



### Letter From the Director: Our Place in the Landscape

*"To know who you are you have to know where you are."*

As you read about the LowCountry Institute's accomplishments in 2011, think about how each of our organization's efforts connect people to the landscape of the region. For the past 14 years LCI, in partnership with the Spring Island Trust, has had the privilege of using Spring Island as an outdoor classroom to teach community members how to "read" the region's natural landscape – how each of us shape it and how our knowledge of the

region's past will help us determine how our actions will shape it in the future. Our staff takes this message in a variety of ways to a variety of audiences, but the message is always the same - we live in a special landscape and it is important for each of us to see where we fit into it in order to be able to make sound environmental decisions.

Truly seeing our place in the natural landscape means knowing both the region's geography and understanding how our actions influence other organisms

that are part of this shared landscape. One way to develop a mental map of one's location in a natural landscape is to "zoom out" to a larger and larger area, determining for each spatial scale how one is connected with the rest of nature. On the small, local scale Spring Island encompasses over a dozen habitats; the Island is surrounded by tens of thousands of acres of salt marsh and tidal creeks and then a great diversity of surrounding sea islands, each with their own unique habitats. On a larger spatial scale, we are embedded between the Savannah River Basin to the south and the ACE Basin to the north. Thus, your own local natural landscape may start with a patch of trillium or a painted bunting territory at the marsh's edge, but it ultimately is connected to almost a half million acres of protected lands in the region.

Relationships characterize how nature works, and conservation must be accomplished on a regional scale in order to preserve these relationships. Our barrier islands serve as breeding habitat for horseshoe crabs; the eggs laid by the horseshoe crabs provide food for a variety of seabirds that live in and migrate through the Low Country, connecting our region with places ranging from the Arctic to Argentina. Wildlife abundance on sea islands like

*(Continued on page 8)*



*Our watershed: The Port Royal Sound watershed is characterized by numerous sea islands, tidal creeks, and expansive salt marshes. Graphic provided courtesy of the Port Royal Sound Foundation. The PRSF works closely with LCI to promote conservation of the waters of our estuary.*



# EDUCATION AND OUTREACH

## Learning Expeditions Schools Program becomes standard curriculum

After a year as a pilot program during the 2010-2011 school year, the Learning Expeditions Schools Program was embraced by the



*Teacher Training: Chris instructs teachers who are part of the Learning Expeditions Schools program about shorebirds.*

Beaufort County School District and became a formal part of the curriculum at three of its schools. In addition to Shanklin and Shell Point Elementary Schools, Robert Smalls Middle School joined the program. Fall 2011 marked the second year of the program which promotes nature as a cornerstone of learning by integrating science, math, and social studies into unique field experiences for each grade level. This year, all 6th, 7th and 8th grade classes attended a different three-day, two-night environmental education camp run by Clemson University's Youth Learning Institute (YLI). LCI Executive Director Chris Marsh worked with Clemson YLI staff to develop the curriculum for Clem-

son's newest site, Camp Hannon, where the 8th graders explored a mountain cove forest through math activities.

Programs initially developed for these local schools are also serving students across the state. For example, in 2011, 1200 students from schools across South Carolina attended Clemson's Camp Sewee where they conducted snail surveys in the salt marsh, learned about coastal geology on an undeveloped barrier island beach, and learned how to "read" a coastal forest using the curriculum developed by Chris in 2010. Camp Sewee is located adjacent to Cape Romain National Wildlife Refuge north of Charleston.

## Technology allows LCI to disperse message widely

Today's technology allows us to watch TV, look up information, or even visit new places all with the touch of a few buttons. The Low-Country Institute is using technology to our advantage to disperse our message of conservation and preservation of the Port Royal Sound region to wider and wider audiences. For instance: did you know that you can watch Coastal Kingdom anywhere you can access the internet? The recent launch of the Coastal Kingdom website has allowed households, classrooms and libraries to access nine episodes of the show by computer, smart phone or iPad. The website includes a searchable database of animal clips, a naturalist blog, science standards for teachers and a "tools of the trade" section for future naturalists and cinematographers. The show continues to air on local channels but the website provides access to

those who do not receive The Beaufort County Channel, to out-of-towners curious about our area, and to friends and family of residents.

A second, new program developed with our County Channel partners is also available online through the LCI website, the County Channel website, and YouTube. Called Skies Over Beaufort, the short segments provide audiences with locally relevant astronomy lessons.

Be sure to check out our websites to access these programs!  
[www.coastalkingdom.com](http://www.coastalkingdom.com)  
[www.lowcountryinstitute.org](http://www.lowcountryinstitute.org)



Lowcountry Predators



*Web Resources: Above—Lowcountry Predators is the newest Coastal Kingdom episode available online. Below—Night Skies Over Beaufort County uses demonstrations and graphics to illustrate relevant astronomical concepts.*

## Master Naturalist Remains Flagship Educational Program

The Master Naturalist class is an essential component of LCI's education program. The course teaches regional residents about the unique characteristics of our environment. This training prepares them to be volunteers and stewards with a variety of organizations that promote environmental conservation. Because volunteers, decision makers, and other naturalists participate in the course, LCI's message is not just conveyed to those who take the class but also through these people to other residents, visitors, students, and local officials.

This past year, participants in the LowCountry Institute's Master

Naturalist course contributed just over 5,000 volunteer hours to the community in a variety of capacities. They worked as nature center docents, classroom volunteers, citizen scientists, trail repairers, and more. The message conveyed through the Master Naturalist course is that our environment, and the plants and animals that inhabit it, are interesting and exciting and thus worth learning about, appreciating, and conserving. Only when people understand the significance of what they have will they make deci-

sions that preserve it.



*Fence Lizard Fun: During a field session at the Audubon Society's Beidler Preserve, Master Naturalists learn about the fence lizard. Photo by Mark Musselman.*

## Training the Trainers

LCI continues to focus resources on programs that will have far-reaching impacts in the community. This way, we can have the greatest impact possible while maximizing limited capital. We accomplish this by using a "train the trainers" model. By teaching

effective outdoor learning techniques and educating teachers, nature center professionals and volunteers who lead educational programs, we spread LCI's message exponentially. In this way, the Teacher Master Naturalist program, the regular Master Natural-

ist program, teacher workshops, and naturalist training workshops dovetail to meet the same objective: educate the greater community, visitors, and students about nature in the lowcountry.

## Native Plant Grant



*Hunting Island Project: Master Naturalists, Master Gardeners, and Friends of Hunting Island worked together to install the native plant garden at the Nature Center.*

For the past 2 years, LCI has offered grants of native plants to local nature centers and schools. The plants are grown by the Spring Island Trust Native Plant Project and are provided to the LowCountry Institute at cost. LCI then donates the plants to projects that will provide educational opportunities to students and visitors. In 2011, Mary Ann Radke - the environmental coordinator for Friends of Hunting Island State Park and also a Master Naturalist - received a grant to create a native plant garden around the Hunting Island Nature Center that will serve as a place for

visitors to learn to identify native species common on a barrier island. These plantings will also provide habitat and food for birds and other animals. She worked closely with Pat Lauzon of the LowCountry Master Gardeners, the Friends of HI and the Master Gardeners to prepare the site, install the plants, and maintain them. The plants are irrigated by rain barrels to save water and are naturally adapted to the dry, sandy soil of a barrier island. The garden demonstrates the benefits of landscaping with native plants to over 1 million people that visit Hunting Island annually.



## Managing for Biodiversity

“Biodiversity” is the number and variety of species found in a region. The LowCountry Institute regularly partners with the Spring Island Trust, whose mission is to protect the Island’s biodiversity, by sponsoring studies that investigate how the Trust’s management practices affect the species found there. By studying what practices promote biodiversity and the conservation of rare species, LCI provides recommendations to public and private landholders about best land management practices.

In 1996 as part of his graduate work, Dr. Patrick McMillan, one of the leading botanists in the Southeast, surveyed Spring Island for rare plants. In 2011 LCI contracted with Dr. McMillan to return to Spring Island and repeat his plant survey to help determine how habitat management during the past 15 years had influenced the biodiversity of plants. Dr. McMillan’s surveys produced several interesting observations.

First, it revealed that Spring Island is home to one of only two sites in

South Carolina with an extremely rare slash pine savannah. (The other site on Daniel Island is slated for development.) For the past 20 years the Spring Island Trust has managed this area with regular prescribed burns because fire reduces excess fuel and maintains open pine habitats. Selective timbering is also used to increase the amount of sunlight reaching the ground cover, thereby improving the growing conditions for native grasses and wildflowers. Fire has historically been a major force affecting the southeastern landscape and many species require the presence of fire to persist. One such plant species is *Eupatorium scabridum*, a fall-flowering aster that is very rare. In 1991 Dr. McMillan found only 6 individuals of this species in the pine savannah on Spring Island, but in 2011 hundreds of individuals were present as a result of the Trust’s fire management program.

Second, Dr. McMillan’s survey showed how management practices could negatively impact rare

a higher pH than is typical due to high concentrations of oyster shells that were deposited by pre-Columbian Native Americans. A wide variety of unique plant species are associated with these types of habitats. One of the premiere examples of this habitat type found in the state of South Carolina is located on Spring Island on private property. Over the years, annual bush hogging was used to promote growth of mottled trillium (*Trillium maculatum*). The trillium flourished but Dr. McMillan’s surveys showed that other species unique to this habitat, many of them on the South Carolina rare plants list, had declined. As a result of this information, LCI developed management recommendations to reduce the bush hogging cycle to every three years. As a result, the Spring Island Trust, in cooperation with the property owner, will be able to conserve the rare sedges and wildflowers growing in association with the trillium.



*Rare plant associations:* *Carex basiantha* (top left) and bloodroot (bottom left) are rare plants found growing along with mottled trillium (below) in a shell midden hammock.



plants associated with the shell midden hammock forest. Another rare habitat type found in the Lowcountry, shell midden hammock forests occur where soils have Dr. McMillan’s surveys on Spring Island illustrate that, to protect biodiversity, the proper information on the effect of management practices on both the common and the very inconspicuous, rare species must be available to landowners. Managing property in a way that preserves the historic biodiversity of the region is not only useful for its intrinsic value, but also provides many benefits such as preservation of plant/pollinator relationships, food sources for native species and other “ecosystem services.” The LowCountry Institute uses Spring Island as a research laboratory to demonstrate to local land managers what “best practices” can be used to promote regional biodiversity.



## 2011 ANNUAL FUND

The important work of the LowCountry Institute is 100% funded by tax-deductible contributions. We are grateful for the support of 289 donors in 2011 whose gifts totaled \$493,494. We were especially pleased to welcome seven new members to our Leadership Circle. Fund-raising in 2011 is used to meet the 2012 LCI budget. Thanks to the strong support by our donors in 2011 the LowCountry Institute has increased its efforts in the areas of water quality protection, the Spring Island habitat management partnership and environmental curriculum development for local schools. The Institute's work is increasingly important as the pressure of development in the Low Country continues to threaten our precious natural resources.

*Ann Baruch, Jan House, and Mary Jane Hender, LCI Fundraising Co-chairs*

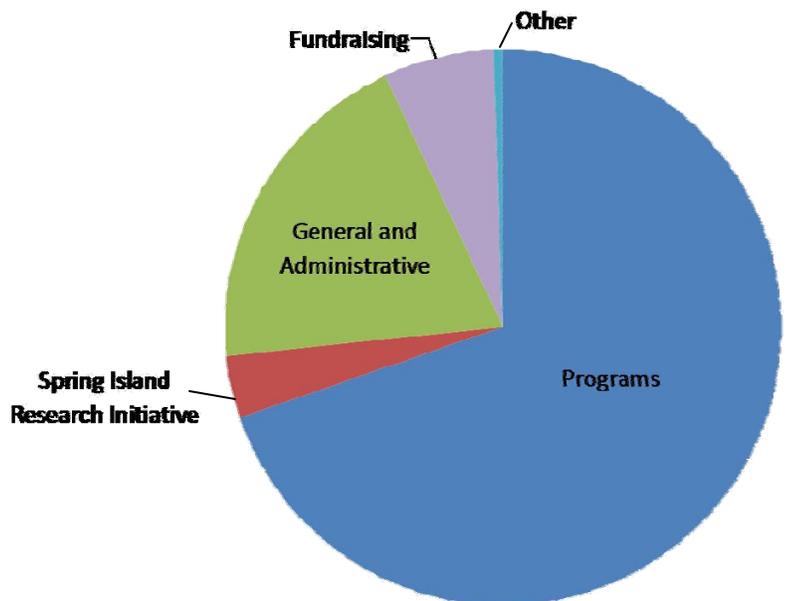
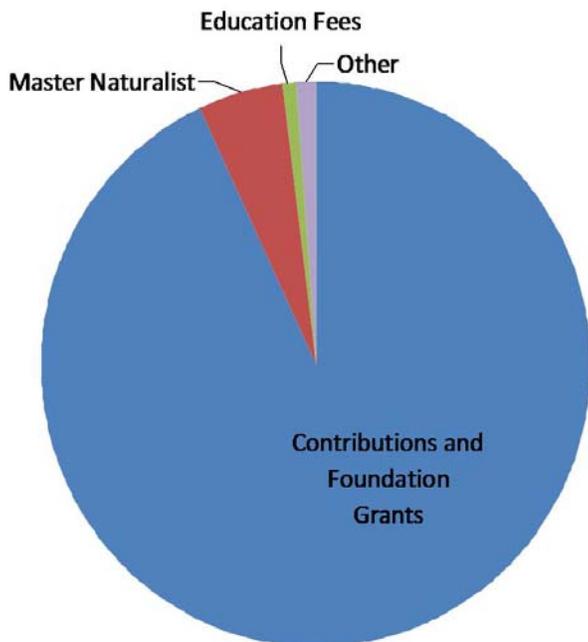
## 2011 FINANCIALS

**REVENUE\*** (\*represents funds for 2011 budget)

Contributions and Foundation Grants	\$523,494
Master Naturalist	\$27,918
Education Fees	\$4,808
Other	\$6,530
<b>TOTAL</b>	<b>\$562,750</b>

### EXPENSES

Programs	\$407,911
General and Administrative	\$115,259
Spring Island Research Initiative	\$20,165
Other	\$3,290
Fundraising	\$38,117
<b>TOTAL</b>	<b>\$584,742</b>





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(Letter from the Director, Continued from page 1)

Spring Island and in the waters surrounding them is determined by the health of our salt marshes. The large expanses of protected forests and marshes in the ACE Basin and the Savannah River basin increase the number of migrating birds that pass through the Port Royal Sound region. Therefore, to keep a place such as Spring Island special requires protecting the larger landscape. This is why the LowCountry Institute was created and why it continues to use Spring Island as a tool to demonstrate why the entire Port Royal Sound region should be protected.



The mission of the LowCountry Institute is to provide responsible leadership in the conservation and use of Lowcountry natural resources – its biodiversity, pristine waters and ecological landscapes – by fostering learning opportunities and helping local policymakers, landowners and residents make informed decisions.

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