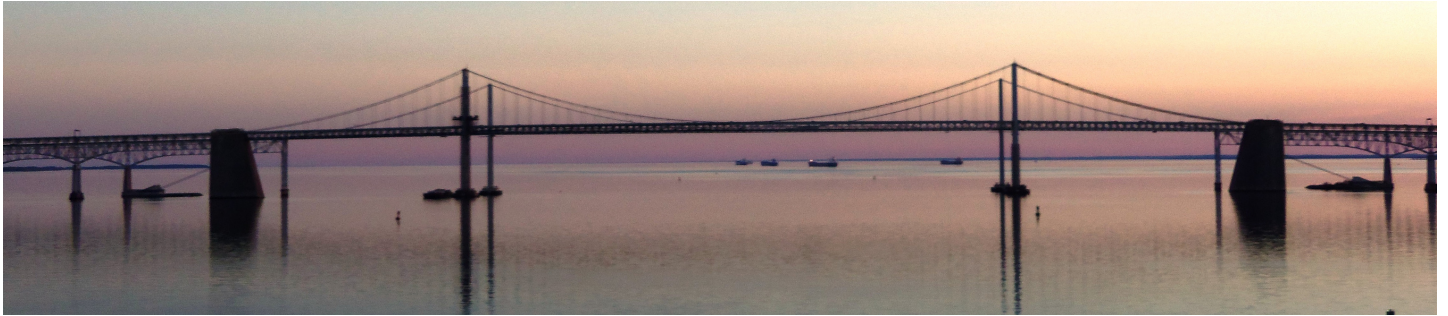




MASTHEAD

Quarterly Newsletter of the Mid-Atlantic Marine Education Association



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From the Captain's Quarters

Happy new year! A new year brings new opportunities, and although 2021 marks a full year into the pandemic, there is a lot to be hopeful for. Researchers have developed effective vaccines in a remarkably short timeframe (yay science!), and those vaccines have started to be administered to educators throughout the region. Although a lot is still up in the air, our work goes on and we all continue to adapt, learn from one another, and do the best we can in the current circumstances.

At MAMEA we're looking forward and planning as best we can for what this year will bring. We're still hopeful to see everyone in person again this fall for our annual conference, which is scheduled for November 5-7 in Solomons Island, Maryland, but realize the feasibility of that will rely greatly on the speed of vaccination distribution and a better understanding of the new COVID-19 variants. Our board will be meeting in early June and will fully assess the situation then and make a call on what format #MAMEA21 will take at that time.

This year also brings our transition to a new MAMEA website, which I'll be working on this year with our web guru, Lisa Ayers Lawrence. We'll be working closely with our board and committees to make sure all information on the site is updated and easy to find. Speaking of our board and committees - we're always looking for fresh faces to be part of the MAMEA leadership team! Interested in getting involved (at any level!) with a fun group of dedicated educators? Please let me know - I'd love to chat with you: tossey@umd.edu

Cheers,

Lisa Tossey
MAMEA President



NMEA Representative Report

Sarah Nuss

MAMEA representative to NMEA

NMEA is excited to host a virtual conference this summer from July 14-17, 2021. The theme this year will be "Your Connection to Water," focusing on our personal connection to water, as well as the virtual connection to which we have all become so familiar.

- July 14-16 will feature Plenary Speakers, Concurrent Sessions, and Networking from 2:00-6:00 pm EDT / 11:00am -3:00pm PDT / 8:00am-12:00pm HST.
- Our Student Conference will be held July 15 from 2:00-5:00 pm EDT / 11:00am -2:00pm PDT / 8:00am-11:00am HST.
- If local regulations allow, we will be offering in-person field trips hosted by our regional chapters on July 17.

Stay tuned for more information! <https://www.marine-ed.org/conference/2021>.



STATE REP REPORTS

Delaware Chapter

Mid-Atlantic Climate Change Education Conference

David Christopher, DE Sea Grant

Save the Date for the second Mid-Atlantic Climate Change Education Conference (MACCEC) to be held virtually on June 29- July 1. Visit our website (<https://www.maccec.org/>) to subscribe to our mailing list and check in on the evolving conference agenda, call for proposals, and conference registration.



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Maryland Chapter

Lauren Fauth

Maryland State Representative

Conservation Education Conference on Virtual Learning

<https://www.fishwildlife.org/projectwild/ConEd2021>

March 2-4, 2021

1:00-4:00 pm EST

Cost: *\$25/person

Join other Conservation Education professionals to build a community of practice around engaging the public in outdoor activities. From teacher professional development to fly-tying workshops - we've all had to adjust. The public audience that we serve will continue to expect having online options for learning, and we can reach a broader audience in doing so. Learn about great tools and methodologies that your peers have implemented. You will find the answers to questions such as:

- What kind of microphone should I use? Do I need extra lighting?
- How do I engage teachers in an online workshop focused on getting kids outside?
- What's a Kahoot?
- Where do I start with online learning experiences?

Irvine Nature Center

2021 WINTER & SPRING VIRTUAL EAT, DRINK & LEARN SERIES

Even though we can't be together in person, we can still have some fun eating, drinking and learning from home, right? Join us via Zoom for NINE presentations on everything from gardening to birds, insects, oysters and more. Of course, we won't forget to send you suggested cocktails to enjoy before each program. We hope you can join us for these fun-filled and educational programs.

<https://www.explorenature.org/classes-camps-programs/adults/eat-drink-learn-speaker-series/>

Natural History Society of Maryland

"Born" to Float Alone: The Natural History of Plankton

Please see event page for details.

Thursday April 15th 7-8pm; Pre-registration Required

<https://www.marylandnature.org/get-involved/events/event/born-to-float-alone-the-natural-history-of-plankton/>

Free Online Marine Science Course

Meaghan Cuddy, Ocean Educator at Smithsonian National Museum of Natural History

Are you interested in learning about marine science at home?

Our Global Ocean - An Introduction Course is a four-part, self-paced, free online course for young adults and adults in which you will explore the basics of oceanography, ocean paleobiology, the diversity of marine life, and how humans are connected to and changing our ocean. This course, developed by educators at the Smithsonian National Museum of Natural History, provides learners with quality marine science content as told through the Smithsonian's collections, research, and exhibits.

You can enroll for FREE at <https://www.edx.org/course/our-global-ocean-an-introduction-course>.

Virginia Chapter

Cathy Roberts
Virginia State Representative

Virginia Living Museum

Some Like It Hot! Microbial Communities Inhabiting Hydrothermal Systems

Date: March 18, 2021

Time: 6:30pm

Webinar Speaker: Dr. Jessica Labonté, Assistant Professor, Department of Marine Biology, Texas A&M University at Galveston

For more information and to register: <https://thevlm.org/education/adultsfamilies/adults/>

The Virginia Plastic Pollution Prevention Network

This great new group is working to reduce plastic pollution in Virginia by increasing communication and collaboration among the many organizations that are working on preventing litter and marine debris in Virginia. It is free to join, and can provide you and your organization with valuable resources through its:

- Monthly zoom meetings
- Web site and forums for sharing
- Monthly email with announcements (see below)

The VA Plastic Pollution Prevention Network was co-founded by Clean Virginia Waterways of Longwood University, Eco Maniac Company, and the Virginia Coastal Zone Management Program (at the VA Department of Environmental Quality).

<https://viriniaplasticpollutionpreventionnetwork.wildapricot.org/home>

Save the Date

Virginia Association of Science Teachers 2021 ANNUAL PROFESSIONAL DEVELOPMENT INSTITUTE

Hotel Madison and Shenandoah Valley Conference Center, Harrisonburg, Nov. 17 - 20
"Science, Systems, Solutions"

Bermuda Days at the Bermuda Institute of Ocean Sciences (BIOS) with Susie Hill

Susie Hill

In the midst of the COVID-19 pandemic, a dear friend, Kaitlin Noyes, who is the Director of Education and Community Engagement for the Bermuda Institute of Ocean Sciences (BIOS), reached out to me with a request to serve as her Robotics Education Specialist. With grand approval from my personal and Nauticus work families, I was packed and on a plane ready to fly to sunny, beautiful Bermuda for eight weeks between January and March of this year.





BIOS is an US non-profit scientific research institution and educational organization that has been in operation in Bermuda for over 100 years. With Bermuda’s unique location, 648 miles from North Carolina, and its unique geology atop an extinct volcano—the islands make the perfect location for students to explore STEM themes. Core to the mission of BIOS is to provide innovative experiential STEM training for Bermuda’s students, teachers, and mentors. Ocean Academy is a suite of five experiential education programs that BIOS offers—and I have brought my passions and expertise to the Mid-Atlantic Robotics In Education program (MARINE).



The MARINE program hosts a capstone challenge every spring in partnership with the Marine Advanced Technology Education Center (MATE). For many years—I worked on fostering and growing the MATE Mid-Atlantic Regional ROV Competition and now have brought my expertise to Bermuda. Throughout my time here, we prepared mission props, score sheets, volunteers, and students for the big day in April where they will compete in the 2021 MATE Bermuda Regional ROV Challenge. Teams, from middle school to community college ages and of schools all over the island of Bermuda, build underwater robots to complete mission tasks fitting to this year’s theme of Excite, Educate, Empower: Students Engineering Solutions to Global Problems. They learn the importance of cleaning up marine debris in different means such as by using Seabins, restoring ocean habitats of coral reefs while reducing invasive species such as crown of thorn sea stars and lionfish, and detecting harmful contaminants in local waterways while realizing that ROVs, remotely operated vehicles, can be used to help in all of these areas.



In addition to preparing for the Competition, I had so many wonderful opportunities related to my passion for ocean sciences. We cleaned up large marine debris to layers of microplastics along the bright sandy beaches of Long and Well Bay at Cooper’s Island Nature Reserve to submit our collection information to the BIOS’s list on the Marine Debris Tracker Application. We led BIOS focused programs for local groups of students on robotics by learning about different types of underwater robots, building model cup and straw robotic manipulator arms and soldering mini-practice circuit boards. We even pulled plankton tows along the beautiful waters of Ferry Reach to collect copepods and other cool, tiny creatures to identify through microscopes. Best of all, I hope to be able to take these awesome opportunities back home to my work at Nauticus in Norfolk, Virginia, and create new programming for our museum guests!

During my free time on the weekends, I was a full-time tourist. I have witnessed deep caves carved out by the Atlantic Ocean, forts built to protect the early colonists, seen different colored, textured beaches, bright blue Portuguese Man-of-War, variety of native snails and birds, and numerous pieces of sea glass covering the sands, visited their local aquarium/zoo, and museums, and met the nicest people you'll ever come across! It was amazing to see how small this marine science world is when you meet folks across the ocean for the first time, and within minutes, you've named multiple people you both know through organizations such as MAMEA, NMEA, NNOCCI, VIMS, NOAA, Sea Grant, Nauticus, MATE, and more!

Being at BIOS has been such an amazing experience of a lifetime for me!



North Carolina Chapter

Brittany Pace

North Carolina State Representative



Over 70 volunteers came together on Oak Island to place 297 used Christmas trees on the beach to help start the process of dune-building. In only 1.5 hours, the trees covered over a half mile of beach from McGlamery Street to the Oak Island Pier! Great job Oak Island Beach Preservation Society for organizing and everyone for respectfully wearing masks!

A wooden stake was placed to the right of the tree trunk and tied to the tree. Then a shovel of sand was placed at the top to hold the tree down. How do the trees work to trap sand? According to the OKI Beach Preservation Society, "you've probably seen how strong wind leaves patterns on the beach around small obstacles like shells or rocks, or builds up next to sand fences. A simple explanation is that wind energy picks up sand, but things in its path slow the wind and it loses some of the energy."



When the wind strikes an object, some heavier sand particles fall out on the upwind side, but lighter particles continue to be carried. They land on the protected downwind side. It's that slowing of wind flow that piles up sand around our trees too! Over time the tree-trapped sand contributes to dune growth, and the tree decomposes to provide nutrients for plant growth."

Small Group In-Person Programming

On Oak Island, Fort Caswell’s Environmental Stewardship Program has pivoted to small group community-based programming during this period of time with no school field trips. All programs are limited capacity of 10-15 people and are a low cost of \$10-20. Safety is priority, face masks are required for all programs. Health Screening and Temperature Checks are performed upon arrival.

From March to May, we are offering outdoor only programs such as Explore the Shore, Bird Walks, Kayak Eco Tours, Sea Turtle 101 and Monitoring, Living Shorelines 101, and more. Join our Facebook page for up to date programs and events at: <https://www.facebook.com/caswelled>.

To register or inquire about customized programming: email bpace@fortcaswell.com or call (910) 278-9501.



MarineQuest: Virtual Experience

During the COVID-19 pandemic, UNCW MarineQuest has pivoted to providing educators and their students with interactive virtual field trip experiences. No matter where your students are logging in from, whether it is in the classroom or their homes, these programs will bring the wonders of the marine environment to them.

The MarineQuest team will work with you to plan a program that will best meet your curriculum and logistical needs. A sample of some of our virtual program offerings include:

- The Power of Plankton & Impacts of Harmful Algal Blooms
- Biodiversity & Biotechnology in the Fouling community
- Climate Science and Coastal Resiliency
- Marsh Ecology & Ecosystem Services
- Marine Chemistry & Ocean Health

"MarineQuest did an awesome job converting an in-person experience over to a virtual experience for students. The materials provided were excellent in supplementing the virtual field trip. I also thought they did a wonderful job showing how to make a microscope slide, looking through the microscope, etc. so it actually felt like you were doing it in person!"
 -High School Science Teacher

For more information about our school programs, please feel free to reach out to us via email at muhlsteinh@uncw.edu or at (910) 962-3795.

NC Aquariums Workshops

VIRTUAL MERMAID ADVENTURES: DIAMONDBACK TERRAPINS

We will "swim" out to the Bay to find a brackish-water specialist, the diamondback terrapin. Help us think of small changes to make big impacts for these animals and the special place they call home.

February 27, 2021 at 10:00am
Non-members: \$30 per screen
Members: \$27 per screen

SAVING SHARKS

Do you love sharks and want to learn more about the conservation research being done with them? Join us for this informative program where the North Carolina Aquariums partner with Vermilion Sea Institute to talk about sand tiger sharks and whale sharks!

Did you know that some sharks can be identified using their unique markings, just like we can be identified by our unique fingerprints? Tag along for a virtual exploration on how those shark fingerprints can help us learn more about them! The NC Aquarium at Fort Fisher and the Vermilion Sea Institute are working hard to save sharks in the wild. Learn about sand tiger sharks off the coast of North Carolina and then travel to the Baja California peninsula in Mexico to learn about whale sharks. Join us as we share about sharks and learn how you can help!
Recommended for ages 7 and up.

March 6, 2021 at 11:00am. Duration 1 hour.
Non-members: \$30 per screen
Members: \$27 per screen
Online registration ends 24 hours prior to program start time.
To register, visit: <https://reservations.ncaquariums.com/fortfisher/Info.aspx?EventID=75>

VIRTUAL MERMAID ADVENTURES: BIRDS

Many species of birds can be found nesting and feeding in and around the water. Encounter a wood duck and catch a glimpse of our bald eagle, Maverick, as we tackle some challenges these birds face.

March 27, 2021 at 10:00am
Non-members: \$30 per screen
Members: \$27 per screen

The link to find these programs is <https://reservations.ncaquariums.com/fortfisher/Info.aspx?EventID=75>

A vibrant background featuring a variety of tropical leaves in shades of green, yellow, and blue. The leaves are arranged in a dense, overlapping pattern, creating a lush and colorful environment. In the center, a dark green circle contains the main text.

Call for MAMEA Nominations:

Email Carrie Carlin at ccarlin@hcps.us with nominations for the following positions by **MARCH 31, 2021**

- President-Elect
- Treasurer
- Delaware Representative
- Virginia Representative
- At-Large Position

Have YOU got a great educational project idea that needs funding?

*Dawn Sherwood
Grants Committee Chair*

You could sit on Santa's knee and make a wish... Or, you could take advantage of your MAMEA membership benefits, work up a proposal, and apply for support in the next cycle of MAMEA Educational Project Grants (2021/22).

Each year, two MAMEA grants for up to \$1,000 are available: One for formal educators (classrooms, K-16); and one for informal educators (museum, aquarium, zoo, science center, government agency staff). Projects should actively engage learners (students or educators) and focus on marine or aquatic topics. To be eligible, applicants must be current MAMEA members with at least one year's membership. To be competitive, projects should meet the program structure described on the MAMEA Grants page at www.mamea.org/minigrant.html. You can read about projects that have received MAMEA support in the past, see www.mamea.org/pastgrants.html.

Visit the Grants page on the MAMEA website for the grant application form, as well as important details about the application process and grantee responsibilities. Or, contact the Grants Committee Chair, Dawn Sherwood at dcsherwood@henrico.k12.va.us. Applications are accepted throughout the year, but proposals will only be reviewed and awarded in the fall. The deadline for the 21/22 cycle will be in September. Grant awards will be announced at the Annual MAMEA conference, and the funding period is 12 months, from November 2021 to October 2022, with no extensions. So that all members can benefit from the investments made by the MAMEA Grant program, Grantees share the outcomes, lessons learned or educational products from their grant projects. This may be in the form of a Masthead article or as a session presentation at the annual Conference.

Due to the impacts of COVID19, please note that 21/22 grants will be offered pending an in-person conference. The MAMEA Board will make the determination of whether we can safely host an in-person conference in June. Regardless, we still encourage you to apply!

So, put your thinking caps on, MAMEA is looking for great ideas to support. Maybe MAMEA can help you get your next educational project off the drawing board and into reality.

Aquaculture in the Classroom Garage in the Time of Covid

*CarolAnn Curran, Maritime Science Teacher for Ocean View Elementary
MAMEA 2019/20 Educational Grant for a Classroom Educator Recipient*

When a pandemic strikes, even the best-laid plans do not come to fruition. Ocean View Elementary School's Aquaculture in the Classroom Project became one of those plans. In March 2020, I waited with bated breath to hear that our "two week" Coronavirus break was coming to an end. It was then that I would be able to begin the exciting process of raising fish and plants in our Maritime Science Lab. March 2020 came and went. Then April, then May, then the rest of the school year was completed virtually.

Hopes for a 2020-21 School Year to be conducted with students in the building were dashed with increasing numbers of Coronavirus exposures and deaths. In the best of times, school district bureaucracy can slow the most "enthusiastic and tenacious of task masters".

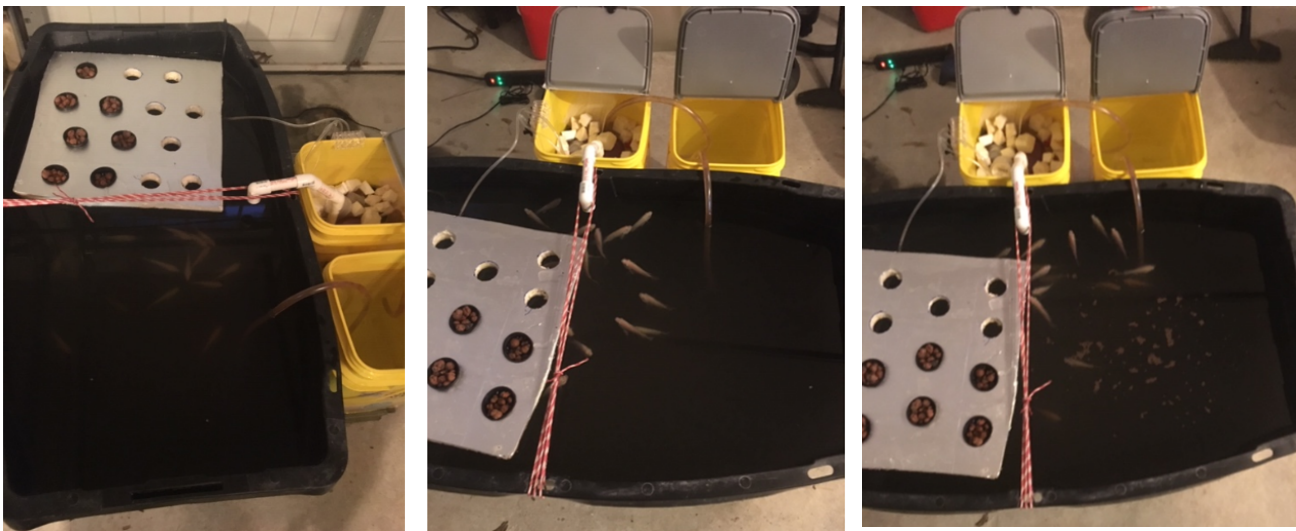
During a pandemic when everyone is trying to make sense of their current situation, adjust to the ever-increasing restrictions, and create a new “normal”; expecting school district bureaucracy to be prepared to handle an Aquaculture in the Classroom Project was simply too much for the overtaxed system to bear!

In August 2020, when it became increasingly obvious that instruction in the classroom was not going to take place for quite some time, I began working with my administration to get approval to conduct our Aquaculture in the Classroom Project in my garage. The wheels of progress were grinding at a snail’s pace but I took my “enthusiastic and tenacious task master” job seriously. Approval was finally granted in November right before Thanksgiving!

I made arrangements to build the system over the Thanksgiving break, to pick up the fish the following weekend, and to begin raising fish and growing plants by the first week in December.

Oh, best-laid plans! The world’s largest aquaculture farm is five hours away from Virginia Beach in Martinsville, Virginia. They graciously agreed to donate fingerling tilapia to Ocean View Elementary School (OVES). There was a snowstorm in Martinsville, Virginia over the weekend which delayed my trip. Then, three aquarists at the aquaculture farm contracted the Coronavirus! Again, my trip was delayed. A new date for fish pickup was set for after the school’s Winter Break. January 6, 2021 was the day OVES was finally going to get their fish! January 2, 2021 was the day that I, “enthusiastic and tenacious task master”, came down with Covid!

After two more rescheduled attempts in January, due to snow in Martinsville and in Virginia Beach; the “enthusiastic and tenacious task master”, her sister, her puppy, and the fish completed at twelve hour round trip. February 2021 happily begins our Aquaculture in the Garage Adventure! Stay tuned!



Educator Awards – Call for Nominations!

Rachel Clark
Awards Committee Chair

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

To see past recipients and to nominate an outstanding educator, check out the Awards page on www.mamea.org. Nominations will be accepted through September 15, 2021. Winners will be announced at the MAMEA 2021 Annual Conference.



2021 BOARD OFFICERS

President: Lisa Tossey
Maryland Sea Grant

Past President: Carrie Carlin
Atlee High School

President-Elect: Evan Beatty
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Delaware Sea Grant

Treasurer: Jackie Takacs
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Maryland: Lauren Fauth
The National Aquarium

North Carolina: Brittany Pace
Fort Caswell Environmental Stewardship Program

Virginia: Cathy Roberts
VA Aquarium

At-Large Rep: Emily Peters
The National Aquarium

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Highland Springs High