

# National Shellfisheries Association Quarterly Newsletter



Est. 1908

2024(4)

## President's Message



The end of the year always inspires me to reflect, take stock of my goals, and plan for new opportunities to come. When 2024 began, I was looking forward to a great annual meeting in Charlotte. Thanks to the outstanding event coordinators, presenters, and volunteers, we created and strengthened connections across the shellfish community. Now, with 2025 around the corner, I am looking forward to seeing all of you in New Orleans for a Triennial meeting with the World Aquaculture Society, the Fish Culture Section of the American Fisheries Association, and the National Aquaculture Association. The Triennial is a great opportunity to interact with colleagues from different disciplines, countries, and learn about new advances in shellfish research and aquaculture. Make plans now to visit the "Big Easy" in the spring, March 6-10, 2025.

As North Carolina's coastal university, UNCW is no stranger to the powerful impact hurricanes create in communities and on campuses. This fall, parts of the southern United States – including several areas in the mountains of my home state – were devastated by tropical cyclones. First, I want to acknowledge the bravery and resilience of colleagues in these communities. Second, I want to encourage you to take a moment to contact friends and colleagues in these regions and ask if there is anything you can do to help the recovery efforts. The NSA has provided replacement copies of the *Journal of Shellfish Research* that did not survive the flood waters.

As the year comes to a close, I encourage you to renew your membership in the National Shellfisheries Association, and take advantage of the comradery, services, and knowledge sharing. In addition, please consider a year-end donation to the Student Endowment Fund. Remember, the NSA is a not-for-profit organization and your donations are fully tax deductible. Thank you for your continued dedication to your teaching, research, and service. Best wishes for a happy and healthy holiday season and a wonderful start to the New Year.

Yours in service,  
**Aswani K. Volety, President**  
UNCW Chancellor

## AQUACULTURE 2025



**New Orleans, Louisiana**  
**March 6-10, 2025**

**Early-bird Registration Deadline:**  
**February 7, 2025**

<https://www.was.org/meeting/code/AQ2025>

### In this issue:

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**Jon Grant and Michael Oesterling**

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# 2023 R. LeRoy Creswell Award for Outreach and Education Student Research Grant Update

**Awardee: Kayla Mladinich Poole**

**University of Connecticut**

*“Selective ingestion of microplastics by suspension-feeding invertebrates: investigations into sources, fate, and concentrations in coastal environments”*

The R. LeRoy Creswell Award has allowed me to focus on building my science communications skills and target outreach efforts that make my dissertation work more accessible and digestible. In 2023, I completed my dissertation, wrote for both scientific and public audiences, and engaged with shellfishermen and students (high school, undergraduate, and graduate). My research on microplastics in bivalve molluscs led to many collaborations with shellfishermen through sampling and collecting information on aquaculture facilities and gear. I learned a lot from these interactions and hope my research and public presentations continue to contribute to the understanding of microplastics in support of the aquaculture industry.

Within the scientific community, I published one first author publication on microplastics in oysters at an aquaculture site (Mladinich et al., 2023, DOI: 10.1016/j.marenvres.2023.106040), participated in a critical assessment of the literature on microplastics and shellfish (Shumway et al., 2023, DOI: 10.1080/23308249.2023.2216301), and gave a NOAA research webinar on best practices for microplastics research in shellfish. Much of the microplastics literature is rife with poor animal husbandry, lack of quality assurance and control measures, and exaggerated claims. The research I



*Kayla setting up a microplastics exposure experiment in an environmental chamber at the University of Connecticut.*

published and presented in 2023 clearly shows that shellfish contain very low concentrations of microplastics.

Further, the critical review can be used by interested parties to navigate the literature and understand the importance of quality assurance and control measures. This was a huge undertaking where I reviewed over 180 papers that

extracted microplastics from molluscs in their natural environment and provided recommendations for future research.

Through my outreach efforts, I learned how to be on both sides of the conversation as an interviewer and an interviewee. A colleague and I put together a podcast episode about the female experience in the shellfish industry. The goal was to make the topic more accessible to the public and start a conversation on how to best address any gender disparities. We interviewed three women that work in the industry as a fisheries observer, a deckhand, and an extension agent. The episode addressed the challenges women face on and off fishing vessels, different

career paths in the field, and why the interviewees are proud to be women in the industry. Alternatively, I have been interviewed by graduate students, undergraduates, and high school students about my research on microplastics and shellfish for multiple school projects and articles on the topic.

As an advocate for STEM (science, technology, engineering, mathematics) education, I take pride in sharing my research experience and knowledge with students of all ages. I gave a lecture on microplastic extraction methods to a mixed class of graduate and undergraduate students in the University of Connecticut Department of Marine Sciences and provided the students with a simplified protocol so they could put the lecture into practice in the laboratory. As I neared the completion of my Ph.D., I shifted my focus to outreach beyond the classroom, which led to my selection as a 2024 Knauss Fellow.

During my fellowship, I have worked with the NOAA Office of Education as a science education and legislative policy fellow, further developing my communication and outreach skills. I have engaged with students and the public on a national scale, including presenting using the ‘Science on a Sphere’ technology at the Smithsonian Museum of Natural History. My talks have aimed to educate audiences on climate change and



*Kayla presenting to the public about the effects of climate change on human health on the NOAA Science On A Sphere at the Smithsonian Museum of Natural History during World Ocean Week (June 3-8, 2024).*

its impacts on animals and human health. I also organized and led a Youth Summit for aquarium teens across North America through the Coastal Ecosystems Learning Centers Network, gaining valuable experience in event planning, network coordination, and youth engagement. I have been able to connect with K-12 students through the U.S.A Blue Schools Network on how filter feeding works and with environmental educators at conferences running the NOAA Education exhibit booth. Additionally, I contributed blog posts and updated webpages for the NOAA Office of Education, enhancing visibility within and beyond NOAA. Working with diverse education networks and learning how outreach efforts are coordinated across the NOAA offices through the NOAA Education Council has been a fulfilling and rewarding experience. I am profoundly grateful for the Creswell Award, which has allowed me to expand my outreach beyond research. This opportunity has been a reflection of my deep passion for education and my commitment to sharing knowledge with others.



## ***STUDENT RESEARCH AWARDS – where are the students?***

The National Shellfisheries Association has a long record of supporting student development through the establishment of The Recruits, encouragement to participate in annual conferences, publication in the *Journal of Shellfish Research*, provision of a welcoming environment for collaborations, and through the availability of research grants. These grants provide funds to assist students with aspects of their research often not covered by other funding sources and recently additional awards have been established to increase the availability of research funds. They are generous cash grants - \$1250 – provided directly to the student in the form of a check, with no stipulations as to how the funding is to be used. The application process requires a 2-page application from the student and one letter from the advisor. Following receipt of an award, students are asked to write a one-page summary of their research for inclusion in the *Newsletter*. Apparently, this process is so onerous that it is not worth the trouble; this year a grand total of four students submitted applications. This is not an anomaly, year after year, the number of applicants continues to decrease.



As the current chair of the Presidents Committee, and member of the Executive Committee for several years, I know that the availability of the grants has been publicized to the point of nagging: we have tried multiple notices, reminders of deadlines, and pleas for submissions, yet, applicants are as scarce as good gumbo in Kansas. Why? Are all labs so well-funded that a paltry \$1250 is not worth the bother? Advisors too busy to provide a letter? No one reads the *Quarterly Newsletter*? Perhaps we should text the NSA student membership once a month? Replace the awards with a lottery for an all expense paid week at Disney World? The utility of the student awards program is a major topic of discussion at every meeting of the EXCOM; so far, the grants have survived, but if the lack of interest continues, there seems little point in maintaining them.

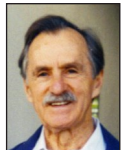
A description of the available awards appears below. If you have comments to share, please send them to me at [lewis.deaton@lusfiber.net](mailto:lewis.deaton@lusfiber.net)

**Lewis Deaton**  
*Chair, Presidents Committee*



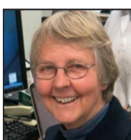
.....  
*The George R. Abbe Student Research Grant to support a student's research project in the areas of crustacean biology and fisheries management.*

*The Melbourne R. Carriker Student Research Grant to support a student's research project in any area of shellfisheries.*



*The Michael Castagna Student Grant for Applied Research to support a student's research project in the area of applied shellfisheries. The practical, applied aspects of the research should be highlighted.*

*The R. LeRoy Creswell Award for Outreach and Education recognizes students who have shown exceptional merit in outreach activities. It is based upon either support or recognition of student merit in any of the following categories: recognition of an outstanding oral or poster presentation on outreach/extension at the annual NSA conference; support of outreach/extension costs incurred by a student; recognition of an exceptional outreach/extension outcome by a student within the first year of their post-graduate work. Students may apply for this award or be nominated by advisors.*



*The Susan E. Ford Student Research Grant recognizes excellence in the areas of bivalve or crustacean mechanisms of defense against microbial and parasitic infection, including serum, mucus, and cellular processes for recognition, mitigation, or destruction of infective agents.*

**Deadline is the same every year - November 1<sup>st</sup>**

## ***Aquaculture '25 – Bigger and Better than Ever!***

The upcoming Triennial, will take place March 6 – 10, 2025 in New Orleans and promises to be an outstanding meeting. With 120 sessions and over 1300 abstracts, there will be something for everyone. The Trade Show is sold out. Yes, it's a big meeting, and that means a great opportunity to expand one's horizons, meet new friends and potential collaborators, and traverse one of the largest aquaculture trade shows available. There are well over 1000 abstracts to be presented in 120 sessions and a prominently displayed poster section.

Regular features of the NSA meetings will still be in play – including student-mentor activities, the Business Luncheon, and the Auction. Remember to bring your auction items and if you can't make it to the meeting, you can send your items directly to Sandy Shumway to support the effort. Hannah Collins and Emily Fuqua are working diligently with student representatives from other participating organizations to ensure a strong slate of functions to encourage student interactions, and many sessions have been organized to be of particular interest to students.

New Orleans is a fun and exciting venue – come and take advantage of all there is to offer!



***AQ Program Team***

## ***In Memoria***

**Jon Grant (Dec. 14, 1954 - Sept. 12, 2024)**

Link to obituary: [https://www.fredericknewspost.com/public/ap/jonathan-grant-oceanographer-and-outdoorsman-dies/article\\_34dca736-4a97-5833-be8f-250cdc5b7746.html](https://www.fredericknewspost.com/public/ap/jonathan-grant-oceanographer-and-outdoorsman-dies/article_34dca736-4a97-5833-be8f-250cdc5b7746.html)

Memorial contributions can be made to the Leukemia & Lymphoma Society of Canada (<https://www.bloodcancers.ca>)

**Michael J. Oesterling**

**(Jan. 4, 1949 - Oct. 23, 2024)**

Link to obituary: <https://www.legacy.com/obituaries/name/michael-oesterling-obituary?pid=207942444>

Memorial contributions can be made to Montgomery Hospice Casey House ([www.montgomeryhospice.org](http://www.montgomeryhospice.org))



## ***Honored Life Member Bios***

This is an on-going plea to get biographical information for Honored Life Members posted on our web page. We are still seeking bios for the following individuals, several of whom are the namesakes of our major awards. All of these individuals deserve recognition and newcomers to the field should have the opportunity to learn of their contributions. It's not an onerous undertaking and can be fun – please give it some thought. If you are interested in doing some digging and writing a short biography on any of these folks, please get in touch with Sandy Shumway (Sandra.shumway@uconn.edu). The article does not have to be long, just informative. Some information can be found in *Taming of the Oyster* and contacting individuals who knew the members could also prove rewarding. Check out other HLM bios available on the NSA website (<https://www.shellfish.org/honored-life-member-award>).

Jarvey W. Wiley  
Trevor Kincaid  
Pieter Korringa  
Hugh Smith  
Cedric Lindsay  
Paul S. Galtsoff  
H. Butler Flower

J.L. McHugh  
Walter A. Chipman  
Philip Butler  
Wesley Coe  
Robert Lunz  
R.E. Coker  
Ronald Westley



**Ballots are on their way. Watch your mailbox!**





## The Oyster Xpress - Australia's First Oyster Vending Machine a Success

Coffin Bay is renowned for its pristine waters and world-class oysters. There is a new way to enjoy your seafood while enjoying the scenery.

The concept originated from Ben Catterall, co-owner of Oyster HQ and Coffin Bay Oyster Farm Tours. Working with his business partner, Kim Thomas, Ben wanted to find a way to simplify seafood sales. "We do a lot of takeaway oysters and I thought of the vending machine idea," Ben said. "I did some research saw a similar concept in France."

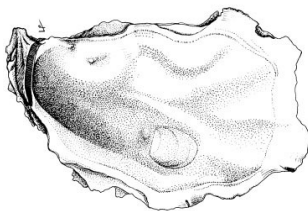


Photo credit: GlamAdelaide

Oyster Xpress, which launched in 2022, provides a unique 24/7 option for enjoying fresh seafood. It is the first seafood vending machine in Australia, and only the second one in the world. Oyster Xpress is located at Oyster HQ on the ramp nearby and is restocked regularly to ensure freshness. The vending machine works through an electronic keyboard and offers oysters, prawns, mussels, and other seafood. Customers choose the locker which includes the seafood they're after, push the number, and pay.

When speaking about the continued popularity of the machine, Ben joked, "it has won employee of the month for every month since it was installed."

Sources: GlamAdelaide (<https://glamadelaide.com.au/first-oyster-vending-machine-in-australia-launches-in-coffin-bay/>) and Fish Information Services/Seafood Media Group (<https://seafood.media/fis/worldnews/worldnews.asp?l=e&ndb=1&id=128819>)



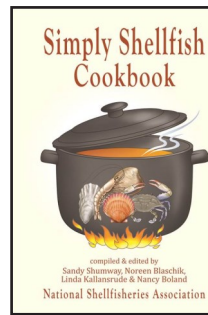
## The NSA store is open for Christmas!

**\$5 flat-rate shipping on all orders**

### Great stocking stuffers

Keep track of your favorite oyster tastings. Pocket-size and fits easily in a Christmas card!

\$5 or 3 for \$12



Cookbook: \$15 each or 3 for \$35

T-Shirts: short-sleeved \$12  
long-sleeved \$17

Hats: \$15

Pins: pewter: sm \$3, lg \$6  
gold: sm \$6, lg \$12  
tie tacs: \$12

### All proceeds benefit the Student Endowment Fund

### Consider a gift membership for your favorite student!

Contact Sandy to place your order



## NSA Student Endowment Awards Announcements



It's time to get ready for the 2025 Triennial Meeting in The Crescent City, New Orleans, Louisiana on March 6-10, 2025. While the collaboration of multiple organizations at these Triennial meetings brings special opportunities for broader networking and collaboration, the National Shellfisheries

Association will still maintain its own strong presence with all of the usual activities to support students through the contributions of the Student Endowment Fund.

### Student Travel Awards

As in past years, students were invited to participate in the Student Travel Award Lottery which provides students with either a registration or lodging waiver. The deadline for applications was November 1<sup>st</sup>, which was well publicized prior to the extension of the abstract submission deadline. In order to be eligible, students were required to have renewed their NSA membership by the lottery deadline.

Sixteen students were randomly chosen out of 26 eligible applicants. Ten students will receive a lodging waiver (5 shared rooms) and six will receive a registration waiver. The number of student applications still feels modest relative to the number of NSA student members, and students are strongly encouraged to apply for this support in future years, given the straightforward nature of the application process and good odds on receiving support. More details can be found here: <https://www.shellfish.org/sef-student-presentation-and-travel-awards>.

### Student Presentation Awards

At the Triennial meeting, the NSA will be adjudicating competitions for both its Thurlow C. Nelson (outstanding talk) and Gordon Gunter (outstanding poster) Presentation Awards. The winners of these awards will receive membership for two years in the Association and a certificate of accomplishment. Eligible students must have submitted their abstracts by the conference deadline (October 31, 2024) and sign up for or renew their NSA membership no later than December 31, 2024. Dues must be paid in full by the time of the conference.



### CALL FOR JUDGES!

The Nelson and Gunter student presentation competitions would not be possible without the generous contributions of time and expertise from the NSA member judges. If you wish to be a judge for these competitions at the meeting in New Orleans, please contact SEF Co-Chair Dr. Peter Kingsley-Smith at [kingsleymithp@dnr.sc.gov](mailto:kingsleymithp@dnr.sc.gov).

### SEF Committee Co-Chairs

**Peter Kingsley-Smith** ([kingsleymithp@dnr.sc.gov](mailto:kingsleymithp@dnr.sc.gov))  
**Melissa Southworth** ([melsouth@vims.edu](mailto:melsouth@vims.edu))

## Invasive Mussel Silk-like Byssus Could Inspire Sustainable Materials

A recent study investigated the multiscale fiber structure, formation process, and evolutionary history of the byssus of zebra and quagga mussels, a widespread, freshwater invasive species. Their findings could not only offer potential solutions to mitigate their environmental and economic impact of this invasive species, but also inspire novel polymer design.

Introduced in the mid-1980s into the lakes and waterways of North America, zebra and quagga mussels (belonging to the Dreissenid family) have caused substantial damage to the delicate ecosystems in these environments as well as to aquatic recreational and industrial activities. Gaining a deeper understanding of Dreissenid byssus structure-function relationships is important both for combatting biofouling and for providing a new role model for bio-inspired design.

Compared to other mussel lineages, little is understood about the proteins comprising their fibers or their evolutionary history. There is considerable variation in byssus fibers. *Mytilid* mussels build their byssus fibers from modified collagen precursors, *Tridacna maxima* produces fibers comprised of tetrameric coiled-coils, and *Ostreida* mussels (including *Pinna nobilis*) use globular proteins organized into superhelical nanofibrils.



Zebra and quagga mussels (*Dreissena polymorpha* and *Dreissena bugensis*). Photo credit: U.S. Fish and Wildlife Services.

Using Raman spectroscopy, ATR-FTIR (attenuated total reflectance Fourier transform infrared) microscopy, and synchrotron wide-angle X-ray diffraction (WAXD) on *D. polymorpha* and *D. bugensis* threads, results found that Dreissenid fibers possess beta crystalline structure resembling spider silk. In spider silks,  $\beta$ -crystallites are strengthening agents, and their combination with amorphous, extensible protein structure contributes to the exceptional toughness of silk. Further analysis of the Dreissenid fibers revealed that the beta crystallites are formed by fiber precursors of massive coiled-coil proteins. These massive coiled-coil proteins was the largest precursor ever discovered and appears to have been horizontally transferred from a bacterium at least 12 million years ago.

"This research not only advances our understanding of mussel evolution, but also presents an exciting opportunity for the development of novel materials," said Harrington, co-author and co-Director of McGill Institute of Advanced Materials. "Dreissenid byssus fibers, which resemble spider silk structurally, could inspire future development of tough polymer fibers, contributing to more durable and sustainable materials typically used in textiles and technical plastics."

Abstracted from the McGill Institute for Advanced Materials.

Simmons, M., Horbelt, N., Sverko, T., Scoppola, E., Jackson, D.J., and Harrington, M.J. 2023. Invasive mussels fashion silk-like byssus via mechanical processing of massive horizontally acquired coiled coils. *PNAS*, 120(48): e2311901120. <https://www.pnas.org/doi/full/10.1073/pnas.2311901120>.



# *Impact of Hurricane Helene on the Clam Culture Industry in Cedar Key, Florida*

*By: Leslie Sturmer, University of Florida/IFAS Shellfish Aquaculture Extension*

Hurricane Helene, a large and devastating tropical cyclone, caused widespread destruction and fatalities across the southeastern United States. It was the strongest hurricane on record to strike the Big Bend region of Florida on September 24, 2024, as a Category 4 hurricane with a storm surge of 13.1 feet at Cedar Key. By comparison Hurricane Idalia, which made landfall in the same location on August 30, 2023, had a storm surge of 10.9 feet.

The hard clam culture industry centered around Cedar Key, Florida, sustained significant damage to crops and infrastructure from both hurricanes. This spring and summer, hatcheries across the state pushed to make clam seed available for growers with over 250 million seed planted. Clams in nursery bags or recently transferred to grow-out bags were most vulnerable to the storm surge. Accumulated sediments in the bottom bags were washed away resulting in bags, planted in rows, being pulled up, twisted, tangled with debris, or just missing. Efforts were made in replanting bags so seed bunched in one section could be redistributed. Even with these efforts to save new crops, mortalities are anticipated to be high, as handling of animals in hot water temperatures adds to the stressors.

Growers are assessing losses of clams planted in 2023, which are harvest size now. Mortalities, estimated to exceed 75%, are cumulative as these crops went through three hurricanes. The third, Hurricane Debby, made landfall in the Big Bend as a Category 1 storm on August 5, 2024. These losses impact another industry sector – local shellfish wholesalers. Processing plants were inundated with seawater even those located eight or more miles inland. Concerns are of market disruption as product will not be available to meet demand over the next year or two.

In addition, other ancillary businesses were impacted. Two hatcheries located in greenhouses were bulldozed to the ground. Another housed in a better structure is still standing, but the water was 8 feet inside resulting in damage to tanks, electrical system, etc. Likewise, land-based nurseries, mostly located on aquaculture docks, have been damaged. A floating nursery, which has sustained numerous storms in the past with a capacity to nurse over 20 million seed, was washed away; about half of the weller tanks were recovered from nearby marshes. Another business, which sews the polyester mesh culture bags for growers throughout the region lost over \$50,000 in sergers and inventory.



*Damaged clam culture bags on leases in Cedar Key after Hurricane Helene. Photo credit: Jonathan Miller.*



*Clam hatchery in Cedar Key destroyed by Hurricane Helene. Photo credit: Leslie Sturmer*

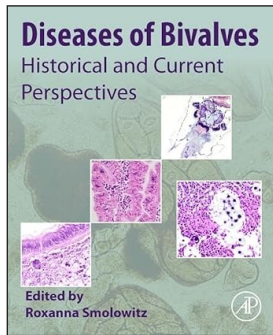
The few oyster farms in the area were also severely affected as floating gear is most vulnerable to storms. Even oyster growers in the Panhandle reported missing bags from their longlines.

Clam farming is a major industry in the Cedar Key area with over 180 growers supporting some 400 jobs in this historic working waterfront community. The local growers' association has held routine meetings to assess losses, identify needs, and inform State and Federal legislative delegations and agencies. As such, there have been unprecedented recovery efforts due to the awareness of the economic importance of this industry. A Dislocated Worker Grant funded through the U.S. Department of Labor is providing temporary employment to growers and their workers. Over \$8.5 million in wages have been paid for cleaning and replanting leases. This is the first application of these disaster funds for aquaculture. Specialists with the Federal Emergency Management Agency (FEMA) have visited Cedar Key to learn about shellfish aquaculture and identify gaps in both short-term and long-term disaster assistance. Payments for crop losses through the USDA

Farm Service Agency's Emergency Assistance for Livestock, Honeybees, and Farm-raised Fish Program (ELAP), which was first available to aquaculturists in 2022, were made six months after Hurricane Idalia, and are expected to cover losses due to Hurricane Helene. Although there are still many hurdles for the industry to overcome, there is a sense of community as members begin rebuilding. But it will take time, perseverance, resources, and financial assistance.

## New Book: Watch for Upcoming Review

*Diseases of Bivalves: Historical and Current Perspectives*. Edited by Roxanna Smolowitz.



This book covers all known diseases of cultured and fished bivalve molluscs from around the world. The author presents a historical perspective of disease discovery, explaining when and where each disease first occurred and identified to current research findings. This reference describes the infectious agent that causes each disease and environmental conditions that promote infection symptoms and signs of the disease

in the host, both as noted in individual animals and in the affected populations, and resultant morbidity and mortality of infected populations. The book offers past and current possible prevention and management methods to control disease in current and projected geographical locations. This is a complete resource for aquatic and veterinary pathologists, aquaculturists, government regulators, disease specialists and researchers, bivalve researchers, and students alike. Diseases include Metazoan Disease, Viral diseases, Fungal Disease, and more.

## This is your Newsletter

Your story should be here!



Submit material or ideas to

Steve Allen

([stevenmallen@gmail.com](mailto:stevenmallen@gmail.com))

or Noreen Blaschik

([Noreen.blaschik@uconn.edu](mailto:Noreen.blaschik@uconn.edu))

## Mysterious Sea Urchin Plague Spreading in the Mediterranean

A continuing study from Tel Aviv University has found that the deadly epidemic discovered last year, which has essentially wiped out Eilat's most abundant and ecologically significant sea urchins, has spread across the Red Sea and into the Indian Ocean.

In early 2022, the first reports of mass urchin mortality, in a species called *Diadema antillarum*, came from the Caribbean Sea. Investigators pinned it on a scuticociliate parasite, a single-celled organism with a track record of causing diseases in sharks, fishes, and crustaceans. By late 2022, urchins were dying en masse off the coast of Greece. Within four months, the die-off spanned 1000 kilometers of coastline in the eastern Mediterranean Sea.

Omri Bronstein (Tel-Aviv University) and a group of researchers began tracing the advance of the mysterious sea urchin plague down the Gulf of Aqaba in early 2023. By late April, the outbreak caught up to his team along Egypt's Sinai Peninsula. Within days, every urchin in the area was dead. "Even sea urchins raised in seawater systems at the Interuniversity Institute for Marine Sciences in Eilat, or at the Underwater Observatory, were infected and died, after the pathogen got in through the recirculating seawater system" explains Bronstein. As a result, their research team was able to document all stages of the disease—from infection to the inevitable death—with a unique video system installed at the Interuniversity Institute for Marine Sciences in Eilat.

Dr. Bronstein emphasizes, "This is a growing ecological crisis, threatening the stability of coral reefs on an unprecedented scale. Apparently, the mass mortality we identified in Eilat back in 2023 has spread along the Red Sea and beyond—to Oman, and even as far as Reunion Island in the Indian Ocean." Dr. Bronstein explains that sea urchins, and specifically diadematoids (the sea urchin family affected by the disease), are considered key species essential for the healthy functioning of coral reefs. Acting as the reef's 'gardeners,' the sea urchins feed on the algae that compete with the corals for sunshine, and prevent them from taking over and suffocating the corals.



An infected sea urchin (*Diadema setosum*), will die within days. Photo credit: Jean-Pascal Quod.

According to Dr. Bronstein, there is currently no way to help infected sea urchins. He suggested maintaining broodstock populations of endangered species in cultivation systems disconnected from the sea—so that in the future they will be able to be reintroduced into the natural environment.

Abstracted from Science, Vol 384, Issue 6699.

Roth, L., Eviatar, G., Schmidet, L.-M., Bonomo, M., Feldstein-Farkash, T., Schubert, P., Ziegler, M., Al-Sawalmih, A., Abdallah, I.S., Quod, J.-P., & Bronstein, O. 2024. Mass mortality of diadematoid sea urchins in the Red Sea and Western Indian Ocean. *Current Biology*, 34(12): 2693-2701. DOI: [10.1016/j.cub.2024.04.057](https://doi.org/10.1016/j.cub.2024.04.057).



## Recruits Corner

Fellow Recruits,

Happy fall! As the winter approaches, we are gearing up for the upcoming Aquaculture 2025 meeting being held at the New Orleans Marriott in New Orleans, Louisiana from March 6 - 10, 2025.

We hope you submitted abstracts and applied for the Student Research Grants and Student Endowment Fund Travel Awards. **Early-bird registration for the meeting ends February 7<sup>th</sup>**, so register now! Discounts are available for NSA students, so renew your membership by December 31<sup>st</sup>.



We are hosting a number of student-focused events, including an exciting field trip to the Audubon Aquarium/Insectarium, Mentor-Mentee breakfast, and a 'student night out' in New Orleans. All of these events will include students from all organizations of the Triennial-NSA, WAS, and AFS-Fish Culture Section! Attendance for some of these events will be capped due to funding, so make sure watch for emails announcing deadlines and event sign ups!

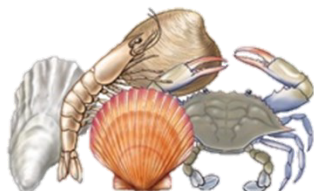
Additionally, we are both happy and sad to announce, this will be Hannah's last year as a Student Recruit Co-chair, and we are looking for another student to join Emily next year to help plan our graduate student events. This position is a fantastic networking opportunity and a CV builder. The Student Recruits Co-chair is a 2-year position, so candidates will need to be able to attend the 2026 (Portland, Oregon) and 2027 (Baltimore, Maryland) NSA Annual Conferences. If you have questions, please reach out, and if you are interested please send Hannah and Emily your CV and short statement of interest in the position by Monday, December 16<sup>th</sup>.



Make sure to connect with the NSA online to stay on top of updates about the conference, deadlines, announcements, and more through the Student Recruits Facebook group (<https://www.facebook.com/groups/2216454881732029>), on Instagram (@nationalshellfisheries), and now on LinkedIn ([www.linkedin.com/in/national-shellfisheries-association-5b9667300](http://www.linkedin.com/in/national-shellfisheries-association-5b9667300)).

Please feel free to contact us with ideas, questions, or concerns!

**Hannah and Emily**  
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[efuqua@fsu.edu](mailto:efuqua@fsu.edu)



## AUCTION ITEMS WANTED

Time to clean out some of those treasured tchotchkes and share with your fellow collectors. Remember – anything shellfish or fish goes at this meeting!



Bring to New Orleans or send ahead to Sandy Shumway (address on back)

## SAVE THE DATES

118<sup>th</sup> NSA Annual Meeting  
Mar. 22-26, 2026. Portland, Oregon

119<sup>th</sup> NSA Annual Meeting  
Mar. 21-25, 2027. Baltimore, Maryland

120<sup>th</sup> NSA Annual Meeting - Triennial  
2028 - Watch for details



## NSA Pacific Coast Section News

Greetings from the West Coast, with a crisp in the air and snow on the peaks, Fall is quickly becoming winter. All is well here in the Pacific Northwest. The National Shellfisheries Association Pacific Coast Section (NSA-PCS) and Pacific Coast Shellfish Growers Association (PCSGA) hosted the 78<sup>th</sup> Annual Shellfish Conference and Tradeshow on September 10-12, 2024, in Lynnwood, WA at the Lynnwood Event Center. The conference was well attended with almost 400 registrants. The tradeshow showcased 29 vendors highlighting the latest technologies in aquaculture. Noplex featured a delicious signature cocktail called “Stormy Night”.

The conference included more than 80 oral presentations across 30 sessions as well as workshops. Workshops included: ‘Ask a Hatchery Dude’, ‘Up in the Restaurant’, and ‘Ladies in Aquaculture’ which allowed for the sharing great tips and great conversations. The Keynote Speaker was Loni Grinnell-Greninger, Vice Chair of the Jamestown S’Klallam Tribe. The 2024 Legends in Shellfish Speaker was Bryan Rackley, Oyster Bar manager and co-owner of Kimball House in Atlanta. The Luncheon Speaker was Tommy Gomes, an award-winning fishmonger from San Diego, who travels to highlight seafood on his show “The Fishmonger”. All were enjoyable and fun.



The NSA-PCS provided funding to support the participation of students at the conference. Student participation was up again this year, with 34 students presenting. The 2024 NSA-PCS Outstanding Student Presentation award went to Westley Hull (University of Washington), who presented, “Burrowing shrimp density is a strong predictor of oyster performance via direct sediment burial”. There was a tie for runner up and that was awarded to Hollis Jones (UC Davis) who presented, “Air priming as a management tool for transitioning hatchery produced oysters to the intertidal zone” and to Alex Marquardt (VIMS) who presented, “Oyster reef recovery: responses to shell replenishment on public fishing grounds”. All the students did a wonderful job presenting their research and we look forward to hearing more

next year. Additional support for students to attend the conference was generously provided by the Arcadia Point Seafoods, Chelsea Farms, Chuckanut Shellfish, Rock Point Oyster Company LLC, Jorstad Creek Oyster Co., Whiskey Creek Shellfish Hatchery, and Hama-Hama. A big shoutout to all the sponsors for the students. I want to encourage students to think about presenting their research next year and reach out if you have any questions. This year the NSA-PCS and PCSGA are pleased to jointly offer the Kenneth K. Chew Student Research Grant, a competitive grant that provides \$1,200 to a graduate student to support their research. This year’s winner is Julia Grenn (VIMS), for her project entitled, “Exploring the effect of husbandry decisions, water velocity, and co-culture on microhabitats in commercial shellfish aquaculture”. To apply for the Kenneth K. Chew Student Research Grant next year, please reach out to the NSA-PCS for an application.

The NSA-PCS also held their first 1-mile fun run, the “Half-shell Shuffle”. There was great participation and we are looking forward to doing it again next year. The combined silent auction was successful for all and a lot of fun. NSA-PCS proceeds from the auction, individual donations, the student fundraiser, and registration fees totaled more than \$4,000. These funds will help the NSA-PCS to sponsor students attending future meetings. Thank you to all who donated, participated, and ran those bids up.

The NSA-PCS had its Annual Business Meeting during the 2024 conference. There were 35 NSA-PCS members at the luncheon. Elections were held for the Vice Chair, Member-at-Large (ML) #1 and back filling ML positions #2 and #3. The results are: Courtney Hart is Vice Chair, Margaret Homerding will continue in ML#1, ML #2 is Hollis Jones and ML #3 is Maddie Hicks. Welcome to the new members. The current Board now stands at, Chair: Sandy Zeiner (Northwest Indian Fisheries Commission); Vice Chair: Courtney Hart (Port Gamble S’Klallam Tribe); Secretary: Laura Butler (WA Department of Agriculture); Treasurer: Laura Spencer (Washington University); and Members-at-Large: (1) Margaret Homerding (Nisqually Indian Tribe); (2) Hollis Jones (University of California - Davis), and (3) Maddie Hicks (Swinomish Indian Tribal Community). Thank you fellow board members for your time and support.

The NSA-PCS Board held Zoom meetings on March 13 and August 6, to discuss budget, student volunteers and the 2024 conference logistics. A post-conference wrap-up session with PCSGA was held on October 24, 2024 by Zoom. The 2025 Conference Planning Committee will meet in January 2025 to plan the 79<sup>th</sup> Annual Shellfish Conference and Tradeshow, which will be held September 9-11, 2025, in Vancouver, Washington at the Hilton Vancouver Washington. The call for presentations will open May 15, 2025. You can find more information at: <https://pcsga.org/annual-conference> or follow the NSA-PCS on Facebook.

Have a wonderful and safe winter, and I hope to see you in New Orleans this spring.

**Sandy Zeiner**  
**Pacific Coast Section Chair**





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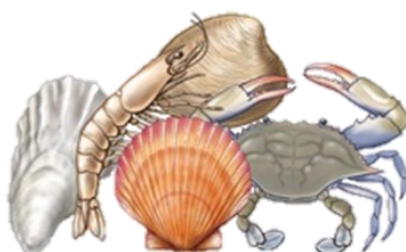
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## Upcoming Events

**44<sup>th</sup> Milford Aquaculture Seminar:** Jan. 13-15, 2025. Shelton, Connecticut. For more information: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/aquaculture/milford-aquaculture-seminar>

**Aquaculture 2025 (Triennial):** Mar. 6-10, 2025. New Orleans, Louisiana, USA. For more information: [www.was.org](http://www.was.org)

**79<sup>th</sup> Annual Shellfish Conference and Tradeshow:** Sept. 9-11, 2025. Vancouver, Washington. For more information: <https://pcsga.org/annual-conference>

**NACE/Milford Aquaculture Series:** Jan. 7-9, 2026. Portland, Maine, USA. For more information: <https://www.northeastaquaculture.org/>

**118<sup>th</sup> NSA Annual Meeting:** Mar. 22-26, 2026. Portland, Oregon, USA. For more information: [www.shellfish.org](http://www.shellfish.org)

If you would like to announce a meeting, conference, workshop, or publication of interest to NSA members, please contact the *QNL* Editor, Steven Allen ([stevenmallen@gmail.com](mailto:stevenmallen@gmail.com)).

