

# SeaScripts



The Newsletter of the South Carolina Marine Educators Association



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*Fall SeaScripts*

**Deadline:**

**August 15, 2011**

**SCMEA/GAME Joint  
Conference:**

**Skidaway Island, GA**

**October 21-23, 2011**



# SCMEA

The South Carolina Marine Educators Association

## Letter From the President – Beth Burkett – SCMEA President

**Hello SCMEA,**

I was recently working alongside a group of fellow marine educators when our conversation veered down a familiar path; we started sharing funny work stories and adventures in marine education. I love these stories and have often told myself that I should get all of my cohorts together to document our favorites. For me, the day's winning story happened during one of Kattie McMillan's school programs. She captured a mantis shrimp in her trawl net and was describing it to her students as "an animal always in a bad mood." After thinking about this a bit, one student replied, "sounds kind of like my grandma."

These stories are fantastic because they remind me that there is a funny side of my job to enjoy, that grouchy shrimp and ill-tempered grandmas are not to be messed with, and that good communication is the key to success. Good communication can help a student relate to a strange animal, create successful relationships and strengthen organizations. With that in mind, SCMEA directors and members are working diligently to expand the audience of this organization and improve how we communicate to our members and colleagues.

Two years ago, our organization switched over to an electronic newsletter and created a Facebook page. Since that time, Facebook has updated the types of pages available to individuals and groups. SCMEA BOD member Julie Binz recently helped us take advantage of these updates and created a new, non-profit page for SCMEA.

The new page has all of the functionalities of the old group page, plus a link to a Twitter account and future potential for us to receive donations online. I encourage you to visit the link <http://www.facebook.com/pages/South-Carolina-Marine-Educators-Association/197074556999310> and click "like." While you are online, surf on over to Twitter and follow us on "scmarineed."

Our hopes are that folks will use these tools to share professional development opportunities, sightings of cool marine creatures, links to useful websites, and even tell a funny teaching story.

As useful as virtual connections can be, nothing beats getting together in person for an annual conference. This year promises to be one of the best yet as we make plans to team up with the Georgia Association of Marine Education to offer a joint conference at Skidaway Island on **October 21-23, 2011**. This collaborative event will be packed with fantastic sessions, fun socials and engaging speakers, so stay tuned to Facebook and Twitter for updates and announcements.

Grandmas and mantis shrimp are welcome, as long as they are in a good mood.

**Clear Sailing!**

**Beth**





# **It's Never Too Late To Learn**

## **New Earth Science Curriculum**

**By Rob Campbell**

Growing up on the Chesapeake Bay in Annapolis, Maryland I have always been interested in the stories aquatic environments have to tell. In 1998, this curiosity led me to local Calvert Cliffs where evidence of past marine life had been beautifully preserved in the sediments from which the cliffs were formed. Ancient vertebrate and invertebrate fossil remains littered the beaches patiently awaiting examination by an inquisitive mind who might listen to their “story.” As in Maryland, a similar story may be heard here in South Carolina. Evidence of prehistoric mollusks, fishes, birds, cetaceans and other mammals help chronicle the story of our state’s aquatic past. As an amateur paleontologist, it has long been my dream to share this story with knowingly (and unknowingly) interested persons.

Now enrolled in the Master of Environmental Studies Program (MES) at the College of Charleston and performing an internship through South Carolina Department of Natural Resources (SCDNR), I have found an outlet to share this passion with students and educators across the state. I am currently developing dual science programs (at the 3<sup>rd</sup> and 8<sup>th</sup> grade levels), which are meant to serve as an introduction to the exciting world of earth science.

These programs will add to SCDNR’s already accomplished education program and will promote awareness of the wonderful earth science resources already available on the agency’s website.

Because developing a successful program is not merely a science, but also an art, it is necessary to integrate strategies for keeping the students engaged. To maintain student interest, both 3<sup>rd</sup> and 8<sup>th</sup> grade programs will incorporate interactive components that will allow for simultaneous learning, critical thinking and creative expression. An example of this will be a scientific nomenclature exercise (for the 8<sup>th</sup> grade level), where students will be asked to create, name and describe specific adaptations of a fictional prehistoric organism. Relevant, local examples will also be used where applicable to pique the students’ curiosity, which can lead to student investment. This approach follows the belief that interest will be greatest where the material is most meaningful to the student.

In an effort to extend this opportunity to a wider audience, learning materials and lesson plans will be made available for use to educators outside the agency as well. I expect to complete these programs during the summer and I will be hosting two teacher workshops (dates TBD) to familiarize educators with the programs and to gain suggestions/feedback. If you have experience with 3<sup>rd</sup> and/or 8<sup>th</sup> grade education and are interested in attending a workshop, please feel free to contact me at [CampbellR@dnr.sc.gov](mailto:CampbellR@dnr.sc.gov).

# Come Sea...about You and Me in SC

By Meika Samuel

NMEA taught me to “sea” things differently by helping me to understand the importance of engaging nontraditional audiences in marine education. I was selected to attend this year's annual meeting as part of the Expanding Audiences initiative. Participating in the conference opened my eyes to the need for expanded efforts to *make the world of water known* to in-land and multicultural audiences.

I am a proud South Carolinian. My home state enjoys a rich history connected to the sea. Two of the state's greatest treasures include the South Carolina State Museum and the historic Penn Center. Located 200 miles inland the State Museum is an ideal in-land site for audiences that are unable to physically travel to the coast. Founded in 1862, historic Penn Center is the premier location to explore African-American connections to the sea. It is a must-do when visiting the SC Lowcountry region. Countless enslaved West Africans, also known as Gullah people, began their journey of the African experience in America through the gateway of the SC Sea Islands. Their knowledge of practical uses for materials found in the salt marshes (ex. sweetgrass baskets) as well as their ability to gain sustenance from the sea (ex. shrimping, fishing, crabbing, etc.) has had an enduring impact on the state.

If experience truly is the best teacher, then I invite everyone to discover the sea in SC. Visits to the following sites are a great way to introduce marine education to a wide array of audiences. These visits are suitable for all ages and can be completed as a vacation day trip or summer camp experience for youth.

## SOUTH CAROLINA STATE MUSEUM

[www.southcarolinastatemuseum.org](http://www.southcarolinastatemuseum.org)

Columbia, SC

- Chronicle water flow from the Upstate Mountains to the Coastal region using an interactive map of major SC waterways
- Stroll among sand dunes in coastal boardwalk habitat
- Trace an aquatic food chain to build a food web
- Climb aboard a shrimp boat and **much more!**



## PENN CENTER

[www.penncenter.com](http://www.penncenter.com)

St. Helena Island, SC

Participate in lectures and art demonstrations focused on Sea Island and Gullah culture. Learn how early inhabitants lived off the land and sea. Learn about the historical connection of the Gullah people of the Sea Islands to the people of Sierra Leone, West Africa. Sea Island Sweet Grass Basket Demonstration: Find out how and where bulrush and sweet grass grow along with how baskets are designed. Meet an actual basket maker and learn the history of the art form.





Shortnose lancetfish  
(*Alepisaurus brevirostris*):  
Wreckfish prey

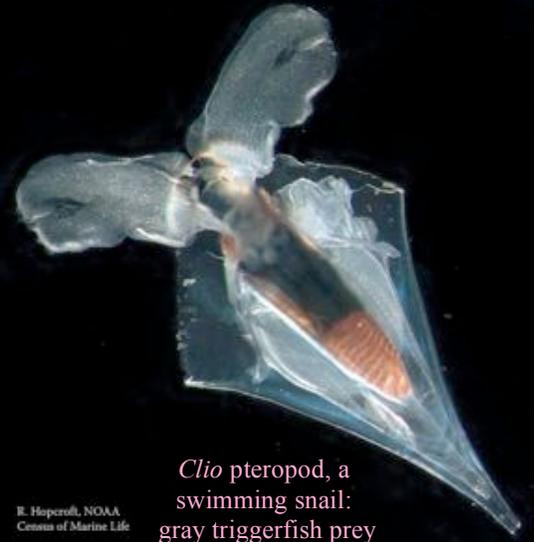
# Tummy Tales

## The Secret Lives of Fishes

By Sarah  
Goldman  
SCDNR/  
MARMAP

Fisheries managers typically manage fish stocks (single species) using catch/size limits and closed seasons. Today, scientists are acknowledging the importance of understanding other living and non-living aspects of a fish's environment. This realization has led to a different management approach called "Ecosystem-Based Fisheries Management". One goal of this approach is to protect the marine biodiversity that the fisheries depend on for food. Therefore more and more scientists are getting down and dirty by digging into.....fish guts. Yes, fish guts. By examining what a fish eats we can gain insight into its role in the ecosystem. Predator-prey interactions are an important component of the predictive ecosystem models that can determine the effects of fish harvest by humans on a single species, a particular community (fish or invertebrate) or potentially the marine ecosystem as a whole.

Gut content analysis can be very exciting – you never know what you may find in a fish stomach. Some species, like gray triggerfish, could have thousands of individual prey items in one stomach. One of their favorite foods is pteropods – or sea butterflies. These beautiful swimming snails have fragile shells in interesting shapes. Triggerfish also eat many bivalves and benthic snails, and I use shell guides to identify the species. I feel like a beachcomber, but I comb through fish guts instead of walking along the shore. Most of the time large fish eat large prey items, but sometimes you find that a large fish eats tiny prey. For example, barrelfish like to eat pelagic salps (sea squirts). There is an amphipod that eats the inside of these salps and then lives inside them like a little floating house – barrelfish eat these too. Sometimes when fish are brought to the surface from the depths they regurgitate prey items on the deck of the boat. This provides an exciting opportunity for a gut content biologist! A few years ago wreckfish fishermen saved a 5 foot squid that was regurgitated on deck – it turned out to be a deep-sea pelagic squid (*continued*)



R. Hopcroft, NOAA  
Centers of Marine Life

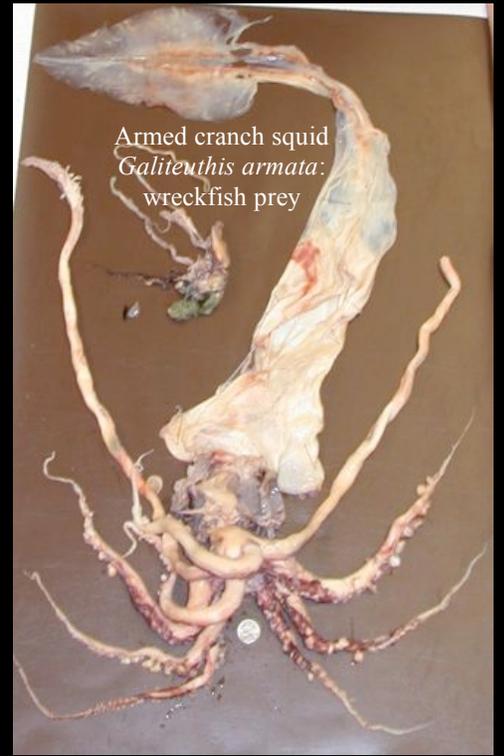
*Clio* pteropod, a  
swimming snail:  
gray triggerfish prey



Strawberry squid  
*Histioteuthis* sp.:  
barrelfish prey

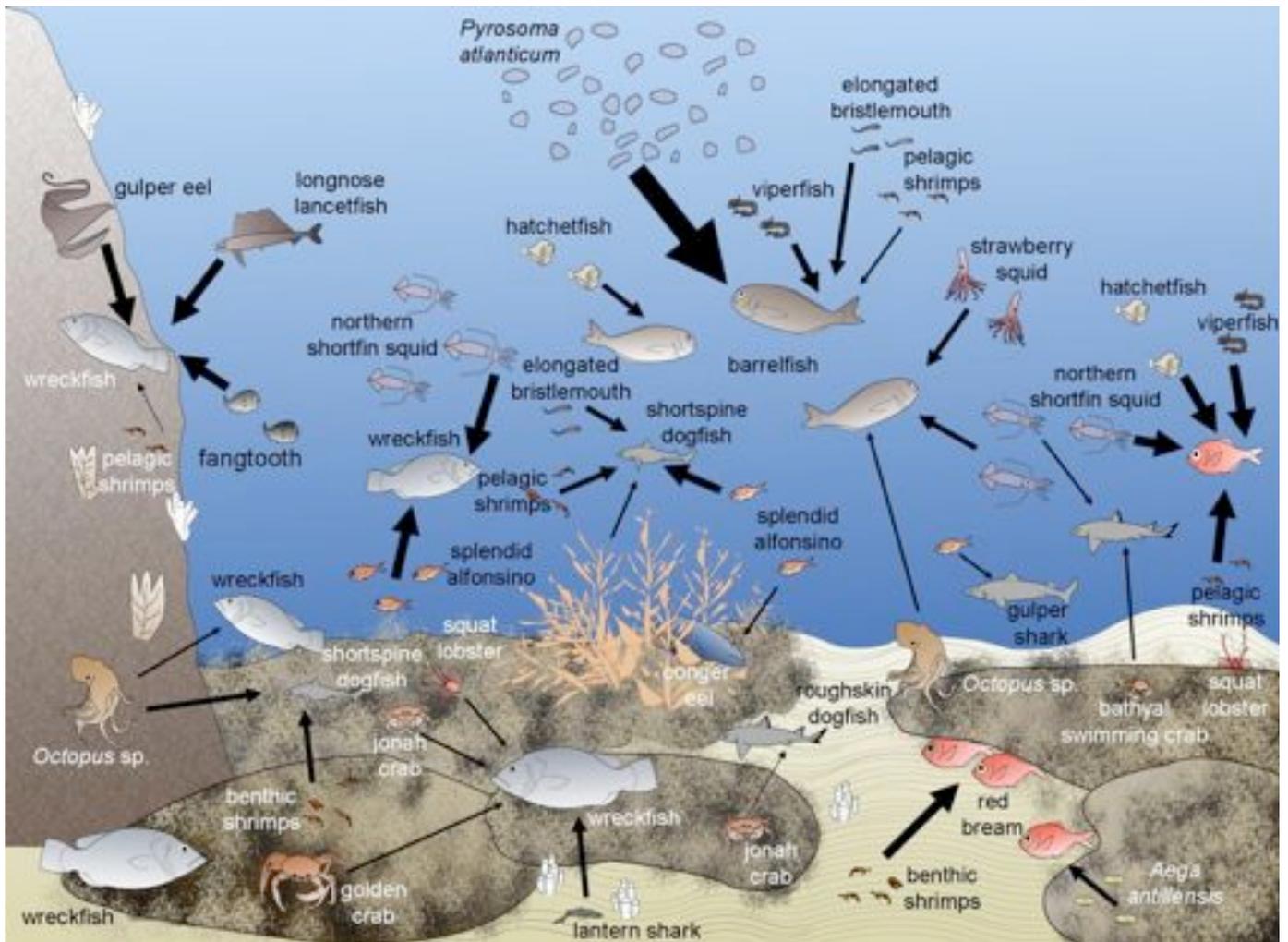


*Phronima* amphipod:  
barrelfish prey  
inside salps



(continued) that we don't know much about.

After completing a gut contents study I can begin to visualize what the fish's intricate biotic environment looks like. Of course we can use SCUBA or underwater cameras to get a view into the fish world, but there are thousands of things cameras and scuba divers would never be able to see. Studying fish gut contents gives us a glimpse into the underwater world that is usually hidden from view; and I can't wait to see what I will find next!



# News and Events

**Save the Date for the SCMEA Annual Conference!**



## Help Set National Ocean Policy

**Public and Stakeholder Session of the National Coastal and Marine Spatial Planning Workshop**

**June 21, 2011, Washington, DC**

The National Ocean Council invites the public and stakeholders to join our members and Federal, tribal, and State representatives in a public session on Coastal and Marine Spatial Planning (CMSP) in Washington, DC on June 21, 2011. Gathering public feedback through this workshop is a critical step toward implementing a National Policy for the Stewardship of the Ocean, our Coasts, and the Great Lakes (National Ocean Policy), as established by Executive Order under President Obama.

This public session will take place on Tuesday, June 21, 2011, from 9:00 am to 5:30 pm, in the Yates Auditorium at the U.S. Department of the Interior, located at 1849 C Street, NW Washington, DC.

Space is limited. To attend, interested parties should register by clicking here <http://www.whitehouse.gov/administration/eop/oceans/cmstp-workshop>. For those who cannot attend the session in person or if interest exceeds capacity, it will also be available to the public through a live webcast on June 21, 2011 at [www.doi.gov/live](http://www.doi.gov/live)

# June 2011 Events at Sewee Center

**June 4 Sat. 10 AM. Explorer Series:** Dip the Pond/Net the Field! Participants will sweep the native grass & wildflower field & dip their nets in NEBO pond! I can't imagine what we'll find, can YOU?! We will collect, identify and release our findings. Questions...Call (843) 928-3368

**June 11 Sat. 8-12 PM. Youth Fishing Rodeo!** It's National Fishing Week so bring your hook, line & sinker. Children 6-16 fish in Sewee Pond and design a FISH ART T-shirt! Bait, prizes, food and some assistance are provided. Limited to 85 youth. One adult per 2 children. Sign-up required by June 8. Call (843) 928-3368 **\*\*FREE!\*\***

**June 18 Sat. 9-5 PM. Let's go fishing again!** The Sewee Pond waters have been stirred, the fish are biting, **DAD** needs some down time! Fish all day at the pond; enjoy the sights of an occasional Green heron, American alligator & Yellow-bellied slider.

**June 26 Celebrate "National Rivers Month" with Nature Adventures Outfitters, Inc.** On this trip, you'll get 3 rivers in one trip!..... Quenby & Huger Creeks and the East Branch of the Cooper River! Enjoy a beautiful blackwater paddle to 300 year old Pompion Hill chapel (filmed in the movie the Patriot). On this paddle you'll journey into some of the abandoned rice fields with summer wildflowers and see rice trunk gates and pristine views of how the plantations were left over 300 years ago. Ages 4 and up welcome. Call Nature Adventures at 843-568-3222 for reservations or email [nao@att.net](mailto:nao@att.net) \*Special reduced rate of \$45/ages 13 and up and \$35/ages 12 and under! Tour is: 10 a.m. - 1:30 -2 p.m. Registration Required.[www.NatureAdventuresOutfitters.com](http://www.NatureAdventuresOutfitters.com)

[fs.usda.gov/scnfs](http://fs.usda.gov/scnfs)

[www.fws.gov/caperomain](http://www.fws.gov/caperomain)

[www.seweeassociation.org](http://www.seweeassociation.org)

## 21st Century Spirit Ocean Adventure on the *Spirit of South Carolina*

21st Century Spirit Ocean Adventure is a seven-week bridge program for rising ninth grade students attending Title I schools. The program aims to prevent the incidence of dropping out among participants. 21st Century Spirit Ocean Adventure strives to change those attitudes and behaviors most strongly predicative of dropping out while closing the achievement gap through daily interdisciplinary, experiential education activities, including sailing on the *Spirit of South Carolina*. For more information visit:

[http://www.scmaritime.org/forms/21st\\_century\\_spirit\\_adventure.pdf](http://www.scmaritime.org/forms/21st_century_spirit_adventure.pdf)

## June 8 is World Oceans Day

To find local events that celebrate this day, to register your own event and to find event ideas, visit: <http://worldoceansday.org>

## Teach Ocean Processes Using Real Scientific Data

<http://dataintheclassroom.org/>

Includes activities on El Nino, Sea Level, Water Quality and Ocean Acidity This curriculum incorporates a scaled approach to learning. Each module offers activities at five different levels of student interaction. The early levels are very directed and teacher driven. The later levels are more student directed and open up opportunities to design lessons featuring student inquiry. The advanced levels use real data which is available on the website.

# Clemson Aquatic Summer Camps in Charleston

## 4H2O Programs

**Exploring the Cooper River and Beyond Summer Camp**  
June 20-24, 8am-5pm, Ages: 10-13 (*at time of camp*), Capacity: 25

**Exploring the Ashley River and Beyond Summer Camp**  
July 25-29, 8am-5pm, Ages: 10-13 (*at time of camp*) Capacity: 25



Campers (age 10-13 at the time of camp) will experience a unique look at coastal South Carolina's natural heritage, and the special role river systems play in this beautiful landscape. From tidal creeks and freshwater wetlands to estuaries and barrier islands, campers will learn and connect with these special places through fun, hands-on activities.

Campers will be picked up each day from their pre-determined meeting place. Campers will be taken to a variety of sites on the Ashley River, Charleston Harbor, barrier islands, and local beaches. We will be exploring the river, estuary, and ocean from an ecological as well as historical perspective; highlighting the relationship, influences, and connections between river systems and people, and how to be good stewards of our environment. Activities will include water quality sampling, cast and dip netting, invertebrate identification, ocean seining, phytoplankton trawls, and historic interpretations, as well as visiting with local scientists.

For additional information about this camp, contact Angela Crouch at  
**acrouch@clemson.edu.**

or visit:

**[http://www.clemson.edu/public/carolinaclear/consortiums/acsec\\_home/programs\\_list.html](http://www.clemson.edu/public/carolinaclear/consortiums/acsec_home/programs_list.html)**

### **NOAA's Ocean Exploration Launches the Bermuda Deep Water Caves 2011: Dive of Discovery Expedition Website** **June 7 - 24, 2011**

The National Oceanic and Atmospheric Administration (NOAA) Office of Ocean Exploration and Research (OER) will launch The Bermuda Deep Water Caves 2011: Dive of Discovery Expedition Web page on its Ocean Explorer Web site at <http://oceanexplorer.noaa.gov/explorations/11bermuda/welcome.html> on Friday, June 3, 2011. This Expedition posting includes daily logs, videos and images, an Ocean Explorer Expedition Education Module, lesson plans, and much more.

## SCMEA Board

### President:

**Beth Burkett**

Charleston County Parks  
bburkett@ccprc.com

### President Elect:

**Elizabeth (EV) Bell**

SC Sea Grant  
elizabeth.vernon@scseagrant.org

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**Scott Meister**

SCDNR  
meisters@dnr.sc.gov

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SCDNR  
mcmilank@dnr.sc.gov

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**Margaret Spignet**

West Ashley High School  
margaret\_spigner@charleston.k12.sc.us

### Membership Secretary:

**Carmelina Livingston**

St Andrews School of Math and Science  
carmelina\_livingston@scmarineed.org

### NMEA Representative:

**Louis Heyward**

SCDNR  
heywardl@dnr.sc.gov

### Board of Directors:

**Julie Binz**

SEWEE Center  
juliebinz@earthlink.net

**Karen Fuss**

Coastal Carolina Center for Wetland and  
Marine Studies  
kfuss@coastal.edu

**Edna Mills**

Aiken School District  
emills@aiken.k12.sc.us

**Brian Thill**

South Carolina Aquarium  
bthill@scaquarium.org

**Beth Thomas**

The Baruch Institute  
beth@belle.baruch.sc.edu

### SeaScripts Editor:

**Kevin Kurtz**

kevcurtz@gmail.com

Cover Photo by  
SCMEA Member

**Allison Sill**

To see more of her photography,  
visit her website at:

[www.etsy.com/shop/allisonsepmn](http://www.etsy.com/shop/allisonsepmn)



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**SCMEA**

The South Carolina Marine Educators Association

**Joining SCMEA is easy!**

Just visit our website

<http://www.scmarineed.org/join.html>

and fill out the registration form.

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**Joining NMEA is also easy!**

Just visit their website

<http://nmeaweb.org/membership.html>

and fill out the registration form.

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