

National Shellfisheries Association

QUARTERLY NEWSLETTER

September 2007

GROTON, CT



President's Message

Hello, fellow members. There is always lots going on in the world of shellfish and, thanks to our Newsletter Editor, Evan Ward, and his 'staff of reporters' this issue will undoubtedly catch you up on several items. I am particularly pleased to announce that version 2.0 of the NSA web portal has been launched. It provides a completely new look that is easier to navigate, and contains new features for you as well as the individuals that are working to help keep the Association running smoothly. Please take a moment to check out the new site which is still located at www.shellfish.org. Upgrades have been made to many of the functional pages like paying membership dues, submitting meeting abstracts and registrations, and accessing JSR online. You can view a good bit of the content without logging in, but you must log in if you want to manage your account, use your membership to get access to JSR online, or register for meetings as a member. If you do not log in, the site will treat you as a non-member. I thank all the Excom and Committee members that helped with this effort. Special thanks go to Past President Lou D'Abramo for spearheading this upgrade, as well as Scott Siddall and his team at Longsight who completed the upgrade and continue to work with us to improve the functionality and usefulness of the site.



I would also like to take a moment to thank Susan Ford for negotiating the online distribution of JSR via BioOne. BioOne is a collaborative effort between scientific societies, libraries, academe and the private sector designed to bring many print journals to the Web. Libraries and institutions may subscribe to BioOne to get a collection of these products. NSA is part of BioOne.2 and we encourage you to ask your institution to join. Simply provide your librarian with the form contained in this newsletter. Funds from subscriptions to BioOne.2, as well as purchases of individual articles, support NSA. As a

member of NSA, you may access JSR via BioOne from our website. Just log in and click on "View the Journal" on the upper left side of the page or "Journal of Shellfish Research" at the top of the page. If you are a paid member, you will see, under the subheading "Table of Contents", a link to "BioOne". This link will take you directly to the JSR page of the BioOne website, which will allow you to

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Plans for the centennial meeting in Providence, RI are well underway. See page 7 for more news and information.

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- ***Centennial Meeting Information***
- ***Canadian Aquaculture Research***
- ***Book Review - The Blue Crab***
- ***Student Information***
- ***And More***

\$100,000



President's Message... Continued from page 1.

download pdf files of all articles starting with Volume 24 (2005). If your dues are not paid for the current year, you will be provided a link to the payment page, or you can simply click the link under your name. This is a member benefit and so you must log in in order to obtain access.

Shellfish meetings continue to expand around the globe as indicated by the listing at the end of the newsletter. Many of you are often involved at various levels from attending, to presenting your work, to serving on panels, to helping organize the meetings. At the upcoming ICSR meeting in the Netherlands I note that our own Past President and Editor of JSR, Sandy Shumway, is featured as a Keynote speaker! I'm sure that you are well aware of Sandy's efforts to promote NSA just about everywhere she goes. I encourage you to do the same, especially when you attend other shellfish or aquaculture meetings. Such events provide opportunities to promote NSA, recruit new members and help our Association thrive.

Speaking of membership, Bill Walton (Member-at-Large and Membership Committee Chair) has been working hard with our new Secretariat, Linda Kallansrude, to track down members that are delinquent in dues renewals. This is not of course a problem for those of you receiving this newsletter, as your dues are paid for the current year; however, we have noticed that many members wait to renew their dues until the annual meeting. This creates difficulty with annual budgeting and with JSR subscriptions because membership is based on a calendar year. Any member joining is entitled to all issues of JSR for that year, regardless of when they join. It is more expensive and time consuming to mail back issues of JSR to members that renew late than it is to send the issues as they are produced. Hence, late renewals are a financial burden. When you login to the new web portal, a "dash board" below your name will indicate your current dues status and other information if, for example, you have registered for the annual conference. This should help remind you to renew dues at the end of the year. As an incentive to renew dues promptly, the ExCom voted at the last meeting to add shipping and handling fees for late renewals to cover the additional cost of mailing back issues of JSR. So, when the call for renewals comes out this fall, please remember to respond promptly and pay your dues before the end of the year.

The big event in the near future is, of course, our **100th Annual Meeting: A Century of Shellfish**. Sandy Shumway has been busy organizing what will undoubtedly be a spectacular meeting and celebration of this historic event. The meeting will overlap with the Benthic Ecology Meetings providing excellent opportunities to interact with colleagues that have a slightly different focus and also attend two meetings without having to travel to two different locations saving both time and money. The

festivities begin Sunday evening with good food, drink, music and friends at the President's Reception and continue through the week. Because this is our 100th meeting we will depart slightly from our standard format. During the week look for guest speakers daily, a special industry session on Tuesday, a Hall of NSA History at the poster session, and a special viewing of the IMAX documentary "Volcanoes of the Deep Sea" by our very own Rich Lutz (NSA President 1983-84). Of course we will also have the SEF Auction on Tuesday night, the Business Lunch on Wednesday, and certainly all of your favorite colleagues will be there. Special sessions are being organized now. Contact Karolyn Hansen or Sandy Shumway (see back of Newsletter for contact information) if you have an idea and want to organize a session. Sponsors are also being sought for the meeting and many of you have already responded to that call – Thank you. There is more information about the meeting in this newsletter and on our website. Check it out and then contact Sandy or Karolyn to volunteer to make this meeting a success!

Dave Bushek
President

Request for Nominations for Wallace Award and Honored Life Member

Nominations are requested for recipients of the David Wallace Award and/or the Honored Life Member Award of NSA and should be sent to Dr. Lou D'Abramo at Ldabramo@cfr.msstate.edu or Department of Wildlife and Fisheries, Mississippi State University, Box 9690, Mississippi State, MS 39762. The NSA Awards Committee reviews nominations and selects recipients based upon demonstrated fulfillment of the criteria for qualification. A nomination should include a brief summary (no more than 2, double spaced, typed pages) of why the nominee deserves recognition. The **David H. Wallace Award** honors those individuals whose actions most demonstrate the principles and actions, as exemplified during the lifetime of Mr. David H. Wallace, relative to shellfisheries, aquaculture, and conservation programs that promote understanding, knowledge, and cooperation among industry members, the academic community, and all levels of government. In particular, the nominee must have an outstanding record of success in bringing together shellfish scientists and industry officials for the benefit of shellfisheries. The **Honored Life Member Award** is a recognition based upon exemplary service to NSA or to the profession. Past recipients of both awards are listed on the National Shellfisheries Association website.

Canadian Research: Integrated Multi-Trophic Aquaculture

Over the past 15 years, fisheries landings have declined from a high of around 1.6 million metric tonnes (MT) to approximately 1 million MT. During the same period, the consumption of fish and seafood in Canada has increased by more than 10%, and production by the Canadian aquaculture industry has steadily increased from 36,000 MT to about 150,000 MT in 2005. To meet current demands and an anticipated increase of 40% for fish and seafood in North America by 2010, the aquaculture industry will need to expand and remain competitive through a variety of innovative processes and techniques.



Increasing domestic aquaculture not only provides the potential for increased revenue, but has the added benefit of revitalizing coastal areas that have been adversely impacted by the decline of natural fisheries, and improving biosecurity. In response to the need for domestically cultured seafood, the government of Canada established in 1999 a network of Centres of Excellence focused on aquaculture research and development (AquaNet). The idea behind AquaNet was to develop a network of researchers in both universities and government that worked in conjunction with industry and non-governmental organizations to tackle industry-specific aquaculture issues. While many of the projects focused upon finfish and socioeconomic issues, a fair number of projects have been funded that examine shellfish related issues. These projects covered topics such as selective breeding, disease, toxins, nutrition, management and integrated multi-trophic aquaculture (IMTA; for more information, visit www.aquanet.ca). AquaNet finished its funding cycle in 2006, but has set the framework for continuing research. One of these projects examines the concurrent culture of salmon, mussels and kelps in an IMTA setting in Atlantic Canada.

Salmon aquaculture is a significant business in Atlantic Canada, employing thousands of workers and is the economic backbone of many coastal communities. There are concerns that finfish culture using open feeding systems introduce large amounts of wastes in the form of uneaten food, feces and excretory products which may contribute to localized eutrophication. There is a renewed interest in IMTA, which is based on an age-old, common sense, recycling and farming practice that uses by-products

(wastes) from one species as inputs for another. Fed aquaculture (fish or shrimp) is combined with inorganic extractive (seaweed) and organic extractive (shellfish) aquaculture to create balanced systems for environmental sustainability (biomitigation), economic stability (product diversification and risk reduction) and social acceptability (better management practices). Since 2001, one project in the Bay of Fundy has been using this approach, incorporating the blue mussel (*Mytilus edulis*) and kelps (*Saccharina latissima* and *Alaria esculenta*) into existing salmon (*Salmo salar*) aquaculture systems. The research is funded by federal and provincial governments and private companies and being undertaken by scientists, students and technicians from the Department of Fisheries and Oceans (DFO) in St. Andrews and the University of New Brunswick (UNB) in Saint John in close collaboration with regulatory agencies (CFIA) and industrial partners (Cooke Aquaculture Inc. and Acadian Seaplants Limited).

Co-leaders of the project, Drs. Shawn Robinson (DFO) and Thierry Chopin (UNB), are both very optimistic about this type of research and the potential economic benefits and future opportunities for Canada's aquaculture industry. The results so far are very promising and have shown increased growth rates of kelps (46%) and mussels (50%) cultured in proximity to fish farms, indicating that the excess high-energy fish food is being utilized by the two extractive species. The introduction of any new culturing techniques to existing aquaculture farms must overcome several regulatory and safety hurdles. None of the therapeutants used in salmon aquaculture have been detected in kelps and mussels collected from the IMTA sites, and levels of heavy metals, arsenic, PCBs and pesticides have always been below regulatory limits. Phytoplankton blooms of *Alexandrium fundyense* were present at the sites annually, from May to September, and resulted in PSP toxin concentrations in mussel tissues that exceeded the regulatory limit for short periods of time (late May to early July). However, using proper management and monitoring regimes, IMTA mussels can be safely harvested as seafood for human consumption.



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Recruits' Corner

Hey Recruits – it's that time of year again! Time to gather your brilliant ideas together for two important upcoming deadlines. First, bring forth your best data and submit an abstract for the **2008 Centennial Meeting in Providence, RI**. This will be a fantastic meeting: plenty of special events, networking opportunities and great shellfish science. And, if you are of the benthic persuasion, stick around for the annual Benthic Ecology Meeting that will be held back-to-back with the NSA meeting in Providence. When you submit an abstract for the meeting, don't forget to apply for the **Student Endowment Fund Travel Award**. This extra bit of support always makes it a bit easier to handle the costs of attending a meeting. Check the Recruits web page for more info - www.shellfish.org/recruits.htm. So, get ready to join us in the biggest little state in the union, Rhode Island!!



Then, you will want to submit your most inspired research goals to NSA during the annual competitions for the **Carriker and Castagna Research Grants**. These grants were established to honor the great contributions to shellfish science of two long time NSA members, Melbourne Carriker and Michael Castagna. Each grant provides the recipient with \$1000 to spend on their research. Please note that you may apply for both grants in a single year, but, since the grants have different aims, the applications must be different. Again, go to the Recruits web page for all the details and remember to follow application instructions carefully. Applications are due **November 30**. Good luck!



Are you a student in the Rhode Island area that would like to get more involved in the upcoming Providence meeting? If you know the city and would like to help us plan student activities for the meeting, please get in touch with Nature and/or Dane a.s.a.p. (our e-mails are on the back page). We can also use some help spiffing up the Recruits web page. So if you have the talent and time, please get in touch with us. Both of these positions would be good C.V. builders.

**With coffee-milk wishes and clam-cake dreams,
Nature McGinn & Dane Frank
Student Recruits**



Carriker and Castagna Grant Applications Due November 30

The Melbourne R. Carriker Student Research Grant and the Michael Castagna Student Grant for Applied Research are two competitive grants awarded to students annually by the National Shellfisheries Association. Please note that award of each of these grants is based upon different criteria. The Carriker Grant recognizes excellence in scientific research in the area of shellfish biology, whereas the Castagna Grant recognizes excellence in applied research in the area of shellfish science. An applicant for the Castagna grant is required to focus on the practical applied aspects of his/her shellfish research.

It is possible that a student can meet the criteria for both awards and thereby apply for both awards; however, if this is the case, separate applications for each grant must be submitted and appropriately designated. Use of the same proposal to apply for both grants will not be accepted.

Applications for each of the grants will be reviewed by the NSA Awards Committee, a standing committee chaired by the Past President. The deadline for proposals is the close of business (5:00 pm CDT) on November 30, 2007. Successful recipients will be notified no later than January 31, 2008. Please follow the on-line instructions available through the NSA website under Student Research Grants www.shellfish.org/grants.htm and send each application electronically to Lou D'Abramo, NSA Past President, as a pdf file attached to an E-mail. The E-mail address is Ldabramo@cfr.msstate.edu

JSR Now On-Line!

NSA members can now access the Journal of Shellfish Research via BioOne from the NSA website (www.shellfish.org). Just log in and click on "View the Journal" on the upper left side of the page or "Journal of Shellfish Research" at the top of the page. If you are a paid member, you will see, under the subheading "Table of Contents", a link to "BioOne". This link will take you directly to the JSR page of the BioOne website, which will allow you to download pdf files of all articles starting with Volume 24 (2005).

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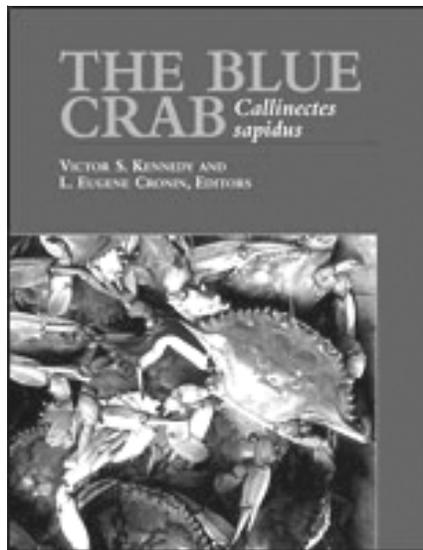
Book Review

The Blue Crab, *Callinectes sapidus*. Victor S. Kennedy and L. Eugen Cronin, Editors, University of Maryland Sea Grant, College Park, MD. 774pp. \$125. www.mdsg.umd.edu/store/BC/

Some things are worth waiting for and **The Blue Crab** is certainly one of them. Almost a decade in production, this tome is the most comprehensive coverage of *Callinectes sapidus* ever assembled. Given the economic and ecological importance of this species, one might expect that such a book would/should have been assembled long ago. Vic Kennedy and the late Gene Cronin identified this gap in the literature, and teamed up with a veritable who's who of 28 crustacean biologists to produce a handsome volume that should stand as the definitive research reference on the blue crab for years to come.

The book is presented in 16 chapters with a Forward, General Index and Species Index. I tried a few entries and the indices seemed to work well - even for 'raccoon' (check it out).

The book is all-encompassing and includes the following chapters: Systematics and Evolution; External Anatomy of Blue Crab Larvae; Anatomy of the Post-Larval Blue Crab; Muscles and Neurons; Functional Anatomy of the Circulatory System; Molting and Growth; Reproduction Biology and Embryonic Development; Parasites and Other Symbionts; Osmoregulatory, Digestive and Respiratory Physiology; Environmental Physiology; Responses to Toxic Chemicals at the Molecular, Cellular, Tissue, and Organismal Level; Biology of Larvae; Ecology of Postlarval and Young Juvenile Blue Crabs; Ecology of Juvenile and Adult Blue Crabs; History of Blue Crab Fisheries on the U.S. Atlantic and Gulf Coasts; and Population Dynamics and Fisheries. While all of the chapters are outstanding, stand-alone reviews, some are particularly noteworthy. Austin Williams' lifetime fascination with the decapod crustaceans comes through loud and clear (Chapter 1) with an almost storybook telling of the systematics and evolution of the species. Govind's work on the muscles and nerves is an inspiration - and an insightful inclusion, as this work is not frequently seen or cited by marine biologists. McGaw and Reiber (Chapter 5) provide an exquisite description of the circulatory system which is beautifully illustrated with their own research and truly exceptional organ and nerve preps - techniques that are rapidly becoming a lost art. Chapter 6 by Smith and Chang includes a series of macro-photographs nicely illustrating the molting process, followed by a detailed discussion of the endocrine systems involved. My



personal research interests are covered very nicely in Chapters 9 (Towle and Burnett) and 10 (Tankersley and Forward) on the physiology of the crabs and include a much deserved dedication to the late Charlotte Mangum, whose research set the stage for much of the work described. Vic Kennedy is an author or co-author on three chapters, a testament to his breadth and depth of knowledge of the species and Tuck Hines (Chapter 14) provides a very readable and detailed account of the ecology of juvenile and adult crabs. I particularly enjoyed the historical description and illustrations of the fishery by Kennedy, Oesterling and van Engel (Chapter 15).

Illustrations throughout the book are very well done and should provide new material for invertebrate textbooks. Color is used generously throughout the book and to great effect. Numerous tables synthesize large volumes of information in a readily useable format.

It is difficult to tell when the book went to press (there are references as recent as 2005) and this would have bearing on when final additions or updates were possible. There are a few things that might have been done differently. A note added in proof (2004) indicates that a revision of definition of the crustacean seta and setal classification systems might affect some statements about setae and setal types made in Chapter 2. A definitive statement regarding differences would have been useful. I was disappointed that, with the opportunity to correct the misuse of terminology that has perpetuated over the years, the editors opted to use zoeas and megalopas as the plural forms of zoea and megalopa, respectively. Popular use does not change the fact that the plural of zoea is zoeae (Latin) and the plural of megalopa is megalopa. (Greek) - as pointed out by the Editor in a footnote - and this was an opportune time to set the record straight. These are minor criticisms of an outstanding effort.

The reference lists accompanying each chapter are thorough and, happily, contain many of the older classic literature - one reference is from 1712. While there are a few references from 2004/2005, the bulk appear to be prior to that and some chapters seem to end their references in 1998/1999 - probably a result of the extended time of preparation of the book and the differences in completion dates for individual chapters.

While I confess to not having read every word, I did scan every page and closely read many sections. The book is very well written, quite readable, free of typographical errors, and material is presented in a logical and integrated manner.

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Canadiana Research... Continued from page 3.

Preliminary data from a bio-economic model show that the addition of seaweed and mussel culture to salmon farming is profitable and helps reduce risks. The project is currently scaling-up experimental systems and working on an appropriate food safety regulatory and policy framework for the development of commercial scale IMTA operations. While much of this research is still in the experimental stage there are current plans to evaluate the addition of other species to the IMTA model. This could include species such as sea urchins, sea cucumbers, marine worms and additional seaweeds that may feed on other excess material from the farm, which would further enhance the local ecosystem and provide valuable cash crops. Other opportunities may include the rearing of some species with biochemical/bioactive properties useful for new forms of industrially important compounds. Site selection for the best compromise between site characteristics, species selection, and market demands will be key to optimizing IMTA.

Lisa Milke & Bruce MacDonald

NSA Newsletter Reporters

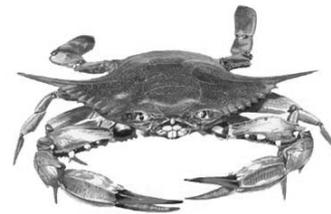
(Photos by Manav Sawhney)

The Blue Crab... Continued from page 5.

The Blue Crab will take its place beside the only other comprehensive 'species volume' covering crustaceans, **The American Lobster** (Jan Factor, Ed., Academic Press 1995). One special note is that this book probably constitutes some of the last writings of Gene Cronin, Austin Williams, and C.K. Govind, giants in their respective disciplines, and I'm sure they would be delighted with the final product!

The Blue Crab should have a place on the bookshelves of all marine libraries, fisheries managers' offices, researchers, teachers and students.

Sandra E. Shumway
University of Connecticut



Report on the Interstate Shellfish Sanitation Conference

The biennial Interstate Shellfish Sanitation Conference (ISSC), which took place from August 11 to 17 in Albuquerque, New Mexico, resulted in the passage of several proposals that directly affect US and West Coast oyster production, including issues associated with illnesses in recent years caused by *Vibrio parahaemolyticus* (*V.p.*). The ISSC's new *Vibrio*-control plan passed unanimously after numerous revisions were developed and agreed upon by a contingent of industry and FDA representatives. The new proposed plan, which will become part of the Model Ordinance and be mandatory, will go into affect by next year if FDA concurs with the proposal (as is expected). The plan provides an approach to shellfish safety rules that is relatively unusual under the National Shellfish Sanitation Program, calling for each state to conduct its own risk assessment to determine the potential for *V.p.* illnesses, and then to develop controls customized for each growing region. The flexibility afforded each state was recognized as critical to controlling illnesses, given the vast fluctuations in environmental conditions that exist from one growing area to another, and the evolving research and scientific methods used in monitoring and testing for *V.p.* For example, Washington State, which leads the US with the highest number of documented *V.p.* illnesses, is currently operating under an emergency *V.p.* rule that is set to expire in September. The Washington Department of Health anticipates holding meetings with growers over the next few months after data on illnesses due to *V.p.* and control measures taken over the last few years are analyzed. Departmental

staff recognize that there are critical distinctions that will need to be made between the growing areas, and will be asking growers to help develop a new rule that better addresses these differences.

A national issue that generated a controversial proposal (carrying over from the 2005 conference) allows states to require permits or licenses for non-commercial shellfish producers. States with significant numbers of "oyster gardeners," found primarily in New England and the mid-Atlantic, pushed this proposal forward. ISSC representatives suggested the need for greater authority to regulate non-commercial activities which sometimes results in non-commercial shellfish showing up in the commercial stream. This change in the Model Ordinance is a significant departure from the ISSC which is charged with regulating commercial shellfish only.

The Import Assessment Committee considered issues related to more effective ways of addressing concerns associated with shellfish imported from countries without a memorandum of understanding (MOU), but no proposals were presented for deliberations. Recommendations coming out of the committee included more standard utilization of a new testing method to determine raw from cooked product, and the development of a form to facilitate the collection and sharing of information on possible misbranded non-MOU shellfish.

Robin Downey
Pacific Shellfish Growers Association

Cenntennial Meeting Update

Plans are progressing for the Centennial meeting to be held at the Westin Hotel, Providence, RI April 6 - 10, 2008.

Sponsors have been contacted and the initial response is encouraging. The program is shaping up to be a strong one with several special sessions already on the schedule. Because this is a 'special' meeting, we will deviate slightly from our usual format in that we will open each day with an invited speaker. We are excited to have commitments from Kevin Eckelbarger (History of shellfish research), Roger Mann (A century of oyster research - what have we learned?), Michael Greenberg (Perspectives on shellfish physiology), and Richard Lutz (Hydrothermal-vent molluscs) - titles are very tentative, watch the WEB site for updated details!

Special sessions already being organized include: shellfish and public health, horseshoe crabs, benthic pelagic coupling, physiology, shell formation, QPX, genetics/biodiversity and plantings, lobster disease, Asian shellfish aquaculture, and shrimp. It is not too late to volunteer to organize a session. If you are interested, contact Sandy or Karolyn as soon as possible. Even if you don't want to organize a session yourself but have an idea for one, let us know and we'll see if we can coax someone else to take it on!

Spring in Providence is wonderful - put it on your calendar now. The WEB page will be active soon for registration and you can link directly to the hotel to make your reservations. PLEASE MAKE USE OF THE CONFERENCE HOTEL. We have secured a very attractive rate of \$159 (single/double/triple/quad) and our ability to provide activities and facilities at reasonable cost to the participants is contingent upon the number of registered guests. Travel is easy - Green Airport, Amtrak, Interstate 95.

And remember, we are meeting back-to-back with the **Benthic Ecology Meeting**. These are two separate meetings and we hope you will participate fully in both - there are a lot of common interests and this is a great



opportunity to meet new colleagues and hear about research you might not ordinarily see. For the price of two extra hotel nights and a registration fee, you can participate in two conferences! Thursday, April 10th, will be an overlapping day for the two meetings and special integrated sessions and activities are being planned to make the most of this opportunity. Sessions are already scheduled on benthic-pelagic coupling, research diving and habitat restoration.

This is shaping up to be an outstanding week and we are looking forward to seeing you all in Providence.

Sandy Sumway, Local Arrangements Chair
Karolyn Hansen, Program Chair

Industry Workshop Planned for Providence

Plans are underway for a workshop to encourage participation by members of the shellfish industry in open discussions regarding research and extension needs. The workshop will be partially funded by the Northeast Regional Aquaculture Center's Aquaculture Extension Project and the World Wildlife Fund. Watch for details!

A Night at the Movies!

There will be a special showing of the IMAX film: *Volcanoes of the Deep Sea* by Rich Lutz, Past President of NSA. The film will be shown in the IMAX Theater at the Providence Place Mall on Thursday, April 10th at 7 p.m. The \$10 entry fee will include a DVD of the film. This exciting opportunity is being made possible by Rich and the Stephen Low Company. Tickets can be reserved when you register for the NSA meeting and seating will be limited to the first 400 requests. This will be the last day of the NSA meet and first evening of the Benthic Ecology Meeting, so book your tickets early!!!

Sandra Shumway
Local Arrangements Chair

**Pass on this Newsletter and
recruit a new member today!**

To join, visit: www.shellfish.org

HRH Princess Chulabhorn Mahidol of Thailand Conducts Scallop Research

The youngest Princess of the Royal Family of Thailand, Professor Dr. Her Royal Highness (HRH) Princess Chulabhorn Mahidol, is currently pursuing her second PhD, having already obtained a PhD in chemistry from Mahidol University. HRH Princess Chulabhorn is also the current President of the Chulabhorn Research Institute, which was established with the mission to apply science and technology to improve "Quality of Life", a concept first propounded and practiced by His Majesty the King in the Royal Initiated Projects. The activities of the Chulabhorn Research Institute include conducting fundamental and advanced research in a number of area such as Natural Products, Medicinal Chemistry and Organic Synthesis, Biomedical Research, Environmental Toxicology, and Biotechnology; education, training and scientific exchange; and implementing a number of special projects and programs.



She is currently reading for her PhD at Kasetsart University, Bangkok, Thailand, supervised by Professor Uthairat Na-Nakorn and the work focuses on taxonomy, phylogeny, population genetic structure and culture of

Thai scallop species. The Princess works with a team comprising of Associate Professor Wantana Yoosuk and Ms. Srijanya Sukmanomon of Kasetsart Univeristy, Professor Nubohiko Taniguchi of Tohoku University, Japan and Dr. Thuy Nguyen of the Network of Aquaculture Centres in Asia-Pacific.

The manuscript which is to be published in *Journal of Shellfish Research* compliments the one in *Marine Biotechnolology* and these deal with phylogenetic relationships of scallop species of the coast of Thailand, and population genetic structure of the moon scallop, *Amusium pleuronectes*, respectively. The current manuscript deals for the first time with the phylogeny of scallop species in Thailand using molecular genetic markers. Interestingly the findings reported herein are mostly in accordance with the previous molecular studies in other regions, and the classification system based on microsculpture of shell features and morphological characteristics of juveniles.

It is extremely creditable and admirable that the HRH Princess in spite of her normal royal duties has managed to keep her interests on scallop alive. Her interests and dedication in research and in particular scallops have inspired many prospective post-graduate students, and have added a new dimension to the work of the Genetics Laboratory, Department of Aquaculture, Faculty of Fisheries, Kasetsart University.

**The new NSA web portal
is now active!**

**Update your member profile,
pay dues, and obtain up-to-date
information on meetings and
shellfisheries information.**

**It's easy - go to:
www.shellfish.org**

**NSA is now part of BioOne. We
encourage you to ask your
institution to join. Simply provide
your librarian with the form
contained in this Newsletter**

In Memoriam Captain Emil W. Usinger

Emil W. Usinger, oyster boat captain and industry leader, died on January 27, 2007.



Emil was born in 1910 to a the Usinger family who maintained light-houses in both Connecticut and New York. He worked for the *Radel Oyster Company* in Norwalk, CT at an early age and at 18, had his first Mariners License. At 21, he received his 10,000-ton Captain's License running gas tankers throughout Long Island Sound and New York Harbor.

Emil married Helen Brown in 1934 and began working as a deckhand on an oyster boat for the *Blue Points Company*, owned by *General Foods*, in Milford Harbor (CT). In 1936, the company moved them to Providence, Rhode Island, where Emil served as Captain of the company's oyster fleet.

In 1943, Emil transferred back to Milford as Manager of Operations. Emil recalled the "natural growers" gathering seed in Sharpies. From 1957 to 1958 the heaviest set of starfish occurred. He worked with scientists from the now National Marine Fisheries Service conducting studies aimed at reducing the numbers of predators (stars and drills).

In 1963, Emil was promoted to Vice President and transferred to Sayville in Long Island, New York, managing the oyster facility located on Great South Bay. Emil attempted to restore the shellfish resources in the Bay by importing oyster set from the Housatonic River in Connecticut and attempting two spawns of hard clams per season.

Emil captained several historic vessels, but loved the "*Blue Points*." Originally named the "*Clara Rae*" in 1931, the "*Blue Points*" was 102 feet long with a 28 foot beam, capable of holding 4,000 bushels of oysters. Emil also captained other famous oyster boats launched in 1946 at the *Blue Points Company*, the "*Milford*" and the "*Greenport*," as well as the "*Mascot*," the "*Harvester*," and the "*Columbia*," out of Milford, Connecticut.

Emil retired in 1986. He was delegated by the oyster industry to testify before Congress, traveling worldwide promoting the industry with endeavors including hosting a clam bake for a US Secretary of Agriculture.

Lori Romick
Walt Canzonier,
Ronald Goldberg

Audit-Budget-Finance News

Total revenues for the 2005-06 fiscal year (October 2005 through September 2006) were \$334,395. Over the same period expenses were \$281,198 for an increase of \$53,197 to our overall balance, which ended the year at \$160,749 including almost \$44,000 in Student Endowment Funds.

Administrative revenues and expenses for 2005-06 were \$58,384 and \$32,584, respectively, for an increase of \$25,800. Publication revenues were \$172,920 and expenses were \$157,486 for an increase of \$15,434. Revenues from our annual meeting in Monterey were \$97,393 while expenses were \$89,331 for an increase of \$8,062.

The proposed budget for the 2007-08 fiscal year, which begins October 1, 2007 projects a gain of \$17,200 from administrative activities, a decrease of \$24,400 for publications, and a gain of \$16,500 from our Centennial Meeting which will be in Providence, RI in early April 2008. If these revenues and expenses are realized, the NSA balance will increase by \$9,300. These estimates are quite conservative, however, and considering that the Centennial Meeting has the potential to be a major income producer, the balance could increase by more than this initial estimate. 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 often exceed publication revenues. Administrative Revenues (primarily Member Dues), Institutional Subscriptions and Meeting Revenues help subsidize these excess costs.

The Centennial Campaign for the Student Endowment Fund is underway with a goal of \$100,000 by the Providence Meeting. Reaching this goal will be a fantastic achievement for the NSA and will provide additional opportunities for our future shellfish scientists.

Although our balance declined in recent years, we have seen increases during the last two years, and our financial condition is solid and growing. With adjustments made to improve our revenue stream, the financial strength of NSA should continue.

George Abbe
Audit-Budget-Finance Committee Chair



\$100,000

10k



NSA's Major Fund Raising Campaign

The Capital Campaign to provide long-term financial stability to the Student Endowment Fund is moving along. The EXCOM pledged \$6000 during their meeting in San Antonio and that only took about twenty minutes! No donation is too small and our goal of \$100,000 by the Centennial meeting in Providence is only achievable if everyone helps out. Approach your friends and relatives - you'll be surprised how generous they can be if you are enthusiastic. Please check the WEB page, download the flier, distribute widely and watch that siphon grow!

The students are our future - please make an extra effort to make this campaign a success - the future of NSA depends upon it.

Sandy Shumway
Past-President



Upcoming Events

8th International Conference and Workshop on Lobster Biology and Management: Sept 23-28, 2007, Delta Prince Edward in Charlottetown, Prince Edward Island, Canada. For information visit www.lobsterscience.ca.

Aquaculture Europe: October 24-27, 2007, Istanbul Expo Centre, Istanbul, Turkey. For information visit www.easonline.org

Caribbean & Latin American Aquaculture: November 6-9, 2007, Condado Plaza Hotel, San Juan, Puerto Rico. For information visit www.was.org.

10th International Conference on Shellfish Restoration (ICSR): November 12-16, 2007, The Netherlands, "Innovation in the exploitation and management of shellfish resources." For information visit www.icsr2007.wur.nl.

Aquaculture America: February 9-12, 2008, Disney's Coronado Springs Resort, Florida. For information visit www.was.org.

National Shellfisheries Association, 100th Annual Meeting: April 6-10, 2008, Westin Hotel, Providence, RI. For information visit www.shellfish.org.

Benthic Ecology Meeting: April 10-13, 2008, Westin Hotel, Providence, RI. For information visit www.benthicecology2008.uconn.edu.

World Aquaculture 2008: May 19 -23, 2008, Busan Korea. For information visit www.was.org.

Publications Received

Installation and Operation of a Modular Bivalve Hatchery. FAO Fisheries Technical Paper 492. Prepared by Samia Sarkis and Edited by Alessandro Lovatelli. FAO, Rome 2007 173pp with CD.

The Importance of Habitat Created by Molluscan Shellfish to Managed Species along the Atlantic Coast of the United States. ASMFC Habitat Management Series #8. Prepared by Loren D. Coen and Raymond E. Grizzle; Edited by Jessie Thomas and Julie Nygard. Atlantic States Marine Fisheries Commission, Washington, D.C. 2005.

Online Aquaculture Resource Guide, a web-based educational resource for Connecticut aquaculture producers, municipal shellfish and harbor management commissions, researchers, educators, students, and aquaculture enthusiasts. Connecticut Sea Grant, see www.seagrant.uconn.edu/aquaguide.

Metamorphosis

Dr. Jay R. Leverone received his PhD in Marine Science from the University of South Florida under the guidance of Professor is Norm Blake. Congratulations, Jay!

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

THE PENULTIMATE PAGE

Get to know your shellfish

Perna canaliculus (Gmelin, 1791) - Green-lipped mussel. This green-tinted bivalve is endemic to New Zealand and is one of the largest mussel species, growing to a length of up to 240 mm. It can be found sub-tidally and inter-tidally in moderately exposed areas. The green-lipped mussel is cultured in many areas of New Zealand and also has become an introduced pest in some Australian waters. [Source: FAO, Wikipedia, on-line resource]



Cancer borealis Stimpson, 1859 - Jonah crab. A conspicuous member of the crustacean fauna in waters of the continental shelf and slope of the northwestern Atlantic Ocean, between southeastern Canada and southeastern Florida, USA. Males of this species can obtain a carapace width of about 180 mm whereas females usually do not exceed 150 mm. weight inhabits the deep water and rocky bottoms in the north Atlantic, from New England to Canada. Jonah crabs are primarily caught with pots and traps. Additional types of fishing gear include bottom trawls, hooks-and-lines and nets. [Source: DFO, Canada; Williams & Wahle 1992, JCB]



Recipes of the Quarter

Fried Squid

Preparation Time: 20 minutes

Yield: 2 to 4 servings

1 lb fresh squid
1/3 cup onions, thinly sliced
1/2 cup celery, finely chopped
3 tbsp vegetable oil
1 1/2 tbsp sherry
1 tbsp soy sauce
dash of Tabasco
salt & pepper to taste

1. Clean squid and cut into 1 1/2 inch strips.
2. Heat 1/2 oil and cook onions and celery until transparent. Add squid, remaining oil and other ingredients.
3. Cook quickly, stirring with spatula until browned, approximately 7 to 10 minutes.

Shellfish Pie

Preparation Time: 50 minutes

Yield: 4 servings

mixed shellfish of choice

1 packet pastry
1 small onion, chopped
1 tbsp butter
3 eggs plus an extra yolk
1/2 cup cream
salt & pepper to taste

1. Roll out pastry and line a large flan dish.
2. Saute onion in butter until soft. Whisk together eggs, egg yolk, cream, salt and pepper. Add to onion.
3. Place shellfish meats in pie case and gently pour in egg mixture.
4. Cook at 350 degrees F for 30 minutes or until mixture is firm and lightly browned.

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

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