Friends of Coastal South Carolina

This list is just the beginning of the programs we offer. If you have specific topics, environmental issues, species, projects, or questions please don't hesitate to email us at educator@sccoastalfriends.org. We are always looking for new ways to get students outdoors and involved in their environments!

Sewee Visitor Center Environmental Education Programs

Each of these lessons will last about 45 minutes. Depending on your timetable and the size of your group, you can pick any combination of these programs for your students' visit. Or add one of the Additional Time activities to spend a complete day on one theme. Please note LE are programs geared toward lower elementary students and UE are programs geared toward upper elementary. We also offer certain programs at the middle and high school level.

Bird Adaptations

Come learn about bird beak adaptations through an experiment where students rotate through stations of different kinds of bird food and pick the best beak tool to collect that food!
Extra Time/Alternative: Learn more about feathers with an in depth study!

Conservation and Recycling

LE, UE- Students will learn all about how their actions can both positively and negatively affect the environment. We'll talk about natural resources, conserving energy and water, turning our yards into good habitat, packing a waste-free lunch and other ways that they (as students) can help protect our local ecosystems. Then, we'll turn the focus to recycling as students learn the processes used to make new paper from old paper and even make their own little piece or recycled paper to take home!

Carnivorous Plants in Carolina Bays

Carolina bays are mysterious freshwater wetlands that only occur in this part of the country. They also play host to a few species of carnivorous plants.
LE - Through active participation, students will learn why these plants evolved to catch insects. Then, students will be encouraged to create a 'carnivorous plant' to take home or hang in our classroom Carolina Bay habitat.
UE- Through active participation, students will observe how limiting factors in the Carolina Bay habitat affect the plants that live there. Then, students will hypothesize and learn what mechanisms these plants use to attract and digest insects. Finally, students will dissect a pitcher plant and find out what it's been eating! (The dissection is only available from late spring to early fall when the plants have leaves that are actively catching insects)
*For older students this program can be a great field excursion and data collection opportunity (see description below).

Ecosystems

All groups will have an opportunity to go through our exhibit hall during this Teacher coordinated program and fill out a scavenger hunt booklet or worksheet. STUDENTS DISCOVER ON THEIR OWN what an ecosystem is by observing local habitats and the roles of organisms that live here. Younger students will become nature detectives by viewing the six habitats in our exhibit hall and observing clues left by animals. Older students will learn the management techniques used by the Forest Service and the Fish and Wildlife Service to keep these habitats healthy.

Forest Ecology and Scavenger Hunt

LE – Students will hone their observational skills and discover some of the ways animals hide in plain sight as we hunt for the elusive pipe "lizard". Then, they'll learn about the many functions of our forest as they work in groups to complete a forest scavenger hunt on our onsite trails.
UE - In this lesson, the students are the botanists as they identify common trees on our Nebo Trail. Not only will students practice their observational skills as they hike one of our nearby trails, learning about the food-webs of our forest and wetland ecosystems, but they will also practice their analytical-thinking and problem-solving as they work in small groups to identify local flora using a dichotomous key.
Additional Time: Make a food web – students use photos (of animals, tracks, dens, webs, etc.) that they take during the hike to create a model of the forest food web.

Mammals/Marine Mammals

LE - Students will dress one of their classmates up as a marine mammal to discover the adaptations these animals have developed to live in the ocean! Then, they'll investigate the difference between toothed and baleen whales and how much food they have to consume to keep their huge bodies healthy.
UE - By studying their teeth, students will learn about the adaptations of some of our local mammal species and where these mammals fit on the food web. Then students will learn to use a dichotomous key and compete to see who can identify the most skulls from mammals in our local ecosystems.

Orienteering

(Best for UE or above) Students will learn the basics of using a compass by utilizing their simple math skills and studying degrees, angles, and directions. After mastering the basics, the class will set out on a compass course around our grounds.

Oysters are Habitat Forming

Students learn the many ecological (and economic) benefits of our low-country oysters and salt marsh ecosystem as they get their hands dirty dissecting a chunk of oyster reef from Cape Romain National Wildlife Refuge. Students learn to identify and categorize the animals they find living in their piece of reef (including: crabs, mussels, worms, shrimp, fish, etc.). Older students use the data they collected to calculate the biodiversity of the ecosystem.
Additional Time – Students use digital cameras to photograph the organisms they find and look through magazines and newspapers to find pictures of other salt water organisms. Then working together they construct a model of the salt marsh food web to take back to your

classroom.

Pond Ecology

A great lesson where students get outside and investigate some of the lesser known inhabitants of our freshwater ponds, creeks, and rivers! Students will use dip nets to collect an array of aquatic organisms (including aquatic insects, dragonfly larvae, tadpoles, salamanders, etc.) from our on-site ponds.

LE - Then we'll take our specimens into the lab and discuss what they are and the fact that many of these species under go metamorphosis. Finally students will sketch the organisms they caught in their natural habitat.

UE – Then we'll take our specimens back to the lab where students can use a dichotomous key to identify the organisms and learn how scientists use these organisms to determine the health of a pond.

Additional Time – Students use instruments to explore other ways to evaluate the health of our ponds. We'll test basic water quality parameters of our ponds and take water samples to examine under microscopes back in the lab.

Back at school – Use our online, long-term water quality database to examine and graph changes in water quality over seasons or years.

Red Cockaded Woodpecker

The Francis Marion National Forest is home to the 3rd largest population of this endangered species. Students will investigate what factors create suitable habitat for the endangered Red Cockaded Woodpecker (RCW). They will then learn the reasons for this bird's decline and have a chance to be biologists and "monitor" a simulated RCW colony.

Red Wolves

Come see one of the most endangered species on the planet.

LE - Students will hear an interactive story of a baby red wolf's first year. Then, after seeing the red wolves, they'll make a wolf mask to wear home.

UE – After seeing the red wolves, students will hypothesize what nearly drove these top predators to extinction. Then, they'll learn about the Red Wolf Recovery Program and why it is crucial to protect the apex predators of our ecosystems.

Advanced - Students can look at real genetic data and be a Red Wolf matchmaker using the data to pick a healthy breeding pair!

Reptiles and Amphibians

Meet (and interact with) some of our scaly friends; this is your chance to touch live reptiles. Students will learn distinguishing characteristics of reptiles and amphibians as well as some of the challenges they face. Live animals will be used to allow for a hands-on, close up look at some of the most common reptiles in the Lowcountry.

Sea Turtles of Cape Romain National Wildlife Refuge

The beaches of Cape Romain makeup the largest Loggerhead Sea Turtle nesting ground north of Florida! Students will play a game showcasing the many threats facing baby loggerheads, learn what biologists and volunteers on the refuge do to protect this threatened species, and then

make a special Loggerhead craft to help them remember how they can help out Loggerheads!

Shorebirds

LE - Dress a classmate up as a shorebird! Learn all about the beautiful shorebirds that run along the beaches of Cape Romain and their unique physical and behavioral adaptations that help them survive in their habitat. Then, students will experience the long, difficult journey of migrating from continent to continent in search of food and a safe haven!
UE – Students will be the scientists as they conduct a "shorebird survey" at the Sewee Center (just like our National Wildlife Refuge technicians). Using binoculars they will begin to understand some of the difficulties of collecting data in the field while also learning to identify some of the more common species of shorebirds that utilize our Refuge.

Tracks

Become a nature detective by using clues to identify which animals live near you. Learn to identify the tracks of common animals found in the Francis Marion National Forest and Cape Romain National Wildlife Refuge and how their feet help them survive in their habitat. Students will either make booklets of animal tracks, or use casts to make tracks in the sand and paint these casts to take home.

Biodiversity Binges

Let's take a close look at the biodiversity of our region! Students will learn about the five kingdoms of living things as they use scientific techniques to catalogue all of the living organisms in one of our ecosystems on site at Sewee or at one of our **Field Studies** (See Below). Then we'll bring our data back into the classroom and utilize our math skills as we calculate and discuss the importance of biodiversity and species richness.
Additional time – Students get the opportunity to survey a few different environments and then come together as a class to compare the results.
Back at School – Repeat this activity around your school. Then, compare the data from your school to the data you collected in our forest or refuge.

Field Studies

Our goal and mission is to get as many students as possible out and onto our public lands! These programs may take a bit more planning but we think it's worth it to get kids immersed in the outdoors!

Freshwater Wetlands

At Sewee Visitor Center, Ion Swamp is a fantastic interpretative trail almost directly across from the Center. For this program students spend the morning identifying and collecting data on the diverse array of living things in Francis Marion National Forest (see Forest Ecology, Pond Ecology, and Biodiversity Binge blurbs). Then, if you have time, come back to the Sewee Center where we'll spend the afternoon modeling the complex ecosystem you just investigated.
Bonus: Leave with an awesome model ecosystem mural for your classroom AND plenty of real data for students to analyze.
Additional Time: Drive a bit further down the road from Ion Swamp to view a Red Cockaded Woodpecker colony. These endangered species prefer to make cavities in Long Leaf Pine trees

and Francis Marion National Forest boasts the 2nd largest population in the world! Use binoculars to see if you can tell the difference between a man-made and natural cavity and maybe even spy a rarely seen bird!
Social Studies Add-on: If you're interested we can also spend some time talking about the history of rice culture in South Carolina and how it's shaped our current ecosystems.

Salt Marsh Ecology

This Sewee Shell Ring trail in the Francis Marion National Forest is only about ten minutes past the Sewee Center and provides a great opportunity to experience multiple ecosystems in one trip. To start, students can learn about the many adaptations that plants have for living near the salt water as we hike through the maritime forest on our way out to the marsh.
Then, they will be the scientists as they use scientific estimation techniques and upper level math skills to calculate the number of fiddler crabs in Cape Romain National Wildlife Refuge. This is also a great locale to do a **Biodiversity Binge** (using a transect to compare the biodiversity of the salt marsh to the forest and the ecotone in between).
Social Studies Add-on: The Forest Service Archaeologist will lead your students on an interpretive walk around the shell ring itself, whilst explaining how the Sewee Indians survived in this forest thousands of years ago.

Carnivorous Plants of the Carolina Bays

Take students out to see one of these mysterious wetland habitats. While at this site students will note and can quantify the striking difference in the plant and animal life as we take a short walk from a grassy field through a pine forest and finally into the Carolina Bay. On the edge of the nutrient deficient "bays" is where we find the Carnivorous plants. We'll discuss why these plants are suited to live in these unique environments and then "dissect" a plant to see what it's been catching!
*Note: this activity is a true forest excursion and will not be on a well defined trail. It is mostly suited for older students (4th grade and up).

What is Wilderness?

Wilderness is the land that was - wild land beyond the frontier...land that shaped the growth of our nation and the character of its people. Wilderness is the land that is **-** rare, wild places where one can retreat from civilization, reconnect with the Earth, and find healing, meaning and significance.
Wambaw Creeek Wilderness Area is just 30 minutes north of the Sewee Center and we would love the opportunity to get students out to experience it. This is a great spot to do a **Biodiversity Binge** and then compare it to the biodiversity of a more urbanized area near your school. For a less scientific lesson have students come to the Wilderness area, spend time exploring during a forest scavenger hunt, and then give them time for reflection. We have writing and drawing exercises to help students capture the essence of wilderness. Then come back to the Sewee Center for lunch and students can add their Wilderness reflection to our collage celebrating the 50th anniversary of the Wilderness Act.
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Service Learning

We love when students give back the environments they are studying and are always up for helping classes with service learning projects. If you have a project idea, let us know what it is… we'd love to help brainstorm creative ways to make it happen! Here are some examples:

Habitat Enhancement - Pick a species or ecosystem that your class is concerned about; research what can be down to help that species. (Past projects have included: bat boxes, bird houses, build an oyster reef, planting native plants)

Teach others about our wildlife! Students come to the Forest/Refuge to learn about some of the native and invasive flora/fauna of Charleston. Then they can work in groups to create interesting and informative signs to hang up (in school yard, on interpretive trails, etc.) teaching other students interesting facts or important FYIs (e.g. Don't touch the poison Ivy!) about the ecosystems.

Raising Money - A lot of times the best way to help is to donate money to a group who has the same interests as you. Past projects include – selling "Turtle Bags" (reusable grocery bags with sea turtle graphics) with a note inside about making sure your trash ends up in the right place and not in a Sea Turtle's stomach.

Make your schoolyard in to a great habitat! This usually includes things like building and installing bluebird boxes/bird feeders, native plants that attract pollinators, water features, etc. around your campus or in other public places to create habitat for birds. Often I start this as a research project, having students investigate what they can do to make a yard more hospitable habitat.

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