

# THE MASTHEAD

Vol. 30 No. 4

WINTER 2011

**Mid-Atlantic Marine Education Association**

## ***From the Captain's Quarters***

Hello MAMEAns!

I hope you all are thawed out in time for the holidays. Even down here in NC, it is bitterly cold and snowy (and yeah, in NC we count the snow that only stays on the grass). I was so happy to see a lot of you this past October at our Annual Conference. As you can see from the conference wrap-up on page 5, it was a wonderful time. I am honored to now be your President and with the Board, will work for you in completing our goals.

In the next couple of months, we hope to continue the move to more electronic communication and payment options. The 2010 conference was the first to have an electronic payment option for registration, allowing members to pay with a credit or debit card. As the 2011 Conference Committee proceeds with plans for next year's conference, an electronic payment option should still be available. It is also possible to pay your membership dues online through PayPal. This will help greatly in getting dues to our Treasurer and the membership info to our Secretary in a timely manner.

The Masthead and MAMEA Facebook are both helping to connect members with current Association news. The new Facebook page lets members to post comments, links, and pictures and allows the Board to pass along news like never before. You can search Facebook for "Mid-Atlantic Marine Education" or visit [www.facebook.com/teachmamea](http://www.facebook.com/teachmamea).

And finally, our first electric elections were held over the summer and winners were announced in July at the National Marine Education Association conference in Gatlinburg, TN. Lisa Lawrence is our new President-Elect and she will be coordinating next year's conference in Williamsburg, VA. Sarah McGuire was elected VA representative and Jackie Takacs is handing our finances for another two years as Treasurer.

I look forward to hearing from you, so if you have any questions you'd like to ask about MAMEA, please do not hesitate to contact me or anyone else on the Board. All of our contact information is available on the Board page of the MAMEA website at [www.mamea.org](http://www.mamea.org)

Until next time!  
Ruth

## **2010 MAMEA Mini-Grant Report**

by Kathy Fuller

### ***Watershed Wonders: Baltimore City Middle Schoolers Learn About the Chesapeake Bay Watershed with Support from MAMEA***

Thanks to the MAMEA mini-grant, the National Aquarium was able to purchase water quality testing equipment for its Henry Hall Program, a summer program offered to Baltimore City public school students. The Henry Hall Program offers a variety of summer camp experiences free of charge to Baltimore City public school students entering grades 6-12. Camp experiences vary from day programs based at the Aquarium to overnight programs as far away as the Florida Keys. Funding for the Henry Hall Program comes from interest produced by a small endowment, grants, and donations.

Specifically, the water quality testing equipment purchased is used for the Watershed Wonders camp. The Watershed Wonders program is a day camp designed for students ages 10-12, who are participating in the Henry Hall Program for the first time. The camp runs for four days, with two of the days spent kayaking in different Chesapeake Bay watershed habitats. Campers learn how to monitor water quality in Baltimore Harbor on the first day, testing temperature, salinity, pH, dissolved oxygen, and turbidity.

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The MAMEA Board of Directors meets twice a year. If you are interested in serving on the Board, please visit <http://www.mamea.org> and click on "Board."

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## From the Editor

Hello MAMEA! Well, the cold has officially set in, we've seen some early snowfall, and the Holidays are upon us. I apologize for the late publishing of this issue of the Masthead. Its delay was the result of a busy November, highlighted by the arrival of our baby boy, Billy, born November 2nd. It's been quite a roller coaster ride, but for the most part, a smooth first few weeks. Consider this my first sleep-deprived issue of the Masthead! It was great seeing you all at our annual conference in Carolina Beach, NC in October. Congratulations to Ruth and her entire Conference Committee on an absolutely fantastic event. And as far as I know, we've never had *background* music during concurrent sessions before. At least it was good dancing music! In this issue, you'll find articles about the amazing work our members are doing using MAMEA mini-grant funds, as well as several opportunities for professional development and service. Enjoy and Happy Holidays!

- Chris Petrone

## About the Cover Ship

Each issue of *The Masthead* features a different Mid-Atlantic sailing ship in the cover banner. This issue's ship is the Schooner *Virginia*.

The original *Virginia* was completed in 1916 and was used as a pilot vessel despite it being the era of steam power. Then-pilot William Rowe Boutwell insisted the *Virginia* be a sailing ship "to keep the pilots sharp sailors."

Today, the *Virginia* is based in Norfolk, VA and is used as an educational vessel, conducting programs for children and adults.

Visit the Schooner *Virginia* at <http://schoonervirginia.org>.

*Photo courtesy of the Virginia Maritime Heritage Foundation.*

*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](http://www.marine-ed.org)

## MAMEA Selects 2011 Mini-Grant Winners

by Carol Hopper Brill

MAMEA supports its members' innovative marine and aquatic education projects through the Educational Project Grant Program. Each year, two grants are available: one for formal educators (classrooms, K-16); and one for informal educators (museum, aquarium, zoo, science center, government agency staff). Grant awardees are announced at the annual conference in October.

For 2010/11, the grant for informal education was awarded to **Megan Ennes** of the North Carolina Aquarium at Fort Fisher, NC. She won MAMEA grant support for a project that will benefit NC schools and is also part of her Master's degree work at the University of North Carolina-Wilmington (UNCW).

Megan's project, titled "Climate Change in the Cape Fear Region – Video and Curriculum" has two components. She'll work with a team of four high school students from UNCW's Isaac Bear Early College as they research and produce a video about the causes and impacts of climate change in the Cape Fear region. The video will include interviews with older generations of local residents who can provide first-hand accounts of the changes in sea level and other climate phenomena that they have experienced over their lifetimes. The students will also interview area school children about actions they can take to help ameliorate or adapt to climate changes. Advising the project are Dr. Jeff Hill, professor of Environmental Studies from UNCW, teacher Bryan Bishop from Isaac Bear, UNCW Communications professor Bill Bulduc, and naturalist Andy Wood with Audubon NC. Once completed, the video will be presented at a Coastal America Partnership Student Summit in February 2011, and screened for residents of Cape Fear Region at the NC Aquarium at Fort Fisher.



Megan and the project team visited the Holly Shelter Game Lands State Park, NC to learn about the longleaf pine forest and impacts of climate change in this protected area within the Cape Fear River watershed. From left to right: Megan Ennes, students Jessica Lama, Keela Sweeney, Dustin Chambers; not pictured is Evan Lucas. Back row: teacher and project advisor Bryan Bishop.

The second component of the project is a curriculum about regional climate change for Grades 5, 8, and high school. Megan will work with her partner teacher from Isaac Bear Early College in developing the materials. The curriculum will accompany the video into schools in the Cape Fear region, augmenting the teaching value of the visuals. Both video and curriculum will be available on-line, making them available to educators beyond southeastern North Carolina.



Alison Maier worked on a marsh restoration project during Summer 2010. Here, she shows off "islands" of marsh grasses that are now submerged in Baltimore Harbor.

**Alison Maier**, a science instructor at Kenwood High School in Essex, Maryland, received the 2010/11 grant for a classroom teacher. Her project, "From the Stream to the Bay," will provide 9<sup>th</sup> and 10<sup>th</sup>-grade students at her school with real-life context for science studies and exposure to professional science careers.

As part of their Ecology of Maryland course, students developed a plan to study their influence on the health of tributaries leading to the Chesapeake Bay. Over the school year, they will investigate water quality, fauna and the health of the stream at its location near their school and at its entry into the Bay at the Baltimore Harbor. The composition of biofilm communities and their succession over time will be a special focus of study.

*continued on next page*

## MAMEA 2011 Grants (con.)

In addition to collecting and analyzing data, students will also create a digital photo library.

Monthly, the students will visit the Center for Marine Biotechnology (CMB) in Baltimore's Inner Harbor, interact with lab technicians who assist their water quality testing, and learn about biodiversity of biofilms. Working side-by-side with the CMB staff, students will be introduced to careers in aquatic environmental science and technology.

Students are expected to not only experience and develop scientific inquiry skills, but to communicate their findings to others as well. They will develop posters and presentations for a school-wide water quality conference that is open to the school and the public.

Project collaborators include two other science instructors from Kenwood High and, as an advisor, a Maryland Sea Grant Extension agent at the Institute of Marine and Environmental Technology in Baltimore.

### It's not too early...

To start thinking about your proposal for the next round of MAMEA Educational Project grants! To be eligible, applicants must be current MAMEA members with at least one year's membership. Find further information about the grant application process on the MAMEA website: [www.mamea.org/minigrant.html](http://www.mamea.org/minigrant.html).

## NMEA Update

by David Christopher

On November 12, MAMEA hosted a marine science Share-a-thon at the NSTA Area Conference in Baltimore, Maryland. Over 40 educators attend this session. I would like to thank the Adventure Aquarium, Consortium for Ocean Leadership, Maryland Sea Grant, National Aquarium, National Ocean Sciences Bowl, Virginia Aquarium, and Virginia Sea Grant for providing free information and resources for session participants.

NMEA and MAMEA are proud to be a part of an exciting opportunity for high school students. The Consortium for Ocean Leadership's National Ocean Sciences Bowl (NOSB®) is hosting its third annual Living on the Ocean Planet video contest in partnership with the National Marine Educators Association (NMEA). The goal is to showcase student-developed original videos that educate the general

public about society's reaction to ocean events and address the Ocean Literacy Essential Principles. Deadline for submission is **Friday, January 28, 2011**. Regional winners will be selected and announced on April 4, 2011. A National winner will be announced at the 2011 NOSB Finals Competition in Galveston, TX on April 29, 2011. For more information please visit the Consortium for Ocean Leadership website at [www.oceanleadership.org/nosb-video-contest](http://www.oceanleadership.org/nosb-video-contest).

It's never too early to begin planning for summer. The National Marine Educators Association is currently accepting presentation proposals for the 2011 NEMA National Conference in Boston, Massachusetts on June 29 - July 3, 2011. The theme of this year's conference will be *Cape to Cape: In the Hub of Marine Education* and will be held on the campus of Northeastern University. For more information on the conference please visit the NMEA Conference webpage at [www.nmeaweb.org](http://www.nmeaweb.org). If you are considering attending this year's conference, NMEA now offers a variety of scholarship & stipend programs to assist with conference costs. For information for these programs please visit the NMEA website at [www.marine-ed.org/scholarships-stipends.html](http://www.marine-ed.org/scholarships-stipends.html).

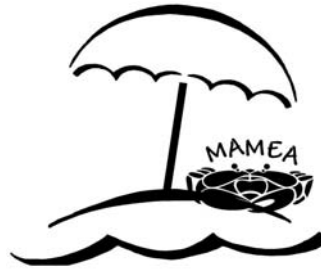
## Mid-Atlantic to host three NOSB regional competitions

by Carol Hopper Brill

The National Ocean Sciences Bowl (NOSB®; [www.nosb.org](http://www.nosb.org)), now in its 14<sup>th</sup> year, is represented in the Mid-Atlantic by three regional competitions:

- **The Chesapeake Bay Bowl and Share-a-Thon**, is hosted by American University and serves DE, MD, DC, and selected cities in Northern VA. For information on the Bowl or Share-a-Thon, contact Staci Lewis at [chesapeakebaybowl@hotmail.com](mailto:chesapeakebaybowl@hotmail.com) or phone 202-448-1256. The Chesapeake Bay Bowl takes place on February 5, 2011.
- Virginia's Regional Competition is the **Blue Crab Bowl**, and coordinated by VA Sea Grant staff at VIMS and colleagues at Old Dominion University. Visit [www.vims.edu/bcb](http://www.vims.edu/bcb) or contact Carol Hopper Brill at [chopper@vims.edu](mailto:chopper@vims.edu), or 804-684-7735. This year's Blue Crab Bowl takes place on February 26 at VIMS.
- Also on February 26, East Carolina University will host this year's **Blue Heron Bowl**. For information, contact Jeffery Alejandro at [ALEJANDROJ@ecu.edu](mailto:ALEJANDROJ@ecu.edu) or phone 252-328-9197.

Mid-Atlantic Marine Education Association



2010 Annual Conference

Hello,

I wanted to thank everyone for helping to make this year's conference wonderful.

Here is the conference wrap-up:

- 51 participants from our region and beyond joined us on October 1-2 in Carolina Beach, NC.
- All five of our scholarships were rewarded.
- Friday's evening event at the NC Aquarium at Fort Fisher was amazing.
- Members not only "Dined with the Fishes," they also watched Dr. Jack C. Hall from the University of North Carolina Wilmington, reconstruct Herman, a fossilized sperm whale skeleton!
- Early Saturday morning, members mingled at the Share-a-thon and Sand Swap. Troy Alphin and Jessica Snoddy gave great talks about oysters and sea turtles in our region.
- At the lunch and Business Meeting, our Award winners, Dawn Sherwood and Elizabeth Miller, were announced. The new board members and officers started their term (see how excited Lisa is!).
- The new President and President-Elect were introduced and the date of next year's conference was announced; Oct 7-8, 2011 in Williamsburg, VA.
- Later that afternoon, the sessions were exciting and eventful (and even musical thanks to the wedding next door). Sessions allowed participants to learn and experience a wide variety of things. From smelling NC Maritime Museum's sperm whale spermaceti to learning how to convince school children to help the Chesapeake Bay.
- The dinner and Auction raised over \$2000.00 for our member's scholarship and the dance party by DJ Andy was a great way to end the evening.

Thank you all for attending and helping to make this conference a huge success. I look forward to sharing more great MAMEA news with all of you during the next year.

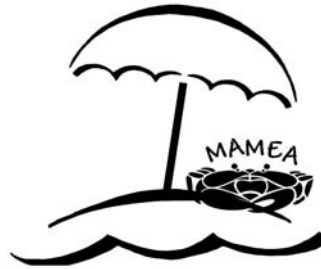
Ruth Gourley  
MAMEA President  
Chair, 2010 Conference Committee



*Left:* Ruth presented each member of the 2010 Conference Committee with special marine-related thank-yous. *Middle:* Probably not the first time Beth Jewell has chugged a water quality test kit sample (nitrate = delicious). *Right:* Terri Kirby Hathaway gets her groove on while others just try to keep up during the Saturday night dance party. More pictures can be found on page 6.

# Mid-Atlantic Marine Education Association

Mid-Atlantic Marine Education Association



2010 Annual Conference



*From left to right, top to bottom:* Folks enjoy a delicious welcome dinner (and cookies!) at the NC Aquarium at Fort Fisher on Friday night. Free time at the Aquarium included self-guided tours and educator-led exhibits. Friday evening's festivities concluded with a presentation by Dr. Jack C. Hall from UNCW, who reconstructed *Herman*, the fossilized sperm whale skeleton. At Saturday's lunch and MAMEA Business Meeting, newly elected officers received their how-to manuals for their new positions; Lisa Lawrence is VERY excited to get the President-Elect manual. The Saturday afternoon concurrent sessions included Miriam Sutton's hands-on lab about ocean acidification. Elizabeth Winchester and Vicki Clark test water quality during a session on incorporating your local environment into the classroom. Peggy Sloan and Megan Ennes identify plants in a session about wetlands. And finally, Dia Hitt prepares for the silent and bag auctions; which, together with the live auction, raised over \$2,000 for member scholarships.



## Save the Date



# Mid-Atlantic Marine Education Association October 7-9, 2011 College of William & Mary, Williamsburg, Virginia



Gather with your MAMEA friends in beautiful Williamsburg, Virginia for our annual fall professional development conference. This year, MAMEA teams up with Virginia's Department of Environmental Quality to bring you the best in marine and coastal education.

### Conference Highlights:

- Field trips to Colonial Williamsburg and Canoeing on the York River
- Plenary sessions by esteemed environmental educators
- Concurrent sessions on the best marine education resources and practices for the mid-Atlantic

Be sure to take time to discover all that Williamsburg has to offer – history, wineries, restaurants, shopping and more!

More information on conference events and lodging coming soon to our website: [www.mamea.org](http://www.mamea.org).

Co-hosted by:



## Join the MAMEA Board and make a difference!

by Carol Hopper Brill

Each year, MAMEA calls on its members to become more involved in the Association by joining the Board. In 2011, we will be looking for nominees for: President-Elect; Secretary; and Representatives for Delaware, Maryland and North Carolina.

### Why join the Board?

Because you can help strengthen the marine education community, create opportunities for colleagues, and enrich learning for students. You can make a difference! As a MAMEA Board or Committee member, you can help us support both classroom and informal educators in the Mid-Atlantic states.

### What's in it for you?

Through Board and Committee involvement, you not only contribute to MAMEA, but also gain knowledge and skills as you work within a Chapter of the National Marine Educators Association. These networking opportunities bring you in contact with regional and national initiatives in marine education, and some of the movers and shakers in our field. It's a great learning and professional development opportunity.

### Board Member Testimonials – Here's Why They Serve

Here's how some MAMEA Board members got involved and what participation has meant to them:

**Amy Sauls**, Science Teacher, Jones Senior High School

*Board member since 2003: Current North Carolina Rep, Scholarship Committee Chair & a Past President*

“Being on the MAMEA Board provides me ongoing opportunities to connect and network with local marine educators. And, Board activity gives me an excuse to communicate more often with friends that I may not see in person as often as I would like.

The MAMEA Board also gives me the chance to help promote local and regional programs and hopefully make connections to draw in other interested potential members.”



**Carol Hopper Brill**, Marine Education Specialist, VA Institute of Marine Science  
*Board member since 2006: Current Grants Committee Chair, a Past President and VA Representative*

“I joined MAMEA in fall of 2003 and was impressed with the energy and camaraderie of the membership. I was new to Virginia and MAMEA provided the best way to get plugged-in to marine education in the region. Serving on the Board has been a really rewarding experience, I've learned so much more than I anticipated. The Board really works as a team to support marine educators in our region.”

For more information about Board position responsibilities, check out the document and PowerPoint in the Board Toolbox on MAMEA's website: <http://www.mamea.org/toolkit.html>. You can also read about Committee positions you may be interested in – Committee work is a great way to build your familiarity with the Board and its operation. These are volunteer positions, made with Board approval.



## 2010 Mini-Grant Report (cont. from cover)

The campers then head to a freshwater creek and a brackish water river to collect water samples and identify plants and animals at each site. The last day of camp is spent comparing the sites and reflecting on personal actions for protecting the watershed.

This past summer the Watershed Wonders program served ten, 10-11 year old students (all entering 6<sup>th</sup> grade) from Baltimore City Public Schools. Students kept journals to record their activities during the program. Student comments included:

- “My favorite activity was the experiments of water.”
- “I didn’t want to sign up (for the Henry Hall Program), but my Mom made me. I found out that I had fun here.”
- “We can plant trees and other plants to help the Chesapeake Bay watershed.”
- “My favorite activity was kayaking because you are outside and you move.”
- “I would like to teach children about science and our waters, the Bay, etc.”

Of the ten students who attended, 9 out of 10 said that they would want to attend another program like this one, and 7 out of 10 said that the program changed what they want to be when they are older. All ten students recommended actions to protect and restore the Chesapeake Bay’s watershed.

On behalf of the staff and students of the National Aquarium’s Henry Hall Program, thank you MAMEA!

Check out our new video about the Henry Hall Program at [www.youtube.com/watch?v=NXXH35wn16o](http://www.youtube.com/watch?v=NXXH35wn16o).



Top: Students kayaking on Piscataway Creek, MD. Middle: Student tests water salinity using a refractometer. Left: Students use a water sampler in Baltimore Harbor. Right: Students identify finds after collecting with a seine net. Photos courtesy of Kathy Fuller.

For more information on MAMEA mini-grants, please visit [www.mamea.org/mini-grant.html](http://www.mamea.org/mini-grant.html). Applicants must have at least one year’s membership and can vie for two \$1,000 grants annually.

## MAMEA Recognizes Outstanding Teaching

by Allison Besch

The Mid-Atlantic Marine Education Association (MAMEA), representing marine science in the classroom, at research institutions, aquariums, museums and governmental agencies from North Carolina to Delaware, has honored Dawn Sherwood of Henrico County Public Schools with the 2010 Teacher of the Year Award; and Elizabeth Miller of the Virginia Aquarium and Marine Science Center with the 2010 Non-Traditional Educator Award. These presentations were announced at the Association's annual conference on October 2, 2010 in Wilmington, NC.

Ms. Sherwood is currently a high school oceanography and biology teacher at Highland Springs High School in Henrico County, VA. She holds Bachelor's and Master's degrees in biology from Old Dominion University and University of Richmond, respectively. Seven years ago, she became a classroom teacher and has drawn on her research background to bring field experiences into the classroom. Her accomplishments include writing an original oceanography curriculum based on national Ocean Literacy standards, inspiring a school-wide recycling program for paper and plastic, and organizing a team of students to participate in the International Coastal Cleanup. Four years ago, she received a MAMEA grant to incorporate field-based oceanography labs into her Earth Science curriculum. With another MAMEA grant (2008), she developed a recycling education program at her school. Above all, Dawn is most rewarded when students tell her they would like to pursue oceanography in college after their experience with her in high school.



Dawn Sherwood (left), 2010 Mid-Atlantic Marine Education Association Teacher of the Year, receives her plaque from MAMEA President Tami Lunsford. Photo credit: Allison Besch.

In addition to her teaching duties, Ms. Sherwood is very active in the MAMEA organization. She served on the Board as a state representative for Virginia and a member of the Mentorship committee. She also serves as Coordinator of the Sand Swap, a program that provides educators with samples of sand from all over the world; and she organized the Share-A-Thon event at the 2010 annual conference. Her programs are very successful and have helped to promote MAMEA events and encourage membership to area teachers and marine science enthusiasts.



Elizabeth Miller (left), the 2010 Mid-Atlantic Marine Education Association Non-Traditional Educator award winner, receives her plaque from MAMEA President Tami Lunsford. Photo credit: Allison Besch

Ms. Elizabeth Miller is currently the School Program Specialist at the Virginia Aquarium and Marine Science Center in Virginia Beach.

Miller holds Bachelor's and Master's degrees in education and a teaching certification from Elizabethtown College (PA) and Old Dominion University, respectively. She draws on her previous experience as a classroom teacher to maximize the students' experience while visiting the Virginia Aquarium. Her accomplishments include her work with the "Oceans of Opportunity", a program designed to bring hands-on marine education to residents of a local Juvenile Detention Center. "We have been amazed at how these teens, mostly boys, have responded to hands-on science and to Elizabeth's enthusiastic personality," said Chris Witherspoon, Education Director at the Virginia Aquarium. "Her combination of experience in both the classroom and at the Aquarium allows her to relate to teachers and develop...programs that go beyond what is normally offered in the classroom."

In addition to her work at the Aquarium, Ms. Miller is very active in the MAMEA organization. She has given presentations at both the regional and national levels, she helped to organize the 2009 and 2010 Virginia Mini-Conferences and she assisted at the 2010 MAMEA annual conference as a volunteer staffer.

With these awards, MAMEA is proud to acknowledge Dawn Sherwood's and Elizabeth Miller's commitment to marine science and education.

## Hopper Brill Receives 2010 MAMEA President's Choice Award

by Allison Besch

MAMEA honored Carol Hopper Brill of the Virginia Institute of Marine Science (VIMS) and Virginia Sea Grant Marine Advisory Program with the 2010 President's Choice Award. The presentation was announced at the group's annual conference on October 2, 2010 in Wilmington, NC. This award is given at the discretion of the current President for outstanding service to the organization. Dr. Hopper Brill is currently a marine education specialist based out of VIMS (College of William and Mary) in Gloucester Point, VA.



Carol Hopper Brill (right) receives the 2010 President's Choice Award from MAMEA President Tami Lunsford. Photo credit: Allison Besch

Carol Hopper Brill holds Bachelor's and Master's degrees in zoology from University of California at Davis and a PhD in zoology from University of Hawai'i-Mānoa. She served as Science Education Advisor and

then Director of Education at the Waikiki Aquarium in Hawai'i from 1982-2003. Her professional interests focus on interpreting the marine environment for a broad audience, including educators, and promoting science literacy and conservation education. She serves as an advisor and instructor for many VIMS Marine Advisory Program projects including teacher workshops, seminars, and the VIMS GK-12 program. She also coordinates and manages the Blue Crab Bowl, an annual regional competition of the National Ocean Sciences Bowl.

Dr. Hopper Brill has served on the MAMEA Board since 2007. She began as a state representative and most recently completed the three year cycle as President. During her tenure, the organization has made tremendous progress updating and clarifying its procedures, standing rules and by-laws. Now Past President Tami Lunsford said, "I felt it particularly important to thank her for all her hard work for the past three years...she continues to step up and help

with anything and everything. Her organization, attention to detail, and dedication to (MAMEA) are astounding. When I needed support this year, she stepped up and did some of my duties as President. I know I could not have accomplished much of what I have done as MAMEA President-Elect and President without her help."

### MAMEA TechCorner

by Dawn Sherwood, Highland Springs High School, VA

How do I get ALL my students involved (and make everyone accountable)? This is a question that formal and informal educators are always asking. One way is to use a learner response system - aka "clickers." Current systems are either hand held devices and/or laptop computers. Some companies are developing cell phone applications as well. You can assess understanding with multiple choice questions, Likert scale, and numeric and text answers, depending on the systems.

How do you ask people for an opinion on a controversial topic? Use the clickers so that you get an idea of what people are feeling! This will allow many people—who are shy or afraid to raise their hand and be singled out—to participate. And, it is a way to start conversations. Educators can gauge comprehension on topics to figure out where remediation is needed before assessments. Another nice feature of many clickers is the fact that you can either use prepared questions or ask them on the fly. Many colleges are now requiring students to purchase a clicker device for class to finally incorporate interaction into those huge lectures courses. With all grade levels and audiences, these systems work.

A couple of years ago, I used clickers by eInstruction and really liked them. Then our school system got Activboards from Promethean (like Smartboards) and we started using Activotes (like the eInstruction clickers) that does multiple choice and ActivExpressions which also allows numeric and text answers. The newest software we are using is ActivEngage, where the teacher's computer is the virtual hub and the students' laptops are their answering devices. The feedback is incredible, because I can quickly see if the majority of people are understanding the concepts. I can also create quizzes where the questions are scrambled on students' computers to prevent cheating. Once the quizzes are complete, the system provides their grades.

## NMEA Awards Nominations Now Being Accepted

by Vicki Clark

Do you know an educator who deserves national recognition for his or her career accomplishments in marine and aquatic education?

The National Marine Educators Association recognizes outstanding performance by classroom teachers, informal educators, and others at the NMEA conference each summer. The 2010 NMEA Awards will be presented at the conference in Boston, June 29-July 3, 2011. The Awards Committee is accepting nominations up through April 1, 2010.

Nominate a colleague, or even yourself! Information and nomination forms are on NMEA website: [www.marine-ed.org/docs/nomform.pdf](http://www.marine-ed.org/docs/nomform.pdf).

## NMEA Conference Scholarships

The National Marine Educators Association offers several scholarships and stipends to attend the annual conference in July. This year's NMEA conference is being held in Boston, MA.

Below are the significant dates for Scholarships, Expanding Audiences Stipend, and Traditional Knowledge Stipend applications.

- Scholarships application deadline: March 1, 2011
- Scholarships notification: March 31, 2011
- Expanding Audiences Stipend deadline: April 1, 2011
- Expanding Audiences Stipend notification: April 15, 2011
- Traditional Knowledge Stipend deadline: April 1, 2011
- Traditional Knowledge Stipend notification: April 29, 2011

For more information on scholarships, stipends, and the annual conference, please visit [www.marine-ed.org](http://www.marine-ed.org).



## Japan-U.S. Teacher Exchange

The application for the 2011 Japan-U.S. Teacher Exchange Program for Education for Sustainable Development (ESD) is now available on their website at [www.iie.org/esdteacher](http://www.iie.org/esdteacher).

The Japan-U.S. Teacher Exchange Program for ESD will provide up to 48 U.S. K-12 teachers and administrators with the opportunity to travel to a conference in the U.S. and to Japan to learn about ESD efforts and strengthen ESD curricula in both countries. The program is fully-funded with the exception of some meals. ESD is “a vision of education that seeks to balance human and economic well-being with cultural traditions and respect for the earth’s natural resources,” according to the United Nations Educational, Scientific, and Cultural Organization (UNESCO).

Up to 48 educators from Japan will travel to the U.S. in late April, and up to 48 educators from the U.S. will travel to Japan in June. At the end of the program in each country, all 96 educators will gather for a few days of joint collaboration.

Please visit the ESD website at [www.iie.org/esdteacher](http://www.iie.org/esdteacher) for more information or to start an application.

## Want to go to South Africa?

The Toyota International Teacher Program is pleased to announce its inaugural program to South Africa!

The inaugural Toyota International Teacher Program to South Africa will provide teachers first-hand exposure to the social and environmental complexity of South Africa, focusing on sustainable development and emphasizing the links between history, culture, power, and the environment. Teachers will explore the country’s natural and cultural diversity through a range of site visits and hands-on activities.

The program will take place July 24 – August 10, 2011 and the deadline to apply is January 23, 2011. The application and other details are now available online at [www.iie.org/toyota](http://www.iie.org/toyota).

*...want first hand accounts of both of these programs?* Long time MAMEAn (from Tennessee!) David Wehunt has participated in both of these programs and encourages other MAMEAns to give the application a shot. If you would like testimonial from David, please contact him at [wehunt@hotmail.com](mailto:wehunt@hotmail.com).

## VIMS grad students help kids expand perception of scientists

by Dave Malmquist, Virginia Institute of Marine Science

Children are natural scientists, frequently asking questions about the world around them and how it works. But ask a child to draw a picture of a scientist, and they will most often sketch someone who looks nothing like themselves—an older white male with unkempt hair and a lab coat, holding a beaker in his hand and with pens in his pocket.

This narrow perception concerns educators and scientists worried about the future work force, since studies show that children and teens are more likely to pursue careers that provide role models with whom they can identify. During the next 10 years, fully two thirds of the fastest-growing occupations are expected to be in the fields of science, technology, engineering, and mathematics.

Graduate students at the Virginia Institute of Marine Science are now helping students in local middle schools and high schools to draw—literally—more accurate and positive conclusions about what scientists look like and do.

The grad students are fellows in the [VIMS GK-12 PERFECT program](#), a 5-year partnership with middle- and high-school teachers and students at 4 local schools.

### Draw a Scientist

At the beginning of the 2009 school year, a trio of PERFECT fellows—Lindsey Kraatz, Heidi Geisz, and Erica Holloman—asked the pupils in their classes to draw a scientist. They also asked the pupils to describe their drawing in words, to list 3 words that come to

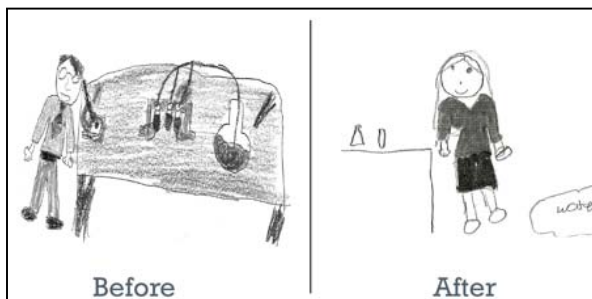


*Draw a Scientist: When asked to draw a scientist, students typically depict a crazy haired white male in a lab coat mixing chemicals in beakers. A student from Chesapeake Bay Governor's School drew a scientist who "tried mixing two new chemicals together. Unfortunately, it didn't work and exploded".*

mind when they look at their scientist, and to describe what their scientist does on a typical day.

The results were telling. Common adjectives were *smart, crazy, chemicals, mixing, nerd, weird, lab coat, old, lab work, hard-working, and cool*. The 6 classes that were tested depicted male scientists in 50% to 80% of their drawings. The highest percentage of female scientists drawn by a class was 30%, with the percentage in other classes ranging from less than 5 to about 15. Overall, the ratio of males to females in the drawings was 5 to 1.

By comparison, 30% of the faculty at VIMS is female, as are 62% of VIMS' graduate students. Many scientists at VIMS spend as much time in the field as they do in a lab, and very few carry pens in their shirt pockets or wear pocket protectors. Most comb their hair at least occasionally.



*Before and After: A student at Booker T. Washington Middle School featured a male scientist in her "before" drawing and a female scientist in her "after" drawing. The female scientist is "testing water for pH, phosphorous, salinity, turbidity, dissolved oxygen, and mercury." Overall, the ratio of male to female scientists dropped from 5 to 1 in the before pictures to 2 to 1 in the after"*

### A PERFECT solution

The PERFECT program—Partnership between Educators and Researchers for Enhancing Classroom Teaching—connects selected VIMS grad student fellows with teachers and pupils at Booker T. Washington Middle School in Newport News, Chesapeake Bay Governor's School in Glens (Rappahannock Community College), Page Middle School in Gloucester, and York High School in Yorktown. The schools serve diverse populations, from urban to rural, and with the number of ethnic minorities ranging from 11 to 50 percent.

The program is the brainchild of VIMS professor Kam Tang, Graduate Dean Iris Anderson, and Virginia Sea Grant educator Vicki Clark. Tang says a key goal of the 5-year program, which is funded by the [National Science Foundation](#), is "to bring real-life scientists into classrooms in order to improve the K-12 curriculum and stimulate interest in science."

*continued on next page*

## Perception of Scientists (con.)

Grad student Lindsey Kraatz, the driving force behind the “Draw a Scientist” project, wanted to know whether that goal was realistic—whether students would gain more interest in science and a more positive attitude toward science and scientists by interacting with real scientists in the classroom. To test her idea, Kraatz asked Geisz and Holloman to join her in the Draw a Scientist exercise, comparing their students’ initial drawings and descriptions with drawings and descriptions done at the end of the first semester.

They compared the before and after drawings and verbal responses to see how the students’ perceptions of scientists and science may have changed after several months in a classroom with a practicing scientist.

Kraatz is using remote-sensing techniques to study sediment transport in the York River. Geisz is studying the accumulation of persistent organic pollutants in Antarctic seabirds. Holloman is studying the consumption patterns of mercury in seafood by members of the local African-American community.

### Encouraging results

Kraatz says the results of the first year of the experiment were encouraging. She says “The students in our classes came to see that science was not as overwhelming as they initially thought, and they became less apprehensive of science concepts and scientists.”

Kraatz notes that the “after” drawings tended to show scientists in less traditional settings, such as in the water with SCUBA, and without stereotypical scientific equipment like lab coats or beakers. The adjectives the students used to describe their scientist changed as well, with words such as *weird*, *lab coat*, *old*, and *lab work* dropping away, to be replaced by words such as *nice*, *experiment*, *chemicals*, and *fun*. Use of “nerd” dropped from 19% in the “before” descriptions, to 5% afterwards. In general, positive words like “cool” and “fun” became more common, while use of negative terms like “mad” and “stupid” decreased.

Student perception of the scientists’ gender also changed during the study, with more drawings of female scientists. Overall, the drawings’ male to female ratio dropped from 5 to 1 to 2 to 1.

Kraatz says the most important change she saw was that the students’ “expanded their perceptions of what

a scientist is or can be.” She was particularly encouraged by “after” drawings in which the students drew themselves as the scientist.

Encouraged by the results of last year’s preliminary study, Kraatz is expanding and refining the Draw a Scientist experiment this year, involving all but one of the 8 PERFECT fellows enrolled in the 2010-2011 program.

For more information on Draw-a-Scientist and its long-standing roots in science classes, visit [www.nsf.gov/statistics/seind02/c7/c7s3.htm](http://www.nsf.gov/statistics/seind02/c7/c7s3.htm) and [www.the-aps.org/education/2006rts/pdf/DASTRatingRubric.pdf](http://www.the-aps.org/education/2006rts/pdf/DASTRatingRubric.pdf).

## Species Spotlight



**Common name:** Canvasback

**Scientific name:** *Aythya valisineria*

**Range:** Migrate from western Canada (summer) to the east and west coasts of U.S., Gulf coast, Mexico, and the mid-west (winter).

**Habitat:** Marshes, sloughs, shallow lakes and ponds with emergent vegetation along edges

**Size:** 19-22” long; 1.9-3.5 lbs.; 31-35” wingspan

**Field identification:** Male: chestnut-red head and neck; black breast, rump, bill; grayish back; blackish-brown tail; bluish-gray legs and feet; red iris. Female: light brown head and neck; darker brown chest and foreback; grayish-brown sides, flanks, and back; blackish bill; bluish-gray legs and feet.

**Interesting factoids:** Diving bird. Typically feed on wild celery, but when absent, can also feed on Macoma and little surf clams, as well as invertebrates. Historically one of the most sought-after waterfowl by mid-Atlantic hunters.

**Conservation status:** Up until the 1950s, about half of the North American population migrated to the Chesapeake Bay and the mid-Atlantic region. Population declined over the next decades due to breeding/wintering habitat loss (prairie potholes; marsh) and lack of food (vegetation). But numbers appear to be increasing since the 1990s.

### Additional Resources

- Lippson and Lippson, [Life in the Chesapeake Bay](#).
- S. Dakota Birds and Birding - [Canvasback](#)
- Ducks Unlimited - [Canvasback](#)
- Wikipedia - [Canvasback](#)

## Wind for Schools Program

by Remy Luerssen, James Madison University

With the effects of climate change on our marine environment becoming more evident, it is imperative that we begin to talk to our students about solutions. One such solution could be the implementation of offshore wind energy in the US. There is a huge potential along the US east coast for generating a large part of our electricity from wind energy. And there is a great potential to teach needed Virginia Standards of Learning using the concepts covered in wind energy education while building a future workforce for this growing industry.

James Madison University was recently invited by the U.S. Department of Energy to join the *Wind for Schools* program ([www.nrel.gov/news/press/2010/804.html](http://www.nrel.gov/news/press/2010/804.html)) and to participate as a Wind Applications Center.

The general approach of the Wind for Schools project is to install small wind turbines at rural elementary and secondary schools (hosts) while developing a Wind Application Center at universities. Teacher training and hands-on curricula are implemented at each host school to bring the wind turbine into the classroom through interactive and interschool wind-related research tasks.

In Virginia, schools will be asked to apply for the program and JMU will work with each school to help develop their specific project. JMU will also help schools gain the support of the community and their school board as well as to create a fundraising plan. There will be a final proposal process and 4-5 projects will be selected by members of the JMU Center for Wind Energy advisory board each year.

JMU will train teachers at host schools on energy curricula, such as NEED ([www.need.org](http://www.need.org)), to aid in the integration of wind energy concepts into their current science, technology, and math curricula and to analyze

turbine data collected at the school. JMU also plans to train teachers at schools may not have been selected as a host school but who are interested in wind energy. For examples of material used in teacher trainings and links to full alternative energy curricula please visit <http://aeer.cisat.jmu.edu>.

If your school is interested in participating, please contact Remy Luerssen at [luerssrm@jmu.edu](mailto:luerssrm@jmu.edu) or 540-568-8768 for more information.

## APNEP Seeking Education Proposals

The Albemarle-Pamlico National Estuary Program is seeking proposals for innovative education and outreach campaigns that address coastal environmental issues in one of the nation's richest estuarine systems.

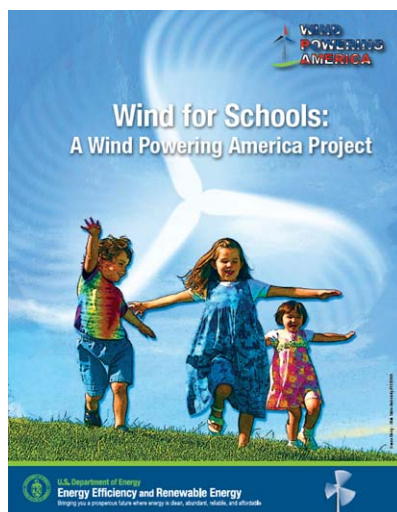
Proposals can include media campaigns, ecotourism programs, social marketing, event planning, educational support programs and organization of stewardship opportunities. Educational, nonprofit, tribal, government institutions and businesses that offer appropriate expertise are eligible for funding. More information on eligibility requirements and other details are available at the program's website, [www.apnep.org](http://www.apnep.org).

Up to \$50,000 in grants may be awarded for campaigns in the program's watershed in northeastern North Carolina and southeastern Virginia. Grant proposals must be received by 5 p.m. on Dec. 31, 2010.

The APNEP Policy Board Executive Committee will select grant proposals to fund and determine funding amounts. All awards depend upon the availability of funds.

Estuaries are areas where river and ocean waters mix, supporting a rich array of terrestrial and aquatic life. The Albemarle-Pamlico estuarine system provides a key nursery area for many coastal fish and shellfish, which in turn support the region's fishing and tourism industries. Estuaries also provide other important functions, including coastal storm protection and the filtration of runoff. The Albemarle-Pamlico estuarine system has been designated an "estuary of national significance" by the Environmental Protection Agency, which provides funding to support the Albemarle-Pamlico National Estuary Program's mission.

Further inquiries may be directed to Jim Hawhee, APNEP's community specialist, at 919-733-0121 or [Jim.Hawhee@ncdenr.gov](mailto:Jim.Hawhee@ncdenr.gov).



## State Rep Reports

### DC

The DC Environmental Education Consortium has announced their annual Teacher Night at the US Botanical Garden to be held on Thursday, February 3, 2011. The open house is free and open to all teachers in Washington DC public and private schools. The open house will be held from 6 p.m. until 8 p.m. Approximately 40 exhibitors will be on hand to explain their environmental education opportunities for teachers and their students.

The National Aquarium in Washington DC will again be conducting the Toyota USA Foundation sponsored teacher workshop, "Aquatic and Marine Science For Today's Classroom Teacher" in 2011. The 2-day workshop explores ocean literacy, aquatic ecosystems, biodiversity, and will include tips on how to include aquatic and marine topics in your curriculum. The workshop is open to all teachers (NOT just science teachers!) in the Washington DC metropolitan area. Workshop dates are: January 22 and 29; March 19 and 26; April 9 and 16; May 14 and 21. Each workshop session runs from 9:30 a.m. to 4:00 p.m. Contact Bill Simpkins with any questions at 202-482-0852 or [bsimpkins@aqua.org](mailto:bsimpkins@aqua.org). Application materials can be found at [www.nationalaquarium.org/workshops.html](http://www.nationalaquarium.org/workshops.html).

### NORTH CAROLINA

#### **The North Carolina Maritime Museum, Beaufort**

See the Outer Banks in the winter season with "**Heritage and History at Shackleford Banks**," Jan. 15, 8 a.m.-1 p.m. Take part in our coastal heritage as we hike the east end of the island, experiencing "Banker" ponies and superb shelling. Reservations, \$30.

Prohibition may have ended, but the history of "**Rum-Runners**" lives on. Join the Museum at a local restaurant Feb. 25 at 6 p.m. for this presentation on the ships that smuggled rum. Pre-registration preferred, call for secret program location, no password necessary.

Calling all crafters for the "**Sailor's Valentine Workshop**" Feb. 11, 1-3 p.m. Bring your best shells and join us to learn the history and practice this traditional craft. An experienced crafter will share tips and tricks for making your own sailor valentines. Reservations, \$15.

To make program reservations, or to find out more about educational programs offered at the Maritime Museum, visit [www.ncmaritimemuseum.org](http://www.ncmaritimemuseum.org) or call 252-728-7317.

#### **North Carolina Coastal Federation**

Oyster Shell Bagging Events, NCCF Headquarters, Ocean, NC

January 11: 10 a.m.-1p.m.

January 20: 10 a.m.-1 p.m.

February 4: 1-4 p.m.

February 21: 1-4 p.m.

Hoop Pole Creek Trail Clean-up, Atlantic Beach, NC

March 5: 10 a.m.-12 p.m.

Native Plant Festival, NCCF Headquarters, Ocean, NC

April 15-16: 9 a.m.-5p.m.

For more information on these events, please visit [www.nccoast.org](http://www.nccoast.org).



## VIRGINIA

### **Workshops**

January 27, 2011

#### **Flying WILD Workshop**

Presented by Lynnhaven River NOW and Virginia Beach Parks & Recreation

6:00 - 9:00 p.m. at Princess Anne Recreation Center

Free of charge. Advanced registration is required. Space is limited. This workshop for formal and informal educators is being held in conjunction with the Virginia Beach Winter Wildlife Festival. For more information or to register, visit [www.VBgov.com/winterwildlife](http://www.VBgov.com/winterwildlife).

February 17, 2011

#### **PLT's Environmental Experiences for Early Childhood Workshop**

Presented by Lynnhaven River NOW and Virginia Dare Soil and Water Conservation District

4:00 - 8:00 p.m. at VB Agricultural Bldg. Conference Room

Free of charge. Advanced registration is required. Space is limited. This workshop for early childhood educators will provide participants with Project Learning Tree's new early childhood curriculum for children ages 3 to 6 years of age. For information about the new curriculum, contact [hkuhns@lynnhaven2007.com](mailto:hkuhns@lynnhaven2007.com) or visit [www.plt.org/cms/pages/21\\_21\\_259.html](http://www.plt.org/cms/pages/21_21_259.html). To register for the workshop, contact [KHickman@vbgov.com](mailto:KHickman@vbgov.com).

April 9, 2011 – **Save the Date!**

#### **MWEE Capacity Building Workshop**

Presented by Virginia Sea Grant Marine Advisory Program and the Chesapeake Bay National Estuarine Research Reserve in Virginia

Save the date for this informative workshop - it's free of charge, but space is limited. Learn how to conduct your own Meaningful Watershed Educational Experiences (MWEEs) for students at your school. VIMS experts cover the basics of planning and carrying-out a MWEE, from identifying objectives that meet Science SOLs to site selection, appropriate equipment, and safety and organization. Also included: how to develop pre- and post-trip activities, an introduction to Chesapeake Bay flora and fauna, and review of environmentally responsible field trip practices. Workshop open to Virginia secondary teachers and more information will be available in the New Year. For more information, contact Carol Hopper Brill ([chopper@vims.edu](mailto:chopper@vims.edu)) or Sarah McGuire ([mcguire@vims.edu](mailto:mcguire@vims.edu)).

### **Events**

The City of Virginia Beach with the Virginia Department of Game and Inland Fisheries will be hosting a **Winter Wildlife Weekend** January 28-30, 2011. Register for this event for a chance to witness winter wildlife all around Virginia Beach, whether it's following fascinating bird activity, spectacular whale sightings or the musings of harbor seals near the Bay Bridge tunnel. Learn what it takes to properly observe and identify wildlife, while embracing the eco-friendly concept of "leave no trace." Registration runs through January 21. Space is limited for the excursions and workshops, so register early to reserve your spot! There is no cost to attend the festival, but some sessions and excursions do have a fee. <http://ezreg.vbgov.com/Activities/ActivitiesDetails.asp?ProcessWait=N&aid=4049>

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### **\*Reader's Review**

So what did you think of this issue of *The Masthead*? Please [submit](#) your comments!

If you did not get your program announcement or lesson plan in this issue of *The Masthead*, be sure to [submit today](#) for the next issue (due out in February). In the meantime, stay tuned to the MAMEA website and [Facebook page](#) for the latest news, information, and networking opportunities from the *greatest marine education association in the Mid-Atlantic!*