

THE MASTHEAD

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Mid-Atlantic Marine Education Association

From the Captain's Quarters

A Salute to an Icon in Marine Education

I'd like to take this opportunity to salute Vicki Price Clark, marine educator extraordinaire, as she happily enters a new phase in her life – retirement. Yes, that's correct! For those of you who had not yet heard the news, Vicki retired as Marine Education Leader at VIMS Advisory Services/ VA Sea Grant Extension effective July 1.

When I started as a marine education specialist at VIMS more than 14 years ago, I could not possibly have realized my good fortune in beginning a career under the tutelage of one of the most dedicated, enthusiastic and fun marine educators around. Quick with a smile and funny story, Vicki lights up a room and makes everyone feel at ease. Over her 19-year career at VIMS as a marine educator, she has worked with all audiences from high school teachers to scientists to culinary students. No matter her audience, Vicki's ability to engage all and share her passion for marine science is inspiring.



Through her leadership, Vicki helped to make MAMEA, NMEA and the Sea Grant Educators Network the strong organizations they are today. She served as Secretary of MAMEA from 1986-1988, President of MAMEA in 1992, President of NMEA in 2002, and Chair of the Sea Grant Educators Network in 2009-2010. She was honored with the MAMEA Non-Traditional Educator Award in 1988 and NMEA's James Centorino Award in 1989.

Vicki has not gone far since retiring. Aside from occasional jaunts to North Carolina and New Orleans, she and her husband Kemp still reside in New Kent County, VA with Red Dog, Lucky Norman, Turtle Boy and a host of felines. She promises to continue to make appearances (hopefully at a MAMEA conference or two!), but her daily involvement in the marine education world will be sorely missed.

Vicki, as you embark on your next adventure, I'd like to wish you good luck and thank you on behalf of MAMEA and myself for everything – your guidance, your support and most of all your friendship.

Lisa Ayers Lawrence
MAMEA President

The MAMEA Board of Directors meets twice a year. If you are interested in serving on the Board, please visit www.mamea.org/board.html.

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From the Editor

Greetings MAMEA!

It was great seeing so many MAMEAns at this year's National Marine Educators Association conference at the University of Alaska Anchorage in late June. Twenty seven of our members were in attendance; showing the rest of the chapters just how dedicated our region is to marine education. I am proud to announce that our MAMEA chapter basket fetched the highest bid amount of all of the chapters—way to go Tami Lunsford and David Christopher for organizing that. Take THAT FMSEA (Florida Marine Science Education Association; our perennial auction basket rival)! Many of the attendees went on some pretty amazing adventures either before or after the conference (or both!), seeing bears, moose, whales, birds, and so much more.

As you start to plan your school year, don't forget to block off October 12-14, which is this year's MAMEA conference. President-elect Kathy Fuller and her conference committee have been working tirelessly to put together an enriching and exciting conference at the University of Maryland Horn Point Lab, in beautiful Cambridge, Maryland. There is a full slate of great concurrent and plenary sessions, as well as the Share-a-thon/Sand Swap, all sorts of auction items, and some fantastic networking opportunities. Rumor has it that both Terri Kirby Hathaway AND JoAnne Powell will be in attendance—this dynamic duo always makes a great MAMEA conference even better! Now if we can just convince the newly retired Vicki Clark to join us, we will have the perfect storm of “edutainment.”

In this issue of *The Masthead*, you will hear from several of our Board and committee members on upcoming initiatives and some of this summer's highlights. Starting things off, MAMEA President, Lisa Lawrence, reflects on the aforementioned retirement of Vicki Clark—a spectacular educator, an incredible mentor, and just a fun person to be around.

- Chris Petrone

The Masthead is the official newsletter of the Mid-Atlantic Marine Education Association (MAMEA) and produced quarterly with support from:



MAMEA is one of 17 regional NMEA chapters. To become a member of NMEA, please visit



www.marine-ed.org

Seeking a new editor

After four years of putting the *Masthead* together, editor Chris Petrone is interested in stepping down from the position in order to assume other roles in both MAMEA and NMEA. Therefore, MAMEA is seeking a new, creative, outgoing individual, with an interest in compiling, editing, and publishing the quarterly newsletter.

If you are interested in possibly taking on a role in the production of the *Masthead*, you are encouraged to contact Chris (petrone@udel.edu) or MAMEA President Lisa Lawrence (ayers@vims.edu).

Awards Committee Seeks Nominations

by Megan Ennes, MAMEA Awards Chair

It's that time again to nominate your favorite educators for an award. MAMEA sponsors two annual awards to recognize outstanding efforts by marine educators in our region:

- One award honors a formal classroom teacher, K-16, primary through college;
- The other acknowledges an educator in an informal setting, such as museum, aquarium, zoo, science center staff or employees with government agencies.

Eligibility Criteria

Nominees should be individuals who have:

- **Been a MAMEA member for at least one year**
- Demonstrate a commitment to marine education
- Excel as educators
- Develop and use innovative marine education materials
- Share information with colleagues
- Promote marine education professionally

Past Recipients

The awards are presented at MAMEA's annual conference. See [Past Award Recipients](#)

Nominations Procedure

Nominations are due by the end of August. Nominators are encouraged to use the following on-line form, or may send nominations materials to Megan Ennes, MAMEA Awards Chair, NC Aquarium at Fort Fisher 900 Loggerhead Rd Kure Beach, NC 28449; megan.ennes@ncaquariums.com.

Need Funds for your School Year Projects?

by Carol Hopper Brill, MAMEA Grants Chair

Apply for a MAMEA Grant by September 15!

MAMEA supports its members' innovative marine and aquatic education projects each year through its Educational Project Grant Program. Two grants (up to \$1,000 each) are available annually, one for formal educators (classrooms, K-16) and one for informal educators (museum, aquarium, science centers, government agency staff).

To be eligible for a MAMEA Educational Project grant, applicants must be current MAMEA members with at least one year's membership. Grant applications are due by September 15, 2012 and Awardees are announced at the annual conference in October. The funding period is November 1 to October 31 of the following year; Mid-year and Final Reports are required.

For further information about the Grant application process, visit the MAMEA website: www.mamea.org/minigrant.html. Questions? Contact Grants Chair Carol Hopper Brill at chopper@vims.edu. And, read about the 2011/12 grant projects elsewhere in this Masthead issue.

MAMEA 2012 Conference Update

by Kathy Fuller, MAMEA President-elect

The 2012 Annual MAMEA Conference is shaping up. Invited speakers, concurrent speakers and field trips have been finalized! We are looking forward to hosting everyone in less than two months.

Don't forget to book your hotel room at the Holiday Inn Express Cambridge by September 12th. If you are planning on staying in the on campus cabins, please keep in mind that cabin housing is limited.

Although all of the presentation slots have been filled, Poster Session applications are still being accepted through August 31st.

Registration information is now available at www.mamea.org/registration.html.

Please note that a NMEA2014 planning meeting is scheduled for Sunday morning from 9:00 am-12:00 pm. All are welcome to attend and contribute!

Look for more information after Labor Day on the MAMEA website or contact Kathy Fuller, MAMEA President-Elect at kfuller@aquas.org, 410-576-3888.

Field Trip Information

~ Friday, October 12 ~

Nature Cruise and Tour of Phillips Wharf Environmental Center

2:00 -4:00 pm Chicken Point Road, Tilghman, MD (approximately 1 hour drive from Horn Point)

Experience the Bay's treasures right on Tilghman's Island as you get back to nature on the ***Express Royale***. Enjoy a relaxing environmental learning adventure on our 90-minute narrated cruise, plus a tour of Phillips Wharf Environmental Center. Glide quietly past local watermen and witness them harvesting the bountiful seafood of the Chesapeake Bay area. Bring your camera, binoculars will be supplied.

Fee: \$30.00

Canoeing the Choptank River

11:30 am-3:30 pm from Horn Point Lab campus

Join American Canoe Association Canoe Instructor Frank Marsden for a leisurely paddle in the creeks and coves along the Choptank River. Canoes, paddles and life vests will be supplied.

Fee: \$15 .00

~ Sunday, October 14 ~

Poplar Island Tour

11:00 am-2:00 pm from Tilghman Island, MD (approximately 1 hour drive from Horn Point)

Witness the restoration of Poplar Island first hand during a tour of the island. Participants will take a short boat ride to the island and tour by bus. Not only will participants learn more about the restoration efforts, but the tour also offers excellent wildlife viewing opportunities. Bring lunch.

Fee: \$5.00

MAMEA 2012 Conference Update (con.)

MAMEA 2012 Annual Conference Schedule

Friday, October 12

Optional Field Trips

9:00 am – 12:00 pm MAMEA Board Meeting

11:00 am – 5:00 pm Registration open

5:00 – 5:45pm Welcome Social

6:00 – 6:45pm Dinner

6:45 – 8:00pm Invited Speaker – Greg Kearns

8:00 – 9:30pm Social Time

Saturday, October 13

7:30 – 9:00 am Registration Open

8:00 – 8:30 am Breakfast for on campus residents

8:30 am Welcome and Morning Briefing

9:00 – 10:00 am Invited Speaker – Laura Baker

10:15 – 11:00 am: Session I

11:15 – 12:00 pm: Session II

12:00 – 1:00 Lunch and Business Meeting

1:00 – 2:30 pm: Horn Point Lab Open House

2:45 – 3:30 pm: Session III

3:45 – 4:30 pm: Session IV

4:30 – 4:45 pm Break

4:45 – 5:30 pm Posters, Share-a-thon, & Sand Swap

5:30 – 7:30 pm Silent Auction

6:00 – 7:00 pm Dinner

7:30 – 8:30 pm Live Auction

8:30 – 10:00 pm Campfire

Sunday, October 14

8:00 – 8:30 am Breakfast for on campus residents

9:00 am – 12:00 pm NMEA 2014 Meeting (Dining Hall)

11:00 am – 2:00 pm Optional Field Trip to Poplar Island OR Visit Cambridge Area on Your Own

See you in Cambridge!

MAMEA 2011-12 Grant Projects Enhance Student Understanding of Bay Organisms and Resources

MAMEA's grants for 2011/12 led to greater student engagement and built understanding of the Chesapeake's marine organisms and their importance as resources. The following reports from the grantees demonstrate their accomplishments this past school year, as well as how their projects will continue to reach students in the years ahead.

Classroom Education Grant:

Judy Gwartney-Green, Peasley Middle School, Gloucester, VA.

When a tornado hit their school in 2011, Judy — a 7th grade life science teacher — and her colleague, Sherry Rollins, lost the classroom aquaria they had used so productively in teaching and they had to start over at a different school.

Thanks to the MAMEA grant, my teaching partner, Sherry Rollins, and I were able to replace the aquaria we found so useful in instruction. In our respective classrooms, we both set up two experimental tanks that first housed juvenile blue crab and later juvenile flounder experiments designed by Sarah McGuire of the Chesapeake Bay National Estuarine Research Reserve-Virginia. Each classroom also had a "Bay Tank" with bay organisms that students collected from the field.

Early in the fall, before being awarded the MAMEA grant, McGuire generously loaned us aquaria to begin our crab growth experiments. Students collected juvenile blue crabs while on a field trip. Back in the classroom, they measured the carapace width of the crabs and distributed them into two aquaria in each of the classrooms. In each set up, one aquarium contained oyster shells, simulating an oyster reef habitat, while the other aquarium contained ribbon, simulating an eel grass habitat. Students carefully monitored the growth and mortality of the blue crabs in each of the tank "habitat" types; crab diet was the same in both habitat treatments.



For two Peasley Middle School 7th grade life science classrooms, a MAMEA grant helped replace aquaria destroyed by a tornado.

Aquaria purchased with the MAMEA grant arrived in time to begin our juvenile summer flounder experiment in the spring. Students collected juvenile summer flounder in the field, then measured body length and divided the fish between the two aquaria in each of our classrooms. The habitats were identical in all aquaria, but the diet provided to the fish was the variable for this experiment. In each classroom set up, the flounder in one aquarium were feed brine shrimp, while the flounder in the other tank received blood worms. Students carefully monitored the growth and mortality of the fish over several weeks.

The "Bay Tank" in each of our classrooms contained diverse bay organisms collected by students during field excursions. We had skillettfish, mummichogs, gobies, hermit crabs, mud snails, grass shrimp, and polychaete worms. Students enjoyed watching and learning about the organisms in their aquaria as they fed and cared for them. For many students, the tank was their first stop as they entered the classroom each day.



Students measure flounder length to monitor their growth on two different diets.

Thanks to these aquaria and the organisms they contained, students learned a multitude of concepts. They collected and recorded data, learned about experimental design, including independent variables, dependent variables, constants, controls, repeated trials and experimental error. They monitored water quality and learned about food webs. Most importantly, they learned about the needs of different organisms, their habitats and how humans impact them. The connections students made with these organisms have started them on a path to becoming better stewards of the bay.

MAMEA 2011-12 Grant Projects (con)

Our students play, work and live on the Chesapeake Bay. It seems only logical to teach life science, and marine science, through examples from our own backyard. These lessons and the aquaria that support them are staples in our classrooms, we have used them for years to teach life science curriculum. Thanks to the MAMEA grant we will be able to continue to share the excitement and learning with students for many years to come.

Informal Education Grant:

Kelley Cox, Phillips Wharf Environmental Education Center, Tilghman, Maryland.

Chesapeake Bay advocate Kelley Cox wanted to help students and other visitors to Phillips Wharf Environmental Education Center appreciate the cultural heritage and scientific aspects of fishing methods in the Bay. With her grant, she developed a lesson plan about pound net fishing and a life-size pound net for a first-hand experience that informs, inspires and involves.

Thanks to the MAMEA Grant, we purchased materials for our life-size pound net model. The net has been assembled and we've created the role-playing "Pound It" activity to go with our Fisheries Management unit. We had an opportunity to pilot the activity at the Maryland Association for Environmental & Outdoor Education (MAEOE) Green School Summit in June. This initial testing showed us where we'll want to do some tweaking, but the activity worked pretty well!

In "Pound It," students play the roles of both fishermen and fish. We have several students swim in a school towards the net and when they hit the leader, they stream down into the net funnel. As they passed through the funnel of the net, each fish/student drew a "Pound It" card which told them what type of fish they were and what was happening to them. Once trapped in the heart of the net, students have to twirl around five times to show that the fish swim around in circles and then can't find their way out past the heart.

On the outside of the net, a student – wearing white boots — played the role of a waterman. For each fish the waterman catches he/she gets a token. The fish may be caught and sold. But, if they are by-catch and not in season, they are released. If the wind blows in a certain direction for several days, there is no water circulation in the net and the fish die from anoxia. If the waterman draws an endangered species card, they have to alert appropriate authorities, calling the sea turtle hotline or, if a sturgeon has been caught, the US Fish and Wildlife.

Each group of students "fishes" the net for five days and tallies up the catch to see if the waterman has caught enough fish to feed his/her family. We discuss if there are better ways to catch fish, what else the waterman might do to make money for his family, and how fishing affects the fish population in the Bay.



Students/fish now trapped in the heart of the net are tallied.

At the Green School Summit, we were encouraged by the positive response from educators; there were many comments about how creative and new this activity was. So, we are excited as we continue our work on this program. We thank MAMEA so much for its support and we look forward to sharing the activity with our local schools in the school years to come.



The pound net leader intercepts fish and directs their movement toward the funnel of the net.

Our plan is to get our Fisheries Management program into the Talbot County 9th Grade Environmental Science Curriculum. So we are working on fitting the program to the Maryland Environmental Literacy Standards. We would like to have classes come to Tilghman's Island where they can also see a real pound net being fished, do some water quality testing and fish anatomy studies at Phillips Wharf Environmental Center, and learn more about the menhaden fishery. We are drawing from Project Wild Aquatic for pre- and post-activities, including: Net Gain/Net Effect; Fishy Who's Who; Hooks and Ladders; Water We Eating?; and Fishable Waters.

NMEA Update

by Tami Lunsford, MAMEA's NMEA Representative

It has been a very busy few months for NMEA! The annual conference was held in Anchorage in June, and it was a great week. Twenty-seven MAMEA members were there—so we were, once again, one of the best-represented chapters. That was particularly impressive as this was the furthest possible conference location for us!



Here are some of the big accomplishments and changes in NMEA this summer. There was a big push to increase the membership benefits for NMEA members this year and MAMEA rose to the charge in typical MAMEA fashion. There are now 20 organizations who offer discounts to NMEA members, ranging from 10% off admission or the gift shop to free admission. Eleven of these are on the East coast, and four are in the MAMEA region. The four in MAMEA are all of the North Carolina Aquariums (Roanoke Island, Pine Knoll Shores, Fort Fisher, and Jennettes Pier) and they are offering their discount (10% off admission) to all NMEA and MAMEA members! We want to offer huge thanks to the North Carolina Aquariums for their generosity and for recognizing the benefits of partnering with NMEA and MAMEA. Does your organization want to be part of this great new program? If so, contact Tami Lunsford, the MAMEA Representative to NMEA! Please note that the MAMEA Board is currently working out a plan to issue membership cards to our members so you can get the discount if you are not also a member of NMEA, but if you need proof of MAMEA membership soon to use your discounted admission, please contact a MAMEA Board member for help!

The entire NMEA Ocean Literacy community rallied to try to strengthen the representation of ocean sciences in the new standards by commenting on the Next Generation Science Standards. Be on the lookout for the next draft of the standards so we can see how the hard work paid off. In addition, two resolutions were passed by the NSTA Board and Council: 1) having NSTA encourage the inclusion of marine and aquatic organisms and ecosystems in the Life Science performance expectations in the NGSS; and 2) encouraging NSTA to develop a position paper on marine and aquatic science. It has taken many years for NMEA to be recognized at this level by NSTA, and it represents a significant achievement for us all.

Finally, NMEA has recently signed a contract with Conservation Enterprises Unlimited, and specifically with Julie Childers Henry, to serve as NMEA's Marketing/Communications consultant for the next two years. Julie is working with the NMEA Board and chapters (including MAMEA, of course) to help with brand recognition, consistent messaging, and increasing membership. We look forward to hearing her input and improving our regional and national organization and impact over time!

NMEA 2014 Update

by Tami Lunsford & David Christopher, NMEA2014 Co-chairs

Things are moving forward with the planning for NMEA 2014 in Annapolis, Maryland! In the last several months, we have received some budget guidance from the NMEA Board, designed and distributed our first advertisement, and officially opened a separate checking account for the conference. The advertisement was a postcard with our official logo designed by Delaware Sea Grant & University of Delaware graphic designer, Tammy Beeson, who based her design on the winning logo from our student logo contest, which was run earlier this year. The postcards are gorgeous and were distributed to all attendees at the NMEA 2012 conference in Anchorage. Big thanks to Lisa Lawrence and Chris Petrone for all their help in overseeing that project!



We also have a Facebook page ([facebook.com/NMEA2014](https://www.facebook.com/NMEA2014)), a Twitter handle ([@NMEA2014](https://twitter.com/NMEA2014)), and a Twitter hashtag (#NMEA2014)! We are helping NMEA join the 21st century, thanks to Chris Petrone and his forward-thinking.

Our next planning meeting will be held on Sunday, October 14, in conjunction with the MAMEA annual conference in Cambridge, Maryland. We hope to see many MAMEA members there. Details will be shared at the conference. If you cannot attend, but have ideas, input, comments, or suggestions, please contact one of the co-chairs (Tami Lunsford at tami.lunsford@gmail.com or David Christopher at dchristopher@aquas.org) or visit our wiki (www.nmea-2014.wikispaces.com).

Mid-Atlantic Research Update

The following articles are from marine research institutes around the Mid-Atlantic.

[Shipwreck mystery solved: Lewes wreck found to be W.R. Grace, ship destroyed in 1889 hurricane](#) – **University of Delaware** researchers have discovered that a shipwreck near the coast of Cape Henlopen is a 215-footlong sailing vessel destroyed by a hurricane more than a century ago. Scientific surveys and historical records indicate that the wreck is the *W.R. Grace*, a three-masted ship that ran aground during a hurricane on Sept. 12, 1889.

[Fish farming research to get real-world tryout](#) – A technique developed by **University of Maryland** scientists for cultivating seafood indoors is slated to get its first real-world tryout under a licensing agreement with a newly formed Baltimore company.

[Genetics lab to enhance marine research](#) – The \$6.75 million, 12,000 sq.-ft. Orrin Pilkey Marine Sciences and Conservation Genetics Center at the **Duke University** Marine Lab will open Fall 2013 with new lab space designated for genetic marine science. The architectural design incorporates concerns such as sea level rise and hurricanes, and may receive LEED platinum certification for sustainable building practices. The Board of Trustees approved the construction at its meeting in May.

[VIMS reports record number of young scallops in Mid-Atlantic](#) – Recent surveys by researchers at the **Virginia Institute of Marine Science** reveal an unprecedented number of young scallops in 2 fishery management areas off the mid-Atlantic coast. The high levels of scallop “seed” should generate significant commercial catches in 3 years, when the scallops are 5 years old.

2013 NOSB Regional Competitions Offer Your Students a Marine Science Challenge

Three Mid-Atlantic regional competitions of the 2013 National Ocean Sciences Bowl (NOSB®) provide opportunities for you to energize and challenge your students. This national program tests knowledge and critical thinking skills in marine-related science, policy and other subjects. NOSB inspires educators, too, giving you a rationale for incorporating more marine and aquatic science into your curricula, as well as chances to demonstrate the highly integrated nature of these fields. Plus, MAMEA offers awards to first-time and winning coaches of all three Mid-Atlantic regional competitions.

Teachers act as coaches, preparing a team of 4-5 students to go head to head in quiz-bowl competition. Students are tested on their knowledge of scientific and technical disciplines through rapid-answer buzzer responses as well as more complex analytical questions. The 2013 regional bowls will be held on either February 9 or 23. The winning team from each regional competition receives a trip to the National Finals in April.

For more information about the NOSB Competition in your area, check out the Regional Competition profiles below and visit the NOSB website at www.nosb.org/competitions-2/regional-competition-map/. Deadlines for registering your team are different for each Bowl, so check with the Regional Coordinator to sign up.

- The Chesapeake Bay Bowl**, will take place February 23 at George Mason University in Washington, DC. This contest draws schools from Delaware, Maryland, the DC metropolitan area, as well as selected cities in nearby Pennsylvania and Northern Virginia. For information, contact Regional Coordinator Staci Lewis at chesapeakebaybowl@hotmail.com or phone 202-448-1256.

- Virginia's **Blue Crab Bowl** is coordinated by the Virginia Institute of Marine Science and Old Dominion University's Department of Ocean, Earth & Atmosphere. Teams are drawn from Virginia, with the exception of Northern Virginia's DC Beltway region. **Deadline for submitting a team is October 19.** This year's contest will be held February 9 at the campus of the Virginia Institute of Marine Science. Visit the Blue Crab Bowl website at www.vims.edu/bcb. or contact Regional Coordinator Carol Hopper Brill at chopper@vims.edu, phone 804-684-7735.

- The **Blue Heron Bowl** in North Carolina rotates between institutions. For the 2013 location, date and Regional Coordinator's contact information, watch the NOSB website for updates at www.nosb.org/competitions-2/regional-competition-map/.

Test Your Students' Knowledge—Play the NOSB's Online Ocean Quiz

by Melissa Brodeur, Program Specialist, National Ocean Sciences Bowl

Are you looking to test your students' knowledge of the ocean sciences? Have them try The National Ocean Sciences Bowl® new Ocean Sciences Quiz (OSQ) (<http://osq.mit.edu/>). It is an online educational game that simulates the traditional NOSB competition. It can be used to engage and educate students on ocean science topics ranging from biology and chemistry to technology and marine policy as two players, using the same computer, compete against one another and the clock. In 2013, players from across the country will be able to compete through the Internet.

The NOSB is extremely excited about this new addition, not only because more people are now able to experience the NOSB and gain knowledge of ocean sciences, but because players can submit their own ocean science questions, adding to the question database, ultimately helping the game grow in depth and breadth.

If you are a teacher who would like to challenge your students to a question submission contest, or if you are an ocean science professional interested in vetting submitted questions before they are fully accepted into the question database, please contact the NOSB at nosb@oceanleadership.org.

Nauticus Educator Selected to Explore the Ocean with Titanic Discoverer Dr. Robert Ballard's Nautilus Exploration Program

Educator at Sea will work aboard E/V Nautilus during its 2012 expedition season

Norfolk, VA – Susie Hill, a Nauticus educator, has been selected from a competitive pool of national applicants by the Ocean Exploration Trust (OET) to participate in the 2012 *Nautilus* Exploration Program as an “Educator at Sea.” The twelve Educators at Sea hail from schools and museums in seven states and represent ten school districts.

Hill has been an Education Specialist/Special Programs Manager for Nauticus for the last thirteen years, where she leads and develops STEM-related programming for Scouts, families, after-school science clubs, seasonal camps, professionals, and students. Previously, she served as a 2007 NOAA Teacher at Sea, and was also selected to serve as a 2011 Nautilus Exploration Program Educator at Sea program as an alternate. Susie is a 1998 graduate of Old Dominion University with a Bachelor of Science in Biology and a Minor in Oceanography. She lives in Suffolk with her husband, Paul, and her two children, Noah and Hannah.

“With this extraordinary opportunity of being selected as an Educator at Sea, I will not only be able to fulfill my dream again of working alongside of scientists out at sea, but also be able to share my experience with our Nauticus guests, my family and friends, and even the world!” said Hill.

In July and August, the 2012 Educators at Sea embarked on Dr. Robert Ballard's ship of exploration, E/V *Nautilus*, as his team explores the geology, biology, archaeology and chemistry of the Black Sea and Mediterranean Sea. As part of the Corps of Exploration aboard *Nautilus*, educators will participate in daily science operations and live interactions with shore-based audiences on www.nautiluslive.org and at the Nautilus Live Theater at the Mystic Aquarium in Mystic, Connecticut. The Educator at Sea Program is sponsored in part by Bechtel.

“We're very excited to provide educators with a direct experience of pure exploration,” said Expedition Leader and OET Vice President, Dr. Katherine Croff Bell, “While our Nautilus Live website provides real-time video of our expedition to teachers and students all over the world, we also have the unique opportunity to invite our Educators at Sea on board *Nautilus* as fully integrated members of our Corps of Exploration.”

Prior to going to sea, educators will also participate in an intensive training workshop and attend sessions hosted by scientists, engineers and science communicators from June 25-28 at the University of Rhode Island's Graduate School of Oceanography, where Dr. Ballard is professor of oceanography. Ballard is best known for his discovery of RMS *Titanic*.

NOAA Fisheries Workshop Aligns to Ocean Literacy and MD Standards

by Kim Marshall, Biology, NOAA

On June 14th and 15th, NOAA Fisheries held an ocean literacy workshop for twenty 4th grade elementary school teachers, which focused on teaching fundamental concepts needed to understand the ecological, social, and economic elements involved in fisheries sustainability. The workshop was carried out in partnership with educators from the Maryland State Department of Education, Montgomery County Public Schools, and The Audubon Naturalist Society and is the first of its kind on this topic. The workshop filled within two days of the initial announcement with a waiting list comprised of 12 more teachers.

Its design is unique in aligning ocean literacy concepts with local Grade 4 curriculum and newly-implemented Maryland state environmental literacy standards, helping teachers and students make connections “from the schoolyard to the ocean.” Teachers are brought through the fundamentals of ocean science leading up to an understanding of ocean resource sustainability and how it is managed through NOAA Fisheries. Workshop facilitators use striped bass as a model to connect concepts and provide continuity among workshop modules from the physical and chemical properties of the ocean, adaptations for life in the ocean, ocean ecosystems, gathering and using data, human impacts and mitigations (such as for marine debris), and ocean stewardship, including making seafood choices.

Feedback from teachers has been most impressive:

“It was, without a doubt, one of the very best workshops I have ever participated in! Everyone was cheerful, knowledgeable and VERY engaging!”

“It was the best workshop. I look forward to teaching the 4th grade curriculum more than ever coming this fall. I learned so much from these talented and devoted instructors.”

“I feel more confident than I ever have as a result of this workshop.”

“[The workshop] should be a prerequisite for any teacher joining a 4th grade team.”

The workshop is the pilot of a new model for K-5 ocean literacy developed by Kim Marshall McLean of NOAA Fisheries as a focus of her PhD dissertation studies in Environmental Science & Policy at George Mason University. Her study emphasizes the importance of early childhood experiences in nature, as well as formal K-5 education, to ocean stewardship.

For more information email Kim Marshall McLean at kim.marshall@noaa.gov.

State Rep Reports

DELAWARE

The **University of Delaware** and **Delaware Sea Grant's** annual Coast Day returns for the 36th year on **Sunday, Oct. 7** from **11 a.m. to 5 p.m.** Beach enthusiasts, seafood lovers, and anyone curious about the wonders of the sea can visit the Hugh R. Sharp Campus in Lewes, DE on Coast Day to learn about the state's rich marine resources.



This year's theme, "Checking in on Our Coast," will highlight how UD scientists, staff, and students are improving understanding of ocean environments and serving coastal communities. Coast Day attendees can interact with researchers, tour ships, try hands-on activities, and attend presentations on a range of topics.

Family-friendly activities include an event-wide treasure hunt for answers to questions about the environment and Coast Day exhibits. Children can meet sea-dwelling animals such as horseshoe crabs and dogfish sharks at the critter touch tanks. Everyone can enjoy live music, vendor displays, and seafood favorites showcased by local chefs at the Crab Cake Cook-Off and the Seafood Chowder Challenge. Admission and parking are free. For more information, visit www.decoastday.org.

The **Delaware Invasive Species Council** will hold its annual meeting, open to all, on October 24 at the Delaware Agricultural Museum and Village in Dover. For more information, please visit www.delawareinvasives.net.

DC

National Aquarium, Washington, DC

2012-13 TEACHER WORKSHOP SERIES

1. Aquatic and Marine Science for Today's Classroom Teacher (a two-day, 10-hour workshop)
Dates: September 22 & 29, 2012; May 4 & 11, 2013

2. Aliens Among Us: Invasion Ecology (a one-day, five-hour workshop)
Dates: November 3, 2012; February 23, 2013

3. Watershed Dynamics (a one-day, five-hour workshop)
Dates: December 1, 2012; March 2, 2013

4. Sex in the Sea (a one-day, five-hour workshop)
Dates: February 2 and April 6, 2013

All workshops take place at the National Aquarium, 14th Street and Constitution Ave., NW, Washington, DC.

To apply, download a copy of the application found on our website: <http://aqua.org/learn/teacher-programs/teacher-workshops#a2> and submit it along with a letter of recommendation from your school principal and a 100 word statement explaining why you want to take the workshop(s).

Once all application materials have been received, you will be notified by e-mail about your enrollment in the program.

You may sign up for more than one workshop on the same application. Please indicate which session you want for your #1 and #2 choice for each session topic.

If you have any questions, please feel free to contact Bill Simpkins, Director of Education at 202-482-0852 or bsimpkins@aqua.org.

State Rep Reports

NORTH CAROLINA

EE Certification Workshops in Greensboro

Earn CEUs and credit towards the NC Environmental Education Certification

Project WET

September 21, 2012, 12 – 6 pm

GIS 101

September 28, 2012, 4 – 5:30 pm

Leopold Education Project (LEP)

October 5, 2012, 12 – 6:00 pm

Project Learning Tree

October 26, 2012, 12 – 6:00 pm

LEP Facilitators Training

November 2, 2012, 5 – 9 pm

November 3, 2012, 9 am – 4 pm

For more information, e-mail Melanie.buckingham@greensboro-nc.gov

Nominate a science leader for the Herman & Emma Gatling Award for Outstanding Science Education Leadership

The award recognizes the recipient as the outstanding science education leader in the state. The deadline is October 15. Learn more and submit a nomination at <http://ncsla.net/index.php/awards/53-gatling>.

Nature Journaling Workshop at the Walnut Creek Wetland Center

Join Jane Eckenrode from the Museum of Natural Sciences for a workshop on nature journaling. Nature Journaling is a useful tool to sharpen observation and recording skills in order to better understand and experience the environment around us. This workshop is designed to build confidence in employing nature journaling as a teaching technique. We will learn some basic drawing techniques and spend time outside writing and drawing in our journals. You will receive a basic journaling kit, but feel free to bring your favorite art supplies.

This class can be used to fulfill Criteria II or III of your NC Environmental Educator Certification.

Pre-registration is required four days prior to program. Register at <http://reclink.raleighnc.gov/> or by calling the Wetland Center at 919-831-1960.

Workshop fee is \$8.00.

This workshop is being offered on the following three dates:

#128566 Saturday, September 15, 10:30 am – 12:30 pm

#128567 Thursday, October 4, 10:30 am – 12:30 pm

#128568 Thursday, October 25, 10:30 am – 12:30 pm

State Rep Reports

VIRGINIA

The **Chesapeake Bay National Estuarine Research Reserve in Virginia** is hosting its biannual Teacher Critter Collection Day on September 8, 2012 from 9am-12pm. Want to set up an aquarium in your classroom but don't know how or where to collect the critters for it? Collect hardy critters that will work well in small 10-20 gallon classroom aquaria. If interested in registering or for more information, contact Sarah McGuire at mcguire@vims.edu or 804-684-7878. Limited space available!

The **Hampton Roads Alliance for Environmental Education (HRAEE)** mission is to network, discover resources, partner, and enrich environmental education initiatives. Over eighty organizations are taking part in making the Hampton Roads environment even GREENER than ever. Join us for the annual conference to further the HRAEE mission in our communities. HRAEE is hosting its Annual Conference "Keeping Hampton Roads G.R.E.E.N. (Getting Results from Environmental Education and Networking)" on Thursday, September 13, 2012 (10am-3pm) at the Virginia Institute of Marine Science. To register, <http://tinyurl.com/bv4vhg3>.

Tidewater Oyster Gardener Association Annual Oyster Float Building Workshop

On September 22nd, from 10AM to 2PM, TOGA will be holding its annual Oyster Float Building Workshop at the Aquaculture Center, VIMS, at Gloucester Point. For those who wish to get started raising their own oysters, this will be the best opportunity this year to get the information, materials, supplies and young oysters (spat / seed) to start their oyster gardening. No experience is necessary! Get hands-on experiences building different types of oyster floats with Master Oyster Gardener (MOGs) supervision. MOGs will be on-hand to educate and give advice on techniques, materials, and locations.

For those already raising their own, this is a great opportunity to get more oyster seed / spat or materials, and to learn about the latest ideas in raising oysters to clean the Chesapeake Bay / tributary rivers and for scrumptious eating. If your floats have been damaged from years of use, TOGA will have a float repair station with MOGs to help repair your floats.

Our registration form for this event can be downloaded from our website www.oystergardener.org. TOGA would like to receive the registration forms by September 14th, 2012 to ensure that enough materials are on hand for float building. Additional information about oyster float types and raising oysters can also be found on our website. Questions may be directed to Charles Yarbrough at Casper@verizon.net or (757) 814-3186 or Barbara Shelton at barb.shelton@gmail.com or (804) 385-6830.

Celebrate Sea Turtles at the Virginia Aquarium & Marine Science Center

Join the Virginia Aquarium & Marine Science Center in Virginia Beach on October 1, 2012 for a workshop on how to incorporate sea turtle information, conservation issues, and activities into programs for all audiences.

Participants will receive materials to share!

As an added bonus, join staff for an exciting, optional excursion on October 2, 2012 — a trip on the Research Vessel *Ocean Explorer*. Space is limited!

For more information or to RSVP contact Katie Vaughan at 757-385-0273 or kvaughn@virginiaaquarium.com. A printable flyer is available [here](#).

2012 MAMEA ANNUAL CONFERENCE

October 12-14, 2012



CONFERENCE REGISTRATION FORM

Deadline for Registration: October 5, 2012

REGISTRANT CONTACT INFORMATION

Name (to appear on name tag): _____

School/Institution: _____

Mailing address: _____

City _____ State _____ Zip code _____

Is this a Home or Work address? _____

Work phone: _____ FAX: _____ Home/cell phone: _____

Best **year-round** e-mail address: _____

REGISTRATION OPTIONS & PAYMENT

►Section A: CONFERENCE FEES INCLUSIVE

- ★Friday, 10/12: Welcome dinner social & evening program
- ★Saturday, 10/13: Conference invited speakers, concurrent sessions, lunch and banquet
- ★One-year MAMEA membership

FULL Conference Registration

Option	Per person	Fees
Early Bird Registration Sept. 12 deadline	\$125.00	
Late Registration Oct. 5 deadline	\$150.00	
MEMBER SUBTOTAL A		

►Section B: ONE DAY Attendance - October 5 deadline

Option	Per person	# Persons	Fees
Saturday conference sessions, lunch & dinner, one-year MAMEA membership	\$105.00		
SUBTOTAL B			

►Section C: GUEST TICKETS - October 5 deadline

Option	Per person	# Persons	Fees	Guest Name(s)
Friday: Welcome dinner & program	\$20.00			
Saturday: Dinner & auction	\$25.00			
SUBTOTAL C				

Continue, next page...

► **Section D: CONFERENCE FIELD TRIPS** - Deadline October 5

Date & Time	Fieldtrip	Per person	# Persons	Fees
Fri. 10/12	Phillips Wharf cruise and tour	\$30.00		
Fri. 10/12	Canoeing	\$15.00		
Sun. 10/14	Poplar Island Tour	\$5.00		
Subtotal D				

► **Section E: ON CAMPUS LODGING-** Deadline October 5

Date		Per person	# Persons	Fees
Thur. 10/11	Cabin Bunk and Breakfast 10/12	\$30.00		
Fri. 10/12	Cabin Bunk and Breakfast 10/13	\$30.00		
Sat. 10/13	Cabin Bunk and Breakfast 10/14	\$30.00		
Subtotal D				

Name and Gender for each on campus lodging participant:

REGISTRATION PAYMENT TOTAL

Section A Conference Inclusive	
Section B One Day Attendance	
Section C Guest Tickets	
Section D Field Trips	
Section E On Campus Lodging	
GRAND TOTAL	

Please make checks payable to: MAMEA

Send to: Kathy Fuller

**National Aquarium– Ed Dept
MAMEA 2012 Conference
501 East Pratt Street
Baltimore, MD 21202**

Other Registrant Information:

★ Special requests:

- Vegetarian meal Special need – Briefly explain: _____

★ Conference contributions:

- I'd like to contribute an item(s) to the Auction. Contribution form at: www.mamea.org

★ MAMEA e-mail discussion list:

- I'd like to sign up for the MAMEA e-mail discussion list (more info at www.mamea.org/list.html)

Celebrate Sea Turtles

October 1, 2012

8:30 am–5 pm

**Virginia Aquarium & Marine Science Center
Virginia Beach, Virginia**



Join us for a workshop on how to incorporate sea turtle information, conservation issues, and activities into programs for all audiences. Participants receive materials to share!

For more information or to RSVP contact:
Katie Vaughan at 757-385-0273 or
kvaughn@virginiaaquarium.com

****OPTIONAL EXCURSION****

October 2, 2012

Trip on the Ocean Explorer Research Vessel

Space is limited

