
SEWEE Association Annual News

The Newsletter for the Friends Group for the National Wildlife Refuges and Forest of

Summer, 2011

1996—What do You Remember from that Year?

What I remember is a handful of people who were involved in the creation of the South Eastern Wildlife and Environment Association that year and we were all wondering what we were doing and where it would go. Now, 15 years later, it is a good time to look back as we also look forward.

Fred Kinard was one of the original Board Members and served as president for 4 years. He recently stated: "As a Wildlife Biologist in the Forestry Division of Westvaco, I was intrigued with the idea of creating an association with Cape Romain NWR and Francis Marion NF when it was presented to me by Larry Davis. I knew this was an important opportunity for conservation education which was needed and wanted to be a part of that." So the journey began for SEWEE with the inaugural Rudy Mancke Tour of Bulls Island and the opening of the store at the Sewee Center as part of their Grand Opening on December 7, 1996.

Over the 15 years we have grown from the original 7 Board Members to over 1250 members now. We started by managing the store and promoting the Sewee Center, and now we manage stores in 2 locations, run a major education program with 3 refuges and the forest, manage multiple grants to assist with biological programs and have a full-time staff of 2.

So where are we going? With all the uncertainty within the federal agencies, they are looking to SEWEE to really help them over the next few years. We will continue to grow the education programs (we tripled participation at Waccamaw in only 4 years). This year alone we are on course to top the 2010 numbers of 11,300 students and teachers served by more than 2,000 additional participants. They are also asking for more help with the biological and research projects such as finding grants for personnel and supplies to keep the Shorebird Surveys and aspects of the Loggerhead Turtle

Nest Protection project running.

Your staff and Board want to step up and do what we can to help to keep our public lands thriving. This year, however, we really need YOUR help to make that happen. **So, we ask you to help with our 15 for 15 Years Initiative.** We are asking all our members to donate an extra \$15 this year to help us with all these projects. Just think, if everyone could give that extra \$15, we would have more than \$15,000!

Here is how you can help:

1. Renew your membership now. If you can, add \$15 to your membership level for this Initiative.
2. Register for the Tours of Bulls Island in October. This will renew your membership and give us extra funding as well.
3. If you have given what you can, invite a friend to join SEWEE. Their membership donation will help to meet this goal.
4. Put a post on your Facebook or any social media account telling people why you support SEWEE and they can too. Then link that post to our web site: www.seweeassociation.org/member.html.

Help us meet this goal by the end of the year! With these additional funds, you will ensure that we continue these great projects.

Thanks for all your support over the 15 years and we look forward to serving you and our partners for another 15!

- Karen Beshears, Executive Director

Going Green and Lean: SEWEE wants to protect our environment and use our web site to provide you more information. So, everyone will receive a short version of our newsletter in the mail, and we ask you to see all of the great information about us and our partners at: www.seweeassociation.org/members.html and select the 2011 Newsletter!

Education and Stewardship Go Hand-in-Hand

I don't know what is more fun, hearing a student's squeal of delight when they see the millions of fiddler crabs scurry through the salt marsh at the Sewee Shell Ring trail, or the look on the faces of our volunteers when they see the millions of fiddler crabs in the salt marsh for the first time. Discovering the wonders of our Refuges and Forest with children is always entertaining and unexpected things are bound to happen. This year it has also been a delight to work with many different volunteers and watch them experience some of these same wonders.

The ethic of volunteer service is alive and well with our partners. The Workkamper Program allows people to visit our public lands in their RVs and volunteer at that site in exchange for free hook up. These people come from all over the country with a wealth of different experiences and are up for anything. **Tom and Sue Kearney** had such a great time at Sewee last year that they came to stay for three months again this year. Tom is a retired high school biology teacher and jumped right in for a second year of helping teach classes. This spring, we also had Grant and Kathy Greider stay with us for a few months. Grant is a retired teacher and both of them are excellent birders. They enlightened many young minds in Ion Swamp as well as led interpretive tours on Bulls Island on Saturdays. All this extra help allowed the SEWEE Association to say, "Yes" to many calls for programs that we would not otherwise have had the time to do. Workkamps were not our only asset this past year. We have found many wonderful local volunteers like **Ann Gaughan** and **Ray Hobbs** who teach programs at the Sewee Center, and **Philip Adams, Fred Hoelscher, Lane Crosby, and Jerry Walls** at the Waccamaw Center. Having so many people involved in teaching environmental education not only helps us at the SEWEE Association but gives students a rich experience of exploring our environment with many interesting adults.

The younger Generation Y also fosters a spirit of volunteerism. This summer we have three Student Conservation Association Interns; **Nelle Rutecki** and **Natasha Frazier** have been working diligently at the Sewee Center while **Margaret Sands** has been teaching programs at the Waccamaw Center. **Nick Penna** is a College of Charleston graduate student who has been working at the Sewee Center for over a year, teaching classes, and helping with the Earth Stewards program. **Sam Buzuleciu** is a student at Coastal Carolina University and has been splitting his time teaching programs at the Waccamaw Center as well as at the Sewee Center through a TogetherGreen Youth Fellowship with the National Audubon. All of us together were able to reach over 11,000 students and teachers in 2010 and over 10,000 already this year!

Why stop there? Generation Z may be young but they

aren't wasting any time giving a hand to our environment. This year, we have started a water monitoring project at Waccamaw NWR that allows students from Service over Self to become citizen scientists and provide valuable information to the refuge manager about salt water intrusion on the rivers of the refuge. Belle Hall Earth Stewards have been working on service projects for years to benefit the habitats and wildlife that they learn about in Earth Stewards. They have increased awareness of Diamondback Terrapin mortality due to crab pots, sold over 1,000 reusable bags to help Loggerhead Sea Turtles, and been advocates for our local ecosystems. Next year, the SEWEE Association is continuing to bring the 'stewardship' back to Earth Stewards. Our 5th and 7th grade Earth Stewards Programs were first designed to have an environmental education component as well as a service component. This latter part was always a challenge. We have partnered with Lowcountry Earth Force this summer to train some of our Earth Stewards teachers to work with their students during the program on a service learning project. These projects are going to be student-led volunteer activities based on experiences they have during the Earth Stewards program. This year, projects will be conducted at McDonald Elementary in Georgetown, and St. James-Santee Elementary and Lincoln Middle/High in McClellanville. This gives students an opportunity to work towards a solution to some of the environmental problems that they see in their community.

Our Environmental Education programs provide students and their teachers an opportunity to experience all that our public lands can give to us. And this past year has proven that people understand this and want to give our public lands something back!

-Submitted by Julie Binz, SEWEE Association Educator

SCA Intern Nelle Rutecki helps a camper from Georgetown find and identify an insect found in the ponds.



Be sure to Like us on Facebook to keep up-to-date on everything that is happening with SEWEE and our partners:

www.facebook.com/seweeassociation

Teaser: Did you know that SEWEE Association has financed shorebird surveys, turtle and shorebird nest predator trapping, sea turtle interns and spraying for invasive plants on Cape Romain NWR through grants and donations? Learn more.....

Even though budgets are being tightened, the research and wildlife management on our refuges continues to grow. The stressors of development, loss of habitat, increase of predators and sea-level rise are having major impacts on Cape Romain NWR, so the biological work being done is critical.

Several projects continued this year, as their purpose is to gather data to allow for informed decisions on management practices. These projects are:

- **Loggerhead Sea Turtle Nest Protection** – The project continues each summer and Bulls Island is now a part of the regular monitoring and protection along with Cape and Lighthouse Islands. This year will be above average with over 1400 nests by early August. The collection of DNA samples from each nest continues and is producing very interesting results. You can keep up with the nesting project at <http://www.seaturtle.org/nestdb/index.shtml?view=2> and <http://www.seaturtle.org/nestdb/genetics.shtml> to see the results from the DNA study in 2010.

- **Shorebird Surveys** – Monthly surveys are done throughout the refuge to record the birds using the refuge for foraging, nesting and roosting. This project has been financed by SEWEE since 2007 and is added to data collection that began in 1998. There is now a graduate student who is taking this data and plotting it into GIS maps for review.



Black-necked Skimmer Chick on Cape Island near the Turtle Hatcheries.

- **Diamond-back Terrapin Survey** – Chrissie Lanzieri continues a distribution and density study on this species to reveal factors in habitat selection. This information can then be used to help protect their nesting areas and possibly reduce by-catch of terrapins in crab traps.
- **“Head-starting” of American Oystercatcher chicks** – Since many eggs of these birds are eaten by predators (raccoon and mink), false eggs are substituted in the nests and the real eggs are incubated off-site. Once the chicks hatch, they are returned to their nest to be raised by their mother. This process has been successful, but only on the one site where SEWEE financed trapping for predators was done this spring.
- **Invasive Spraying for Chinese Tallow on Bulls Island** – Over 5 years the refuge has been able to spray nearly 800 acres of Bulls in an effort to lessen the dominance of Chinese Tallow over native species. SEWEE has contributed over \$73K toward this effort.

There have also been a couple of major maintenance projects on the refuge lately. With funds from the American Reinvestment and Recovery Act, CRNWR has been able to re-do many of the water control structures on Bulls Island to provide better water management for waterfowl. Jacks Creek and the other ponds on the northern end of the island have new structures so that the water levels can be lowered when needed to encourage vegetation growth and then managed for the best levels for wintering ducks and also for foraging terns during the nesting season. This will also aid during times of long-term droughts to keep the water at the appropriate level.

Additionally, needed maintenance on the Sewee Center and Headquarters Buildings are occurring this summer. Sewee Center is getting a new roof (the old one caused major leakage into the Exhibit Hall and Auditorium) and the soffits and fascia boards will be replaced with eco-friendly cement fiber options. The fire alarm system is also being upgraded for better protection. Headquarters is slated to get a new roof as well as other exterior repairs and painting inside and out. These have been needed maintenance items for years and we are glad to see them being done finally!

Several projects are in the pipeline with hope of beginning before the end of 2011. The top of Cape Romain Lighthouse needs to be stabilized to prevent any major damage if we should have a tropical system. The

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Many Thanks to Members from our Chair

The Board of Directors and staff offer you our deepest appreciation for once again sustaining us through a tough economic year. Financial sustainability has been a dominant theme in Board discussions over the last two years. Current economic conditions require us to look at our programs, budget, and fund raising efforts through a completely different lens. It is no secret that foundations and private donors have fewer dollars available to give. At the same time our federal partners are facing their own financial challenges, and counting on our support more than ever. The Board is working hard to insuring a financially sustainable future for the SEWEE Association so all the incredible programs and projects you are reading about in this newsletter can continue long into the future. Your financial support is critical to that future.

What the SEWEE Association has been able to accomplish through these tough economic times is truly amazing, and we could not have done it without you. Each of you has reasons close to your heart for supporting the work of the Association. Personally, I am reminded of what precious and unique natural resources we have the privilege of stewarding each spring as I participate in Swallow-tailed kite research on Waccamaw NWR and the Francis Marion NF. Swallow-tailed kites make the long journey back to these lands each year from South America to nest and raise their young, returning to the exact same areas decade after decade. Survival of this endangered population depends on this critical habitat.

If you haven't visited the spectacular rivers of Ace Basin or Waccamaw, the beautiful salt marshes of Cape Romain, or the gentle Longleaf Pine savannahs of the Francis Marion recently I encourage you to make the time to do so. While you are there remember it is your support that is allowing the SEWEE Association to educate our children about these irreplaceable resources, and fund critical research and management projects for the for-



From left—Diane Girardeau, Rhonda Ewing, Eddie White, Grace Gasper, Bob Raynor, & Sarah Hartman. (not included: Tom Badgett, Chris Crolley, Brent Hill)

est and refuges.

Our sincere thanks for your support this year. Please enjoy the newsletter and take pride in what you have made possible.

All my best,
Grace Lynch Gasper, Chairperson



Music & Oysters for Wildlife - Finally the Sun Shines Upon US

With the Sun breaking out 2 hours before opening and the steel drums of the Lincoln Middle/High School Steel Band welcoming oyster-eaters, MOW'11 was a huge success this year.

People came to enjoy their oysters, hear our incredible bands, and support SEWEE Association with their generous bids on our auction items. You also have embraced our efforts to reduce waste as the Wando Ecology club students reminded everyone to reuse their drink cup and then recycle them at the end. We continue to have minimal waste and recycled 100 bushels of oyster shell into Cape Romain through the SC DNR SCORE project.

Thank you again for coming each year and spreading the word to your friends. This is our MAJOR fund raiser each year, and the proceeds allow us to continue all the projects you see in this letter.

Time now to plan for MOW'12. **Save the Date: Saturday, January 21, 2012!** We need sponsors to help support this event and offer auction items and volunteers to keep it running, so if you can help, just contact us!! Ticket sales will begin in December again, just in time for those holiday gifts!!



FMNF employee Willie Irving & volunteers Sam Buzuleciu and Robert Hopkins set new signs at the St. James-Santee Nature Fitness trail that opens this fall.

Francis Marion National Forest has Major Efforts to Restore Native Species

Development of Native Herbaceous Plant Materials

The Francis Marion National Forest is producing plants native to longleaf ecosystems using local seed. We are working in partnership with Clemson University and several others interested in promoting education in the use of native plant materials. Botanists are collecting seed, and both native plant nurseries and the Francis Marion seed orchard are growing this seed into plugs - which we are then planting into production fields to increase these species facilitate ease of harvesting. A mix of genetic sources is being used for establishing production plots. Plant species we are working with include native grasses such as little bluestem, slender indiagrass, toothache grass, and savanna hairgrass, native forbs such as native sunflower, small-leaved snakeroot, narrow-leaf ironweed, licorice goldenrod, blackroot, and deer's tongue, and native legumes such as goat's rue and bush-clover. These species may prefer either dry, mesic or wet sites, but all like sun. The use of plant species and ecotypes native to the area are desirable for promoting and maintaining our native biodiversity, and to ensure that none of the plants which we introduce prove to be invasive!

Non-Native Invasive Plant Inventory and Control

Non-native invasive plant species pose a huge threat to our natural resources and biodiversity, both on public and private lands within the state of South Carolina. In 2010 and 2011 with the help of ARRA funds, the Francis Marion National Forest was able to employ outside groups to conduct inventories for non-native invasive plants on over 10,000 acres of National Forest land. Although invasive plants were found on only 5% of the areas inventoried, an ornamental called Japanese climbing fern was the most common species found. We first spotted this species in wet swamp lands bordering the Santee River, and it has since been located from over 2000 locations throughout the Forest. In Florida, Alabama, and Mississippi, Japanese climbing fern is known to be an aggressive invader which can smother native vegetation and interrupt natural fire regimes. This climbing fern has lacy finely-divided leaves and green to orange to black wiry vines, which can reach lengths of over 90 feet. It reproduces by tiny spores which are produced on the undersides of leaf fronds, then dispersed by wind, equipment, and people. The forest is trying to control the spread of Japanese climbing fern, through practices which include equipment cleaning, inventory and detection, and selective control using herbicides. Dr. Jean Everett of College of Charleston was instrumental in discovering the first and only population of the non-native in-

vasive plant cogongrass (*Imperata cylindrica*) on the forest in 2006, and which is now nearly extirpated.



Common Grass Pink—Native Orchid in FMNF—photo by Ricky Wrenn (FMNF)

Rare Plant Survey and Management

The FMNF also conducts surveys and monitors populations and habitat for at least 33 rare species including three federally listed plants - Canby's dropwort, pondberry, and American chaffseed - to determine distribution, status, and management needs. We also try to determine which factors are most limiting to species recovery. Most of the rare species on the FMNF are associated with isolated wetlands and fire-maintained ecosystems. Danny Gustafson at The Citadel is working to help us determine genetic structure and limitations to seed production in our populations of pondberry (*Lindera melissifolia*) which in recent years has produced very little seed on the forest. Last year, Joel Gramling at The Citadel monitored our rare pondspice populations (*Litsea aestivalis*), to determine whether they are being impacted by laurel wilt disease. We also worked with Dr. Everett and Drs. Jeff Glitzenstein and Donna Streng to inventory and classify our high quality wet pine savannas, which can harbor a large number of rare plant species. Rare and invasive plant surveys are regularly conducted in preparation for timber harvest, and we find that tree and canopy removal can indirectly benefit understory plant species by allowing more light to reach the forest floor when combined with prescribed fire.

-submitted by Robin Mackie

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plans are under review now with hopes that volunteer Tommy Graham will be able to do the work before October.

Cape Romain has also collaborated with other federal land-management agencies in the Department of the Interior and the Department of Agriculture in South Carolina on a proposal to protect additional lands from the coast to the midlands. SEWEE Association supports this collaborative work and showed our support in letters to the Secretary of each Department.

Francis Marion Activities for Wildlife

FMNF has initiated and coordinated two American Recovery and Reinvestment Act (ARRA) non-native invasive species monitoring contracts on 16,590 acres, two 2-year ARRA NNIS treatment contracts on 277 acres of infestations and two ARRA hazardous fuels reduction contracts on 1,364 acres. These were completed in addition to our normal workload with staff reductions.

Frosted Flatwoods Salamanders:

FMNF completed another internal survey for the federally threatened Frosted Flatwoods Salamander (*Ambystoma cingulatum*) on the FMNF. Due to dry conditions during 2011, most known breeding wetlands for this salamander were completely dry. However, the periodic drying of these isolated wetlands is what makes these habitats so important for amphibian breeding, as this prevents predatory fish from becoming established. Service contracts were used to fund surveys completed by John Palis and Joyce Marie Klaus during 2010. Nineteen wetlands were surveyed during 2010, and *Ambystoma cingulatum* was documented on the forest for the first time since 2003! Six larvae were collected from a previously undocumented breeding wetland. The Forest supports one of only three known breeding populations in South Carolina. Only 8 adults and a few larvae have been captured on here in the past 20 years. Steve Bennett (SC state herpetologist) took three larva to Riverbanks Zoo in Columbia, SC, where Scott Pfaff (Curator of Herpetology) successfully raised them to metamorphosis. At the time of collection, the larvae were too small to collect tail tissue, so the zoo reared them until they were big enough to collect tissue. DNA analysis has been performed and indicates that individuals from the Francis Marion do not represent a distinct species as they are closely related to other populations of the Frosted Flatwoods Salamander. This was the first genetic material available from our state! The three individuals collected from the FMNF will continue to be housed at the Riverbanks Zoo in order to study their natural history. This is one of the first times that the species has been successfully reared in captivity. The last report that we received from the Riverbanks Zoo stated: "[the salamanders are doing great, eating blackworms like crazy ... and they are the most "active" of any of the ambystoma larvae he's raised](#)



Frosted Flatwoods Salamander—photo by Mark Danaher (FMNF)

[... and he's raised several species to metamorphosis.](#)"

Carolina Gopher Frog:

Three North American Amphibian Monitoring Program (NAAMP) routes were installed on the FMNF in 2007. Breeding of the Carolina Gopher frog (*Lithobates capito*) was confirmed on the FMNF for the second year in a row during 2010. Due to the abnormally dry year during 2011, amphibian breeding was extremely low on the FMNF, and no *L. capito* breeding events were documented on the FMNF. I have been working closely with Allison Welch (College of Charleston) to monitor gopher frogs on the FMNF. We purchased radio telemetry equipment to track movements and identify what types of refugia the animals are using on the FMNF. Unfortunately, no gopher frog breeding events were documented during 2011 so it was not possible to deploy the radio transmitters. Radio telemetry work should occur during 2012 if breeding events are documented. The NAAMP routes are run three times per year and are designed to monitor anuran populations. The Carolina gopher frog has been documented to travel significant distances to and from breeding wetlands. As such, good quality upland habitat adjacent to the breeding wetlands is essential. Future surveys conducted for the frosted flatwoods salamander and information obtained from the NAAMP routes should allow the FMNF to better document and monitor these two species in the future. Scott Pfaff, Curator of Herpetology at the Riverbanks Zoo in Columbia, SC successfully raised several *L. capito* from the Francis Marion to metamorphosis. Because so little is known about this species' natural history, the zoo plans to raise these individuals, and hopefully get them to breed in captivity.

More Information on FMNF on Page 11

Comings and Goings

Goings: December brought the retirement of Rebecca Ashley of Francis Marion NF—the last agency person who was with the Sewee Center when it opened. Becky kept the visitor programs going over the years and is enjoying traveling around the country now!

Comings: Michelle Wrenn moved from the Timber group in Francis Marion to Becky's position at Sewee. Michelle had helped with the EE programs many times prior to the move, so she has been a wonderful addition to that staff. With the promotion of Patricia Lynch to Visitor Services Manager for Cape Romain, USFWS was able to bring Rustin Gooden in July to fill the Park Ranger position at the Center. Rustin has worked as a guide and naturalist from the Everglades to Alaska and he and his wife Teresa are excited to call the Low-country 'home' now.

Cape Romain also promoted their Biologist, Sarah Dawsey, to the Refuge Manager position in January.

RENEWAL AND/OR RESERVATION FOR TOUR OF BULLS ISLAND

I WANT TO SUPPORT THE SEWEE ASSOCIATION SIGN ME UP FOR THE FOLLOWING TOUR: Tour of Bulls Island, Oct. 9th, 8:45 am

NAME: _____

Tour of Bulls Island, Oct. 9th, 11:00am

ADDRESS: _____

CITY, STATE, ZIP: _____

DAY TIME PHONE: _____

EVENING PHONE: _____

NUMBER FOR BULLS ISLAND: _____ * \$75 = _____

EMAIL: _____

I need to renew my membership at the following level:

INDIVIDUAL \$20 FAMILY \$30 SUPPORTER \$50 CONTRIBUTOR \$100 LIFETIME MEMBER \$250

DONATION FOR 15 FOR 15 YEARS INITIATIVE:

\$ _____

Charge my credit card : (total amt) \$ _____

OR

Check included for : (total amt) \$ _____

Account #:

Type: MC VISA

Signature _____

Exp. Date _____

CVV number: (a 3-digit number on the back of your card)

RETURN FORM TO:

**SEWEE ASSOCIATION, INC.
PO Box 1131
MT. PLEASANT, SC 29465-1131**

All donations to SEWEE Association are tax-deductible to the fullest extent of the law.

TOURS OF BULLS WITH RUDY OCT. 9TH

The **Annual Tour of Bulls Island with Rudy Mancke** is now scheduled for **Sunday, October 9th**. We are so fortunate that Rudy will continue to lead this tour for us—a regular event since 1996! Here is a chance to have a great day on Bulls Island, and renew your membership all in one!! If you have not been on this trip, you don't want to miss it.

As always, there will be 2 groups to go to Bulls Island and you will be able to ride on trucks throughout the island and listen to Rudy's magnificent interpretation of what is there. Your donation of \$75 per person includes the ferry ride to Bulls Island, transportation on the island, a fulfilling lunch, and a 1 year membership in the SEWEE Association. To register, send the completed registration form above with payment as soon as possible. You may call the Sewee Center (843-928-3368) to register, but we **MUST** receive your payment within 10 days of your call to confirm the reservations. These tours sell out FAST!! Limited to 35 people per tour.

If you cannot make this trip, please help SEWEE continue our work with your financial support! Support our **15 for 15 Years Initiative** by including an extra \$15 with your membership or by asking your friends or families to support SEWEE. Show how much these public lands mean to you by helping us educate our students about them and by allowing us to step up when our partners need some extra support. Over 15 years, **you have helped us give over \$1.5 million in services and goods** to our partners.

Show how you want to keep these public lands available for all to enjoy through recreation. Show how you believe it is important to manage these public lands for the wildlife that depend on them and for the functions they provide to us all. Help SEWEE by renewing your membership now. Then ask your friends and family to help as well. **We continue to use over 92% of our funding for our programs.** You can't ask for a much better return on your donations!!!!

New projects abound at Waccamaw NWR

The Waccamaw National Wildlife Refuge is situated along the Great Pee Dee, Little Pee Dee, and Waccamaw Rivers, where it encompasses areas of great ecological and historical worth and is in close proximity to those who can benefit from its preservation. In the years since its inception in 1997, the Waccamaw National Wildlife Refuge has continued to expand its land holdings, public use opportunities, wildlife research, and environmental education programs. This year has seen significant growth in all of these areas through key land acquisitions, ongoing species tracking efforts, and flourishing educational partnerships with local schools, summer camps, and youth development programs. One of the most popular and well known areas within the refuge is the Cox Ferry Lake Recreation Area, located on West Cox Ferry Road off 544 in Conway. Since its opening in 2008, Cox Ferry has become a popular spot for hikers, bikers, and photographers who like to explore the available nature trails and for picnickers, kayakers, and students who enjoy the waterfront picnic shelter and small boat launch. This year this important piece of property will be expanded with the addition of the adjacent Long Tract. This 240-acre acquisition will not only extend an already flourishing area of the refuge but will also offer important opportunities for habitat preservation and restoration. The Long Tract contains several lakes and potential wetlands which are essential niches for many kinds of waterfowl, plants, and other freshwater species. One area also has potential for the restoration of longleaf pine, a tree which is crucial to the survival of the endangered red-cockaded woodpecker and many other species. This acquisition was made possible through the federal Land and Water Conservation Fund which at the request of SEWEE, allotted \$1.2 million to the WNWR. This addition will help to continue and expand the successful Cox Ferry Lake Recreation and spread it to other areas of the refuge. Another such important acquisition is taking place right on the doorstep of the Waccamaw Environmental Education Center in Yauhannah. The refuge is currently in the process of acquiring a small piece of land just across Highway 701 from the center. This land will be specifically used for storage and an RV pad for Work-

kampers, volunteers who trade their time for a place to park their RV while they are exploring the area. Workkampers the refuge has hosted in the past (on rented RV space) have done refuge maintenance, staffed the visitor center, and even assisted with environmental education programs. Having an RV pad in close proximity to the center will make these arrangements more economical and convenient. Volunteers are especially crucial when there is field work happening on the refuge, as has been the case this year. Work such as species tracking and habitat management takes a lot of time and manpower, both from the refuge employees and the organizations that partner with the refuge on such projects. The Nature Conservancy is one such organization that works closely with the WNWR to manage Sandy Island, a very interesting island historically and ecologically. It is home to the endangered red cockaded woodpecker, and the invasive feral hog, TNC has worked with WNWR on tracking both of these species for conservation and control. Black bears are another focus species of the refuge, and have recently been tracked using satellite transmitters with the help of the SC Department of Natural Resources. The hope is that these transmitters will provide vital information about the bears' migration habits which can be considered for future land acquisitions. But this summer all eyes have been on the refuge's flagship species, the swallow-tailed kite, as the Avian Research and Conservation Institute has crossed swamps and climbed trees to put transmitters on

Grace Gasper checks a Swallow-Tail Kite chick before attaching a transmitter at WNWR



area kites in hopes of gathering important nesting, feeding, and migration data. Over 20 nests were found in the Winyah Bay Focus Area, many by McClellanville native Larry Wood, who has a knack for spotting these

nests that typically are hidden at the top of the tallest trees in the wetlands. Twelve radio transmitters were placed on nestlings this year; these signals were then tracked by grad student Chris Simmons, who followed the birds by car, boat, and plane to determine their whereabouts and their habits. One satellite transmitter was placed on an adult kite; this GPS will record the bird's movements not only in the area but on its migration to South America, which

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Sewee Visitor & Environmental Education Center Offers New Attractions for Summer 2011

If you are looking for summer activities that are educational and enjoyable, be sure to visit the Sewee Visitor and Environmental Education Center in Awendaw, SC. The Center has four new additions to its interpretive displays and Nebo walking trail that highlight the natural wonders of the Lowcountry.

Bluebird Boxes - The summer is reaching its peak and so are the Bluebird nests at the Center. There are a total of eleven Bluebird boxes on our new Bluebird trail. Edward Leber, Eagle Scout for Troop 502, designed and built the boxes that have now become the home of several Bluebirds. Edward also built field perches for the Bluebirds and benches for people so they could relax and enjoy viewing the birds. To date there have been fifteen eggs laid, and 11 have hatched! Bluebirds continue to be threatened with habitat loss and invasive species. These 11 newly built boxes serve as a safe and new habitat for the Bluebirds and provided Center visitors with new opportunities for viewing these fascinating, beautiful birds. For information on how you can create your own bluebird nest or trail, please visit the North American Bluebird Society website at www.nabluebirdsociety.org



Michelle Wrenn (USFS) & Rustin Gooden (USFWS) are new employees at the Sewee Center

Climate Change Exhibit- Located in the Center's main lobby, the Climate Change exhibit pulls visitors in with its vibrant colors, interactive touch screens, and mock display of a Loggerhead sea turtle nest, as soon as they walk through the front door. This exhibit is all about our conservation challenges associated with environmental changes. Visitors are able to learn how changes are affecting Cape Romain National Wildlife Refuge like rising sea levels, extensive island erosion and impacts on wildlife. The accelerating effects of climate change present many challenges for the coastal areas of South Carolina, especially the effects of rising sea levels. What do you know about environmental change and how can we as a community help to protect our birds and Loggerhead sea turtles? Test your knowledge and get answers with the interactive climate change quiz! This exhibit is informative for children of all ages and adults as well.

Carnivorous Plant Exhibit – In the *Forest to Sea* exhibit hall, you will find a beautiful plant display which showcases a variety of plants found in the wetland areas of the Francis Marion National Forest. Among the Blue flag iris and Cinnamon fern, you will find the carnivorous Yellow trumpet and Hooded pitcher plants, sundew and butterwort. Learn about the unique method these plants use for supplementing their nutrition. Additional information on these intriguing plants can be found in the main lobby on a stand-alone interactive guide under the plants section.

Wetland Wonders Interpretive Trail - Have you taken a walk on the Center's Nebo Trail lately? New signs have been put in place that interpret the fascinating and wondrous wetland area that surrounds you. With splashes of color and wildlife illustrations, you are surely to stop, take a breather, and read. There are even small raised replicas of wetland animals that will excite the tactile senses of toddlers! The Wetland Wonders trail provides an understanding of the vital role wetlands play in our environment. Wetlands are not just vital to our environment but they serve as an important habitat for amphibians like the Green tree frog, or reptiles like the Carolina anole. It's a safe bet that, as you walk the trail, you are sure to meet one or the other, or both!



While at the Center, be sure to stop at the live Red wolf exhibit as you walk the trail to see one of the most endangered animals in the world today. The Center is one of 40 facilities across the country that houses this rare and beautiful animal.

The Center offers engaging conservation programs and activities each month for children and adults. Keep abreast of monthly events by visiting the website at <http://www.fws.gov/seweecenter>. The Sewee Center is open Tuesday – Saturday from 9:00 am – 5:00 pm.

New projects abound at Waccamaw NWR—Continued from page 8

should begin in late August. The information acquired from this project will help to secure the future of these magnificent birds both on and off the refuge.

In order to ensure that projects like these continue in the future, the conservationist spirit must be cultivated in younger generations; the WNWR strives to do this through environmental education. do this through environmental education. During the school year, students come to the center on field trips to supplement their classroom time with activities, experiments, and an environmentally focused curriculum. This summer the refuge educators met regularly with Tara Hall Home for Boys and Plantersville After-school Program. Over several weeks the groups learned about amphibians, reptiles, black bears, red-cockaded woodpeckers, swallow-tailed kites, and freshwater wetlands through games and other activities. With these programs the refuge's projects are shared with a younger generation. Their growing interest in conservation, biodiversity, and species protection gives new urgency to ongoing work taking place on the Waccamaw National Wildlife Refuge.

- submitted by Margaret Sands (SCA Intern)

Impressions from a Summer Intern

This article is written by Margaret Sands who worked at WNWR this summer through the Student Conservation Association program.

Like so many young Americans, I was quick to escape the small town of my childhood at the first chance I got. For me the town was Murrells Inlet, and the chance was school. Since then I've spent my time traveling between college in New Orleans and any corner of the world I could get to. I've studied sociology in India, sustainable development in Nicaragua, and ecology in Costa Rica but this summer brought me right back to where I started. An environmental education internship at the Waccamaw National Wildlife Refuge pulled me back to the coast for the first summer since middle school. Once here I discovered that the exotic experiences, breathtaking ecosystems, and fascinating people that I have sought overseas, could also be found right across the river in Yauhannah, SC.

Although I have had the privilege of being involved with many of the refuge's activities, it is the environmental education aspect of my job that has taught me the most.

The center's location between the coastal and riverside communities of the county gives us a very mixed audience for the programs we offer to local schools and summer camps. As with most beachfront communities, owning real estate on the coastal side of Georgetown County requires a certain level of affluence. On the riverside of the county, the community of Plantersville is a remnant of the old plantation system, and is almost entirely populated with descendents of former slaves, many still living in poverty. Because of this geographic phenomenon we have encountered some of the most privileged students in the state, and some of the poorest, and the differences are disturbingly palpable.

The children from Plantersville have lived in a rural setting all their lives, but have spent hardly any time outside. The children from the coast have been hunting, fishing, and camping with their parents, and been taken to gardens, museums, and national parks. Many of the Plantersville children have parents my age or even younger, and their family activities are directly reliant on their employment situation. One little girl excitedly told me, "my daddy says he's gonna take me to the Upside Down house when he gets a job;" the Upside Down house is a Myrtle Beach children's museum where the price of admission is \$15. This declaration made the unemployment situation more real to me than the dozens of news stories I've watched in the living room of my stable coastal home.

For the children from Plantersville, everything is new and different, every word we say is riveting, and every activity is the most fun they've ever had. The 19 hugs I receive at the end of every visit make me feel as though catching frogs, holding alligators, and mediating black bear tag are deeds worthy of a Nobel Peace Prize, but it comes with a bittersweet side. When these kids go home it is to a community that ranks in the bottom 5 in the state for water quality and where 93% of the children rely on free and reduced school lunch for their main food source. Although it seems impossible now, I can only hope that the small things we teach these kids today will stick with them and help to foster an appreciation for the land they live on, an appreciation that will one day benefit both the people and the environment. I



know that I will retain what I have discovered here, in my own backyard, and strive to never again discount the exoticism, the value, or the need that there is to be found in the familiar.

Students from Tara Hall in Georgetown enjoyed their day at Waccamaw NWR

FMNF Wildlife Management Activities (continued from page 6)

Crayfish and Mussel Surveys on the FMNF:

Systematic crayfish and mussel surveys were conducted on the FMNF for the first time ever. Final reports of these surveys are currently being prepared. The mussel survey sought to:

- 1) Qualitatively evaluate suitability of lotic habitats throughout the basin for freshwater mussels, particularly with regards to rare species such as the Federal Species of Concern (FSC) Savannah liliput (*Toxolasma pullus*), and the Barrel Floater (*Anodonta couperiana*) which is a species of "Highest Conservation Priority" in the South Carolina Wildlife Action Plan (SCDNR 2005-2010).
 - 2) Conduct qualitative mussel surveys to determine species composition and relative abundances in each of the sub-watersheds (12-HUC) within the FMNF.
 - 3) Identify the highest priority areas for mussel conservation.
 - 4) Identify areas that warrant further study with regards to the potential to support mussel diversity.
- Four species of mussels and 6 species of clams and snails were found during the mussel surveys.



Prescribed burning will provide major benefits for the Red-Cockaded Woodpeckers that are nesting in this tree by eliminating shrubs and tall grasses where predators can hide.

Red-cockaded woodpecker:

FMNF continues to be home to the third largest federally endangered red-cockaded woodpecker population (RCW) and is one of 13 designated core recovery populations. It has been estimated that Hurricane Hugo killed 63% of the RCW population, destroyed 87% of the cavity trees and 59% of the foraging habitat across the Francis Marion National Forest. Prior to Hurricane Hugo in 1989, the RCW population exceeded 475 groups and was expanding. However, in one night, Hurricane Hugo decimated vast expanses of the FMNF. It is estimated that Hugo killed 63% of the RCW population, destroyed 87% of the cavity trees and 59% of the foraging habitat across the FMNF. Due largely to the installation of over 1,000 artificial tree cavities, by 1995 the population had increased to approximately 361 groups. In 1996, the population began a decline that continued through 1999, resulting in an estimated 314 groups. This decline was attributed to lack of suitable cavities and unsuitable foraging habitat in many areas of the FMNF.

As of January 2011, there are approximately 422 active clusters on the FMNF and 61 vacant clusters. Of the 422 active clusters, 410 are potential breeding groups (PBG's), and 12 are single bird groups

(SBG's). The Francis Marion National Forest's RCW population has exceeded the recovery goal of 350 PBG's as described in the Recovery Plan for the Red-cockaded Woodpecker (*Picoides borealis*) Second Revision (RCW Recovery Plan). Despite the fact that over a third of the RCW clusters on the forest have foraging habitat that does not meet the managed stability standard, the FMNF supports one of the most robust populations in the United States. Based on 2010 monitoring results, the average group size on the FMNF is greater than 3 birds/group, and reproductive success averages approximately 2.3 fledglings per successful nest. The Francis Marion RCW population is expanding in some areas of the forest, especially in areas that are burned consistently on a 2-3 year return interval. The FMNF population is truly a testament to the resiliency of the species. There are some areas on the FMNF where clusters are becoming inactive or reduced to SBG's. Inactive clusters tend to be concentrated in the wildland/urban interface (WUI) and/or areas where minimal management has allowed undesirable midstory succession to occur.

Due to budget deficits, the FMNF did not complete any RCW monitoring not install new artificial cavities for RCW's during 2011. RCW monitoring is usually conducted under contract, but plans are underway to fund monitoring activities during 2011. Translocation of RCW's to at-risk populations also did not occur during 2011 because partner funding was not available. The artificial cavity program on the FMNF represents one of the most aggressive artificial cavity programs in the nation. The FMNF is a testament to the fact that artificial cavities and restrictor plates can be used to maintain and enhance RCW populations on forestland lacking sufficient numbers of cavity trees. Due to the lack of cavity-sized trees on the FMNF, artificial cavities are absolutely essential for maintaining and increasing the number of cavity trees available to the species. Based on the extensive dataset available for our RCW population, it is evident that population size and growth is positively correlated with artificial cavity installation. This correlation is clearly evident when the total number of PBG's is compared to the total number of artificial cavities installed between 1994 and 1998. The Forest Service has a unique funding mechanism known as Stewardship contracting. Stewardship contracting helps achieve land management goals while meeting local and rural community needs, including contributing to the sustainability of rural communities and providing a continuing source of local income and employment. It focuses on the "end result" ecosystem benefits and outcomes, rather than on what's removed from the land. Under Section 323 of Public Law 108-7, the Forest Service, U.S. Department of Agriculture, and the Bureau of Land Management have been granted authority, until September 30, 2013, to enter into stewardship contracting projects for up to 10 years in length. We have submitted a stewardship proposal for the FMNF that will hopefully fund the installation of artificial cavity structures for the next 4 years.

-submitted by Mark Danaher, Wildlife Program Mgr., Sumter & FM NF

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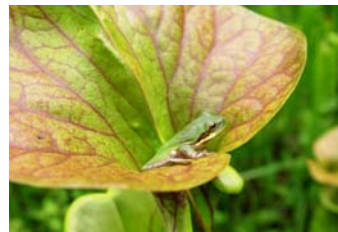
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Spicebush Swallowtail pollinates a fewflower Milkweed in the Francis Marion NF



Squirrel Tree Frog on a pitcher plant

Effects of Hurricane Irene on Cape Romain—late update!

Friday, August 26th, Hurricane Irene skirted by the South Carolina coast, but did major damage to all the barrier islands with her winds and wave action. Cape Island in Cape Romain NWR was hit especially hard as water covered what dunes there were and caused new breaches in this island. This is especially sad since Cape has most of the Loggerhead Sea Turtle nests in the refuge and there were many that had not hatched yet.

Damage assessment is being done now, but there will be over 80 nests completely lost and many that were overwashed so that the incubating hatchlings may have drowned.



One of the hatcheries was completely inundated with water and sand. The pipe you see is the top of the hatchery, so the nests are now at least 2.5 feet under sand!



These blue poles mark nests that were relocated to higher ground (not high enough for Irene). The nests have an extra 12 inches or more of sand on them.

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