National Shellfisheries Association

QUARTERLY NEWSLETTER

September 2006 *GROTON, CT*

President's Message

Hello, NSA members! There is always an array of interesting activities ongoing within NSA and I am proud to share them with you. Our next annual meeting will be in San Antonio, Texas, and is scheduled for February 26 to March 2, 2007 together with the World Aquaculture Society and the Fish Culture Section of the American Fisheries Society. This Triennial event is a much larger meeting than our usual annual meetings. Our smaller independent meetings perhaps have a more comfortable, less imposing and less impersonal aspect to them; however, the Triennial is a tremendous opportunity to meet other people and to attend a variety of sessions that are pertinent to shellfisheries research and the shellfish industry, but generally not available at a smaller meeting. Although the meeting is much larger, all of the activities that are commonly part of the annual NSA meeting, such as the Business Luncheon and the Student Endowment Fund auction, are still scheduled. LeRoy Creswell (NSA Program Representative) and Sandy Shumway (Triennial Program Chair) have done an excellent job of developing special sessions and many should be of great interest to you. The revenue from registration fees that remains after all expenses have been paid are proportionately distributed to the participating scientific organizations based upon attendance. Therefore, it is very important that you indicate your NSA affiliation when registering for the meeting. If you have not registered, there is still plenty of time. In fact, a very reasonable "early bird" registration fee of $335 (students, $155) is offered until January 5, 2007. A very rapid and efficient electronic registration process is available to NSA members simply by visiting the NSA website. As usual, NSA makes a noteworthy effort to provide students with support to cover registration fees and accommodations. Ami Wilbur and Ryan Carnegie have done an outstanding job of informing students about these opportunities. I hope that I will see many NSA-affiliated students at the annual meeting in San Antonio.

As part of the upcoming 100th anniversary of NSA in 2008, Sandy Shumway has organized and launched a major fundraising activity for the Student Endowment

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Plans for the triennial meeting in San Antonio are well underway. See insert for more news and information about Aquaculture '07.

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Fund. You should find a flier that announces the campaign in this newsletter. The goal of $100,000 is well within the realm of realization. Just think, if each current member of NSA were to donate on the average only $125 dollars, then $87,500 of the $100,000 would be realized. What better way to celebrate our centennial anniversary than by contributing to a fund that provides financial support to students so they can attend and participate in meetings! Think of your contribution to this campaign as a one time premium payment on an insurance policy. That insurance policy provides for the future of NSA and the shellfish industry for the next 100 years, because students are the future and the legacy of the current NSA. Your donation is tax deductible…a great opportunity before the 2006 tax year ends. My challenge to you is that once you identify a level of support with which you feel comfortable, try to make a sacrifice to go just a bit beyond, to the next level of support - and engage your friends as well!

Since the last, highly successful annual meeting in Monterey, CA, the EXCOM of NSA has signed an electronic licensing agreement with BioOne. BioOne is a collaborative effort involving libraries and non-profit scientific organizations such as NSA. Under the licensing agreement, the *Journal of Shellfish Research* will become part of the BioOne Database New Collection wherein *JSR* will be available online with other journals. I consider this agreement to be a landmark decision by NSA because it should contribute to our overall growth and exposure. The *Journal of Shellfish Research* should particularly benefit. This decision has the potential to increase annual revenues substantially. The revenue realized may ultimately assist in reducing page charges for publication of articles in *JSR*, an issue that the EXCOM has been addressing and struggling to resolve for many years. In my opinion, this agreement is a win-win situation for NSA. This noteworthy progress has become a reality through the exceptional efforts of Susan Ford and the Publications Committee who did all of the initial investigating of options and the subsequent follow-up. NSA is indebted to Susan for finding an attractive means to take *JSR* to new levels of availability and exposure. More information about this landmark activity can be found in an article within this newsletter.

Another activity of focus has been efforts to increase the exposure of the book, *Taming of the Oyster*. These efforts have been recently realized through a no-cost advertisement that appears in the most current issue of *World Aquaculture* magazine, a publication of the World Aquaculture Society, and as part of the Google Books Partner Program. If you have yet to purchase this book, you are missing out on a well documented and entertaining read of the history of NSA and the shellfish industry written through the eyes of Melbourne R. Carriker. Mel is a Professor Emeritus in the College of Marine Studies at the University of Delaware, and an Honored Life Member of NSA. A review of the book and instructions on how to purchase are available on the NSA website. Just click on Publications!

Maintaining and hopefully increasing membership in NSA is tantamount to being able to continue to provide all the services that are now afforded to NSA members. As the current Chair of the Membership Committee, Bill Walton has done a great job of ensuring that our membership is ever-increasing. A variety of efforts devoted to solicitation of new members and notification of those whose membership renewal fee is in arrears are ongoing tasks. In most of the Newsletter columns that I have written during my service to NSA as President, I have stressed the importance of increasing membership. As of this writing, we stand at 700 members and recently unleashed a campaign to reconnect with those members who have yet to pay their membership fees for 2006. Another campaign that will focus on increasing the number of international members is currently under consideration. You can make a major contribution to the future of your NSA by simply getting one person to become a member. It is so easy to register online. Direct a former member who may have let his/her membership lapse or someone who has expressed an interest in becoming a new member to the NSA website where registration for membership is both rapid and convenient.

Also, keep watch for a whole new look coming to the NSA website in the near future. Dave Bushek, Joth Davis and I have been reviewing some options, and a decision will be forthcoming. Our goal is to have a website that will be more user-friendly, have an appealing design and offer a more potent source of information-related services.

As Co-chair of the Industry Committee, Gef Flimlin continues to provide a valuable service through the updating of the NSA Report to Industry. Report to Industry is a compilation of recent shellfish-oriented publications that contain information of particular interest to the shellfish industry. The Report is available on the NSA website. Again, just click Publications!

So many devoted NSA members work behind the scenes, often with little recognition, to keep NSA the best that it can be and at the forefront in providing member services. The level of volunteer activity is just remarkable and a source of pride for me as your President. Take a look at the names of people listed on the back page of this Newsletter. When the opportunity arises, thank them. We are all indebted to these people for their unselfish service toward ensuring that NSA continues to effectively meet the challenges of realizing its mission.

Lou D'Abramo
President

Shellfish Reefs at Risk: The Nature Conservancy Works to Restore Bivalve Populations

Shellfish populations have decreased substantially from historical numbers due to factors such as disease, over fishing and habitat loss. In response to these declines, there have been an increasing number of programs aimed at bolstering native shellfish stocks, not only for economic reasons, but also to enhance ecosystem function in which shellfish play such a pivotal role. One of these programs is The Nature Conservancy's (TNC) Shellfish Restoration Network, which was created in 2004. This program hopes not only to increase shellfish populations, but also to improve upon the design of restoration programs and to illustrate the ecosystem functions that shellfish provide.

There are currently more than a dozen ongoing projects in the US which are partnerships between TNC's Shellfish Restoration Network and various federal, state and academic collaborators. Projects include the enhancement of the Olympia oyster, *Ostreola chonchaphila*, on the west coast; the eastern oyster, *Crassostrea virginica*, on the Gulf coast; and eastern oyster, hard clam, *Mercenaria mercenaria*, bay scallop, *Argopecten irradians*, and blue mussel, *Mytilus edulis*, on the east coast.

One of the largest of the restoration sites involves the land formerly owned by Bluepoints Oyster Company in New York's Great South Bay, which TNC acquired in 2002. An additional section of submerged land was obtained by TNC in 2004 resulting in a total area covering 20% of the Great South Bay. The Nature Conservancy has been working there since 2004 in conjunction with an extensive list of partners including NOAA's Community-based Restoration Program and other members of the Bluepoints Bottomland Council. The goal is to re-establish clam populations which are currently at 1% of the industry's peak harvested levels recorded in the 1970's. Specific objectives of the program include the establishment of a network of spawner sanctuaries, management of natural predators to increase clam survival, and the assurance of long-term sustainability of the population through harvest management and enforcement. In June 2006, the one-millionth clam was planted in the spawner sanctuary on the property, and Suffolk County announced that it will contribute $1 million to further aid in the restoration and management of clams throughout Great South Bay. This will allow TNC and Bluepoints Bottomland Council to continue the restoration of hard clams for both economic and ecological purposes.

In Pamlico Sound, North Carolina (NC), substantial efforts among TNC, NOAA and the NC Division of Marine Fisheries have been underway since 2001 to enhance dwindling populations of the eastern oyster. The major goals of this project are to allow older populations of oysters to accumulate (which are able to filter more water, and create more offspring), to enhance the natural recruitment of oysters in three-dimensional reefs and to evaluate the costs and success of non-traditional artificial reef building materials (specifically Class-B rip-rap marl composed of basketball sized limestone rocks). To date, over 50 acres of spawner sanctuaries have been protected for these purposes and preliminary results indicate that with the reduction in fishing pressure, populations may be more resistant to diseases. Annual settlement has exceeded the initial project goals. Accelerated growth has also been observed on these restored reefs due in part, potentially, to the large three-dimensional configuration which better mimics historic oyster-reef structures and allows oysters to settle higher in the water column. In the future, TNC hopes to optimize reef size and design for enhanced oyster growth and recruitment in Pamlico Sound, determine an optimized reef configuration to enhance biodiversity and to increase public support in the hopes that large scale restoration efforts in the area can be developed.

Oyster restoration is also being pursued on the west coast. Here, however, it is the native Olympia oyster, which was in substantial decline by the early 1900's, that is being targeted. Populations of the Olympia oyster are so reduced that the commercial industry relies on introduced oyster species for harvesting purposes. In 2004, TNC in conjunction with NOAA, the Washington Department of Fish and Wildlife and the Puget Sound Restoration Fund, embarked on a survey of existing Olympia oyster habitat in Puget Sound. Results of this survey indicated that clean oyster shell is likely a limiting factor in recruitment. New plots of clean shell have been created close to established populations, and monitoring is underway to determine recruitment success. An additional 10 acres of tidelands have been identified as suitable for expansion, and further reef construction is planned.

In addition to these restoration projects, TNC and NOAA have published the *Practitioners Guide to the Design and Monitoring of Shellfish Restoration Projects*, which was a

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Recruits' Corner

Hello Recruits!

It's coming around to meeting time again! This will be NSA's 99th annual meeting and also a Triennial gathering, when we combine our meeting with those of the World Aquaculture Association and the Fish Culture Section of the American Fisheries Society. Hopefully you have all successfully submitted your abstracts and taken advantage of the luxurious deadline extension for the Travel (room/ registration) and Presentation (Nelson/Gunter) Awards. Now you can apply for a Melbourne R. Carriker or Michael Castagna Research Award. The deadline for these prestigious research awards ($1000) is **November 30, 2006**. You can find more information about the Carriker and Castagna Awards on the student webpage. The Triennial meeting is a great place to learn more about shellfishing industries and discover new and practical applications for our research, meet people with whom you may form collaborations, or find a great job. In fact, it is common for students who are not presenting to still attend the meetings for these exact reasons.

Those of you looking for a roommate for the San Antonio meeting should go to the "Forum" on our website www.shellfish.org. There you can find postings from other waifs and pediveligers who are looking for shared accommodations or find answers to your most pressing shellfish questions.

So we hope to see you in Texas!

Nature McGinn
Dane Frank
Student Recruits

Carriker and Castagna Grant Applications Due November 30

The Melbourne R. Carriker Student Research Grant is a competitive grant that is awarded annually to recognize excellence in scientific research in the area of shellfish biology.

The Michael Castagna Student Grant for Applied Research is a competitive grant that is awarded annually to recognize excellence in applied research in the area of shellfish science. The practical, applied aspects of the research should be highlighted.

Please also remember that these grants have different criteria. Students applying for the Castagna Student Grant for Applied Research may also apply for the Carriker Student Research Grant, but must submit separate applications and designate which applications correspond to which grant. The applications cannot include the same proposal.

Applications will be reviewed by the NSA Awards Committee, which is a standing committee chaired by the Past-President. The deadline for proposal applications is **the close of business (5 p.m.) November 30.** Notification of the successful applicant is generally made by January 31of the following year. Please be sure to follow the on-line instructions and send 3 paper copies and an electronic version (all in one PDF file) to Sandy Shumway (address on back of newsletter). NO EMAIL SUBMISSIONS ACCEPTED. For more information, go to www.shellfish.org/grants.htm.

Student Travel & Presentation Awards

The NSA Student Endowment Fund will once again support student participation in the NSA Annual Meeting, this time the 99th in San Antonio, Texas. With a week-and-a-half left in the award application process at this writing, twenty applications have already been received, suggesting that the student showing at this Triennial meeting will be strong.

All NSA student members participating in the San Antonio meeting will be eligible for the Thurlow C. Nelson Award, given annually for best student oral presentation, and the Gordon Gunter Award, given annually for best student poster. It is our pleasure to also note that all non-student NSA members will be eligible to serve as judges in these award competitions. Many of you have already indicated your interest in judging. Others who are interested should drop one of us a note at the email address on the back of the newsletter. See you in San Antonio!

Ryan Carnegie
Ami Wilbur
Endowment/Student Awards Committee

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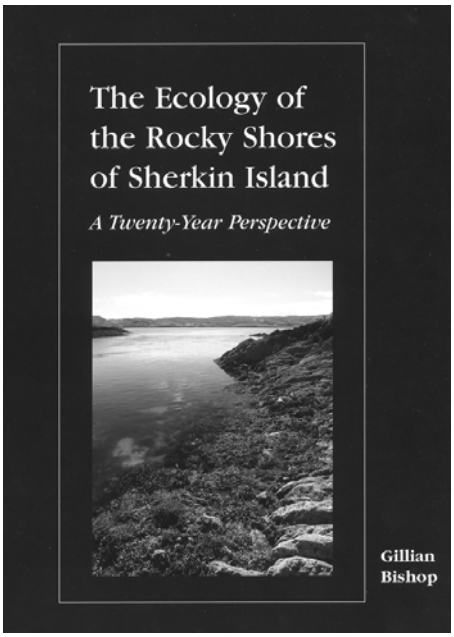
visit www.shellfish.org

Book Review

The Ecology of the Rocky Shores of Sherkin Island by Gillian Bishop; Published by the Sherkin Island Marine Station; ISBN 1 870492 57 9, 305pp.

The coasts of West Cork in Ireland are among the most intensively studied in the world. Much of the credit for this must go to three people for whom marine biology was a hobby that became an obsession. The efforts of Jack Kitching and John Ebling at Lough Ine established field experimentation not only as a tool to investigate marine communities, but also made the shore and shallow sea a test bed for ecological theories. Matt Murphy meanwhile began to monitor the biota of shores around his laboratory on Sherkin Island beside Baltimore.

In the competitive, grant–driven academic world where PhD projects and most research grants have only a three year span, there is great potential value in naturalists revisiting the same shores year after year and recording changes that occur in natural communities. Gillian Bishop's book summarises in a digestible form Murphy's records of common marine animals and plants on several shores around Sherkin. It documents what in many cases may be largely natural changes, for this is not an area heavily influenced by pollution and coastal development. So these data might provide a useful yardstick against which changes elsewhere could be judged.



A lot of effort has gone into collating the information that troupes of industrious student volunteers have gathered over twenty years. The problem of using inexperienced observers is that great care has to be taken to standardise assessments, especially subjective ones such a percentage cover, and in checking the identification of species. One volunteer, who was concerned largely with monitoring plankton, found that the previous year's findings were entirely different, which she attributed to misidentifications by the previous observer. With the shore benthos those species that are not easy to identify in the field have been lumped together; aggregated species include both the flat and rough periwinkles, limpets and barnacles as well as species of *Enteromorpha*, *Gelidium*, and *Osmundea* (formerly *Laurencia*). This is a great pity. The four species of barnacles that have not been differentiated, have different temperature tolerances and in response to previous fluctuations in water temperature in the North Atlantic the relative proportion of the various species on our shores changed. Aggregating 'southern' and 'northern' species completely masks such changes.

At the heart of the book are numerous charts displaying both the seasonal and long term fluctuations in the abundance of different species and aggregates, followed by summaries of the main trends. Shorter term, often cyclic changes and interactions between species are discussed adequately, but in relation to long term trends, which are of far more interest to a wider readership, the discussion is rather superficial. There is little attempt to predict what changes might be expected as a result of global warming for example. The west of Ireland is where many marine species reach their northern limits, but there is little mention of 'southern' or 'northern' species and how close Sherkin Island is to the geographical limits of particular species.

Contrasting species with different geographical distributions and lifestyles might have made for a more productive discussion. All the common species of *Enteromorpha*, for example, are widely distributed throughout the shores of Ireland and Great Britain. The two most common species are also able to tolerate an astonishing range of both water temperatures and salinities, and thrive in both clean and sewage-laden sites. They are also ephemerals and notorious opportunists so one could predict that, although they might fluctuate considerably in the very short term, they would be able to cope well with chronic climate change. *Ascophyllum* on the other hand is very long lived and usually forms permanent stable populations. In normal circumstances it would not be expected to fluctuate much over time. Yet it has decreased generally at Sherkin and on the extensive shores of the adjacent Roaringwater Bay. It is an Arctic boreal species that only just reaches the south coast of England and Ireland, so it might have begun to retreat northwards in the face of increasing water temperature. Unfortunately, there is little focused, analytical discussion on such matters.

Matt Murphy should be praised for again raising funds to produce an attractive and well illustrated book, although too many of the colour illustrations are snapshots of parties of student workers, laboratory interiors and the like. However, as he relies on a steady stream of young volunteers, they may serve as recruiting posters and if it persuades even a few young people to experience working on the shores of Ireland's beautiful coast, it has served a worthy purpose.

Trevor Norton
Port Erin Marine Laboratory, University of Liverpool

Nature Conservancy... Continued from page 2.

product of a workshop held at the Dauphin Island Sea Lab in 2005. The publication serves as a practical guide for the implementation and monitoring of shellfish restoration projects, giving background information and advice on topics such as arguing for shellfish restoration, identifying target species, choosing an appropriate strategy for restoration, picking the proper site, monitoring progress and creating partnerships to further enhance program success. This publication can be found by going to http://conserveonline.org/docs/2006/05/ and selecting "shellfish hotlinks final.pdf."

According to Rob Brumbaugh, TNC's restoration program Director, an important next step for TNC's Shellfish Restoration Network is a global assessment of condition and threats to native bivalve ecosystems. The Nature Conservancy hopes to begin the data collection necessary for the assessment in 2006, and complete the study within two years. A similar effort to quantify the status of coral reefs in the 1990s (Coral Reefs at Risk) resulted in a tremendous increase in the conservation, research and management attention paid to coral reef ecosystems worldwide. The Nature Conservancy believes that a global 'Shellfish Reefs at Risk' assessment would be similarly beneficial and would spur much needed conservation, restoration and research activities in the world's temperate ecosystems.

For more information or to get involved, please contact Rob Brumbaugh by phone at (401) 874-6870 or by e-mail at rbrumbaugh@tnc.org.

Lisa Milke
NSA Newsletter Reporter

Pacific Coast Section of NSA to Hold Annual Meeting

The 2006 conference of the National Shellfisheries Association-Pacific Coast Section (NSA-PCS) and the Pacific Coast Shellfish Growers Association (PCSGA) is scheduled for October 2-5 at the Hilton Hotel in Vancouver, WA. The NSA-PCS chair, Donald Velasquez, and PCSGA President Mark Schaffel are calling for papers for the conference and requesting abstracts on subjects related to shellfish biology, ecology, management, culture, disease, nutrition and genetics. Special sessions will be held on Estuarine Habitat, Shellfish Restoration, Geoducks, Invasive and Exotic Species, *Vibrio parahaemolyticus*, Burrowing Shrimp, Managing and Preventing Oil Spills, Environmental Monitoring, and Marketing of Shellfish Resources. The original deadline for abstract submission was August 30th, however, interested parties can still be added to the agenda. Persons interested in presenting a paper should contact Donald Velasquez to determine if additional presentations can be accommodated. Instructions for submitting abstracts can be found at the website of the Pacific Coast Section (http://www.nsapcs.org). Abstracts should be submitted to **both** Lizzie Nelson (e-mail: slizzienelson@yahoo.com) and Donald Velasquez (e-mail: velasdev@dfw.wa.gov). Registration information is available on the PCSGA website (http://www.pcsga.org).

Donald Velasquez
Pacific Coast Section

JSR On-line!

The National Shellfisheries Association has just signed a contract to place the *Journal of Shellfish Research* online with BioOne (www.bioone.org). The BioOne database contains journals published by scientific associations such as the NSA. The current BioOne collection includes about 80 journals and has about 900 paid subscribers (e.g., libraries and museums) and a number of low or no-cost subscribers in developing countries around the world. JSR will be part of a second collection, now being marketed. Volumes 24 and 25 (2005 and 2006) should be online early by 2007 and subsequent volumes will appear as they are published. Individuals authorized through subscriber access to use BioOne will be able to download PDF files of complete papers at no cost. Nonsubscribers will be able to purchase papers (electronic or hard copy) directly from BioOne. Stay tuned for information on placing back issues online.

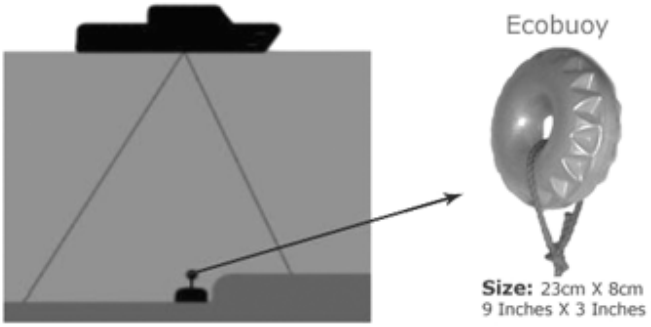
New Ecobuoy Allows Detection of Underwater Gear

Stephen Collis isn't the first sailor to search the sea floor for sunken treasure, but probably is the first to do so by inventing a fish. The fish he invented isn't a real fish of course, but a sonar reflector that mimics the physical characteristics of a fish. The treasure, also, is less likely to be chests of doubloons than a worldwide inventory of capital assets, mooring equipment and high technology instruments placed on the seabed to perform a range of tasks ranging from commercial fishing, aquaculture, minerals and oil exploration to scientific research. Why? Simply because the marine environment can be an unpredictable and hostile, (not to mention busy) place, and the marker buoys that the placers of underwater equipment rely on to locate their expensive equipment can, and do, go missing. Without a marker buoy, the task of locating and retrieving this equipment is difficult, time consuming and sometimes impossible.

As with the genesis of most inventions, the search for a way to reliably detect submerged equipment was quite accidental and started innocuously. Collis, a sailor since childhood, was enjoying a trip with a lobster fisherman when the idea struck. Using his sonar, the fisherman could see where he would like to place his pots on the bottom, but could not see the pots on the screen. This is because man-made fishing equipment, like a lobster pot, does not appear on commercial sonar screens thus preventing accurate placement of the traps. Such a limitation results in wasted time dragging pots across the bottom until they fall in the desired hole. Collis began researching the problem and found that the diagnostic software in most sonar equipment did not recognize man-made objects. In addition, it became obvious that no sonar reflector was available that could be attached to fishing gear or scientific equipment that was placed underwater. The need for a locating device for marine professionals, therefore, quickly became apparent. But what's with the fish?

Developing Ecobuoy involved eight months of design, tooling development and testing across a range of prototypes. Trials resulted in a design that mimics the body of a fish, and can be detected by the diagnostic software in all sonar equipment. Ecobuoy is made from material similar to fish flesh, has a void like a fish bladder, a surface finish like fish scales and reflective pits to enhance signal reflection back to the sonar's transducer. A number of prototypes were developed and tested with wonderful results, each showing distinctly on the sonar screen as a big fish.

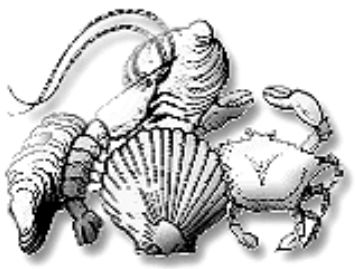
At depths of 90 m, the prototypes functioned well as reflectors, however, a slight distortion was caused by the pressure at this depth. So Collis went back to the drawing board, changing the shape and using a special blow-molding tooling to produce a second generation of reflectors that had a positive internal pressure, overcoming the distortion at 90 m. His efforts resulted in Ecobuoy, which can be attached to any underwater equipment. Upon attachment, it shows the position of underwater gear relative to the boat and the sea floor.



Often, marker buoys are attached to the line of underwater equipment, but these can break free and become lost. A GPS device will get you within 60 m, but with Ecobuoy attached, sonar can be used to find the equipment. When the big stationary fish symbol appears below the boat on the sonar screen, the lost equipment is directly below. By attaching a second Ecobuoy to a grappling hook, equipment retrieval is simple and easy.

When asked to identify the main benefits of the Ecobuoy technology, Collis said; "Attaching Ecobuoy will save millions of hours a year in placing, retrieving and importantly, also [save on] the replacement cost of lost equipment." He also pointed out important ecological benefits. "Ecobuoy reduces damage to the seabed caused by dragging equipment and grappling hooks around large areas. When attached to long lines, nets and traps, Ecobuoy enables retrieval and significantly reduces ghost fishing."

More information about Ecobuoy can be found on the company's website at www.ecobuoy.com.



Aquaculture 2007: San Antonio is Just Around the Corner.....

The program for Aquaculture '07 is shaping up to be another exciting collection of sessions and activities. As of this printing, there are over 90 special sessions confirmed and we are expecting well over 1000 papers to be presented. Poster sessions will be featured during two separate dedicated sessions and, even though the deadline has passed for submission of abstracts, we can still accommodate more posters if you submit your material immediately. Some folks continue to complain that these meetings are too large, impersonal and expensive. Not so! This is an opportunity to expand your horizons, learn about some topics that you might otherwise never encounter, meet some new colleagues and have unlimited access to the largest aquaculture trade show in the world. There are also numerous sessions that will focus exclusively on shellfish and, finally, this is an opportunity for NSA to gain some revenue. Remember to check the box on the registration form indicating that you are a member of NSA! The cost is no more than our regular meetings - so come on down! San Antonio is a beautiful old city, the River Walk is a great place to socialize and the food is outstanding. See y'all in Texas!

Sandy Shumway (Aquaculture '07 Program Chair)
Leroy Creswell (NSA Program Representative)

West Coast Industry Report

The Puget Sound shellfish industry is reeling over an outbreak of *Vibrio parahaemolyticus* (V.p.), widespread and intense PSP blooms over much the northern Sound and regulatory concerns over geoduck farms in the southern Puget Sound region. Many farms have been impacted with closures still in place for many areas of Puget Sound and Hood Canal well into September. These issues appear to be increasingly common signs of the times for this important shellfish production region. Shellfish growers in the coastal estuaries and British Columbia have not been impacted, and have picked up much of the production. With cooling seawater temperatures on the horizon, growers are looking forward to reopening.

The consequences of the V.p. outbreak will likely have repercussions far beyond the impacted areas as increased scrutiny is placed on regulating post harvest methods for oysters destined for raw consumption during the summer months. Widespread and intense PSP blooms have similarly closed shellfish production areas this summer with significant economic impacts being felt by individual growers. Other issues of concern include the upcoming issuance by the US Army Corp of Engineers of area wide permits for shellfish aquaculture activities. Also on the regulatory front, are increasing signs of user group conflicts over views and perceived impacts of aquaculture related activities on the environment, making research on the effects of shellfish culture an increasing priority for the industry as a whole.

Joth Davis
Industry Committee

Do you know someone interested in shellfish research?

Pass on this Newsletter and recruit a new member today!

To join, visit:
www.shellfish.org

In Memoriam: John H. Ryther

In July 2006, the Woods Hole Oceanographic Institution announced with great sorrow the death of Scientist Emeritus John Ryther of Hatchville at Falmouth Hospital after a long illness. He was 83.

John H. Ryther was born July 17, 1922 in Newton, MA and graduated from Newton High School. He received his A.B. degree in 1947, M.A. degree in 1950 and Ph.D. degree in 1951 from Harvard University, where he was a student of George Clarke. From 1942 to 1945, he served in the U.S. Army air force as a pilot, flying 83 combat missions in Europe, and was discharged in 1945 with the rank of Captain.

He joined the WHOI staff full time as a research associate in marine biology in October 1951, working with Buck Ketchum and others. In 1956 he was appointed a marine biologist, and in 1961 he was asked to assume overall responsibility for planning the biological program of the International Indian Ocean Expedition. In 1963 John Ryther was appointed a Senior Scientist, and with the organization of the Institution into scientific departments he became the first chairman of the Biology Department, serving from 1963 until 1970.

Through his interest in aquaculture, John secured funds in 1972 to build the Environmental Systems Laboratory (ESL) on the Quissett Campus. In the algae ponds and heated/chilled raceways he and ESL staff raised shellfish, fish and seaweed in a controlled environment. He was well known for his experiments incorporating advanced human waste treatment to grow algae as a source of food for shellfish. He also conducted similar experiments at the Harbor Branch Oceanographic Institution in Ft. Pierce, FL. During his career he published more than 120 scientific publications, and co-authored one of the first comprehensive books on shellfish aquaculture.

A full "In Memoriam" will appear in a future issue of the Journal of Shellfish Research.

Excerpted with permission from article by S. Dawicki

NSA thanks The Nature Conservancy for sponsoring this issue of the Quarterly Newsletter

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NSA Launches First Major Fund Raising Campaign

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100 years - $100,000. That's the goal - to raise $100,000 for the Student Endowment Fund before the centennial meeting of NSA to be held in Providence, Rhode Island in 2008. In this Newsletter you will find a flier describing the campaign and providing information for potential donors. You can download more copies from the WEB page or you can write to me and I'll send you copies – please distribute widely!! Locate that aged, rich aunt, your grandmother, the paperboy, your kids or any one else that can spare at least $5. And don't forget your own donation. We can reach this goal but everybody needs to help. Almost $5K has already been promised - watch that well-endowed siphon on the WEB page to follow the accumulated donations.

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

***Northeast Shellfish Sanitation Association Meeting & 58th Annual Interstate Seafood Seminar*:** October 23-26, 2006, Grand Hotel, Cape May, NJ. For information visit www.nj.gov/dep/bmw/OctoberMeeting.html.

International Workshop, Physiological Aspects of Reproduction and Nutrition in Mollusks: November 6-9, 2006, La Paz, B.C. S Mexico. For information contact moluscos2006@cibnor.mx or visit www.cibnor.mx/anuncios/moluscos.

***9th International Conference on Shellfish Restoration*:** November 15-19, 2006, DoubleTree Guest Suites, Charleston, SC. For information visit www.scseagrant.org/icsr.htm.

Aquaculture Canada 2006, Culturing Quality and Confidence: November 19-22, 2006, Westin Nova Scotian Hotel, Halifax, Nova Scotia, Canada. For information contact AAC President, Chris Hendry, at chendry@gov.nl.ca or see AAC website www.aquacultureassociation.ca.

Northeast Aquaculture Conference & Exposition 2006: December 6-8, 2006, Mystic Marriot Hotel & Spa, Mystic, CT. For information and updates contact Tessa Getchis at (860) 405-9104 (tessa.getchis@uconn.edu) or visit www.northeastaquaculture.org.

Restore America's Estuaries, 3rd National Conference: December 9-13, 2006, Hilton Riverside Hotel, New Orleans, LA. The conference theme will be "Forging the National Imperative for Restoration." For information contact Steve Emmett-Mattox at sem@estuaries.org.

***Aquaculture 2007*:** February 26 - March 2, 2007, San Antonio Convention Center, San Antonio, TX. For information contact the Conference Manager at worldaqua@aol.com.

***The American Academy of Underwater Sciences, Annual Symposium*:** March 6–10, 2007, University of Miami/ Rosenstiel School of Marine and Atmospheric Sciences, FL. For information contact Rick Riera-Gomez at rgomez@rsmas.miami.edu

***Second National Conference on Ecosystem Restoration*:** April 22-27, 2007, Hyatt Regency Crown Center, Kansas City, MO. All abstracts must be submitted electronically via the conference web site not later than October 15, 2006. For information visit www.conference.ifas.ufl.edu/NCER2007.

International Pectinid Workshop: Spring 2007, Halifax, Nova Scotia. For information contact Jay Parsons at ParsonsJa@dfo-mpo.gc.ca.

***International Sclerochronology Conference 2007*:** July 17-21, 2007, Hilton Hotel, St. Petersburg, FL. For information visit http://conference.ifas.ufl.edu/sclerochronology/ or contact Bill Arnold at bill.arnold@myfwc.com.

***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.

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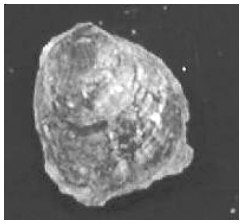
If you would like to announce a meeting, conference or workshop that might be of interest to NSA members, please contact Evan Ward (see back page for contact information).

THE PENULTIMATE PAGE

Get to know your shellfish



Ostreola conchaphila (=O. lurida) (Carpenter, 1857) - Olympia oyster. This native oyster has a rough shell with coarse concentric growth lines. It grows 2 to 3 inches in height and ranges from Alaska to Panama. The Olympia oyster can be found on rocky substrates near the low tide line, or on mud flats and gravel bars in quiet bays with low salinities. Formerly, this species was very abundant, but has diminished in numbers in many areas due to overfishing, habitat degradation and displacement by the commercially introduced *Crassostrea gigas*. [Source: Wikipedia, on-line resource; American Seashells, 1974, R.T. Abbott, Litton Ed. Publ., Inc.]

Litopenaeus (=Penaeus) vannamei (Boone, 1931) - Whiteleg shrimp. This marine shrimp grows to 9 inches in length and is native to the eastern Pacific. It ranges from Mexico to northern Peru and can be found on muddy bottoms at depths from the shoreline down to about 235 feet. It is commonly caught for food and is the major species of farmed shrimp. [Source: Wikipedia, on-line resource; Shrimps & Prawns of the World, 1980, L.B. Holthuis, FAO Fisheries Synopsis, no. 125, vol. 1.]

Recipes of the Quarter

Crab Cakes
Preparation Time: 1 hours
Yield: 6 servings

2 lb blue crab meat
1/4 cup chopped onion
1/4 cup oil
2 eggs, beaten
1 tsp powdered mustard
1 tsp salt
Dash of pepper
Dash of cayenne pepper
1 cup dry bread crumbs
Oil or fat for frying

1. Remove any shell from crab meat. Saute onion in oil until tender.

2. Combine all ingredients except bread crumbs. Shape into 12 cakes and roll in crumbs.

3. Fry in oil or fat at moderate heat until brown on one side. Turn carefully and brown other side. Cooking time approximately 8 to 10 minutes. Drain cakes on absorbent paper. Serve with tarter or cocktail sauce.

Geoduck Seviche
Preparation Time: ca. 5 hours
Yield: 6 to 8 servings

1 Geoduck siphon
1 Medium onion
1 Tomato
1 Cucumber
1 cup lime juice
1/2 tsp salt
Fresh cilantro

1. Cut geoduck into strips 1/4 x 1/4 x 1 inches and add to a glass or ceramic bowl. Add chopped onion and salt, and cover with lime juice (fresh squeezed if available). Place in refrigerator for 4 to 5 hours.

2. Drain and reserve liquid. Add chopped tomato and cucumber. Add reserved liquid to taste and top with cilantro.

3. Serve with crackers or “scoop” chips.

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

In the News

For up-to-date news about shellfish, from around the world visit the following NSA webpage:
http://shellfish.org/aggregator

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