



Welcome to the newest online issue of *Scotch Bonnet*. This marine education newsletter is also available as a portable document file (.pdf) — if you're like me and want to keep a hard copy!

I'd like to share a book I've been enjoying this summer.

- Witherington, Blair and Dawn Witherington. 2011. *Living Beaches of Georgia and the Carolinas: A Beachcomber's Guide*. Sarasota, FL: Pineapple Press, Inc. ISBN 978-1-56164-490-2

Blair and Dawn Witherington from Florida published *Florida's Living Beaches* back in 2007. I purchased a copy immediately because many of the same flora and fauna occur in our coastal area. Recently, they have come out with a sequel that focuses on three states north of Florida.

I truly like the way the Witheringtons have organized the book. Chapters include Beach Animals, Beach Plants and Beach Minerals. My favorite chapter, Hand of Man, includes beach finds that humans have contributed to, including shipwrecks and artifacts, fishing discards, containers and packaging, beach heroes (drift toys), and sea glass.

Two more favorite parts are the page on mollusk bits and pieces that helps you identify the origin of shell parts and the page on "verte-bits" — bony pieces of vertebrates that occasionally wash up on the beach.

This book is a must-have for any beachcomber's library!

This is another book I've recently purchased.

- Pilkey, Orrin H. and Keith C. Pilkey. 2011. *Global Climate Change: A Primer*. Durham, NC: Duke University Press. ISBN 978-0-8223-5109-2

This book is the basis for the current traveling exhibit at the N.C. Museum of Natural Sciences in Raleigh. Through Nov. 6, **Our Expanding Oceans: The Blending of Art and Science** features the beautiful batiks of Mary Edna Fraser and the thought-provoking words of Orrin Pilkey and his son Keith.

Both exhibit and book are great examples of what happens when you combine art and science to tell a story. Plan your trip before the exhibit ends in November.



I've also been busy writing this summer. Check out the Summer 2011 issue of *Coastwatch* for my article on eating our landscapes, titled "Wild Coastal Edibles: Stalking the Wild Sea Lettuce." See it at ncseagrant.org/s/wild_edibles.

For more information about *Coastwatch*, or to subscribe, go to www.nccoastwatch.org.

Explore and enjoy this issue of the *Scotch Bonnet*. There are many professional development opportunities and family explorations for all of us. Try to take advantage of these wonderful conferences, workshops and more. Keep reading for unique opportunities and ideas for educators. There is a lot going on in the Tar Heel state and beyond!

Thanks to Windy Arey-Kent, Allison Besch, Linda Boyer, Mike Campbell, Lisa Lawrence and Carolyn Robinson for their contributions to this issue.

Mid-Atlantic Marine Education Association Conference

www.mamea.org/conf.html



The Mid-Atlantic Marine Education Association's (MAMEA's) annual conference will be held at the College of William & Mary in Williamsburg, Va., on Oct. 7–9. MAMEA is teaming up with the Virginia Environmental Educators to offer an outstanding weekend of field experiences and concurrent sessions on marine and environmental science education.

The conference will open with a presentation and book signing by famed scientific illustrator Val Kells who has just co-authored *A Field Guide to Coastal Fishes: From Maine to Texas*.

On Saturday, sessions will kick off with invited plenary speaker Tracey Sutton from the Virginia Institute of Marine Science. He will share his work on the census of marine life. Concurrent and poster sessions will round out the day, with the annual dinner and auction as the finale.

Pre- and post-conference field experiences — including a kayak trip, canoe trip, and visits to Colonial Williamsburg and The Watermen's Museum — are available for those who can extend their stay.

For more information on the conference and to register, go to www.mamea.org/conf.html. The Virginia Department of Environmental Quality and National Oceanic and Atmospheric Administration Bay-Watershed Education Training program are conference supporters. We hope to see you all there!

40th International Environmental Education Conference in Raleigh

www.naaee.net/conference



Don't miss the 2011 40th Anniversary Conference of the North American Association for Environmental Education (NAAEE) in Raleigh on Oct. 11–16. Climate Change is one of six strands for study.

Regardless of your learning style or your audience, if you want to update your knowledge of climate change science, Raleigh is the place to be in October.

- Select from 55 sessions in the climate change strand that cover climate change education from pre-K through adult learners.
- Attend a very special update by one of Al Gore's climate presenters about The Climate Reality Project, that was introduced worldwide on Sept. 14 and to us exactly one month later, on Oct. 14.
- Ask the experts at a panel discussion on Thursday, Oct. 13. Scientists from Canada, Mexico and the United States will share their experiences and information on "Climate Change, Oceans and Society."
- Hear uplifting real solutions to this real problem. Presenters will explain how currently available alternative energy sources can be implemented all over the world and show how attendees can help to generate their communities' energy needs.
- Enjoy Mary Edna Fraser's wall-sized batiks that portray the impact of climate change on our coastlines. Only in the world of environmental education, where art and science are integrated, can something so treacherous be portrayed in such a stunning way. You will treasure this opportunity to learn against the backdrop of batik.

Go to www.naaee.net/sites/default/files/conference/NAAEE2011-ConfBrochure-H.pdf and download the conference brochure. Don't miss this wonderful chance for professional development. Check the website for registration information.

The Environmental Educators of North Carolina (EENC) is hosting this event. Visit www.eenc.org to join EENC or for conference updates.

You may register for the Research Symposium, Field Experiences or Workshops without attending the full conference. Or you may register to attend only one day of the conference. But after learning about all that is offered, we know you won't want to miss a thing! Share the fun with a friend by purchasing guest tickets to special events.

Joint South Carolina, Georgia Marine Educators' Conference

www.scmarineed.org/conferences.htm

Registration is open for the 2011 joint South Carolina Marine Educators Association (SCMEA) and Georgia Association of Marine Education (GAME) Conference that will be held on beautiful Skidaway Island, Ga., from Oct. 21–23.

Join fellow educators and scientists for a weekend packed with fun and educational events designed to celebrate the shared shoreline. Some highlights of the agenda include: a sustainable seafood dinner, a plenary panel, concurrent sessions, field trips, and live and silent auctions. **Deadline to register is Sept. 30.**

Visit the SCMEA website at www.scmarineed.org/conferences.htm or the GAME website at www.gamarine-ed.org/events.htm to access the registration packet.

Questions? Contact Angela Bliss (GAME) at acbliss@uga.edu or EV Bell (SCMEA) at elizabeth.vernon@scseagrant.org.

Sea-Beans and Beachcombing: A One, Two Knockout Punch for Fall!

www.seabean.com/symposium/2011

www.beachcombingconference.com

Anyone emotionally or physically involved with the beach will want to learn more about — and possibly attend — these two events this fall.



The 16th annual Sea-Bean Symposium is set for Oct. 22–23 in Cocoa Beach, Fla. And yes, I'll be there! You'll find a detailed schedule at the event website. This year's keynote speakers are Blair and Dawn Witherington, co-authors of *Florida's Living Beaches* and the just-published *Living Beaches of Georgia and the Carolinas*. Their Saturday evening talk, titled "Georgia and the Carolinas, a Beachcombing Odyssey," will focus on their new book.

Friday talks include:

- "The Context of Beachcombing" by Deacon Ritterbush, author of *A Beachcomber's Odyssey: Treasures from a Collected Past*;
- "Wall Across the Atlantic" by Curtis Ebbesmeyer, author of *Flotsametrics and the Floating World*; and
- "Eyes of the Ocean: Glass Fishing Floats, Their History, Use, and Beauty" by Ann and Dan Sherwood.

Before the keynote address on Saturday evening, enjoy these talks:

- "I Think It's a Jellyfish" by David McRee, author of *Florida's Beaches*; and

- “Everything You’ve Always Wanted to Know about Sea Glass” by Deacon Ritterbush.



Sarah Falkowski from Naples, Fla., with Kent and Terri Hathaway at the 2010 International Sea-Bean Symposium in Cocoa Beach, Fla.

Catch up on all things sea-beans by reading *The Drifting Seed*, an online newsletter found at www.seabean.com/newsletters/.



The 3rd annual International Beachcombing Conference will take place Nov. 3–6 at the University of Delaware’s Virden Retreat Center in Lewes with a good mix of lectures, field trips and workshops that will bring joy into every beach lover’s life.

A detailed schedule of events is available on the conference website. Lecture topics include coastal fossils, sand, beach pottery, history of English sea glass, sea-beans, beach tracking and Google Ocean, and more. Workshops and field trips include making sea-glass jewelry; photographing your beachcombing treasures; and hunting for sea glass, pirate booty and fossils.

In addition, vendors will be offering their wares — this is a great time for some early Christmas shopping. And beachcombers will be sharing and swapping their extra treasures. Bring your extra beachcombing goodies to trade and go home with some new booty!

Don’t miss these two chances to learn new things about the seashore that we all love.

N.C. Wildlife Resources Commission

www.ncwildlife.org/Education_Workshops

Coastal Educator Mike Campbell offers numerous opportunities for educators during the fall. Here are just a few.

Fall Birds: Coastal North Carolina is home to many species of resident and migratory birds. Explore various habitats to identify these birds before they head south for the winter. These workshops are open to the general public, ages 16 and up. It will qualify for Component II of the N.C. Office of Environmental Education (OEE) certification and Continuing Education Unit (CEU) credit for public-school teachers. There is no charge for this workshop. Pre-registration is required.

There are two **Fall Birds** events planned.

1. Halyburton Park, Wilmington; Oct. 4; 9 a.m. to 4 p.m. Contact Andy Fairbanks at Andy.Fairbanks@wilmingtonnc.gov or 910/341-0075 for more information.
2. Goose Creek State Park, Washington; Oct. 19; 9 a.m. to 1 p.m. Contact John Fullwood at john.fullwood@ncdenr.gov or 252/923-2191 with questions.

Reptiles: Through hands-on fieldwork and classroom presentations, participants will learn about basic biology, habitat requirements and human interactions with snakes, turtles and lizards. This workshop is held in conjunction with Weyerhaeuser at the Cool Springs Environmental Education Center in New Bern and is open to the general public ages 16 and up. It will qualify for Component II of the N.C. OEE certification and CEU credit for public school teachers. There is no charge for this workshop. Pre-registration is required. This event is scheduled for Oct. 6, from 9 a.m. to 4 p.m. For more information, contact Mike Campbell at mike.campbell@ncwildlife.org or 252/670-0090.

N.C. Maritime Museum

www.ncmaritimemuseums.com



Here is a noteworthy fall program at the N.C. Maritime Museum in Beaufort. Additional program offerings can be found on their website.

National Estuaries Day, Sept. 24, 10 a.m. to 2 p.m. Learn about estuaries and ways to preserve these vital marine ecosystems with the N.C. Coastal Reserve and the N.C. Maritime Museum in Beaufort. Stop by the education tent at the museum or take a field trip to the Rachel Carson component of the N.C. National Estuarine Research Reserve for a marine debris cleanup. No cost. For trip reservations, call 252/838-0886.

For information, contact the museum at 252/728-7317. The N.C. Maritime Museum is located at 315 Front Street in Beaufort.

N.C. Estuarium

www.partnershipforthesounds.org



The Estuarium offers an array of education programs in the facility and on the water. Here are a few selected opportunities. Check online for more programs.

Hurricanes, Rising Seas, and Rushing Rivers: A Glimpse into North Carolina Coastal Hazards Past, Present, and Future: Sept. 21, 7–8 p.m., cost: \$2. Most eastern North Carolina residents remember September 1999 and Hurricane

Floyd. Join Tom Allen, geographer and director of the Renaissance Computing Institute (RENCI) at ECU, and other RENCi staff for an interactive discussion looking back at our experiences of Hurricane Floyd and others. Explore how technology is allowing us to better visualize and forecast future hurricane impacts.

Home School Days: Nov. 16–17. Programs are suitable for students ages 6–12. There is a \$4 adult admission fee and \$2 student admission fee to the museum exhibits. If attending only the stated program, there is a \$2 program fee per child. Please call 252/948-0000 for pre-registration and more information.

Tellabration: Nov. 19, 1–2 p.m., admission fee: \$2. What is a **Tellabration**? It is a day of storytelling held around the world traditionally on the Saturday before Thanksgiving. Storytellers are members of the Inner Banks Storytellers Group. Stories are suitable for school-age children and adults. Please call for pre-registration: 252/948-0000.

Mistletoe River Roving: Dec. 13–15, 10:30 a.m. and 1:30 p.m. The Estuarium's pontoon boat makes its annual voyage to gather mistletoe, a holiday tradition. No admission fee or other cost is involved for the trip, but advance reservations are required. Children must be at least 6 years old. Please call for pre-registration and more information: 252/948-0000.

Enjoy a new art exhibit each month during the fall season.

- September: Fabric artist Pat Carlson uses fabrics, yarn, paint, thread and more to depict a journey from the North Carolina mountains, through the cities and farm lands, to the Atlantic.
- October: George Hunter of New Bern displays his regional paintings.
- November: Washington photographer Tom Whelan shows his photos of the people and places of eastern North Carolina.
- December: Pete Hickey, a Pitt County painter, displays watercolors of the region.

The Estuarium is located at 223 E. Water Street in Washington and is open Tuesday to Saturday, 10 a.m. to 4 p.m. Admission is \$4 for adults and \$2 for students. **Please call ahead for program information as space may be limited.** Visit the website for information and program listings.

The Estuarium is a Partnership for the Sounds facility, an organization promoting ecotourism and sustainable economic development in the Albemarle-Pamlico region. For more

information, visit www.partnershipforthesounds.org, or contact estuarium@embarqmail.com or 252/948-0000.

Interesting Apps for Smartphones

The Marine Debris Tracking App from the University of Georgia lets you enter locations of various categories of marine debris. This app works on both Androids and iPhones. See what others are recording on the website at www.marinedebris.engr.uga.edu/.

Everyone will want the Phytoplankton app from NOAA's Phytoplankton Monitoring Program. Only for Android phones, this app has two functions. One part lists different species, offers microscopic images of each species, and pronounces the species' name. The second is a flash-card quiz to assist with identification. Fun and educational! Check out www.gano.name/shawn/phyto_android/.

Please let me know of other marine/aquatic applications for smartphones!

Communicating Climate Science Workshop

On Friday and Saturday, Nov. 18–19, the N.C. Aquarium at Pine Knoll Shores will be hosting a free teacher workshop to help formal and informal educators better understand the science and methods for communicating the critically important topics of climate science and ocean health to their audiences.

There will be an overnight stay at the Aquarium beginning on Friday at 6 p.m., with activities and curriculum for formal and informal educators. In addition, a Geodome program will focus on climate change and marine mammals. Spend the night in front of the Living Shipwreck exhibit, the largest saltwater tank in the state. Small stipends are available to participants.

On Saturday, scientists and researchers will be presenting their latest findings, as they relate to North Carolina, on different aspects of climate change, including sea level rise, ocean acidification, coral bleaching and alternative energy. Saturday's program will end at 1 p.m. Food and resources will be provided at the workshop.

Please call the Aquarium at 252/247-4003 ext. 229 or ext. 257 for more information, or email windy.arey-kent@ncaquariums.com. Registration is now open.

Curriculum/Activity Guides Still Available

Centers for Ocean Sciences Education Excellence SouthEast's (COSEE SE's) *The Educator's Guide to Marine Debris: Southeast and Gulf of Mexico* is a regional introduction to three main

categories of marine debris: litter, derelict or abandoned boats, and lost or abandoned commercial and recreational fishing gear. This publication is available for free download on the COSEE SE website at www.cosee-se.org/marinedebris.php and is also available in hard copy, while supplies last.

N.C. Big Sweep's publication, *Undercurrents: A Big Sweep Middle School Teacher's Guide*, includes litter-awareness lessons that are correlated with state learning objectives for 8th grade science and math, as well as for healthful living, language arts and information skills. *Undercurrents* is available free to North Carolina educators while supplies last.

The *Coastal Processes and Conflicts* curriculum includes extensive background information for teachers, as well as student lessons that are relevant in any setting — not just the island environment. It is appropriate for middle- and high-school students. The curriculum can be downloaded free from www.ecu.edu/educ/csmte/coastal_processes.cfm. Or you can order a hard copy (\$10 includes postage), which comes with a CD containing color copies of figures used in the student activities.

Each of these education resources is available from Terri Kirby Hathaway, North Carolina Sea Grant, terrikh@csi.northcarolina.edu.

Need to Contact Me?

If you ever have information to share with other marine educators, please don't hesitate to send it my way for inclusion in a future issue of the *Scotch Bonnet*. Let me know what you're hearing from the sea!

Please share this website with others — and share my email address with anyone who wants to receive a message when each *Scotch Bonnet* is available online! Thanks for all you do for students and for other educators!

My contact information is: North Carolina Sea Grant, PO Box 699, Manteo, NC 27954; phone: 252/475-3663; fax: 252/475-3545; email: terrikh@csi.northcarolina.edu.

Best Fishes!

A handwritten signature in black ink that reads "Terri". The letters are cursive and slightly slanted to the right.

Terri Kirby Hathaway
Marine Education Specialist
North Carolina Sea Grant
terrikh@csi.northcarolina.edu