

SeaScripts



The Newsletter of the South Carolina Marine Educators Association



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Winter 2016



Captain's Corner

President's Letter

I feel very fortunate to have the opportunity to serve as your SCMEA president for the coming year. I was introduced to this organization in 2010 when I began working with Beth Burkett and Mark Madden (both past presidents) at the Charleston County Parks. I became a board member in 2013, and was the president-elect in 2015. Through three different jobs and one move, SCMEA has remained a constant for me over the past five years. Being on the board has been a wonderful and rewarding experience, especially as the conference chair for our 2015 conference in Greenville.

I was very pleased with how the 2015 conference turned out. It took lots of planning and preparation from our whole team, but in the end everything went very smoothly: we welcomed excellent speakers from across the state; our main venue, Roper Mountain Science Center, provided the perfect space for talks and networking; there was good participation from old members and new members alike; and there was plenty of food and coffee to go around!

With so many years of experience hosting successful regional conferences, I know that SCMEA is in a good position as planning starts for the 2017 national conference in Charleston. In order to focus our attention on NMEA planning, our board has decided to forego a full-blown 2016 conference; in its place, however, we will be planning some smaller professional development days throughout the year. Be on the lookout for more information about these valuable events!

Yours in watershed and marine education,

Rachel Davis

SCMEA President

Water Resources Agent

Clemson University Cooperative Extension Service



Rachel with past president Meika Samuel

2015 SCMEA Conference Highlights

By Lindsay Patterson, SCMEA President-Elect

SCMEA conferences are a great time to get together with people who work hard and love to have a good time while celebrating marine education. This year we took a journey from the coast to Greenville to experience *Watershed Moments: From the Mountains to the Sea*. The sessions were enriching and the auction was filled with appealing items. It's always a pleasure spending time with the best people in marine education in the state! Here are a few of my reflections from the 2015 conference at Roper Mountain Science Center.

Quest Brewing Company- A little socializing with brews never hurts! The welcoming reception at the brewery was a fun way to kick off the conference. Quest Brewery had local beers that you could not buy at your average store. Additionally, the Thoroughfare food truck provided yummy dinner options at the brewery. The ability to try a few different brews and get a taste of the local flavor was nice. A fall evening, lively acoustic music, new and terrific brews, enjoyable food, and awesome company started the conference off just right.



SCMEA members enjoying a brew at Quest Brewery



Dr. Jack Turner addressing members during Keynote

Keynote speaker and Panelists- Dr. Jack Turner from USC Upstate as our keynote speaker was enlightening. To hear about his ability to use private donors, water utilities, and grants to establish the Watershed Ecology Center at USC Upstate was excellent. The panel discussion at the conclusion of the concurrent sessions was phenomenal. The panelists, Brannon Anderson (Furman University), Holly Blair (Sullivans Island Elementary), Chris Hall (Sierra Club), and Amy Scaroni (Clemson Extension) provided some insight on the top threats to clean water in South Carolina and how to engage people in watershed protection. The discussion was both motivating and educational.

Falls Park on the Reedy- I have been to Falls Park many times but there was something special about visiting the park after discussing watersheds at our conference. Besides viewing Falls Park as a recreational activity, I was able to reflect on my thoughts from the conference. Greg Burris, a Falls Park manager, gave us a pleasant tour of the "oasis of Greenville." We also had the chance to view the newest edition to the park, a beautiful Dale Chihuly sculpture. The "Rose Crystal Tower" was added in early October. The Sunday trip was a lovely way to end the weekend.



Chihuly's Rose Crystal Tower in Falls Park

SCMEA will host an event in 2016 but it will be modified to prepare for a significant year in 2017. With the upcoming NMEA 2017 conference in Charleston, I'm excited to prepare with SCMEA to host this magnificent event! If you would like to help in NMEA 2017 Conference planning, please complete a brief survey found [here](#). Stay tuned to hear more about SCMEA events in 2016 and the NMEA 2017 Conference. I hope you will meet me there!



SCMEA AWARDS



A number of awards and scholarships were awarded at the 2014 SCMEA Conference. Please join me in congratulating these members on their service to marine science education.

2015 Fred James Travel Award

The recipient of this award was James Byrum. This award supports travel to the annual SCMEA conference

I was very honored to be awarded the Fred James SCMEA Travel Award. This is my twelfth year teaching but only my second year teaching marine science, so I was excited to meet others in South Carolina who share the same passion. It was great networking and learning new ideas to bring back to my classroom. The conference provided a lot of great information on the conservation efforts taking place around the state and ways to incorporate this information into the curriculum to provide real world situations that students can relate to. I look forward to attending next year's conference.

-James

2015 Jacques Cousteau Memorial NMEA Travel Award

The winner of this award was Jackie Wong. This award supports travel to the annual NMEA conference

My travel to the 2015 NMEA Conference

Last summer I had the great opportunity to spend a week at the 2015 NMEA Conference in Newport, Rhode Island. It was my first NMEA Conference and I didn't know what to expect. Reading ahead about the speakers and classroom sessions offered, I knew that it would be educational and expose me to some very engaging people, research, and topics. I couldn't have imagined how fun-filled and inspiring the conference actually would be. The NMEA Conference is a large conference, but it has such welcoming family feel. Everyone that I interacted with at NMEA was so eager to share their marine education experience and curious about finding out what everyone else was doing. It was a great experience to get inspired and meet a dynamic group of people. They ranged from formal educators, informal educators, aquarists, and researchers. Everyone at NMEA is passionate about educating the public about Marine Science.



The 2015 NMEA Conference was in the scenic, historic downtown of Newport, Rhode Island. Newport is a town that loves enjoying the ocean with sailing vessels around every scenic view and lobster or seafood offered at every restaurant. It made for the perfect host site to discuss exploring and protecting our world of water.

Mornings began with keynote speakers and panel discussions on topics around Ocean Exploration, Global Ocean Literacy, and Climate Change. These morning talks inspired everyone to take action, share knowledge, and make a difference. The concurrent breakout sessions were plentiful and you often wished that you could go to multiple sessions at a time. Some of my favorite sessions were:

Microplastics: The sources might surprise you – Maia McGuire had a packed room and discussed how every piece of plastic that ever existed, still exists today. It just breaks down smaller and smaller. We watched the provoking TED-Ed video, *The Nurdles' Quest for Ocean Domination*, and saw how microplastics could be found in commonly used items. This was a session that

proved knowledge is power and can provoke action. She proposed that the 3Rs now have another: Reduce, Reuse, Recycle, & REFUSE. Check labels. Help with beach clean-ups and focus on the little stuff.

Hands-on Workshop on Ocean Acidification – Elise Avallon from NAMEPA had another packed workshop with the hot topic of Ocean Acidification. She introduced us to variety of activities. One activity showed how acid affects shell strength with soaking some shells in vinegar and testing the pressure needed to break the shells. Another activity used legos to understand the chemistry of how carbon dioxide is being absorbed by the ocean and forms carbonic acid. The key was hands-on with every activity.

Hands on Shark Science - Julia Wester shared how the RJ Dunlap Conservation Program is humanizing scientists and turning students into scientists with their boat research lab. Hands on with a live shark will leave an impact on students. Students will care about protecting nature when they have meaningful experiences with it.

When Exotics Become Invasive: Lionfish – Jennifer Latour shared excellent hands-on activities with students analyzing stomach contents to show how much invasive Lionfish impact many species in their growing range. They also shared a great Invasion Board Game that had all of us eager to continue playing. The big take away was that it's time for the "taming of the lion" - we can't get rid of lionfish so let's learn how to manage them.

Shell Shocked: Molluscan Macroevolution - Dr. Carol Hopper Brill introduced us to the research of evolutionary paleontologist, Geerat Vermeij, who studied the co-evolution of mollusk and predators. There is a great video of his work on shapeoflife.org. We then did a hands-on lab activity on gastropods vs. shell-breaking predators. We discovered that breaks are battle scars that tell a story.

Ocean without Fish: Ordovician Seas – Bill Andrade showed how he got his students hooked on science with the help of his sister, Dr. Tamra Schiappa. As a paleontologist in the field, Dr. Schiappa exposed us to the most current resources for scientists in this constantly updated field. We used fossils from Indiana to reconstruct the Ordovician ecosystem, and discussed the role of each organism. At the very end, they actually had a fossil giveaway. All participants left with a bag or two of great fossils to be able to recreate this lesson and expose students to our ancient seas. It was like seeing kids in a candy store; everyone was so excited about the potential of all these great resources.

At meals and evening events you heard from others about all the other great concurrent sessions and it becomes quite clear that you are at a special place to recharge your lessons and inspire others to learn about the natural world. This was both education and vacation with amazing evening events like "Evening by the Bay" at Fort Adams, dinner and touring the Mystic Aquarium, and auctions and entertainment at the Newport Marriott.

If you're looking for new ideas and resources. If you're looking to network with passionate educators and researchers. If you're looking for a fun experience that will recharge your own teaching. Then you should go to the next NMEA conference.

Mark your calendars. The 2016 NMEA Conference will be held in sunny Orlando, FL June 25 – July 1, 2016. The 2016 theme is Making Waves: Current Connections in Marine Science. Tell your fellow educators about the conference and get your travel plans ready. For funding opportunities apply for scholarships through SCMEA or NMEA.



-Jackie



2015-2016 SCMEA Memberships



Did you forget to renew your **SCMEA** membership for 2015-2016 at the past **SCMEA** conference? No worries!

Renew your membership at www.scmarineed.org TODAY!

Meet Our 3 New Board Members: Kendyll Collins, Nick Wallover, and Michelle Ashley

Name: Kendyll Collins

Occupation: Education Interpreter III at the South Carolina Aquarium

Education: B.S. in Biological Environmental Science from the University of North Carolina at Wilmington Honors College

First Job: Swim lesson instructor

Favorite animal in SC: It changes every day, but today it's the belted kingfisher

Most unique animal you've seen: Leatherback sea turtle

Most cherished moment working in Environmental Education:

During an outreach program for 1st graders, I brought animals from different parts of a barrier island- ranging from hermit crabs that live in the surf to rough green tree snakes, that live in the maritime forest. I wasn't informed of any special considerations to make for any of the students, so I conducted the program as I normally would with lots of interpretive tools, items to touch, and I even let the students touch the animals. I learned after my visit that there was a student that had never uttered a spoken word and was almost 7 years old. She came home saying "turtle," and her parents were brought to tears. A teaching assistant called to tell me the story the next day.

Favorite part about working in Environmental Education: My favorite part of working in this field is that there's no typical day, and I also get to learn something new each day.

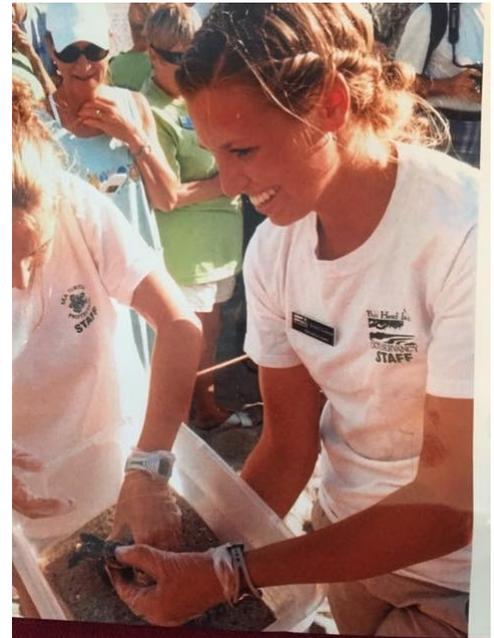
Funniest Environmental Education moment: Too many stories when you combine children and animals! I'll have to think more on this one!

Favorite outside activity in SC: Beachcombing or birding

Favorite place in the world: the saltmarsh

Where you want to travel: Hawaii and the Galapagos

Fun fact about you: I have three younger brothers



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Name: Nick Wallover

Occupation: Regional Biologist for ACE Basin NERR/ SC DNR

Education: B.S. Biology/Marine Science from Salisbury University/ UMES, Master of Science in Environmental Studies at College of Charleston

First Job: Selling beach tags in New Jersey

Favorite animal in SC: Piping Plover

Most unique animal you've seen: A school of ocean sunfish rising from the deep while blue water diving, it was extraordinary

Most cherished moment working in Environmental Education: Anytime I am able to show someone, child or adult, something they never knew that inspires a sense of stewardship in them

Favorite part about working in Environmental Education: Working outside, everyday is a chance to learn about something new, no two days are the same

Funniest Environmental Education moment: Watching people try to hold on to a live shrimp for the first time, most can't seem to keep a hold on them.

Favorite outside activity in SC: Fishing and surfing

Favorite place in the world: Currently, the front porch at home

Where you want to travel: I have a penchant for islands, maybe the Azores or somewhere in the S. Pacific

Fun fact about you: I moved to Charleston in 2008, and never looked back!



Name: Michelle J. Ashley

Occupation: Science Teacher

Education: B.S. Horticulture from Clemson University, Master of Ed. In Divergent Learning at Columbia College

First Job: at 14, I blew up rafts at Cherry Grove Beach Shoppe..Fun fun!

Favorite animal in SC: Sugar gliders and dolphins

Most unique animal you've seen: ...um, not sure

Most cherished moment working in Environmental Education: watching my "all boys" class canoe last year, most their first time

Favorite part about working in Environmental Education: The awe in someone's eyes when they see something amazing in nature

Funniest Environmental Education moment: When my senior football players pushed their girlfriends out of the way at the zoo to get away from the gorilla beating on his chest and charging the window— priceless

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Favorite outside activity in SC: hiking and canoeing

Favorite place in the world: Just being outside

Where would you like to travel and why: Somewhere along the Asian coast, to experience a culture as old as time

Fun Fact about you: I'm hoping to get some more honeybees soon! (I LOVE my bees)



Georgia Shorebirds Conservation Teacher Workshop February 12-14, 2016

Shorebirds: yet another chapter in the story of our ever changing planet. As temperatures rise, shorelines change, and habitats are lost in one location and gained in another, these winged globetrotters respond remarkably and adapt as they have throughout time. Unfortunately, their response to these changes is often interrupted by human interactions. Join biologists and birding experts from the Georgia Department of Natural Resources and the Sapelo NERR for the annual Shorebirds Conservation Teacher Workshop to explore who these birds are, the integral role the estuarine habitat plays in their migratory pathway between feeding and breeding grounds, as well as the many conservation and management efforts in place to ensure their continued survival. We will venture out to pristine stretches of Sapelo's beach and marsh to observe feeding behaviors, and probe the sediments as the birds do to identify their food sources. You're sure to depart on Sunday with an appreciation for the estuarine habitat and for these birds, in addition to a tote bag of classroom resources to educate your students. The Georgia Shorebirds Conservation Workshop is open to actively teaching formal and non-formal educators of all grade levels. Participants should be in good physical condition and able to walk approx. 1m. 2 PLU's are available.

TOPICS INCLUDE: birding adaptations, migration, shorebird conservation, the importance of estuaries to humans and wildlife, and the intricate connections it has with the ocean and climate systems; corresponding activities from the USFW Shorebird Sister Schools Program and Estuaries 101

ACCOMMODATIONS on Sapelo Island: dorm style facilities with 2 beds per room, central heat; transportation on Sapelo via open flatbed trucks with bench seating.

TIME: 5pm, Friday February 12 - Sunday, February 14, 4:30pm

COST: \$215 includes meals, materials, island accommodations, & ferry

For questions please contact: Georgia Graves at georgiabeachwalk@bellsouth.net

AMERICAN METEOROLOGICAL SOCIETY



DataStreme Ocean offered again in the Spring of 2016!

Following our successful implementation of all three *DataStreme* courses over the past three semesters, we will once again offer *DataStreme Ocean* for the spring semester, 2016.

DataStreme Ocean is a three credit graduate level course designed and implemented by the American Meteorological Society in an effort to enhance science education in the United States. The course has been offered for many years across the country; our Team makes the courses, and the others in the series, available in the Lowcountry.

The course is provided free of cost to participants and includes text materials, access to the course web site and 3 graduate credits provided by the State University of New York - Brockport. Funding is provided in large part by the National Oceanic and Atmospheric Administration (NOAA).

"DataStreme Ocean, explores the ocean in the Earth system with special emphasis on (1) the flow and transformations of water and energy into and out of the ocean, (2) the internal properties and workings of the ocean, (3) interactions between the ocean and the other components of the Earth system (hydrosphere, atmosphere, lithosphere, and biosphere), and (4) the human/societal impacts on and response to those interactions." (From the DS Ocean web page.)

The details and requirements for the course may be found at the DS Ocean web site:

<https://www2.ametsoc.org/ams/index.cfm/education-careers/education-program/k-12-teachers/datastreme-program/datastreme-ocean/>



ACE Basin NERR– Spring 2016 Coastal Exploration Series

The ACE Basin NERR's Coastal Exploration Series is back this spring with a variety of great offerings. They will be adding dates and details as the season goes on so keep a close eye on the calendar. Please remember that event registration opens 30 days prior to each event and closes one week prior to each event, registration does not guarantee participation spot.

To view the Spring Calendar and registration information, visit

www.dnr.sc.gov/marine/NERR/seminarseries.html



We Need Your Help!

SCMEA is hosting the National Marine Educators Association Conference in Charleston, South Carolina, June 25-29, 2017!

It's not too late to help! If you are interested in being involved in conference planning in any capacity, simply complete a brief questionnaire found [here](#).

If you have any suggestions or contributions you want to share, please email Lindsay Patterson at lpatterson@ccprc.com

Stay tuned for more information to come your way!



Charleston STEM

Charleston STEM Festival is scheduled for **Saturday February 6th from 10 AM – 3 PM at Brittlebank Park!** This event is FREE and open to the public! Don't miss out on the more than 50 exciting hands-on demonstrations and exhibits all designed to feature STEM (science-technology-engineering-math) skills! More information can be found by visiting: <http://charlestonstemfest.org/>.

Save the Date: From Seeds to Shoreline Salt Marsh Restoration Program Teacher Training

June 29, 2016!

The From Seeds to Shoreline program is designed to teach students about the value of the salt marsh ecosystem through cultivating and transplanting *Spartina alterniflora* – the dominant plant of the salt marsh. If you are a K-12 teacher interested in participating in the program, a pre-requisite training is scheduled for **June 29, 2016 at the S.C. Department of Natural Resources**. The training is free to attend



and registration will open March 2016 by visiting www.scseagrant.org/education. Questions? Please contact E.V. Bell at ev.bell@scseagrant.org

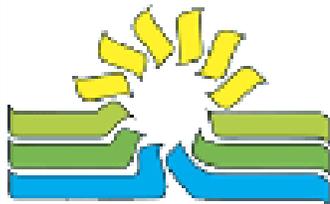
-Save the Date: Salt Marsh STEAM (Science-Technology-Engineering-Art-Math) Workshop July 25-29, 2016!

The Salt Marsh STEAM Workshop brings the science of the salt marsh together with photography, visual arts, and literature! Spend a week learning about the salt marsh ecosystem from scientists and developing techniques to capture and teach these concepts using photography, writing, sketching, and watercolor. The workshop will be held at Hobcaw Barony at the North Inlet Winyah Bay National Estuarine Research Reserve in Georgetown, SC from **July 25-29, 2016**. Registration will open in March 2016 by visiting www.scseagrant.org/education. Questions? Please contact E.V. Bell at ev.bell@scseagrant.org.



Certified Interpretive Guide Training Workshop

February 2-5 2016



The Charleston County Park and Recreation Commission, in partnership with the National Association for Interpretation, is offering a professional certification course for individuals who will be delivering interpretive programs or having public contact at interpretive sites. The Certified Interpretive Guide program is designed for anyone who delivers interpretive programs to the public. It combines both the theoretical foundations of the profession with practical skills in delivering quality interpretive programming to visitors.

This 32-hour course includes:

- history, definition, and principles of interpretation
- making your programs purposeful, enjoyable, relevant, organized, and thematic
- using tangible objects to connect audiences to intangible ideas and universal concepts in interpretive programs
- presentation and communication skills
- certification requirements (open book exam; program outline; 10-min. presentation)
- all materials, workbook, and CIG course textbook

For more info, contact Beth Burkett bburkett@ccprc.com

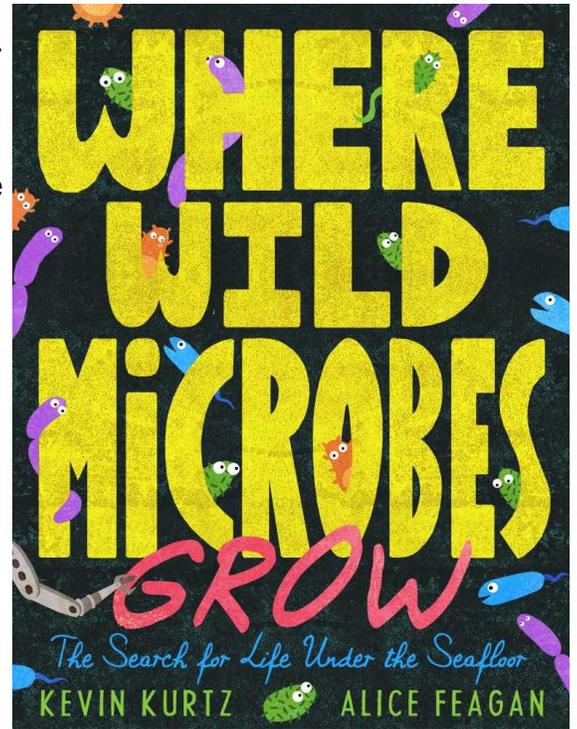


New marine science children’s e-book release

We’ve heard it all before—standards, standards, standards. We’re all under pressure to meet them. Now, reach Common Core and Next Generation Science standards with the release of *Where Wild Microbes Grow: The Search for Life Under the Seafloor*, a new interactive illustrated children’s e-book, available for free on [iBooks](#) and as a [PDF](#).

Here’s how it can help.

Written in rhyming verse by award-winning children’s author [Kevin Kurtz](#), illustrated with enchanting detail by award-winning illustrator [Alice Feagan](#), and funded by the Center for Dark Energy Biosphere Investigations (C-DEBI) and the National Science Foundation, *Where Wild Microbes Grow* uses text, illustrations, and videos to teach K-8 students about intraterrestrial life and the nature of science.



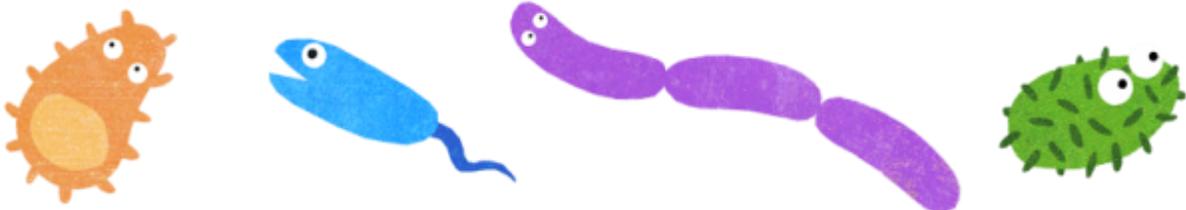
As a rigorous and informative text, the new e-book is just the kind of nonfiction to be reading for Common Core. As an interactive and scientifically-informed text, drawing on the latest research from the *JOIDES Resolution* scientific ocean drilling ship, the new e-book is a wellspring for Next Generation Science—showcasing the diversity of habitats and the adaptation of their organisms, the relationships between living things and their environment, and the importance of technology in modern scientific discovery. (Not to mention the Ocean and Earth Science Literary Principles covered by a mostly underwater e-journey.)

Prefer to read as a class? Both e-book versions are formatted for a digital projector or an interactive whiteboard. Equipped with iPads in the classroom? The iBook version is just the thing for interactive learning pedagogy. Open a window onto some of the deepest, darkest, and harshest places on Earth, showing kids “alien” life right at home.

Download now. For Free. Here: <http://joidesresolution.org/node/2998>

Want to see more? Watch a trailer for *Where Wild Microbes Grow* at:

https://www.youtube.com/watch?v=Z_DyhpPx35Y



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OneNOAA Science Seminars

Upcoming seminars available online!

Economics for Conservationists: A Field Guide

Taylor H. Ricketts, Professor and Director, Gund Institute for Ecological Economics, University of Vermont, and Brendan Fisher, Associate Professor, Rubenstein School of Environment and Natural Resources, University of Vermont
January 20, 2016
12:00 pm - 1:00 pm ET

Coastal Erosion and Shoreline Conservation Practices in Maryland - Walking that Fine Line between Shoreline Protection and Habitat Enhancement

Kevin M. Smith, Deputy Director, Chesapeake and Coastal Service, MD DNR, and Claudia Donegan - Chief, Community Restoration Program, MD DNR
January 26, 2016
12:00 pm - 1:00 pm ET

Why are there so many 'pH scales' for measuring seawater 'pH'? What do these scales mean for measuring or using seawater 'pH'?

Andrew Dickson, SIO
January 27, 2016
2:00 pm - 3:00 pm ET

Visit nodc.noaa.gov/seminars for more information



SeaScripts Winter 2016 Cover Photo courtesy of **Al Segars**. A low tide provides a dramatic view along the boneyard beach of Otter Island, in the ACE Basin

SeaScripts is published and distributed on a quarterly basis. Articles and announcements from SCMEA members are greatly appreciated. Please send them to the editor, **Lindsay Patterson** at lpatterson@ccprc.com. To ensure that your submission is included in the proper issue, please observe the following deadlines:

Spring Issue: February 15th
Summer Issue: May 15th

Fall Issue: August 15th
Winter Issue: November 15th