

SeaScripts



The Newsletter of the South Carolina Marine Educators Association



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Terrapins

Summer and early fall
workshops

Website of the month

Jacques Cousteau
Memorial NMEA
Travel Award
Recipient

2013 International
Beachcombing
Conference

2013 Upcoming
SCMEA Conference
Save the Date

www.scmarineed.org



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Summer 2013



SCMEA

The South Carolina Marine Educators Association

Captain's Corner

President's Letter

Happy summer, Everyone!

For lovers of the marine environment, this is prime time to visit our local beaches, creeks, and marshes and always reminds me why I love life in the lowcountry! From savoring freshly caught and prepared seafood, strolling on the beach listening to the lulling crash of waves and chirping shorebirds, taking in amazing views of beautiful sunrises and sunsets, to silently paddling through gently ebbing and flowing waters of bright green landscapes, it's easy to fall in love all over again with our coast during this season (well, except for those annoying pests that return like clockwork...yes, mosquitoes, gnats, and biting flies, but also THE TOURISTS ARE BACK!!!)

So this is the time of year I relearn the art of sharing (and try to remind myself that I can enjoy this beauty year-round). It's easy to get annoyed with people now, and both tourists and residents alike are offenders-inconsiderate parking in limited access areas, litterbugs, uncontrolled pets (and/or children!), loud music, taking live animals home (wonder how many poor hermit crabs and starfish are taken as "pets" in a sand bucket at the end of a day at the beach?) and a myriad of other transgressions against our coast that I have to grin and bear (or curse quietly under my breath)... but then I remember that the beach belongs to everyone, and why shouldn't they want to be here as much as I do?

I am also reminded during these times that often one of the best ways to educate is by example, so I was especially inspired recently by two young women from Florida that have made it their mission to bring awareness and action to a big pet peeve of mine-balloon releases. So many times during my own visits to the beach, I have found this pesky litter item, and often the reason it is there is because it was released as part of a celebration, memorial, or other special event. These dedicated coastal stewards have created a unique campaign of education and awareness that is making an impact and changing behaviors that are harmful to our marine environment-take a moment to check out

www.balloonsblow.org . These two young women remind us on their website that "everyone can make a difference, every single day"; here's to making a difference for our coast this summer!

For the Sea,

Beth



The Marsh's Secret Treasure Still in Peril

By Shelley Dearhart, *Sustainable Seafood Initiative Coordinator at the South Carolina Aquarium*

Diamondback terrapins are an estuarine species of turtle, typically only seen for a split second before they tuck away under the water's surface to hide. They are an incredibly cryptic animal spending most of their time in dynamic tidal creeks and foraging in the pluff mud for periwinkle snails or tasty fiddler crabs. Salt marshes offer a lot of protection for terrapins with sinuous creeks, tall spartina grass and colors that allow the terrapin to camouflage impeccably. Despite all of these factors, perils still remain in their habitat threatening their survival.

The Diamondback terrapin's range stretches from the north eastern coastline of the United States all the way down to the Gulf of Mexico and Bermuda. Terrapins are a species of concern according to the US federal government. The main reasons for their status are human related. Terrapins were the main ingredient in turtle soup in the 1800's, which decreased their numbers greatly. A moratorium was placed on the harvest of these turtles in some areas and their population numbers were able to start rebuilding; however, humans remain the main threat to diamondback terrapins survival but from a different source, road strike and entrapment in crab traps.

Typically, adult female terrapins are the victim of road strike as they may be crossing a causeway looking for a good place to lay their eggs. Juvenile females (occasionally adult females as well) and adult males are more prone to being caught in crab traps and drowning if they are not rescued before running out of breath. Commercial, recreational and ghost crab traps all pose a major threat, especially when gear is lost and left unaccounted for in the marsh. Recreational crab traps are often not checked as frequently as a commercial trap leading to an increased possibility of a turtle drowning inside. Terrapins can hold their breath for about one hour on average. Imagine if a turtle has been swimming around for 20 minutes and then is caught in a trap; this leaves only about 40 minutes for the hope of the crabber to return and release it. Given this, a crabber, recreational or commercial, would have to check traps about 24 times a day to prevent drowning!



One way to reduce the likelihood of a terrapin getting caught in a crab trap is to add Bycatch Reduction Devices (BRD) to the entrance holes, in a vertical orientation. This rectangular device is a simple alteration which allows crabs enter the trap. It limits the horizontal space for animals to enter, but not the vertical space. Crabs approaching a baited crab trap will do anything to get inside to the bait, even turning their bodies vertically. Typically, terrapins will not do this but instead will make an attempt or two to enter, and then move on.



Since the introduction of BRDs on crab traps, the orientation, whether horizontal or vertical over the opening, has been somewhat of an unsettled debate. Some individuals feel that limiting the horizontal access will decrease the number of crabs caught in total while others disagree. Limited research has been conducted to prove one orientation to be more effective than

another. Rebecca McKee, an undergraduate student attending Davidson College, is working on helping to settle this debate and looking at what type of bait is most attractive to terrapins under the direction of Dr. Michael Dorcas, Professor of Biology, and Dr. Kristen Cecala both of Davidson College as well. Her grant-funded research is through the Jolley Foundation at Davidson College and being conducted at the South Carolina Aquarium for the remainder of the summer season. According to McKee, crab traps are one of terrapins' biggest threats to survival so it is important to understand and identify ways to reduce terrapin mortality without hindering crab catch. Hopefully this research will help in potential regulations that could be made to protect terrapins in the future from both a recreational and commercial standpoint. The South Carolina's Sea Turtle Rescue team in addition to many other Aquarium staff members has been instrumental in making this research a possibility.



If you are interested in learning more about diamondback terrapins and the important research going on all along the coast, visit the Diamondback Terrapin Work Group website at www.dtwg.org. Terrapins are an essential part of keeping our salt marsh ecosystems healthy. Take the next step in making an effort to help in their survival. Learn about these turtles, share their story and always be a good steward of the environment. Always feel free to contact the SC Aquarium with any questions you might have regarding this important species!

(If you have questions for Shelley Dearhart, feel free to her email at sdearth@scaquarium.org. All photos credited to the SC Aquarium.)

Georgetown & Horry County Students Explore Winyah Bay in celebration of National Estuaries Day this September

In honor of National Estuaries Day, observed annually the last Saturday of September, marine education staff with South Carolina Department of Natural Resources (SCDNR) will dock again at Hobcaw Barony on the Winyah Bay from September 16-20, 2013. It will be a week of boat and land-based field studies with Georgetown and Horry County schools, and will offer a public program onboard the *E/V Discovery* on Thursday, September 19th in the afternoon.

SCDNR, NOAA's ACE Basin and North Inlet-Winyah Bay National Estuarine Research Reserves (NERR), and the Coastal Waccamaw Stormwater Education Consortium (CWSEC) will partner to offer an exciting educational experience. Local students and teachers will participate in a variety of land programs at the Hobcaw Barony Discovery Center and on boat excursions aboard the *E/V Discovery* in Winyah Bay.

Hands on activities will include water quality testing, trawling and identification of marine organisms, estuary ecology, watersheds, stormwater, and marine pollution, as well as ways to help protect these important ecosystems.

If you are a Georgetown or Horry County teacher and are interested in a trip, or if you would like to reserve a space on the public trip, please contact SCMEA board members Julie Binz (BinzJ@dnr.sc.gov) or Beth Thomas (beth@belle.baruch.sc.edu) for more information.



Carolina Forest High School students enjoy taking a closer look at a shrimp as they learn about Winyah Bay estuary aboard the *E/V Discovery* during a program in April 2013. Photo Courtesy of Charles Slate, The Sun News.



COASTAL ECOLOGY TEACHER WORKSHOP

SAPELO ISLAND

July 9-11, 2013

Join us for an in-depth look at Georgia's coastal systems and discover the abundance and variety of wildlife found along our shores. Emphasis is placed on estuarine and marine ecology, coastal species identification and adaptations, coastal geology, and activity session utilizing the Estuaries 101 curriculum. Coastal Ecology is open to both formal and non-formal educators of all grade levels. 2 PLU's are available, and participants receive curriculum and resource materials.

On-Island Accommodations: dorm style, 2 beds per room with central A/C and bathroom, community kitchens, extra fridge space for snacks, beverages, etc.

Physical Activity: include beach and marsh activities and (optional) evening turtle walks; participants should be tolerant of heat and sun.

Transportation on the island is by flatbed truck with board seats. It may be bumpy, but a great way to see Sapelo!

Cost: \$150

Directions: For directions to Ferry departure location, please go to the following link: <http://www.uga.edu/ugami/ferry/directions.html>

Dates: depart for Sapelo on Tuesday, July 9 8:30am, and depart Sapelo on Thursday, July 11 at 4:30

Registration: Please contact Georgia Graves at

georgiabeachwalk@bellsouth.net

912.266.2473

Please register by June 19, 2013

Meet new board member: Sarah Piwinski!

Name: Sarah Piwinski

Occupation: Non-profit program manager

Education: Bachelor's of Science

First Job: Packed strawberries on a farm in Michigan

Favorite animal in SC: I am a big fan of small creatures like plankton. One of my favorite is a dinoflagellate called *Noctiluca scintillans* or commonly called "sea sparkle"

Most unique animal you've seen: A *Mola mola*

Most unforgettable moment working in Environmental Education: One of the six week trips I sailed with students in the Caribbean was over Christmas. We were all feeling a little home sick, but on Christmas night we were off the coast of Jamaica and a pod of dolphins began following us and swimming in our bow wake. As they swam through the water they left glowing paths of bioluminescence. It was amazing to watch and a night I will always remember.

Favorite part about working in Environmental Education: Being able to teach students about the world around them and assist in their gaining a greater appreciation for it.

Most fulfilling part about working in Environmental Education: The hands on teaching

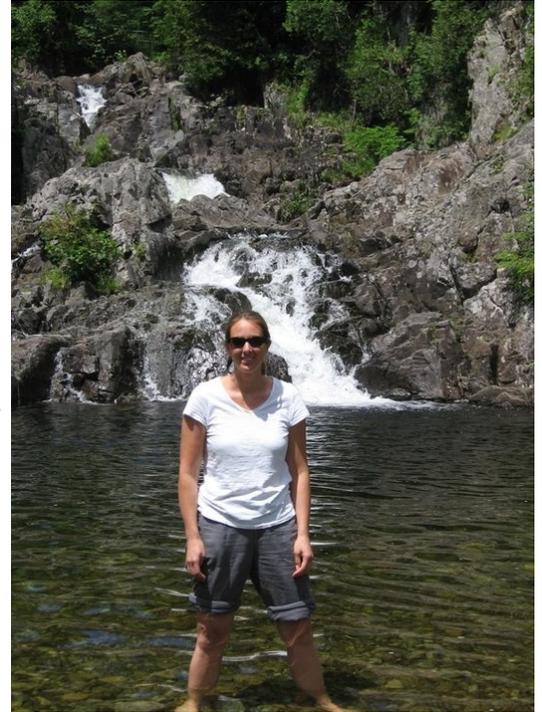
Favorite outside activity in SC: Hiking in the mountains

Other talents/hobbies: I love to run and knit

Where have you traveled: French Polynesia and all over the Caribbean

Where you want to travel, and why: I really want to go to the Azores. I have friends that own a house there and their photos are stories about their time there are so amazing that I want to go and experience it for myself.

Something most people don't know about you: I have crossed the equator twice while on a boat.



Website of the Month from NOAA

Discover Your World with NOAA

This free activity book introduces The Essential Principles of Climate Science and will help users learn about Earth's climate system, the factors that drive and change it, and more. You can download the full activity book or individual activities. Sections focus on exploring, understanding, and protecting the earth. Check out Make Your Own Astrolabe, Wooly Magma, and Endangered Species Origami.

<http://celebrating200years.noaa.gov/edufun/book/#book>

Coastal Oyster Recycling & Restoration Initiative

CORRI

Internship and Volunteer Opportunities

Project Efforts

► **Develop local restaurant shell recycling collection (February-August 2013)**

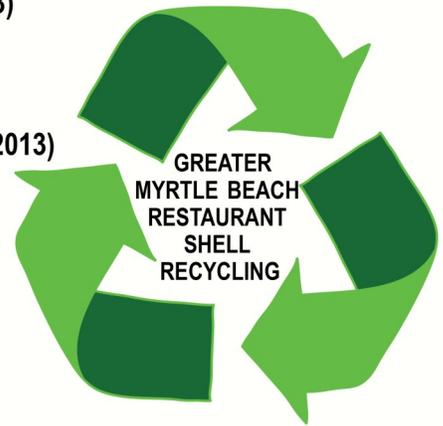
Solicit restaurant participation, schedule pickup by local recycling company (Fisher Grand Strand) and drop-off shell at Coastal Carolina University location.

► **Sample tidal creeks before/after restoration efforts (February-November 2013)**

Before and after restoration sampling (e.g., seining, trapping) of tidal creeks to collect reef-associated fauna (e.g., fish, decapods, etc.).

► **Restore reef and marsh sites at all project locations (April-June 2013)**

Initial bagging of oyster shells and collection of shell clusters and salt marsh grass plugs to be used during restoration; "planting" reefs and marsh within tidal creeks at each project location.



Project Locations

Swashes are estuarine systems historically impacted by construction of the Intracoastal Waterway and extensively modified by local municipalities for storm water abatement.



Swash tidal creeks empty over barrier island beaches.



Inlet tidal creeks empty through barrier island channels.



Project Participation

Students and community members interested in interning or volunteering in the CORRI project's recycling and restoration efforts, please contact:

Keith Walters, Ph.D.
843-349-2477 or kwalt@coastal.edu



The Restoration Team

- Keith Walters, Coastal Carolina University
- Neil Chambers, Chambers Design Inc.
- Loren Coen, Florida Atlantic University
- Charles Martin, Louisiana State University
- Kira Roff, Fisher Recycling

Project Support



chambersdesign



Congrats to Robin Sheek: 2013 Jacques Cousteau Memorial NMEA Travel Award Recipient

Robin teaches 6th-8th grade at Laing Middle School of Science and Technology. She has used the resources and contacts from SCMEA and NMEA conferences to help develop the programming and curricula used in her classroom that engages 170 students a day.

Robin actively seeks opportunities to enhance her classroom by attending NOAA Ocean Exploration workshops, as well as workshops in the Florida Keys that focus on corals, sea grasses, and mangrove ecology.

With this year's conference in the Mobile, AL area she is excited to visit the Dauphin Island Sea Lab and learn more about Gulf issues, such as the oil spill that she covers in her class.

On behalf of the SCMEA leadership we're excited that Robin will be representing us at NMEA!



YOU'RE INVITED! CALLING ALL TEACHERS!

Teacher Open House
Thursday, September 5, 2013
3:00-6:00 PM

Hobcaw Barony Discovery Center
Hwy 17 South, Georgetown, SC

Join us for a **free DROP IN** event at Hobcaw Barony and see what we have to offer your classes. From Kindergarten to High School, Hobcaw Barony allows students to dive into the unique habitats and rich history provided on this beautiful property. Come visit us at the Discovery Center to find out more about these amazing opportunities for you and your students. Free teacher resources, educational give-aways, and lesson plans will be available.

www.northinlet.sc.edu (843) 546-6219
www.hobcawbarony.org (843) 546-4623

COME OUTSIDE AND PLAY!



2013 International Beachcombing Conference

Sea Glass • Fossils • SeaBeans • Shells • Ceramics • Stones • Shipwreck Stuff

October 3-6

Virden Retreat Center • Lewes, DE

Beachcomb, Marine Science, and Sea Glass experts, authors and artists share beachcomb and coastal arts tips & techniques, and teach you more about the science, history and mystery behind the treasures we find on the Shore.

www.beachcombingconference.com

Space is limited. Early registration is suggested.

Sponsored by The Consummate Beachcomber www.dirbeachcomb.com The Beachcomb Alliance International

PHOTO: BRUCE PATTERSON

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Looking forward to the...

2013 SCMEA Conference

"A look into the future of ocean science"

Save the Date!
November 1-2, 2013
Fort Johnson
Charleston, SC



National Oceanic and Atmospheric Administration (NOAA)
Office of Ocean Exploration and Research
oceanexplorer.noaa.gov

NOAA Ship Okeanos Explorer:
America's Ship for Ocean Exploration

Why Do We Explore?

Professional Development

for Educators of Grades 5-12

Saturday, November 16, 2013 at the SC Aquarium

To register, please email Jaime Thom at jthom@scaquarium.org or call (843) 579-8562. This is a free workshop that includes education materials and a \$50 stipend!

SeaScripts is published and distributed on a quarterly basis. The submission of articles and announcements to the editor (kbrown@scaquarium.org) is greatly appreciated and encouraged. 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

Any materials that are not time sensitive may be saved and used in a future issue.