

Friends of Coastal South Carolina Supporting our National Forest and Wildlife Refuges

Education Updates... This is no ordinary science class!

Fall 2017

Meet Our Education Programs Team

I want to take a moment to introduce our education programs team. Not only because we have some new faces but because teaching kids in the field is as much an art as it is a science lesson and their skill and dedication are what set our programs apart in quality.

Crystal Herron (left) joined our team in January. Crystal is a College of Charleston graduate and a skilled naturalist. The first time I saw Crystal with kids during the interview process I knew we wouldn't find a better teacher and she has proven me correct. Her skill and creativity have already brought our programs to a new level of excellence.

Peter Anderson (center) joined us as a summer intern and made an invaluable contribution to keeping every day running smoothly. Peter returned to the College of Charleston this fall.

Dana Norton (right) joined us as a part time instructor this summer. We are delighted to welcome Dana as a permanent member of our team. Dana's primary role will be as an instructor for field studies lessons. She will be key in helping us meet the increasing demand we have seen for programs over the last few years. Dana just completed her bachelor's degree in marine biology and environmental science at College of Charleston.

It is our generous supporters that make it possible for us to have such a skilled and professional team and we are grateful.

Grace Gasper Executive Director





Pleasant Hill Students Show Their Commitment to Stewardship

Students from Pleasant Hill Elementary in Georgetown County enhanced habitat on Waccamaw National Wildlife Refuge by building and installing bluebird boxes as part of their Earth Stewards program service learning project.

We always encourage students to put the knowledge

they gain in the Earth Stewards program to work to make a real difference in the environment.

The impact these students made was easy to see the first time the boxes were checked! Bluebirds moved in almost immediately. Nest boxes may seem like a small thing but this experience left our students believing they could make a real difference.





New lessons: Unlocking the mysteries of Oceans and Landforms



St. James Santee and Pleasant Hill students model the ocean floor (above right) and conduct experiments to see how temperature and salinity interact to create ocean currents (above) before they travel to Bulls Island to see ocean currents at work first-hand.

The adventure begins in the classroom. We learn about the continents, continental shelf, continental slope, ocean basin, rift valley, mid-ocean ridge, barrier islands, seamount, volcanic islands, and trenches. We create models of the ocean floor, conduct experiments to see how temperature and salinity interact to create deep ocean currents, and learn how currents impact landforms. We learn how South Carolina topography changes from the mountains to the sloping midlands, the flat coastal plain, the salt marsh, the barrier islands and the ocean.

Finally, students arrive on Bulls Island. Remembering scientists use all their senses when they work, we see, touch and yes, smell, as we explore; we see ocean currents at work, dig in the sand as we model barrier island dynamics, feel the salt on the spartina grass (spartina grass can survive in salt water because it can actually excrete the salt it absorbs). And of course smell the distinct aroma of pluff mud (colonial spelling "plough") the nutrient rich foundation of the salt marsh ecosystem. Now we know that unique Lowcountry aroma is due to decaying spartina and other organic matter in the marsh.

By the end of the day we have traveled across the island and back, and explored the island's many ecosystems. We leave hoping to see more dolphins on the boat trip back.



Fifth grade students study four science units during the school year: Ecosystems, Force and Motion, Mixtures and Solutions, and Changes in Oceans and Landforms. Although the Earth Stewards program traditionally focuses heavily on the Ecosystems unit, the outdoor classrooms of our refuges and forest provide great laboratories for introducing kids hands on to a variety of science concepts, and we are all about science learning. And face it; learning outdoors is cool regardless of the subject!

This past spring we officially added a unit covering the "Changes in Oceans and Landforms" fifth grade science standard to our Earth Stewards curricula. The fact that we are able to take many of our Earth Stewards students to Bulls Island in Cape Romain National Wildlife Refuge, to experience the unique landform of a barrier island, made this unit an obvious next step.



Students continue the barrier island landform lesson by modeling their own barrier islands on the beach using materials they collect to represent the various ecosystems on the island.



July Teacher/Volunteer Workshop at Waccamaw National Wildlife Refuge

After two years on the Francis Marion National Forest our annual teacher and volunteer workshop moved to Waccamaw National Wildlife Refuge this year. Our workshops give teachers (and our education program volunteers) a valuable and unique opportunity to learn about our forest and refuges and current conservation issues. Teachers leave with timely, practical knowledge they can take back to their classrooms to raise the environmental awareness of even more students.

Our conservation topic this year was the environmental impact of microplastics. Rachel Leads from Dr. John Weinstein's lab at The Citadel gave an eye-opening presentation on their research in Winyah Bay and Charleston Harbor. In fact the techniques used in sampling for microplastics are so straightforward we are incorporating microplastic sampling into our water chemistry lessons in the Earth Stewards program this year. We look forward to sharing the results of our young scientists' investigations! Look for more about plastics in the environment in our fall 2017 newsletter.

Of course we couldn't be at Waccamaw and end the day without a tour of the Pee Dee River (made possible by refuge manager Craig Sasser. (left, center)). Below: Education Programs Coordinator Crystal Herron and volunteer Pat McCarthy.

Former Earth Stewards Students Return to Volunteer and Teach

Shalissa Garrett (lower right) was an Earth Stewards student at St. James Santee in fifth grade. This year she is one of two fifth grade teachers at St. James Santee participating in the Earth Stewards program with her students.

Madison Cantrell (below) is now a senior at Wando High School. She returned to volunteer with us at the Sewee Visitor and Environmental Education Center this summer and even kept her 5th grade Earth Stewards t-shirt.

Read more about Shalissa, Madison and other past Earth Stewards students in our fall 2017 newsletter.







Tara Hall Science Summer Camp: What it Means to be a Scientist



The wonderful kids at Tara Hall Home for Boys spent their Science Summer Camp days learning how scientists work in the field. Lesson one began with a Bioblitz (a survey tool scientists use to identify and catalogue as many species as possible in a given area in a short period of time) of their beautiful campus on Black Mingo Creek. They learned to use a lot of tools like binoculars, compasses, and dichotomous keys. One of the most important survey tools they learned about was their ears. Learning how to be a quiet observer was not an easy task for a group of young boys but they were excited to see how different the world outside was when they took a moment to stop and listen.

The boys put their new-found skills to use when they made birdfeeders from pinecones, peanut butter and birdseed (we highly recommend you try this at home!) and hung them all over their campus. They used their dichotomous keys to identify the trees they hung the feeders on and kept journals of all the species of animals they observed at the feeders. The next time we were together they practiced another important skill when they reported their observations. After all, scientists have to be able to report their data with clarity and confidence.

We continued the lessons on ecosystems and stewardship as we explored Waccamaw National Wildlife Refuge and the Sewee Visitor and Environmental Education Center. We learned about the importance of protected lands for threatened and endangered species and also the importance of the refuge and forest in protecting the clean air and water people depend on.

Finally, we dissected small sections of oyster reef and learned how scientists extrapolate to calculate the biodiversity, and thus health, of larger areas, say an oyster reef the size of a classroom (again, yes, math is useful in the real world!).

As we leave our students inspired and empowered with new skills, we are already looking forward to our next science summer camp.





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Dedicated to preserving the ecosystems and wildlife of the South Carolina coast for future generations; we support our national forest and wildlife refuges through our education programs, advocacy work and by engaging citizens in stewardship of these critical resources.

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