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NEWS

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Newsletter of the Ashepoo, Combahee, Edisto Basin

ACE Basin Recognition

ACE Basin Project Recognized as Partner in National Award

The ACE Basin Project was recognized as a member of the South Carolina Working Group of the South Atlantic Migratory Bird Initiative (SAMBI) which was recently awarded the North American Migratory Bird Joint Venture Conservation Champion Award for a Regional Partnership. The award honors dedication to the conservation of birds and critically important bird habitats.

In South Carolina, The ACE Basin Task Force, along with the Winyah Bay and South Lowcountry task forces have protected over 378,000 acres of important waterfowl, water bird, shorebird and land bird habitat. SAMBI's success comes from the ability to establish mutual goals and priorities across task forces that include private landowners, non-governmental organizations such as, Ducks Unlimited, Audubon South Carolina, The Nature Conservancy, regional land trusts, local governments, the South Carolina Department of Natural Resources and the U.S. Fish and Wildlife Service.

The ACE Basin Project has contributed to SAMBI's success through the protection of more than 200,000 acres in the ACE Basin, of which over two-thirds is privately owned.



SCDNR Photo



North American Waterfowl
Management Plan

Charles Lane, ACE Basin Task Force Chairman Honored with Book of Golden Deeds Award

The ACE Basin Project and its chairman, Charles Lane were honored with the Book of Golden Deeds by the Exchange Club of Charleston. Only the 31st person recognized in the last 53 years, the Book of Golden Deeds celebrates the long hours, hard work and volunteer commitment to making local communities a better place to live.

Charles Lane and the ACE Basin Project were praised for their efforts in conserving over 200,000 acres in the ACE Basin since its inception only 25 years ago. This dedication and willingness of private landowners to protect their properties against future developments has guaranteed the history, culture and way of life in the ACE Basin will remain for future generations.

Happenings in the ACE Basin

Turning Easement Violation “Lemons” into Conservation “Lemonade”

Conservation easement infractions rarely evoke a positive response from anyone involved, but they do happen. These situations can be easily and quickly remedied or sometimes difficult and lengthy to work through, but it's likely some gray area in between. Most infractions are mendable, in some rare cases they are not, and even more so some are unavoidable, as in the case of an easement violation on a conservation easement held by the Beaufort County Open Land Trust. Three acres adjacent to Highway 17 were encroached upon by the South Carolina Department of Transportation (SCDOT) as a result of the widening of Highway 17 in the ACE Basin resulting in an irreparable impact to the land and easement. Realizing that restoration of the site was not an option, the Open Land Trust worked in partnership with SCDOT and The Department of Natural Resources (SCDNR) to come up with a positive solution to mitigate the loss of the land.

Donnelley WMA, owned and managed by SCDNR, is located in close proximity to the impacted easement. Identified as an Important Bird Area, Donnelley provides tremendous habitat to a wide variety of wildlife



SCDNR, Wood Storkes

species. Biologists at Donnelley identified a need for controlling aquatic vegetation through the use of herbicides in several of the impounded wetlands on the Wildlife

Management Area that provide nesting habitat for wood storks. Wood storks are a federally endangered wading birds and a conservation priority. Storks typically nest on islands or in trees that are surrounded by water often in impounded wetlands in South Carolina. In these wetlands, aquatic vegetation can quickly take over the impoundments creating undesirable nesting areas for wood storks.

In exchange for the value of the conservation easements, SCDOT provided funds to Donnelley allowing them to fund the impoundment work and fulfill a need for an endangered species. The aquatic treatments will take place over the next two years and the use of these herbicides will greatly enhance nesting habitat for the wood storks nesting in the impoundments and all wildlife that utilize

them. Ultimately, conservation easement infractions are never favorable but through a thoughtful approach and willing partnership, it is possible to turn lemons into lemonade.

2013 Warrior Hunt

The Beaufort Area Ducks Unlimited (DU) Chapter and local land owners hosted 15 servicemen and women from the Beaufort Marine Air Station for a hunt in December 2013. The hunts took place on several plantations in the ACE Basin, the birth place of DU conservation easements.

The weekend began with a skeet shoot and barbecue hosted by Mike McShane and the local DU committee at Nemours Plantation. The Warriors were treated to a Lowcountry Waterfowl Hunt on Saturday morning. Local taxidermist Jimmy Hortman generously donated mounts for each of the hunters, many who killed their first duck. Saturday night, the Beaufort DU Chapter honored these local heroes and their families at their annual banquet which raised

more than \$20,000 for DU's conservation and outreach efforts. DU would like to thank everyone involved with last year's huge success, including local committee

members Brian Harrelson, Tommy Collins, Jay Lovell and Lorin Siegel, as well as, Jimmy Hortman, Nemours Plantation, Bonnie Hall Plantation, Paul & Dalton Plantation, Fenwick Island and Ashepoo Plantation, and Brewton Plantation.

The idea of the event was to connect the Lowcountry's waterfowling heritage, community and warriors into one event. Organizers have set tentative dates for the 2014 event as

December 12th and 13th. Please contact DU's Eastern South Carolina Regional Director, James Meadows, at 843-870-0635 or jmeadows@ducks.org if you would like to host a hunter or volunteer for this event.



Edisto Island Land Trust Success Seen in Two Projects in 2013

The Edisto Island Open Land Trust (EIOLT) finished 2013 with several exciting conservation successes. Two conservation easements were made possible through support from the Charleston County Greenbelt Program. The Graves family chose to preserve their working farm located in a critical area on Sand Creek and The Clarkson family placed a conservation easement on Middleton Plantation, agreeing to restrict any future development on the historic nine acre property.

ASHE POINT FARM

Ann, Robert and Stephen Graves placed a conservation easement on their one hundred and twenty four (124) acre farm located on Sand Creek and Russell Creek Drive. The property contains 84 acres of uplands maritime forest, which provides habitat for a diverse array of migratory and resident birds, mammals, reptiles and amphibians. The salt marsh acreage along Sand Creek and the wooded area both offer a much needed environment for the plant and animal species located there, and extend an existing wildlife habitat corridor of adjacent protected properties.



Drive up to Middleton Plantation

Island helps residents and visitors understand and experience an important part of our heritage by providing a living exhibit of our past. Ensuring that the remaining nine acres of property surrounding Middleton will not be developed is an important part of the public benefit of this project. Thanks to the Clarkson's generosity and financial support from the Charleston County Greenbelt program, this iconic location on Store Creek will be preserved forever!

MIDDLETON PLANTATION

Middleton Plantation is one of the most significant historical properties that EIOLT holds a conservation on. The Plantation house, still present on the site, was built in the early 1800s and placed on the National Register of Historic Places in 1971 in recognition of its architectural and historic significance. Middleton Plantation sits on a bluff overlooking the St. Pierre Creek and in close proximity to other properties protected with Edisto Island Open Land Trust easements including Sunnyside Plantation and Hastings Governor's Bluff upstream; and Peters Point Plantation downstream.

There is a great deal of cultural significance to this property as well. Conserving the property that surrounds standing plantation homes on Edisto

Other Easements added 6/30/13 - 6/30/14 to the ACE Basin

Temple of Sport	51
Ravenwood V	482
Deux Cheneux	712
Old Bonnie Doone	4153
Gracefield West	340
Gracefield East	215
Ti Ti Plantation	1853

Research in the ACE Basin

Study on Wintering Habitat Needs of Endangered Whooping Cranes Underway

Through most of January and February of this year the ACE Basin hosted a pair of very unique individuals—whooping cranes. Unique because there are only about 103 whooping cranes in the entire eastern migratory flock (several hundred more cranes occur in the mid continent, captive and non-migratory flocks). In the 1940's there were fewer than 20 cranes in the wild, so while these birds have made some recovery, there is still much to be done before they can be moved off the endangered species list.

Birds in the eastern migratory flock have been trained to migrate to winter destinations mainly in Florida. But, this pair decided wintering on our coast was the right place for them. The male of the pair is known as 10-03 for being the 3rd individual born to captive parents in 2010 and the female as W1-06 for being the first wild born individual in 2006. This bird has actually visited the ACE Basin in previous years, but with a different mate.

The arrival of the pair this year was fortuitous because ever since Dr. George Archibald, co-founder of the International Crane Foundation, spoke at the Friends of Nemours Wildlife Foundation event in the fall of 2012, there has been considerable discussion on the topic of training whooping crane hatchlings to migrate to the ACE Basin for the winter. After all, cranes were finding our marshes on their own and seemed to be enjoying their stay. Of course, when you



are dealing with a very charismatic and extremely endangered species such as the whooping crane, more information is needed on the winter habitat requirements than the anecdotal data provided by the visit of a few individuals.

With those questions in mind, the Nemours Wildlife Foundation has committed to support a graduate student project with Clemson University to examine the wintering habitat requirements of these majestic birds. The study gets underway later this year and will be led by Dr. Patrick Jodice. Objectives of the study will be to examine habitat characteristics of wetlands used and not used by cranes along their existing migration routes, use this data to build a model that can predict the

suitability of new wetlands as wintering habitat, and use this model to select the wetlands best suited as destinations for wintering cranes.

This project is very broad in scale because the number of wetlands being used by the flock along their migratory routes is substantial. Some of these wetlands are being degraded due to development encroachment, an increase in wetland salinity, and loss of wetland acreage. Thus, new wintering habitats are needed. Dr. Jodice believes this study will be a good first step in learning more about the winter habitat needs of this endangered bird, but cautions it will not answer all of our questions and additional studies will be required.

Ultimately, we hope this and other studies will show that coastal habitats of South Carolina are great wintering grounds for these birds. And in the words of Dr. Archibald, "once we understand better what motivates the birds' habitat choices in the ACE Basin and across their new southeastern range, we can do a better job of securing the cranes' winter home for the future. Who knows, one day perhaps the ACE Basin will be as important to whooping cranes in the Southeast as is the Texas Aransas National Wildlife Refuge, the winter home for the central whooping crane population."



Conservation Groups Partner to Restore Longleaf Pine

When early explorers first visited the Lowcountry they saw "a vast forest of the most stately pine trees that can be imagined, planted by nature at a moderate distance. . . enameled with a variety of flowering shrubs." (www.TheLongleafAlliance.org/longleaf-pine/the-big-picture). The stately pine they saw was the longleaf pine. The longleaf pine ecosystem once stretched across 70-90 million acres from Virginia to Texas. Today, less than 9,000 acres of true old-growth longleaf remain. Much of the decline of this ecosystem happened decades ago when the ancient longleaf pine was treasured for its strength and beauty, and its wood was used for building everything a young, growing nation needed built. Once the majestic 300+ year old longleaf were harvested, they were replaced with the easier to manage and faster growing loblolly, shortleaf, and slash pine species.

While over-harvesting was a major blow to the longleaf ecosystem, the suppression of fire probably did more to destroy this great ecosystem than any other activity. While it may sound odd, because we typically associate fire with destruction, periodic fire is a friend of the longleaf pine ecosystem. In fact, fire is required to sustain longleaf forests. As a colleague said recently, a longleaf forest without fire is like a rainforest without rain. So eloquently said! The only way to appreciate this concept is to walk through a longleaf forest that has been burned periodically. What you will encounter is not death and destruction but an incredible array of life.

Restoration of longleaf pine forests has become a major conservation priority in recent years. Why should we be concerned? The longleaf pine ecosystem contained an incredible array of plants and animals, many unique just to longleaf pine woodlands. The understory hosted many species of grasses, peas, and asters. In the depressions which held water for longer periods of time, a variety of insectivorous plants like pitcher plants, bladderworts, and sundews could be found. In some of the remaining old-growth longleaf stands you can encounter 40-50 different species of plants within an area about the size of your dining room table. You might find over 100 species in ¼ of an acre. This scale of diversity is rivaled only by the rainforests along our planet's equator.

Longleaf pines are also home to many animals. Besides birds, including bobwhite quail and wild turkeys, and an impressive list of amphibians and reptiles that use these woodlands. In fact many of our state's threatened

and endangered species are those that once thrived in longleaf forests. These included the red-cockaded woodpecker, gopher tortoise, and indigo snake.

In recognition of the ecological importance of the longleaf pine ecosystem, the conservation community has made the restoration of this ecosystem a focal point. Locally several conservation organizations have partnered on a grant proposal with objectives to increase the number of acres planted in longleaf pine, improve the management of existing longleaf pine stands, promote the use of prescribed burning



SC Wildlife magazine

on private lands, and develop outreach programs for landowners. The proposal was submitted to the National Fish and Wildlife Foundation (NFWF) in February, and requested \$350,000 in funding to carry out the objectives. The focus area includes the ACE Basin and the South Lowcountry regions and includes the counties along the Savannah River from Jasper to Edgefield. Partners include The Longleaf Alliance, the Nemours

Wildlife Foundation, the Beaufort Open Land Trust, Clemson University Extension, the South Carolina Department of Natural Resources, and the U. S. Fish & Wildlife Service.

Perhaps the most exciting part of the proposal is the emphasis on providing private landowners hands-on training in planning and conducting prescribed burns. More acres of habitat can be improved with prescribed burning than any other management tool at our disposal. While the goal of planting more longleaf pine is important, if we are not good stewards of these forests, then the outcome of our efforts will be diminished. What was that phrase, "A longleaf forest without fire is like a rainforest without?" We will keep you posted on our successes.



SCDNR

Mottled Duck Research--The ACE and Beyond

The Mottled Duck has become an important waterfowl species in South Carolina since its introduction from Louisiana in 1970's and 80's. However, our knowledge of its life cycle and habitat needs has been limited and precludes the development of better management of the birds. In 2008, the South Carolina Department of Natural Resources (SCDNR) began a statewide banding program to gain information on gross movements, harvest rates and population size of these birds. In 2010, research on home range size, seasonal movements, and habitat use (including wintering, nesting, and brood habitats) in the ACE Basin was initiated by the Nemours Wildlife Foundation, the SCDNR, and Mississippi State University. The South Carolina Chapter of Ducks Unlimited has provided major funding for this research. Additional support has been provided by Delta Waterfowl and the Flyway Foundation, along with cooperation from US Fish & Wildlife Service and many private landowners.

Banding

A total of 3,394 mottled ducks have been banded in South Carolina since 2008 through nighttime capture utilizing airboats. We have had a total of 192 direct recoveries (birds banded and harvested in the same year). Using this information a harvest rate of approximately 8% (the percentage of population mortality caused by hunting) and an estimated population of approximately 22,000 birds have been calculated for the state. We documented birds from the Santee Delta routinely being recovered in the ACE Basin. Several marked birds have been recovered in inland areas, mainly up the Santee and Cooper river systems. Several South Carolina birds were recovered in the Altamaha River basin in Georgia, one bird in St. Augustine, Florida and one bird in Indiana. Nearly all of these travelers were adult males.

Radio Telemetry

From 2010 to 2012, the researchers radio-marked a sample of 189 mottled duck hens captured on two different properties within the ACE Basin region. Hens were captured from an airboat at night during August and September using spotlights and dip nets. A total of 45 hens were fitted with VHS backpack transmitters while the remaining hens were surgically implanted with VHS transmitters by volunteer veterinarians, with the assistance of Ron Belefield from Florida Fish & Wildlife Conservation Commission and SCDNR veterinarian Al Segars. Following their release, the birds were tracked from



SCDNR, Mottled Duck

the ground and from an aircraft with antennas mounted on each wing strut. Aerial surveys were conducted from late August through early May once per week if possible. Every 4th to 5th flight would extend beyond the ACE Basin to search for birds that may have moved outside of the study area. We maintained contact with approximately

30-35% of our radio-marked birds 9-10 months after release.

The locations we obtained through aerial surveys show movements of individual birds within the ACE Basin covering 30 to 60 square miles and up to 100 to 125 square miles for those birds that were located outside of the ACE Basin. Banding data and radio locations of female mottled ducks show some individual birds will make large movements to other parts of South Carolina and Georgia, but overall the majority of mottled ducks remained within the ACE Basin. Mottled ducks demonstrated a strong preference for managed tidal impoundments, with over 95% of their locations occurring within these impoundments and less than 5% occurring within natural tidal marsh. Radio-marked mottled ducks

occurred most frequently in brackish (5-20 ppt.) wetlands with natural vegetation, as opposed to freshwater areas planted in agricultural crops. Home range sizes for mottled ducks appear to be fairly small when compared to other duck species, with some small scale dispersal occurring during the breeding and nesting season.

Nesting and Brood Rearing Research

During the 2011- 2012 nesting seasons, Clay Shipes, graduate student with Mississippi State University, studied the nesting ecology of mottled ducks in the ACE Basin. Nests were located by walking searches through likely nesting habitat, rope dragging, and airboat searching. A total of 53 nests were found, 36 in 2011, and 17 in 2012. Clutch size averaged 8.4 eggs, but average nest initiation date was significantly different between the two years; April 27 in 2011 and March 24 in 2012. Nest success rates were 18% in 2011, 20% in 2012, and 19% overall. For both years raccoons were the primary nest predator. Studies on other duck species suggest a nest success of 17% or greater is needed for population growth.

Nests were routinely found on dike berms, old check banks and islands of vegetation in managed wetland impoundments. Approximately half the nests (27) occurred on islands of vegetation. Analysis was done comparing nest success with several different habitat measurements, such as vegetation height and date of nest initiation. The size of the nesting island was the most important factor appearing to affect nest success. As island size increases so does nest success. The average area of nesting islands was 120 sq. ft. (10 ft by 12 ft) and ranged from 11 sq ft. to 484 sq ft.

During the spring and summer of 2013, Molly Kneece, graduate student with Mississippi State

University, tracked radio-marked females and conducted nest searches. Her intentions were to follow the radio-marked females after ducklings hatched to determine habitat use and survival by duck broods. However, none of the radio-marked females initiated a nest. Therefore, nest searches were conducted to discover nests by non-instrumented females. When a nest was located the eggs were examined to determine an estimated hatching date. At three days prior to the estimated hatching date, a drop-style trap was placed over the nest to capture the hen. The captured hen was outfitted with a harness style backpack transmitter. Using this method, seven hens were successfully trapped and five of these nests successfully hatched. The females were tracked daily and the broods were monitored to estimate habitat use and survival. Of the five broods, three were successful in fledging at least one duckling. General habitat observations show broods utilize wetlands which have steady water levels that are between 0.5 and 6 inches in water depth. Broods abandoned wetlands when water levels dropped below 0.5 inches or increased above 6 inches. They utilize fresh to brackish wetlands and areas with a ratio of 40% open water to 60% emergent vegetation. The home range estimate was 330 acres.

Future Activities

Molly Kneece will continue her work on nesting success and habitat use by females and broods during the spring and summer of 2014. Molly will put greater effort into nest searching and radio-marking females on the nest, as this has proven to be more effective for marking hens which potentially produce a brood. Also attempts will be made to decoy trap and radio-mark females prior to the nesting season to build a random sample of hens that may attempt to nest.



SCDNR, releasing birds after fitting with VHS backpack transmitter



SCDNR, Mottled duck with VHS backpack transmitter



ACE Basin NEWS 
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ACE Basin Conservation Sites as of 05/01/14

Public Sites	ACRES
Wildlife Management Areas	26,171
Bear Island, Donnelley, Botany Bay Plantation, Edisto River	
ACE Basin National Wildlife Refuge	11,939
Edisto Unit, Combahee Unit	
ACE Basin National Estuarine Reserve	25,724
Edisto Beach State Park	1,255
Hunting Island State Park	5,000
Sub-total	70,089
Private Sites	
Conservation Easements (153)	122,238
Deed Restrictions	33
Organization Ownership	
Nemours Plantation Wildlife Foundation, Bailey Island	10,548
Management Agreements Meadwestvaco	13,076
Other (Slann Island)	1,262
Sub-total	147,157
TOTAL	217,246



EASEMENTS

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