



Photos by Matthew Sarver

### Letter From the Director

The year 2009 was a banner year for the LCI. Once again, we continued to achieve our goals and expand our outreach. The culmination of recent efforts to protect water quality came on October 26, 2009 when Beaufort County Council passed a new and radically different stormwater ordinance that will serve as a model for communities around the country. The Council acknowledged the role that Dr. Marsh played in helping both the community and the Council understand why a stormwater ordinance controlling stormwater volume, as well as stormwater quality, is essential to preserving this unique and nationally important coastal estuary. As a result of these efforts Beaufort County officials now regularly consult with LCI staff on a variety of environmental topics.

Similarly, the LCI education program had a very successful year as it completed its seventh year as the hosting organization for the local Clemson Master Naturalist program. This is the second year that Tony and Kristen have been teaching three classes per year! To date, the number of Master Naturalist graduates now numbers 344. With the continual

influx of retirees who want to remain active community volunteers and positive word-of-mouth in the professional community, the demand for the course continues to remain high. In addition, the first episode of Coastal Kingdom, a nature program created by Tony Mills for the local county channel, received rave reviews and was viewed by thousands of local residents each week after it began airing in early December.

Looking back on 2009, we believe this will have been a seminal year for environmental protection in Beaufort County. LCI's momentum of success could not have come at a more critical time. The temporary stagnation of the economy has provided a narrow window of opportunity for local governments to re-examine their zoning ordinances and resource allocation. The result is an increase in their ability to manage the onslaught of development pressure that will resume in the near future. These municipalities typically use the same wording for

*"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it is the only thing that ever has."  
- Margaret Mead (1901-1978)*

their ordinances that the county uses - as the county council goes, so go the town and city councils. Thanks to our past decade of work, Beaufort County's council members and administrators now understand what is at stake and the tragic toll uncontrolled growth could take on our region's sports fish and shellfish populations.

*Chris Marsh*

The LCI strategy is straightforward: (a) inform policymakers in order to help them make the best decisions, (b) emphasize experiential learning because it teaches people both information and environmental values, (c) keep highly qualified staff who teach with passion, and (d) use partnerships to help other organizations improve their effectiveness in ways that benefit local environmental efforts.



## EDUCATION AND OUTREACH



Above: WBMS students observe birds visiting one of the bird houses installed on campus.

### LCI and Whale Branch Middle School Partner to Improve Habitat for Native Birds

LCI was awarded a \$2,000 grant from DHEC's Champions of the Environment program in the fall of 2009 to complete a project in partnership with Whale Branch Middle School to improve the habitat on the school's campus for native bird species. The first phase of the project involved building nesting boxes with the students to provide habitat for native cavity-nesting bird species and installing them around the 60-acre school grounds. In early 2010, students will install birdfeeders to provide supplemental food for native bird species and plant native shrubs along the marsh border behind the school to improve habitat for birds, such as the painted bunting and other neotropical migrants.

### Master Naturalist Program

In 2009, 83 individuals completed the Master Naturalist program, and LCI-trained Master Naturalists—now totaling 344—contributed over 3,460 volunteer hours to the community. Graduates participated in projects such as leading nature walks at Hunting Island State Park and the Coastal Discovery Museum, trail maintenance and creation, habitat restoration, school programs, and citizen science projects. Teams of teachers from eight local schools have also participated in the Master Naturalist for teachers program over the last three years.

Master Naturalists who completed the program through LCI contributed over 3,460 volunteer hours to a variety of citizen science, education, and public projects in 2009.



Above: Participants of the Fall 2009 Master Naturalist class in Congaree National Park.

### LCI Expands Partnership with Shanklin Elementary School

LCI began its partnership with Shanklin Elementary School in the fall of 2007. In fall 2009, the seven trained Master Naturalist teachers at the school convinced the new principal and other teachers that nature study should be expanded to become a major component of the school's curricular program. In response, Dr. Marsh visited with grade-level teacher teams to learn about their needs and concerns, and conducted three training workshops for the school's staff during afternoon teacher meetings. From this partnership LCI has developed a school plan that incorporates highly structured field trip experiences as a central part of the curriculum. Approximately 95% of the students at Shanklin receive free lunches and therefore many of these students would not have these opportunities outside the school setting. The first of these field trips are scheduled to begin in May 2010.

Below: Students from Shanklin Elementary School study insects, spiders, and bats during a lesson with Chris.



## Creating Partnerships within the Lowcountry Community

LCI strives to cooperate with other organizations throughout the Lowcountry, utilizing existing framework to make our community outreach efforts more effective. Over the last year, our work with a variety of organizations has helped us disseminate the message that Port Royal Sound is a unique system which must be preserved because of its diverse and economically important natural resources. Some of our community partners are:

- Beaufort County Schools
- Osher Lifelong Learning Institute
- SCDNR
- Clemson Extension
- Kiawah Island Nature Program
- Fripp/Harbor Islands
- Beaufort County Senior Leadership Council
- Beaufort County Council
- Friends of the Rivers
- LowCountry Master Naturalist Association
- Coastal Discovery Museum
- Hunting Island State Park
- Beaufort County Soil and Water District
- Beaufort County Public Libraries

## Coastal Kingdom Premieres on The County Channel

Coastal Kingdom, a nature program starring LCI's Tony Mills and focusing on Lowcountry animals and habitats, premiered on the Beaufort County Channel in November. The show is the result of a collaboration between county broadcasters and Mills. The first episode featured reptiles and amphibians. Five more episodes will be added to the series in 2010, including programs on mammals, birds, and sharks.

"The thing that is so exciting and different about the series is that it is local. We hope to show people some of the animals we have here in our own backyards. There is much concern today about the protection of our ecosystems, our habitat and our waterways. If our wildlife is healthy, our environment in general is healthy. We hope to help people learn more about it."

-Tony Mills, about *Coastal Kingdom*



Left: Kristen Mattson teaches students from Bolden Elementary School, who visited Spring Island habitats aboard LCI's "mobile classroom", about animals and plants found on a sea island. Bolden was one of several schools to attend LCI fieldtrips.

## Seashore Field Guide

In February 2009 Tony and Kristen designed and produced the "Seashore Field Guide." This field handbook is a pictorial guide to common intertidal invertebrate species such as mollusks, crabs and alga found on Lowcountry tidal flats. Pictures were provided by Dianne Fau-



cette and other master naturalists, and technical expertise was provided by marine invertebrate biologist, Dr. Alex Marsh. This pocket-sized, laminated guide can be used at the beach, mudflats or salt marsh and then rinsed off afterwards. It is an excellent teaching tool for school groups because the day's finds can be recorded with an erasable marker and then cleaned off before the next trip. This project was made possible by a generous donation from the fall 2008 Master Naturalist class. We are delighted to have this guide available for teachers, students and future master naturalists.



Above: Tony and videographer Rob Lewis film a segment about diamondback terrapins in the marsh.



## RESEARCH AND CONSERVATION



### Biological Inventory Conducted at Good Hope Plantation

LCI continues to partner with Lowcountry landowners to promote conservation of biodiversity and best habitat management practices. The LowCountry Institute and Clemson University conducted a preliminary breeding bird survey and rare plant inventory for Good Hope Plantation, a 15,500 acre plantation in Jasper County. A total of 464 plant species and 83 breeding bird species were documented on the plantation.

*Left:* Longleaf pine savannah on Good Hope Property.

### Research Projects

LCI supports and sponsors research in areas that will help to fill gaps in scientific knowledge, particularly where this will promote conservation of the Port Royal Sound System. In 2009, LCI provided assistance to three projects:

- In the summer, the LowCountry Institute partnered with the Sea Island Fly Fishers Club of Beaufort, Parris Island, and the Fripp Island Audubon Society to survey nesting osprey populations in the Port Royal Sound area. A total of 125 platforms were observed in 2009. Of these, 78 (62%) had active nests. 11 platforms had old nests that were not being used, and 36 had no nests at all. Chicks were observed at 30

*(Continued on page 8)*

### Why is Beaufort County's New Stormwater Ordinance so Significant?

The Institute's most significant accomplishment in the area of conservation was assisting with the passage of Beaufort County's new stormwater ordinance. This ordinance, passed by the County Council on October 26, 2009, includes the control of the volume of stormwater as well as its quality. Why is this so significant? The old view (paradigm) of stormwater management was that, as long as you got the stormwater clean, it didn't matter how much stormwater entered local rivers and estuaries. Stormwater ponds, which also double as residential community amenities, are designed to retain stormwater for two weeks during which time coliform bacteria supposedly either died or settled to the bottom of the pond. Then, the water is diverted into the marsh. The problem, however, is that large volumes of stormwater traveling through drainage ditches or culverts do have a dramatic impact. Not only does the rapid flow of these waters cause channelization within the salt marsh and the ditches, but its rapid flow enables it to carry more sediment into the marsh. Pesticides and other oil-based pollutants (e.g. PCBs and PAHs) reach waterways because they adhere to sediments.

In Beaufort County rapid influxes of large volumes of fresh water have another negative effect. Our tidal creeks, which usually have high salinity water, support an abundance of small marine animals including the larvae of crabs, shrimp and marine sports fish, as well as the microscopic worms and zooplankton upon which these larvae feed. Large volumes of freshwater coming from a shopping mall parking lot into a small headwater tidal creek causes a sudden drop in salinity which, if of sufficient magnitude, will kill small marine life. Therefore, the health of the tidal creeks around Port Royal Sound depends on having relatively constant salinity with changes occurring gradually, as occurs in undeveloped areas.



## 2009 ANNUAL FUND

The important work of the LowCountry Institute is 100% funded by tax-deductible contributions. We are grateful for the support of 257 donors in 2009 whose gifts totaled \$416,600. We were especially pleased to welcome eight new members to our Leadership Circle.

The LCI is viewed by both local environmentalists and developers as the definitive source of reliable information about the environment and the challenges of development. The Institute's work is increasingly important as the pressure of development in the Low Country continues to threaten our precious natural resources.

Many thanks to our donors and our solicitors whose generosity and hard work resulted in the wonderful success of the 2009 Annual Fund. The LowCountry Institute is committed to forward-funding its programs and develops its annual budget based on funds raised the previous year. The great success of our 2009 fundraising efforts will allow us to expand our work in 2010.

*Ann Baruch and Ginger Mitchell, LCI Fundraising Co-chairs*

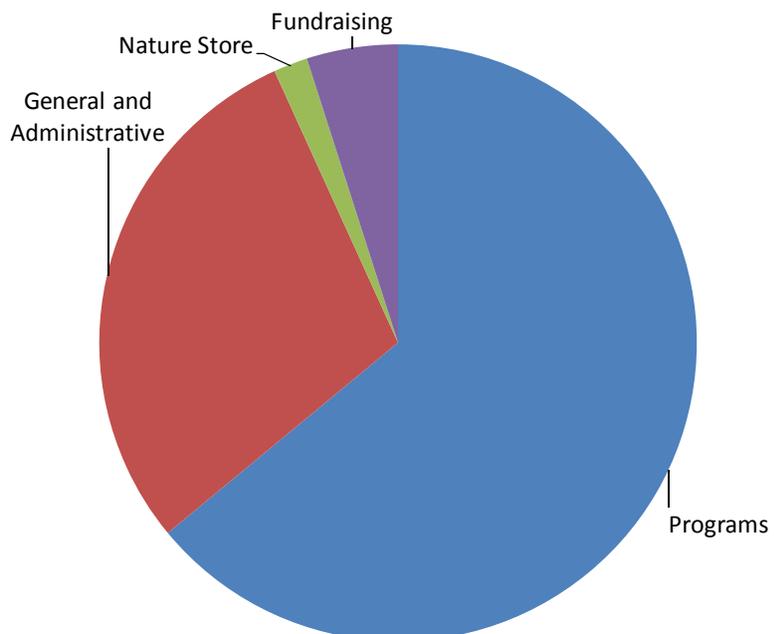
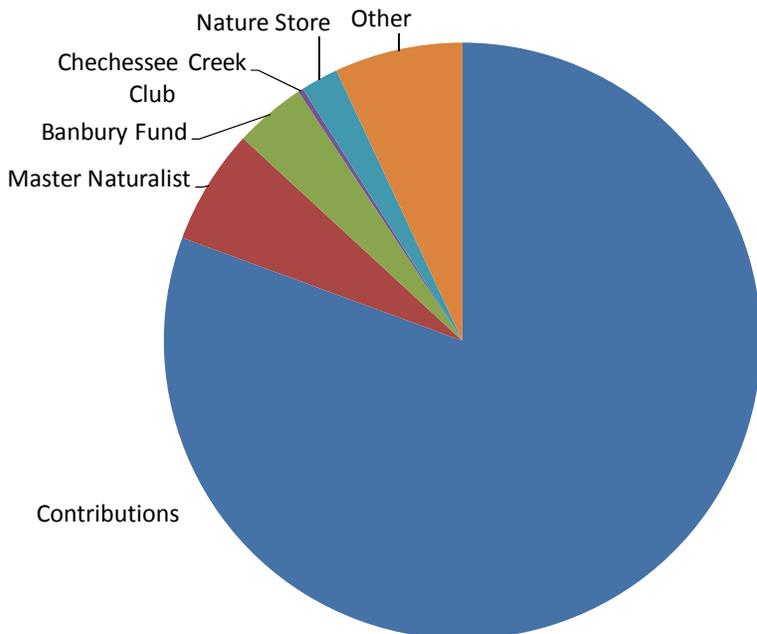
## 2009 FINANCIALS (unaudited)

### REVENUE

Contributions	\$416,600
Master Naturalist	\$32,350
Banbury Fund	\$20,000
Chechessee Creek Club	\$1,500
Nature Store	\$10,498
Other	\$35,888
<b>TOTAL</b>	<b>\$516,836</b>

### EXPENSES

Programs	\$256,555
General and Administrative	\$117,081
Nature Store	\$7,385
Fundraising	\$19,810
<b>TOTAL</b>	<b>\$400,831</b>





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\*Every effort has been made to ensure the accuracy of the donor list.  
Please excuse any errors and contact Lisa Gravil at 987-7008 with corrections

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## Guideline Criteria for LCI's Work

The year 2010 promises to be a very productive year for LCI thanks, in large part, to the generous support of our donors. LCI's success at having a far reaching impact with limited staff is due to the collaborative relationships we have developed with Beaufort County, state agencies and other non-profits. We have four criteria that we use when evaluating possible projects and prioritizing them.

1. All projects must address one of LCI's four major goals and supporting strategies: (a) educate adults who have the ability to impact others through their careers or their volunteer efforts, (b) provide information not currently available that is needed to make important environmental policy decisions, (c) promote environmental education efforts that reach a large audience including schools, and (d) use Spring Island as a showcase for effective habitat management practices.
2. Projects that simultaneously address more than one of LCI's three goals are given higher priority.
3. Projects which have a majority of their funding from another source, but need LCI staff expertise or matching funds to be accomplished.
4. Projects that address an environmental issue that will influence a municipality or county's implementation of a law or ordinance that will improve environmental protection and stewardship.

These guiding principles help ensure that LCI acts in a fiscally responsible manner by funding the programs and projects that have the greatest positive impact on the Lowcountry environment.

### **Honor/Memorials**

*In honor of Mark and Ann Hawley*

(Continued from page 4)

of the active nests, and 34 nests had a least one fledgling present. These data will help establish a baseline understanding of osprey populations in our county, and allow us to track population trends.

- In an ongoing project, researchers Tom Murphy and George Rock studied the effects of capturing and tagging on alligator behavior.
- Clemson master's student Jessica Gorzo surveyed painted bunting nesting on Chechessee Creek Club. She hopes to correlate nesting patterns with habitat type.

See our fall 2009 newsletter for more information about these projects.

The mission of the LowCountry Institute is to provide responsible leadership in the conservation and use of Low-country 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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