William and Mary, and since 2003 has served as the Director of Research and Advisory Services at the Virginia Institute of Marine Sciences. Roger served as President of NSA from 1988-89, Vice President from 1986-87, and organizer of the annual meeting in 1989-90. Particularly noteworthy was his

service as Editor of the *Journal of Shellfish Research* during a critical transition period.

The breadth and depth of Roger Mann's research, which spans more than 30 years, is remarkable. His contributions to shellfish biology range from biochemistry to ecosystem analysis, and include investigations on growth, mortality, excretion, gametogenesis, contaminants, public health, larval ecology, introduced species, wood borers, ecosystem restoration and more. Congratulations are extended to Roger for being honored with NSA's Life Member Award.

Lou D'Abramo, Tom Soniat, Sandy Shumway
Awards Committee

Student Research Grants Awarded

During the Annual Business Luncheon, graduate students as the recipients of the 2008 Melbourne Carriker Award and the 2008 Michael Castagna Award were announced. The students were selected by the NSA Awards Committee from many applicants who submitted appropriate packets, and were judged according to the quality of their research and how it best exemplified the spirit and specific intent of the different awards. Ms. Nature McGinn, the recipient of the Carriker Award, is a student of Dr. Gary Cherr and works at the Bodega Marine Laboratory of the University of California. The title of her project is "Environmental contaminants and the multixenobiotic resistance system in model marine invertebrates." Mr. Brandon Puckett, the recipient of the Castagna Award, is a student under the direction of Dr. David Eggleston at the Center for Marine Sciences and Technology, North Carolina State University in Morehead City, NC. The title of his research project is "Assessing the efficacy of marine reserves for oyster restoration: Theory and application." Each student received an award of \$1,250 in support of their research project. Congratulations Nature and Brandon!



Carriker Grant awardee Nature McGinn with Past-President Lou D'Abramo.

President's Message... Continued from page 2.

McGinn and Brandon Puckett, respectively. I would like to thank Lou D'Abramo for overseeing the award competition and his hard work during the past year as he serves behind the scenes in many duties as Immediate Past-President.

Finally, I would like to welcome the newly elected individuals who will be at the helm of NSA for the coming year. Congratulations to Leroy Creswell (Vice President), John Ewart (Secretary), Chris Davis (Treasurer) and Kim Reece (Member-at-Large) for being elected as officers of NSA, and thanks go to Mauren Krause, Ami Wilbur, Steve Allen, and Dan Cheney who all volunteered to run for office. All were outstanding candidates and will hopefully run again. I thank outgoing officers Maureen Krause and John Ewart for their service as Secretary and Member at Large, respectively. Many of the appointed committee chairs remain the same as last year, but there are a few important changes to note. Leroy Creswell will be the Program Chair for our 101st meeting in Savannah and will be joined by Randy Walker as Local Organizer. Kim Reece will head the Resolutions Committee, and the Industry Committee will be chaired by John Supan. On the horizon, Evan Ward will be stepping down as Newsletter Editor and I thank him for the outstanding job that he has during the past few years. After an intensive search and careful consideration of several interested individuals, Evan will be replaced by Paul Rawson from the University of Maine. Paul has been coming to NSA for years and knows many of us well. Our Recruits co-Chairs Nature McGinn and Dane Frank have done an excellent job. Dane will soon be metamorphosing into a mature scientist and stepping down from this position, thus creating an excellent opportunity for an ambitious student. Contact Nature or Dane if you are interested in helping to lead the Recruits. Finally, Susan Ford has indicated that she would like to step down as Historian and so we are looking for someone that knows the Association well to fill this position during the coming year. As these individuals wind down their responsibilities, I thank them all for their hard work and contributions to NSA.

I'm sure I've left many things out, but know that the efforts of each and every one of you is appreciated. With the 100th meeting behind us, it is time to look forward to our 101st meeting in Savannah. While March 2009 may seem like a long way off, the time will fly by. Lou D'Abramo (Meeting Organizer), Leroy Creswell (Program Chair), and Randy Walker (Local Arrangements) are already busy planning the meeting. Contact them now if you can help. As always, if you have ideas or comments concerning NSA please feel free to contact me or any other officer or chair. Our contact information is on the back of the Newsletter or available online under the tab 'About NSA'.

Dave Bushek
President

Recruits' Corner

THANK YOU RECRUITS!

Everyone's help at the sales booth and the auction made raising money for the Student Endowment Fund a great success. Also, thanks to those of you that worked A/V and helped keep the sessions running smoothly. A humongous THANK YOU to former Recruit Dustin Kach



– A/V coordinator extraordinaire! One last Thank You to the panel members in the special student session for sharing your experiences and sage advice. The meeting in Providence was a blast. We had excellent student participation with over 70 student presentations (keep up the great work!). With so many exciting events – private IMAX screening of *Volcanoes of the Deep*, centennial roundtable with the giants of shellfish science, not to mention an informative and well-attended session on “Getting Hired” – it took me awhile to recover. Now we are back at work and we can start planning for Savannah!



One of the things that Dane and I have been talking about for a while is redesigning the Recruits web page on the shellfish.org website. We want to make it a highly useful source of information for our student members. We have some ideas of our own, but we would

really like some feedback and comments from you, our target audience. How can the Recruits page serve you better? Do you belong to other societies that have student web resources that you admire? Are you a student with experience or at least an interest in web page design that would like to help out with this project? If you have answers to any of these questions, please e-mail Nature McGinn (namcginn@ucdavis.edu) or Dane Frank (dana.frank@uconn.edu) a.s.a.p. We will let everyone know in a future newsletter article when the new Recruits web page is up and running.

Finally, as some of you know, Dane will soon be metamorphosing into a ‘real’ scientist and, consequently, be stepping down as co-chair of the Recruits. His transformation creates an excellent opportunity for an ambitious student who would like to grab a rein and help me with our student organization. It requires some work, but it's a great way to make connections and have a lot of fun. So please let us know if you are interested in helping to lead the Recruits.

Until the next Newsletter, best wishes on your studies and remember to plan ahead to join us next March in Savannah!

Nature McGinn
Dane Frank
Student Recruits

Congratulations to Student Presentation Award Winners !!

The following students received awards for their presentations at the 100th Annual Meeting in Providence, Rhode Island. We would like to thank all of the members who judged the 51 student talks and 32 posters that were presented. Judging is a time consuming but important task, and the NSA greatly appreciates your efforts. Judges at this year's meeting were Kim Withers, Brian Beal, Paul Rawson, Marta Gomez-Chiarri, Dianna Padilla, Islay Marsden, Amy Ringwood, Shirley Baker, Jennifer Beseres Pollack, Missy Southworth, Chris Dungan, Jay Leverone, Melisa Wong, Steve Geiger, Steve Allen, Dan Cheney, Anne Boettcher, Brett Dumbauld, Corinne Audemard, Kim Reece, Jan Cordes, and Bill Arnold.

The **Thurlow C. Nelson Award** for best student oral presentation was presented to M. Maille Lyons from the University of Connecticut for her talk, "Does tidal stage affect the distribution of shellfish pathogens?". Honorable mention for outstanding student oral presentation was also awarded to Mary Beth Johnstone from Clemson University for "Visualization of shell matrix proteins in hemocytes and tissues of the eastern oyster, *Crassostrea virginica*"; and to Choong-Ki Kim from the University of South Alabama for "Transport of oyster larvae in response to tide, river, and wind conditions in Mobile Bay and the adjacent eastern Mississippi Sound".

Two **Gordon Gunter Awards** for best student poster presentations were presented. One went to John Carroll from Stony Brook University for "A bay scallop's brave new world: can the introduced *Codium fragile* act as an eelgrass surrogate?", and the other to Maxine Chaney from the University of Southern California for "Tissue specific characterization of gene expression using RNA amplification methods in *Crassostrea gigas*". Honorable mention for outstanding poster presentation was also given to Mark Sherman from the University of North Carolina Wilmington for "Larval releases as a method of bay scallop restoration in Bogue Sound, North Carolina"; and to Nature McGinn from the University of California-Davis for "A cellular defense mechanism in the oocytes and embryos of the mussel *Mytilus galloprovincialis*".

Congratulations student award winners!

Ami Wilbur
Ryan Carnegie
Student Endowment and Awards Committee



Student Endowment Awards Given for Providence Meeting

The NSA Student Endowment Fund once again supported student participation in the NSA Annual Meeting. Thirty-eight students competed for travel awards (either registration or lodging), and 22 received support, including: Jessica Peterson, Louis Plough, Andrew Vickerson, Mark Sherman, Cecile Dang, Colleen Burge, Kristina Straus, Eman El-Wazzan, Lillian Hancock, Tiffany Medley, Nature McGinn, Jan Culbertson, Anne-Leila Meisterzheim, Brenna Ehmen, Helene Hegaret, Marie-Agnes Travers, Jessica Moss, Sean Matson, Jie Xiao, Kerry Webber, Hansy Haberkorn, and Qianqian Liu.



We sincerely thank our meeting sponsors who helped make the sponsorship of these students possible, and to all those who judged award applications: Bassem Allam, Stan Allen, Troy Alphin, Bill Arnold, Sarah Culloty, Chris Dungan, Anu Frank-Lawale, Pat Gaffney, Marta Gomez-Chiarri, Sean McDonald, Paul Rawson, Dan Rittschoff, John Scarpa, Gail Scott, Missy Southworth and Nancy Stokes.

Ami Wilbur
Ryan Carnegie
Student Endowment and Awards Committee

Book Raffle Winners

Scallops: Biology, Ecology and Aquaculture
Emma Green-Beach

Lobsters: Biology, Management, Aquaculture and Fisheries
Robert Hillman

The Eastern Oyster
Andrew Malloy

Bivalve Molluscs
Dianna Padilla

Geospatial Tools Aid Molluscan Shellfisheries Managers

Modified from *The Dredge*, 2008, Vol. 2 (3)

Geospatial technologies, including Geographic Information Systems (GIS) and Global Positioning Systems (GPS), can be powerful planning tools for natural resource management. A GIS is a computer-based system that is able to capture, store, edit, integrate, analyze and display spatially-referenced information, in other words, data that are identified by a geographic location on Earth. GPS, a system of satellites, computers, and receivers, determine and record these geographic locations. Data used in a GIS are often derived from GPS data collected in the field and transformed into points, lines or polygons. These features represent a single or ordered set of X,Y coordinates. Data collected in the form of aerial photographs or satellite imagery can also be incorporated into GIS platforms

Each data set or “layer” can be analyzed and compared to data in other layers, and also visualized in descriptive maps. In the past, resource managers relied solely on paper maps for decision-making. These maps were often at different scales and difficult to overlay, which in many cases resulted in confusion and delays in management processes. “One major advantage of GIS over other management tools is its ability to organize multiple types of geo-referenced data into one format” says Sandy Prisloe, Extension Specialist with the Geospatial Technology Program at the University of Connecticut. Today, many of these data sets are available in digital formats suitable for use in a GIS. These tools have been utilized by planning officials and resource managers to make decisions regarding land-use and development, and are now becoming important for managing molluscan shellfisheries.

GIS has a number of uses in shellfisheries management, from fundamental to very sophisticated applications. One of the most basic functions is its map-making ability. GIS allows for the production of extremely detailed maps from which data can be accurately analyzed. For example, one can map the distribution and abundance of a particular shellfish species in a defined geographic area and with regular sampling, these data can be compared over time. Other applications of GIS include identifying and monitoring: a) location and extent of recreational and commercial harvest areas; b) suitable sites for aquaculture based on water column and sediment parameters (e.g., temperature, DO, nutrients, substrate type, etc.; Fig. 1); c) sites with human health implications and facilitating harvest closures; d) potential site conflicts by mapping recreational and commercial activity; e) sites with shellfish health/mortality issues; and f) restoration efforts.

GIS-based management tools have been employed successfully in many states and municipalities in the U.S., Canada and beyond. Some states are interested in making

shellfisheries information more widely available among municipalities and other natural resource agencies that share a role in shellfisheries management. For example, the University of Connecticut is collaborating with the State Department of Agriculture to produce a “one-stop shop” for shellfisheries management information. This website will contain interactive GIS maps containing shellfisheries data.

Automated GIS management systems with predictive capabilities are also being developed. One such system is being employed in the State of Mississippi. The State Department of Marine Resources is utilizing a “decision-support tool” that uses a combination of rainfall, river gauge and fecal coliform data to provide recommendations on whether a shellfishing area should be opened or closed to harvest. (Chigbu et al. 2006).

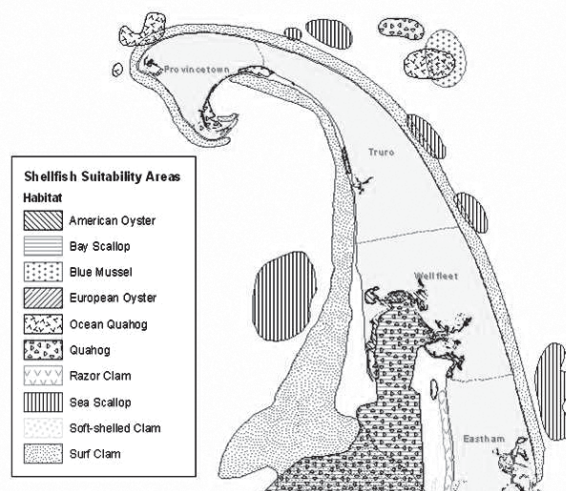


Figure 1. Shellfish suitability areas on upper Cape Cod (Massachusetts Division of Marine Fisheries).

These types of geospatial technologies are being used to foster the sharing of information and have become a powerful tool for making real-time decisions in shellfisheries management. The benefit is not limited to the resource managers, as a growing number of research institutions and non-profit organizations are now utilizing GIS to compile, analyze, and share field data.

Environmental Systems Research Institute's (ESRI) ArcGIS software is the most widely utilized desktop GIS program for viewing and analyzing geospatial data. There are several products available depending on the functions to be performed. Information can be downloaded at <http://www.esri.com/>. Free information and software with comparable functionality are currently available online by AccuGlobe at <http://www.accuglobe.net>.

Reference:

Chigbu, P., et al., 2006. *Journal of Shellfish Research*. 25(3): 1091-1099.

Tessa Getchis
NSA Newsletter Reporter

Book Review

Lobsters: Biology, Management, Aquaculture and Fisheries, edited by Bruce Phillips; Published by Wiley-Blackwell Publishing, 2006. ISBN 978-1405126571, 528 pp.

It was early Thanksgiving morning here in the States and I was trying to finish this long-promised review of *Lobsters: Biology, Management, Aquaculture and Fisheries* edited by Bruce Phillips (2006, Blackwell Publishing). As I drifted through my first cup of coffee trying to wake up before tackling the chore of stuffing and cooking the turkey, I began to wonder if the Pilgrims served lobster (that would be *Homarus americanus*) at their original Thanksgiving feast. Lore has it that you could easily get them out of the New England intertidal, and that servants in the Boston Massachusetts area had contracts which forbid the serving of lobster more than several times a week for their meals. Lobster were aplenty, but what sizes were they? Could you get big ones that would make an impressive entrance to the Thanksgiving table? Ones that could be carved and passed around to the anxious and anticipatory family so much more happier with this culinary choice than the standard terrestrial fowl. I guess they could have had smaller 1 to 3 pounders for everyone, but that would just be a Maine clam bake and not Thanksgiving dinner.

Unfortunately the big ones are probably much fewer in number in our New England waters these days, and farming them to a large size would likely be economically unfeasible. So turkey farmers (and the turkeys) should not worry about these great crustaceans supplanting them at the holiday table. They will remain the delicacies that they are, to be enjoyed in generally diminutive portions, on any day, special or not. But whether you need information on factors that drive the population dynamics of these great invertebrates, be it *Homarus* or other genera, or maybe planning the next attempt to go into the lobster farming business, this book will likely provide a significant framework for your efforts. The editor and the group of lobster experts that have contributed to this book have packed an incredible amount of information into 506 pages, and the book could easily have been twice that long.

My own take on this contribution is from the perspective of someone who has recently started to conduct research on lobsters, specifically how population characteristics vary spatially relative to sea floor structure. From this perspective, the book provides a wealth of information critical to helping unravel the determinants of such relationships. The first portion of the book provides

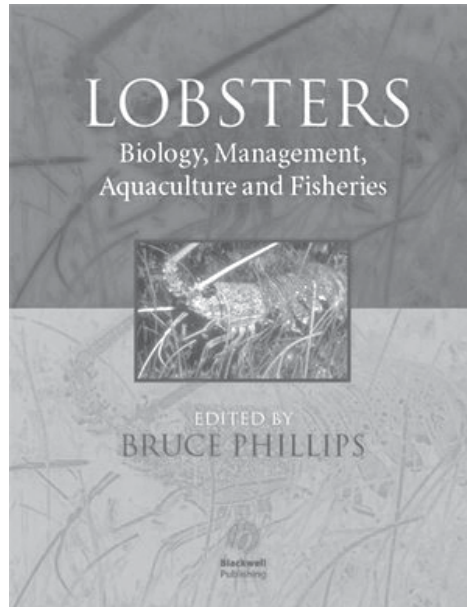
synthesis chapters on growth and development, reproduction, behavior, phylogeny and evolution, pathogens, nutrition and larval and adult ecology. The second portion includes separate chapters on specific lobster genera (*Homarus*, *Jasus*, *Panulirus*, *Palinurus*, *Nephrops* and *Scyllarides*). Each of the synthesis chapters is fairly comprehensive drawing on information across the range of lobster taxa as available.

An important contribution of the book is the identification of shortcomings of our current understanding of the biology and ecology of lobsters, and what areas remain and need to be explored. Research for the future suggested by the various authors include, for example, expanding molecular genetic studies, linking diseases and behavior, monitoring cohorts in the field to assess variability in factors affecting growth and ultimately population dynamics, and better understanding of the biology and ecology of lobsters relative to commercial harvesting. The book was published at a time when several important events in lobster population dynamics and impacts were not well understood. For example, as Phillips notes there was a significant lobster mortality event in western Long Island Sound, as well as the appearance of a shell

disease. It is now thought that a variety of factors, most notably triggered by increased bottom water temperatures, conspired to cause the mortality event (see *Journal of Shellfish Research*, 2005, Vol 24, 3). Declines are also being noted for other taxa in other environments. The potential impacts of increasing water temperatures globally in habitats occupied by lobsters over the short- and long-term will be important to understand in order to manage these benthic animals which are key components of sea floor communities and human fisheries.

This book will be an important addition to the libraries of scientists and managers interested in lobster biology and ecology, and the pages should be fairly dog-eared as it will be a excellent resource. My only qualm is that the price is steep, \$230 USD. Hopefully, these future efforts will find ways to sustain the fisheries so that we can enjoy these delicacies at holiday time or just on a lazy day along a sunlit shore.

Roman N. Zajac
University of New Haven

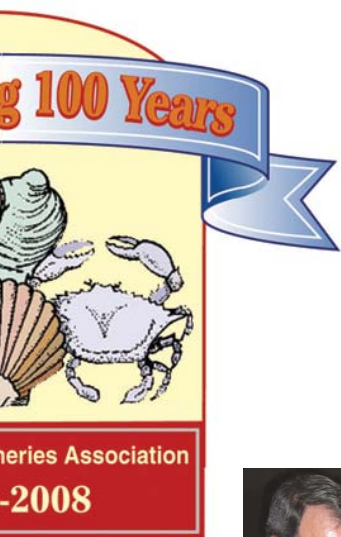


IMAGES FROM THE 100th ANNU



Special thanks to P.R. Kingsley-Sm

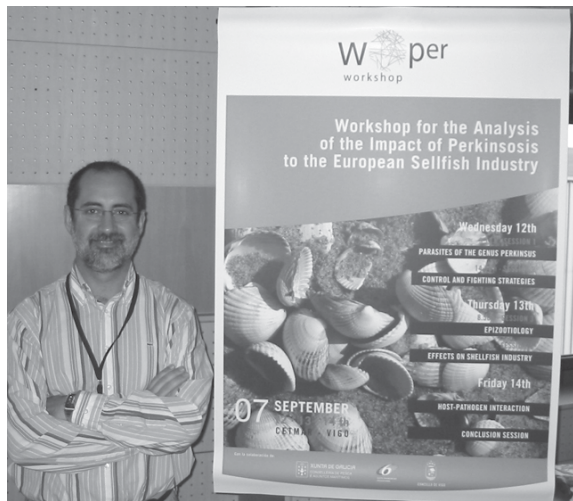
ANNUAL MEETING IN PROVIDENCE



with and D. Kreeger for photography

New Perkinsosis Publication Available on NSA Website

NSA members from around the world shared their expertise at the International Workshop on perkinsosis which took place on September 12-14th 2007, in Vigo, Spain. The Workshop for the Analysis of the Impact of *Perkinsosis* to the European Shellfish Industry (aka 'WoPer') was commissioned and funded by the European Commission and also sponsored by the Ministry of Fisheries and Maritime Affairs of the Regional Government of Galicia, Spain and the City Council of Vigo. The goal was to bring together industry, the research community and resource administrators to address the threat of perkinsosis to the European shellfish industry. Experts from non-European countries whose shellfish industries are deeply concerned with perkinsosis were invited to speak so that all could learn from their experience. Institutions that participated in the organisation of the workshop included Centro de Investigaciones Mariñas (Spain), CETMAR (Spain), Université de Bretagne Occidentale - CNRS (France), Station de La Tremblade (IFREMER, France), University of Algarve (Portugal), Istituto Zooprofilattico Sperimentale delle Venezie (Italy), and Instituto de Investigaciones Marinas (CSIC, Spain). The 78 delegates that attended represented 14 countries: Australia, Canada, France, Italy, Korea, Maroc, Mexico, Norway, Poland, Portugal, Spain, Tunisia, United Kingdom, and USA.



The workshop consisted of five sessions, each starting with an introductory report summarizing the state-of-the-art, followed by oral presentations, and ending with a round table for open discussion. Thirty oral contributions plus seven posters were presented, most providing new, unpublished information while others reviewed and updated previous information. The five session topics concerned the following issues:

- * **Parasites of the genus *Perkinsus*:** taxonomy and phylogeny, host species, geographic range, life cycle, transmission ways, diagnostic tools.

- * **Epizootiology:** temporal patterns of disease dynamics; influence of environmental conditions, host age and stress, with particular information from different places in France, Italy, Spain, Korea, Tunisia, Mexico and the USA.

- * **Host-pathogen interaction:** Interaction of *Perkinsus* spp. and mollusc defence mechanisms, host genes involved in the immune response, virulence factors of *Perkinsus* spp., impact on host physiology.

- * **Effects on shellfish industry:** review of the production of molluscs in Europe, with emphasis on management and aquaculture of clams in France, Italy and Spain; review of the European regulation on animal health requirements for aquaculture animals and products thereof, and on the prevention and control of certain diseases in aquatic animals.

- * **Control and management strategies:** Chemotherapeutants and their effects on *Perkinsus* metabolism, zoosanitary prophylaxis, management and technical strategies, natural selection for resistance, selective breeding programs for resistance, genes and proteins markers of resistance.

The program and other details of the workshop are provided in the website <http://www.cetmar.org/woper/>. The proceedings, including a thorough review of each session topic, summaries of the round tables, and conclusions of the workshop are available on the NSA website or the Woper website just referenced.

Antonio Villalba
Scientific Coordinator WoPer

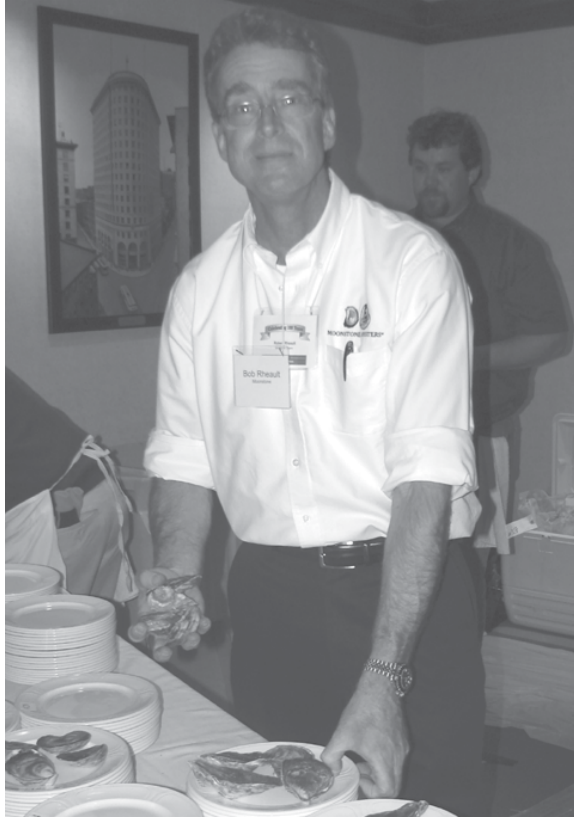
Invitational Oyster Tasting Event Held at 100th Meeting

One of the highlights of the 100th Annual Meeting was an oyster tasting event organized by the East Coast Shellfish Growers Association. Everyone who attended agreed that the event was a fantastically good time and an instructive opportunity to meet with knowledgeable growers and discuss the finer points and nuances of different oysters. While the judging did not go as orderly as hoped, it seemed that everyone enjoyed themselves and the chaos added to the fun. The wine was good and the oysters were great.

Nineteen varieties of eastern oysters were judged by professionals as well as informally by attendees. There were about a dozen food writers at the event and twenty-eight grower representatives from as far away as Grand Isle, LA (Wilbert Collins) and Willapa Bay, WA (Bill Dewey of Taylor Shellfish). The growers were happy to talk with those in attendance and their passion and enthusiasm for their products was infectious. Attendees were also schooled on the sustainability of oyster culture and treated to a slide show of culture techniques from around the country. Besides tasting great, oysters clean the water, help

Continued on page 11

Oyster Tasting... Continued from page 10.



Bob Rheault helps shuck oysters at the invitational event.

thwart eutrophication by removing excess nutrients, and provide great habitat for multitudes of little critters that make a home among their shells.

After the tasting was completed and the data tallied (170 points total), the results were:

1. Overall winner: Island Creek, Duxbury, MA (#9 total score = 130.9 pts).
2. Second place: Totten Inlet Virginicas, Washington State (#2 total score = 126.4 pt).
3. Third place: virtually a tie between Ninigret Cups, Charlestown, RI (123.9 pts) and Sweet Petites, Edgartown, MA (123.5 pts).

Shell appearance was also considered with the best looking oysters (external shell) from Island Creeks followed by the Sweet Petites. Best internal appearance went to Sweet Petites followed by Totten Inlets and Cape May Salts, Cape May, NJ (who tied). Those interested in more information about the contest and all the winners of the various categories should visit http://www.ecsga.org/pages/Oyster_tasting/Oyster_tasting_2008.htm.

A hardy thanks to all of the participants, judges and attendees.

Bob Rheault
Moonstone Oysters

Pacific Coast Section News

Campbell's Resort in Chelan, Washington is the site for the 62nd Annual Pacific Coast Section and Pacific Coast Shellfish Growers Association meeting, October 1 to 3, 2008. The call for papers is currently underway and includes emerging markets, oyster appellations, environmental certification, invasive and exotic species climate change impacts on shellfish production, genetics, habitat and water quality restoration, shellfish aquaculture interactions with marine habitat, new farming practices, vibrios, harmful algal blooms, emerging monitoring tools, broodstock and seed supply to name a few. In addition, PCS members are organizing special sessions on the decline of native littleneck clams, *Zostera japonica*, and spot shrimp. Abstract title and author's information are needed by June 30, 2008 with full Abstracts due by August 1, 2008. There will be best undergraduate and graduate student presentation awards again this year with cash prizes. Please be sure to mark your abstract form accordingly if you are a student entering the competition. For more information visit http://www.pcsga.org/pub/news_events/PCSGA_NSA_AC/AC_Abstracts.shtm.

It's time to dig out those auction items to support the Ken Chew student endowment fund! The fund provides resources needed for conference registration, hotel rooms and student paper awards. The silent auction will be held in conjunction with the annual meeting in Chelan. Randy Hatch and Kelly Toy are spearheading the auction this year. For more information <http://www.nsapcs.org/>.

Students, please don't forget to check out the PCSGA student scholarship for applied research. Students involved in shellfish biology, aquaculture, marine sciences, marketing or related fields are invited to submit applications for scholarship that award research projects that meet one of the needs for research identified in the Goals 2015 document. This document, produced by the Pacific Shellfish Institute (PSI) and PCSGA, identified and prioritizes areas of research needed by West Coast shellfish growers. Any student enrolled in a college or university, including both undergraduate and graduate students, are eligible to apply.

In other news, the PCS board met in Kingston in May to get organized. We are working up a survey for section members to help with conference planning in 2009. In addition to Randy and Kelly working on the auction, Don Velasquez offered to work on the PCS website, and Jennifer Whitney volunteered to be the lead on conference planning. We are fortunate to have a talented and dedicated group of officers this year. Enjoy the summer!

Teri King
Chair, PCS NSA

Whither the Scholars?

From the Desk of the JSR Editor

I attend a fair number of conferences and I edit three journals (*JSR*, *Journal of Experimental Marine Biology and Ecology*, and *Harmful Algae*) — that's a lot of presentations and over 600 manuscripts/year. The general thoughts below could be written regarding any one of them, but I will focus here on *JSR*. This cranky, greying scientist is getting very tired of presentations and papers that purport to report new, innovative findings – when in fact, the authors are merely ‘reinventing the wheel’ (too frequently, square!), or worse, submitting papers based upon experiments that are so poorly designed one could not hope to make sense of the results. I see no excuse for either. I believe we are not only witnessing the collapse of scholarship, we are enabling that demise by accepting it as a *fait accompli*.



Poorly designed experiments (both laboratory and field) are easily rectified – talk to more than one person while designing the experiment and make sure at least one of them knows some statistics and understands both the question being addressed and the experimental limitations. Don't wait until the project is three years old and being submitted for publication to find out that the experimental design is fatally flawed and unpublishable. And don't expect reviewers to fix your errors after the fact.

The issue of recycling ideas is more difficult. I believe much of the problem lies with a growing population of scientists, young and old, who do not have a strong grasp of the past scientific literature, or even the works of scientists currently publishing. Too many researchers (and not just students!) begin their literature ‘searches’ with the advent of the WEB, and ignore anything published prior to 1985. The problem is further exacerbated by some journals that now limit the number of references that may be included with a publication, thus encouraging citations of review articles with no attribution to the scientist(s) who originally did the work. Worse still are the studies that simply repeat earlier studies and there is no mention (or sadly, no knowledge) that the work is not new. I will not cite specific instances to save embarrassing anyone, but I will mention some pioneers in molluscan and shellfisheries work whose writings should be consulted – off the top of my head, and at the risk of forgetting many: Yonge, Owen, Loosanoff, Galtsoff, Belding, Ryther, Carriker, Bayne, Hidu, Prytherch, Quayle, Merrill, Wilbur, Bourne, Morton, Crisp, Castagna, Purchon, Abbott, Bliss, Williams, Nelson, Morton, Menzel, Turner, Chew. You might be amazed at what you learn. Here are just a few of the things we take for

granted (and you might be surprised at the answers - go look them up!): who first cultured the phytoplankton that we now buy ‘off the shelf’? Who first suggested that bivalve molluscs could sort particles? Who coined the term ‘pediveliger’? How many of the instruments and techniques that we use were actually developed for use in other (often medical) fields? (Hint: most of them).

Further, everything worth reading is not limited to the peer-reviewed literature especially in shellfish biology – there are treasures buried in publications such as U.S. Fish and Wildlife Reports, State fisheries reports, Canadian Technical Report Series, and numerous other such gray literature worldwide. In addition, new ideas rarely occur in a vacuum. It can behoove one to read the literature outside the confines of their specific discipline, or even to attend a conference that you might not ordinarily consider.

The early literature is full of well-written, thoughtful papers that suggested the presence of any number of phenomena or capabilities of animals only currently measurable with the advent of newly designed technology - the ideas are not new. Moreover, the intuition and insight of our forebears was quite remarkable - especially given the technological limitations of their time. I believe the shellfish community (among others) is, in many respects, spinning its wheels and wasting valuable time, money and energy on pointless projects, some doing nothing more than proving the obvious, and unnecessarily duplicating efforts simply because the investigators don't know what has gone before them. This is not moving the field forward. Research is a building of knowledge based upon extensions of prior work - take the time to identify and read the early literature, think about the ideas and unresolved hypotheses put forth, and try to move them forward. More importantly, give credit where credit is due – these folks worked long and hard, often under very difficult conditions, and their contributions should be recognized and celebrated. Perhaps someday someone will extend you and your work the same courtesy

Sandy Shumway
Editor, *Journal of Shellfish Research*

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Audit, Budget, Finance News

Total revenues for the 2006-07 fiscal year (October 2006 through September 2007) were \$247,921 and expenses were \$180,009 for an increase of \$67,912, not counting almost \$8,400 in net Student Endowment Fund activity. Our overall balance ended the year at \$235,019. Student Endowment Funds now account for more than \$50,000 of our total assets.



Administrative revenues and expenses for 2006-07 were \$52,697 and \$26,210, respectively, for an increase of \$26,487. Publication revenues were \$173,331 and expenses were \$151,313 for an increase of \$22,018. Although this looks good, we still have some major publication expenses to be paid. Revenues from the triennial "Aquaculture '07" meeting in San Antonio were \$21,893, with expenses of only \$2,486, for an increase of \$19,407.

The proposed budget for the 2008-09 fiscal year, which begins October 1, 2008 projects a gain of \$3,855 from administrative activities, a gain of \$2,100 from publications, and a gain of \$17,000 from our next meeting which will be in Savannah, GA in March 2009. If these revenues and expenses are realized, the NSA balance will increase by almost \$23,000 by the end of the next fiscal year. Because the *Journal of Shellfish Research* is our most important product, and because it is expensive to produce with the quality we expect and receive, we realize that its production cost will normally exceed publication revenues. This is not a problem; it's just a fact of operations. Administrative Revenues (primarily Member Dues), Institutional Subscriptions and Meeting Revenues help subsidize these excess costs. We occasionally receive special issues as a bonus of membership, and having these issues fully paid for by sponsors is a great help to our bottom line.

The Centennial Campaign for the Student Endowment Fund was unsuccessful in its goal of \$100,000 by the time of the Providence Meeting. However, since the campaign will continue through 2008, the opportunity to contribute remains. Show what these dedicated students mean to you by making a significant contribution to help provide additional opportunities for our future shellfish scientists.

Although our balances declined a few years ago, we have now seen increases during the last three years, and our financial condition is now the best it has ever been. With adjustments made to improve our revenue stream, the financial strength of NSA should continue.

George Abbe
Audit-Budget-Finance

Transition of Newsletter Editor

As many of you know, I will be stepping down as the Newsletter Editor after this issue. Paul Rawson, University of Maine, will be taking the reins of the editorship for the next issue, and I will be helping with the transition process. I would like to thank all of the NSA members and non-members who have helped me over the past 2.5 years to produce a quality Newsletter. In particular, I would like to acknowledge and thank our three Newsletter Reporters (Tessa Getchis, Lisa Milke, Missy Southworth) for regularly contributing articles of interest to the Newsletter. It has certainly been a pleasure working with all of you.

J. Evan Ward
Editor, NSA Newsletter



Local arrangements chair Sandy Shumway and President Dave Bushek pose in front of 'giant' quahog model at this year's 100th anniversary meeting.

**Do you know someone interested
in shellfisheries? If so, pass on
this Newsletter and recruit a
member today!**

**Joining NSA is easy, visit
www.shellfish.org**

****** 101st Annual Meeting of NSA ******

Mark your calendar! The 101st meeting of NSA will be held March 22-26, 2009 at the Savannah Marriott Riverfront, Savannah, Georgia, USA. Abstract deadline will be November 14, 2008. Volunteers are needed to organize special sessions and identify potential sponsors. Contact Program Chair LeRoy Creswell or Organizing Committee Chair Lou D'Abramo (see back page) if you have ideas and would like to help. Those interested in donating shellfish should contact Randy Walker (walker@uga.edu).

NSA Thanks the Donors and Sponsors of Our 100th Anniversary Meeting

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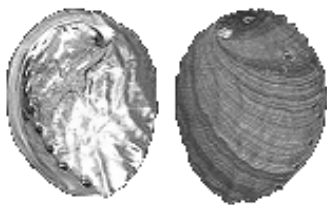


THE PENULTIMATE PAGE

Get to know your shellfish

Haliotis rufescens

Swainson, 1822 - Pacific red abalone. This commercially important snail ranges from southern Oregon to Baja California. It can be found inter-tidally and sub-tidally down to at least 35 meters of water. The large, thick shell is a dull brick red with an asymmetrical oval shape. The red abalone is the largest of all abalone species reaching a shell length of 27 cm. It is prized for the large, light meat of the foot, and fished by hand often by free diving. Although they may recolonize depleted areas more rapidly than other species, it is in danger of being over fished. [Source: California DF&G, Animal Diversity Web]



Recipe of the Quarter

Zesty Stuffed Mussels

Preparation Time: 40 minute; Yield: 4 to 6 servings

- 1 lb fresh mussels (about 3 dozen)
- 2 tbsp sour cream
- 2 tbsp mayonnaise
- 1 tbsp dry white wine
- 1 tsp Dijon mustard
- 1 tsp finely chopped chives

1. Clean mussels and steam for 3 to 5 minutes (until open). Cool.
2. Mix together all remaining ingredients and spoon ½ tsp over each mussel.
3. Serve with lemon wedge.

[Recipe adapted from "The Shellfish Artistry Cookbook," Shumway & Leonard, eds., NSA]

Upcoming Events

American Malacological Society, 74th Annual Meeting: June 29-July 3, 2008, Southern Illinois University Student Center, Carbondale, Illinois, USA. For information visit <http://www.malacological.org>.

International Association of Astacology, 17th Symposium: August 4-8, 2008, Kuopio, Finland. For information visit <http://www.iaa17.net>.

Physiomar 2008, Reproduction, Growth, Bioenergetics, Nutrition and Genetics of Marine Molluscs: September 1-4, 2008, IUEM, Technopole Brest-Iroise in Plouzané, France. Registration opens April 1, 2008. For information visit www.univ-brest.fr/IUEM/PHYSIOMAR

Aquaculture Europe 2008: September 15-18, 2008, Krakow, Poland. For information visit <http://www.easonline.org>.

Pacific Coast Section of NSA and Pacific Coast Shellfish Growers Association Meeting, October 1-3, 2008, Campbell's Resort in Chelan, Washington, USA. For information visit <http://www.pcsga.org>.

11th International Conference on Shellfish Restoration: November 19-22, 2008, DoubleTree Guest Suites, Charleston, South Carolina, USA. For information visit www.scseagrant.org/Content/?cid=297; for abstract information contact Rick DeVoe (rick.devoe@scseagrant.org).

Society for Integrative and Comparative Biology Meeting: January 3-7, 2009 at the Westin Boston Waterfront Hotel, Boston, MA, USA. For information visit <http://www.sicb.org>.

Aquaculture America: February 15-18, 2009, Washington State Convention Center, Seattle, Washington, USA. For information visit <https://www.was.org>.

National Shellfisheries Association, 101st Annual Meeting: March 22-26, 2009, Savannah Marriott Riverfront, Savannah, Georgia, USA. For information visit www.shellfish.org.

17th International Pectinid Workshop: April 22-28, 2009, University of Santiago de Compostela, Galicia, Spain. For information contact Luís Sánchez (bnluis@usc.es) or Luz Pérez-Parallé (bnmalu@usc.es).

World Aquaculture Meeting: May 25-29, 2009, World Trade Center, Veracruz, Mexico. For information visit <https://www.was.org>.

The Crustacean Society Summer Meeting: September 20-23, 2009, Tokyo University of Marine Science and Technology, Shinagawa, Tokyo. For information visit <http://www.vims.edu/tcs>.

If you would like to announce a meeting, conference or workshop that might be of interest to NSA members, please contact Evan Ward (see back page for contact information).

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