



Sapelo Island National Estuarine Research Reserve

Winter 2010

## Live Oak Tree Project a Resounding Success

Live oak trees count in the City of Darien. They shade the streets and decorate the squares, and a live oak tree is even part of the city's logo. So, to help protect these trees, SINERR, through a partnership with City of Darien, and with the help of the Friends of Sapelo volunteers, has documented the location and size of 387 live oak trees within the Darien city limits.

Qualifying trees for the project measured at least four feet in circumference and were located within the City of Darien on public property; however, any city landowners with live oaks on their property were free to participate and have their trees included in the survey, and some did.

The idea for the project began when Friends of Sapelo volunteers requested a Global Positioning System (GPS) training class to help them with a plan to document the location of live oaks within the Reserve. For some time, SINERR stewardship coordinator Aimee Gaddis had wanted to begin

such a project, so she was happy to oblige and offered a class on handheld GPS devices to enable the volunteers to help survey trees. Then, bringing another dimension to the project, SINERR CTP coordinator Suzanne Van Parreren saw the opportunity for the product of this effort as a planning tool for the city. Together Gaddis and Van Parreren developed a plan to get citizens involved and document all of the trees in the city.

The City of Darien partnered with the program by offering not only its support but also City Hall as a central meeting location for volunteers. Gaddis and Van Parreren used city's fire district maps to divide the city into sections where volunteers worked.

"The City of Darien recognizes that live oaks are one of our greatest natural resources. They add to our city aesthetically, and they have many other practical benefits as well," says Darien mayor Kelly Spratt. "We do have a tree ordinance that protects our trees, and

this project fits into our big picture of planning for growth while protecting and preserving our live oak trees," she says.

Gaddis and Van Parreren are eager to share the results of the survey. Locally, they will present their findings at the March meeting of the Friends of Sapelo and to the City of Darien at the April meeting of the City Council. City officials will be given a copy of the live oak database, which will help the city with planning for future growth and development. "We are excited to see how the city will use the data for things like replanting and caring for existing trees," says Gaddis.

But results of the survey have already reached a bigger audience. Gaddis and Van Parreren recently presented a poster at the NERR System Annual Conference at Tijuana River NERR in California. The poster was well-received and inspired at least two reserves to launch similar projects in partnership with their respective municipalities.



Aimee Gaddis and Suzanne Van Parreren measure a live oak tree in Darien.

Photo by Brooke Vallaster



Friends of Sapelo member Sara Blocker takes a waypoint with a GPS unit to mark the location of an oak tree.

Photo by Suzanne Van Parreren

# SINERR's Coastal Training Program: Thinking Globally, and Acting Locally...and Regionally

One of the more visible initiatives of the SINERR is the Coastal Training Program (CTP). Headed by SINERR CTP coordinator Suzanne VanParreren, CTP is a multi-faceted program with the purpose to provide information, tools, and skills to people who make decisions about coastal resources so they can better manage these resources that are so vital to their communities and economies. "To me, the role of CTP is to help bridge science to management so all types of people, from elected officials to ordinary citizens can make more informed decisions when planning for growth," says VanParreren.

CTP offers workshops locally and regionally, often in partnership with



Billie Jo Hagan and Suzanne VanParreren take a break from workshop planning in their office.

Photo by Brooke Vallaster

local and regional municipalities and other reserves within the NERR system. In fact, the collaborative efforts of SINERR CTP and the program's successful work in the Southeast are setting the standard for CTP programs nationwide. In October, SINERR co-sponsored a workshop on fostering sustainable development at the Coastal Georgia Center in Savannah. Partnering with the SINERR CTP were North-Inlet-Winyah Bay and ACE-Basin NERR Coastal Training Programs, with support from the Georgia Coastal Management Program, University of Georgia Marine Extension, South Carolina Sea Grant and Gray's Reef National Marine Sanctuary. The workshop's presenter, environmental psychologist Dr. McKenzie-Mohr, spoke to participants about incorporating the scientific knowledge of behavior change into the design and delivery of community programs that encourage behaviors like water and energy conservation.

A recent addition to CTP offerings is a series of speakers and special events addressing the needs and interests of local leaders and community members. The outreach series began as an effort to expand the visibility of the Reserve and its mainland visitor center complex, which hosts the events, and to broaden the audience for subject-based presentations on the historical and cultural aspects



CTP promotes Earth Hour, an hour of no power, on March 27, 2010, at 8:30PM local time. More information can be found at [www.Earthhour.org](http://www.Earthhour.org).

of the Reserve, Sapelo Island, and the surrounding area. Hired to coordinate the outreach series and to assist with other CTP programs was Billie Jo Hagan, one of the newest members of the SINERR staff.

Since its inception, the program has offered a well-attended series of historical lectures by SINERR manager Buddy Sullivan, basket weaving demonstrations by staff member Yvonne Grovner, and information on gardening and landscaping with native plants. Plans for upcoming events include programs on local Native American history and archaeology. CTP also plans to promote and support Earth Hour, a global effort to encourage energy conservation on March 27.

## Education Programs & Tours

### Public Tours:

Wednesdays & Saturdays (Fridays, June 1-Labor Day). Reservations can be made by calling the Visitor Center (912) 437-3224.

### Group Programs:

Tuesdays & Thursdays (Fridays, Labor Day-June 1). Programs offered for groups (school groups 5th through 12th grades) of 40 or fewer. Cost is \$10 for adults and \$6 for students. Reservations can be made by calling the Sapelo Island Education Office (912) 485-2300.

[www.sapelonerr.org](http://www.sapelonerr.org)

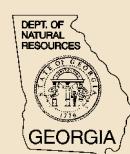
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## SINERR STAFF:

Buddy Sullivan, Reserve Director; Dorset Hurley, Research Coordinator; Brooke Vallaster, Education Coordinator; Aimee Gaddis, Stewardship Coordinator; Suzanne VanParreren, Coastal Training Program Coordinator; Georgia Graves, Teacher Training Coordinator; Bill Merriman, Visitor Center Manager; Yvonne Grovner, Tour Coordinator & Guide; Stacy Rowe & Pat Carson, Visitor Center Clerks; Nancy Alford, Office Manager; LuAnn Boney, Clerk- Receptionist; Patrick Hagan, Monitoring Technician; Linda & J. D. Daniels, Volunteer Coordinators; Ann Mason, Communications Specialist; Billie Jo Hagan, Coastal Training Assistant.

*The Sapelo Island National Estuarine Research Reserve was established in 1976 as a cooperative effort between the State of Georgia and the National Oceanic and Atmospheric Administration. The national Reserve system is administered by NOAA. The SINERR is operated by the Wildlife Resources Division of the Georgia Department of Natural Resources. The mission of the Reserve is to support and promote scientific research relating to the Sapelo Island and Doboy Sound estuary, disseminate research information, educate the public about estuarine processes and encourage resource protection and stewardship.*



# Teachers Come to Sapelo Island for Hands-On Learning

Not all teachers take a break during their summer vacations. Every year, dozens of educators travel to Sapelo Island to participate in teacher training workshops presented by SINERR. This past summer, the Reserve offered two week-long trainings for teachers: Coastal Ecology and Sea Turtle Conservation. During the fall, workshops on marine mammals and shorebirds attracted more educators from all over the Southeast.

Liberty County educators and sisters Teresa and Lylene Scott attended the sea turtle workshop. Teresa teaches third grade at Lyman Hall Elementary School. Lylene is the curriculum coordinator there.

Teresa Scott says the workshop experience not only gives her the information and experiences she needs to help teach scientific concepts to her students and other teachers, it allows her to share details of her trip with her students, which she often does with a slide show. "It lets them see that I have been out there and really seen this stuff. I'm not just repeating what I've read in a book," she says. "Most students," she continues, "have this idea of teachers that we never get out and get dirty."

Amy Capello, biology teacher at Johnson High School in Savannah, agrees that the hands-on experiences she has enhance her teaching. "I think it's important because I'm not just saying, 'Turn to page 50 where you'll find a picture of a sea turtle.' It's something that I'm directly involved in, and I think that inspires the students who understand that I'm not just talking about it. I'm out there doing it."

Providing hands-on activities is a focus of SINERR workshops say education coordinator Brooke Vallaster and teacher workshop coordinator Georgia Graves. Says Vallaster, "A classroom teacher can teach concepts without ever having personal contact with the subject. If we can connect the teachers with a personal experience

## Summer 2010 Teacher Workshops

Sea Turtles June 14-18

Coastal Ecology June 22-25

from which they can teach, we feel that we've done our job."

This year, Vallaster added a component to the workshops that she had not tried before. "I wanted the teachers to be able to show off what they had done during their time here, not only to their students, but to their school administrators and communities," she says. To do this, Vallaster paired SINERR communications coordinator Ann Mason with interested teachers. Mason interviewed the teachers about their experiences during the workshops, wrote press releases, and sent them with photos of the teachers to their local school systems and media outlets. "Articles about the SINERR workshop teachers began popping up in newspapers and on websites all over the Southeast," said Mason. "This was a great idea, and we hope the teachers enjoyed the much-deserved attention for their efforts," she said.



Lylene and Teresa Scott (center) participate in a simulated turtle stranding with fellow Liberty County teachers attending the sea turtle conservation workshop. Photo by Brooke Vallaster.



Amy Capello participates in a sea turtle necropsy. Dr. Terry Norton, director of the Sea Turtle Center, led teachers in a dissection of a turtle that had washed up dead earlier this summer. Photo courtesy of Amy Capello.

## Marsh Bird Monitoring

After attending a training on marsh bird monitoring, SINERR stewardship coordinator Aimee gathered volunteers on Sapelo Island to conduct a series of monitoring efforts.

Volunteer Doris Cohrs says, "I truly enjoyed participating in the marshbird surveys and doing the best I could to hear and identify various species of birds." Three monitoring events take place each spring.



# Sapelo Island to Become Environmental Health Sentinel Site

Researchers hopeful that the ecological health of Sapelo Island marshes can be used to indicate the health of the marshes along the Georgia coast gathered recently at an Ecological Assessment Symposium held on Sapelo to discuss recent findings and coordinate future plans for research. The meeting was an unprecedented gathering of researchers from various agencies and disciplines coordinated by SINERR research coordinator Dorset Hurley, who felt that a multi-discipline approach to the assessment would be significant to all involved. "The symposium allowed scientists the time and occasion to discuss details with other interested parties who are approaching the system of study from various perspectives," says Hurley. The program included participants from Georgia Department of Natural Resources, University of Georgia and The Nature Conservancy, National Oceanic and Atmospheric Administration, U.S. Environmental Protection Agency, National Center for Environmental Health, and the Centers for Disease Control and Prevention.

The study on Sapelo Island is part of a larger partnership between NOAA's National Centers for Coastal Ocean Science (NCCOS) and National Estuarine Research Reserve System (NERRS). According to Hurley, Sapelo Island has been chosen as a sentinel site for an ecological assessment which will help establish a reliable network for national trend data that assesses the health of our nation's estuaries once it is incorporated with data from other such sites along the coast.

At the symposium, researchers discussed investigations of how the man-made chemicals such as Polychlorinated biphenyls or PCBs, are moving up the food chain from fish to mammals. Currently, scientists in our area are looking into this by testing chemical levels in Atlantic Bottlenose Dolphins. If PCB levels are elevated in dolphins,



Christine Hladik, a NERR PhD fellow, and her assistant Caitlyn Connor make elevation and vegetation maps that will help researchers establish the health status of the Sapelo Island NERR marshes.

Photo by Brooke Vallaster.

researchers are concerned that they might also be high in other fish-eating mammals, like humans.

Hurley is hoping that the ecological assessment currently being performed at Sapelo Island may someday be built into an Integrated Ecological Assessment (IEA), a formal synthesis analysis of information on natural and socio-economic factors related to specified ecosystem management goals, providing a valuable tool for national research on environmental health. Says Hurley, "we are working toward a snapshot of the health of our marshes, but SINERR will have the potential to be one of the first Reserves in the nation to have an IEA, which is very exciting," he says.

SINERR staff in conjunction with Savannah State University and the NCCOS Environmental Health and Biomolecular Research Unit has completed the initial phases of the assessment

sampling of water and soil contaminates, biological and geological elements and characterization of potential impacts in over 50 sites within the Reserve. Preliminary results of this work have been presented in several scientific venues including the Coastal Estuarine Research Federation (CERF) and the NERR System Annual Conference. "The results of the intensive field work are not fully analyzed at this point; however, it is evident that Sapelo will qualify as a good reference site for future assessments."

Although the program started on Sapelo Island, impacts of the assessment study are spreading quickly. One of the primary products of the study was testing a rapid assessment method that could be transferred to the needs of the entire coastal zone community. Hurley says, "In working with both Savannah State University faculty and graduate students

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Participants of the Ecological Assessment Symposium gather on Sapelo. More information on the symposium may be found at <http://www.sapelonerr.org/symposium.htm>.

# Living Shoreline Project

Cold weather on the coast calls for oyster roasts, and although many people enjoy the shellfish each year, few may consider the larger importance of this coastal resource and its health as a species. Oysters provide vital filtration of our waterways and necessary habitat for fish and invertebrates. In addition, oyster reefs stabilize the banks of waterways in which they grow. Highly erosive creek banks are not a favorite spot for oyster reef development in part because the larval oysters have trouble settling and establishing themselves on the shifting sands and mud. Once established, however, oysters can provide tremendous protection from forces of erosion while also providing high quality habitat. To encourage oyster reef building, biodegradable mesh bags filled with oyster shell can be placed on creek banks to slow down the erosion process. When oysters spawn in the spring, their larvae settle onto the bagged shell and attach themselves there. Over time they grow and mature, establishing a population that will continue to grow, forming reefs.

While erosion is a natural process, there are instances where loss of the adjacent upland property is undesirable. Conventional methods for protecting property often result in loss of quality transitional habitats in exchange for sheer concrete walls. These techniques are widely used and are regarded as successful in terms of engineering and longevity. Scientific studies suggest, however, that conversion of creek bank habitats has negative impacts on the ecological integrity of our estuaries. To help address the issue of balancing ecosystem integrity with property protection, local researchers have begun a project on Sapelo Island to create new oyster reefs using old oyster shells. SINERR, in partnership with The Nature Conservancy, Georgia Department of Natural Resources, and University of Georgia Marine Extension Service, a Living Shoreline project establishing new oyster habitat in Post



*Volunteers from partnering organizations and the Friends of Sapelo gather to bag oyster shells.*

Office Creek within the Reserve will begin this spring. Volunteers from the Friends of Sapelo, local communities, and cities as far away as Atlanta and Jacksonville are helping bag donated shells in preparation for the project. The project scope includes the deployment of over 6,000 bags of oysters.

DNR's Sapelo Island manager Fred Hay is among the leaders of the partnership. He says that the project will provide information for coastal resource managers and private property owners who are concerned with coastal erosion and who would like to find solutions that both solve the problem and enhance the local ecology. "The Living Shoreline project is significant because it will provide useful information for regulators and property owners when they are faced with similar situations of balancing property protection with conservation objectives," says Hay. "This project will test design considerations, provide real cost estimates for shell and bagging materials. It will flesh out installation issues, permitting issues, etc., and will supply real data that quantifies ecological impact or lift," he says.

For more information about the Living Shoreline Project, visit <https://habitat.noaa.gov/restorationtechniques> and navigate to the link for Living Shorelines.

## Environmental Health

(CONTINUED FROM PAGE 4)

and our Coastal Management Program, SINERR has successfully modified a sampling regime that now has far reaching utility within the salt-wetlands of the Southeastern U.S." Georgia Coastal Management Program has begun their coastal assessment process and Savannah State University is in the driver's seat to take this process statewide and possibly farther. "This is an example of a win-win-win situation in which developing transferable scientific methods and technology have worked to connect several different programs and needs in a cost effective manner," says Hurley, "and the big picture here is the federal, state and academic partnering that has benefits our state's population while giving us good environmental indicators which should allow us to better protect our natural resources."



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## Friends of Sapelo

Spend any amount of time within the Reserve and it would be hard to miss a Friends of Sapelo (FOS) service project. FOS, founded in 1995 is a volunteer organization that supports the research, education, and outreach efforts of the Reserve through work projects, monitoring initiatives, and interpretive programs. Dedicated to the understanding, appreciation and stewardship of estuaries and associated coastal habitats, FOS activities are designed to support the natural, cultural and historical resources of Sapelo Island.

Volunteer coordinators Linda and J.D. Daniels currently lead the group of more

than 100 members. They joined FOS in 2001, and have not slowed down since. Linda says that what she enjoys most about her involvement with the Friends is learning about the ecology of the Georgia Coast and how to preserve the delicate estuary and the life it supports. From working on beach sweep clean-up days and with water monitoring to helping with teacher trainings and school field trips, the Friends are available to support the SINERR when needed. "There are varied jobs for us to do," she says, "and there is something for everyone."

Daniels adds that service projects are usually celebrated with pot-luck meals and other social gatherings. Four



Members of the Friends of Sapelo build culvert guards to make island roads safer.

membership meetings per year are another way the Friends come together for fellowship and to review and plan their activities. Membership in the Friends of Sapelo costs \$15/person and \$25/couple. For more information, contact the SINERR Education Office at (912) 485-2300.

## Through Nature's Lens

In 2008, SINERR invited Brunswick artist Christy Trowbridge to participate in the Reserve's Through Nature's Lens program, which affords artists the opportunity to visit the Reserve and capture images in the media of their choosing and offers the public a glimpse of the Reserve through an artist's eyes.

Throughout late 2008 and early 2009, Trowbridge visited the island and captured with her artwork its natural and historical treasures. Her collection of work was first exhibited at the Ritz Theatre in Brunswick during the month of September and is currently on exhibit at the St. Simons Island Public Library. Artist Lanny Brewster has been chosen to become the Reserve's visiting artist in 2010, so keep an eye out for his work!

*Sea Oats and Dunes at Nannygoat Beach*  
(painting by Christy Trowbridge)

