



THE LONGLEAF LEADER

RARE SPECIES  
RECOVERY  
in the  
Longleaf Ecosystem

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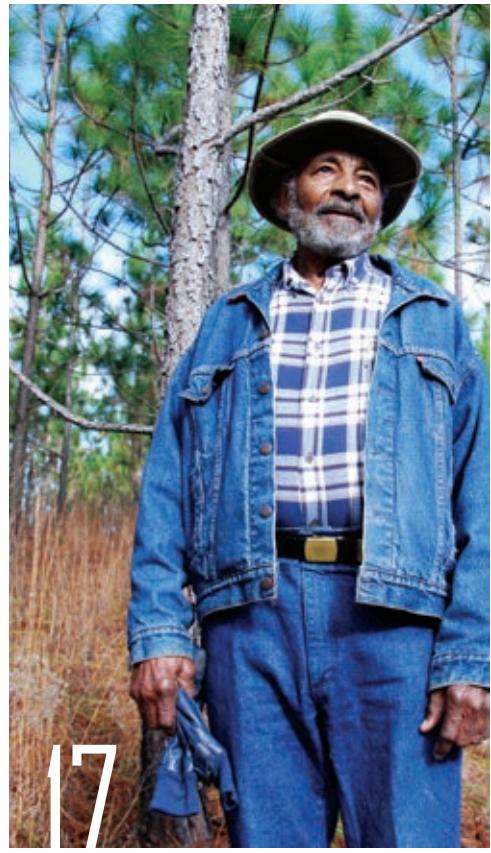
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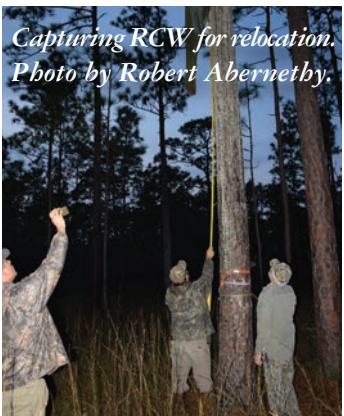
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**COVER** Gopher tortoise hatchlings. Photo by Matt Aresco.

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BY ROBERT ABERNETHY, THE LONGLEAF ALLIANCE

# Managing for Rare Species

## PRESIDENT'S MESSAGE

I would like to start out my column on a somber note and remind everyone to keep all the victims of Hurricanes Harvey and Irma in your thoughts and prayers. From South Carolina to Texas, forests have been flattened, homes flooded and lives lost. We will continue to experience hurricanes and tropical storms each fall and it is only by standing together and helping our neighbors that any of us can get through these all too frequent and massive disasters. We know that a number of our partners and members were hit hard by these storms, and while the initial challenge must be getting personal lives and property put back together, we will also be gathering information and observations about how longleaf restoration projects of various ages fared by location and impact, as we build a more resilient forest across the South. More to follow on this.

This month, I will be joining a team of wildlife biologists and technicians from The Longleaf Alliance, SC Department of Natural Resources, US Fish and Wildlife Service, Milliken Forestry and the US Forest Service on the Francis Marion National Forest north of Charleston, South Carolina. The team will spread out over the forest and at sunset, 15 pairs of juvenile red-cockaded woodpeckers will be captured. They will be transported to 5 private properties in South Carolina and placed in new artificial cavities. At dawn on the following morning, the birds will be released into their new homes and 5 additional populations of this federally endangered species will have been expanded.

While the day of the capture and the following morning when the birds are released are fun, exciting and a cause for celebration; the previous years were pure, hard, hot, sweaty work. The properties where the birds are to be released had to be "whipped into shape" through timber harvests that reduced the basal area and prescribed burning programs had to be initiated or expanded. While RCWs require mature pines,

preferably longleaf, over 80 years old in which to nest; it is the thinned canopy and diverse understory following fire, which provides the insects they require for food. The landowners we are working with on this project have spent decades preparing their woods to receive these birds. As the trees aged and the understory developed, quail populations expanded and income was generated from timber sales.

The Longleaf Alliance worked with the landowners and their foresters to apply for grants to complete this important work. Grants were awarded by the Natural Resource Conservation Service (NRCS) and the National Fish and Wildlife Foundation (NFWF). NFWF's Longleaf Stewardship Fund and the Forestland Stewards Initiative funded by International Paper provided funds to reduce the hardwood mid-story and increase the prescribed fire. Once the habitat was ready, cavity inserts were added in select trees and the land was ready for the birds. It was a lot of work, but this month, the birds will be in their new homes and present on the landscape.

In managing specifically for the endangered red-cockaded woodpecker; the thinned timber and lush understory created by prescribed fire will also create excellent habitat for bobwhite, wild turkey, bluebirds and Bachman's sparrow. The forest will continue to generate income through timber harvests and provide a beautiful and open landscape for the landowners to enjoy.

With knowledge and hard work, caring landowners working hand in hand with state and Federal wildlife agencies and not-for-profit partners like NFWF and The Longleaf Alliance can restore and expand these species and continue to manage their land as they have done for years. The Longleaf Alliance is proud to recognize these partners and the great work we are all accomplishing together.

# HERBACEOUS WEED CONTROL IN LONGLEAF PINE PLANTATIONS

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- Forest landowners interested in growing longleaf pine must follow a carefully designed and well-executed management plan to grow productive stands.
- Longleaf pine seedlings are intolerant of shading, can have slow early growth and remain in the "grass stage" for an extended period which makes these stands vulnerable to the competing vegetation.
- Old agricultural (crop) fields pose a unique set of challenges compared to cutover forested sites. For example, the weed spectrum found in old ag fields is typically very different from cutover sites.
- Many of the problem weeds found on these sites can be controlled with either Milestone® or Transline® herbicides.
- These two selective herbicides control key competitive broadleaf weeds, certain susceptible woody plants, and vines that are frequently found in new longleaf pine plantations.
- Managing for these species can improve longleaf pine seedling survival and establishment thus leading to improved growth.

Contact Darrell Russell to learn more about treating longleaf pine plantations with Milestone® and Transline® herbicides.



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# 2017-2018 | Calendar

## 2017

**October 10-12, 2017**  
**Longleaf Academy:**  
**Understory Restoration 101**  
**The Wesley Center**  
 Woodworth, Louisiana

**October 24-26, 2017**  
**Longleaf Academy:**  
**Understory Restoration 101**  
**Solon Dixon Forestry Education Center**  
 Andalusia, Alabama

## November 14-16, 2017

**Longleaf Academy: Fire & Longleaf 101**  
 Lufkin, Texas

## 2018

**January 16-18, 2018**  
**Longleaf Academy: Longleaf 101**  
 Aiken, South Carolina

## March 20-22, 2018

**Longleaf Academy: Longleaf 101**  
 Jesup, Georgia

## October 23-26, 2018

**12th Biennial Longleaf Conference**  
 Alexandria, Louisiana

For more information about events please visit The Longleaf Alliance website ([www.longleafalliance.org](http://www.longleafalliance.org)).



2018 BIENNIAL LONGLEAF CONFERENCE  
 ALEXANDRIA, LOUISIANA ~ OCTOBER 23-26, 2018

## FALL 2017 MANAGEMENT CHECKLIST

**Apply Fall Site Preparation Herbicides:** For maximum efficacy, foliar active herbicides such as glyphosate (Roundup®/Accord®) should be applied to pasture grasses before the first frost; while triclopyr (Garlon®) may be delayed until after the first frost for targeting waxy leaf competitors while minimizing impact to herbaceous groundcover.

**Allow time for soil active herbicides to break down** before planting longleaf, especially those with the active ingredient imazapyr (Arsenal®/Chopper®).

**Apply mechanical site preparation treatments:** Scalp agricultural sites; remember to stay strictly on the contour and pick the scalper up regularly. Leaving water bars in the furrow will greatly reduce erosion. Subsoil or rip sites with hardpans, but remember, do not plant seedlings directly into the sub soiled/ripped furrow.

**Clean up or establish fire lanes** for site prep or fuel reduction burns.

**Harvest Native Herbaceous Seeds:** Certain species, such as the Indian Grasses, ripen and fall in a very short time window (as little as 1 or 2 weeks). Ripe wiregrass can lose all of its ripe seed if a cold front blows through. Be watchful and move quickly!

**Order Native Seed for Understory Restoration:** Seed from local ecotypes and endemic species is limited and expensive. Although some landowners and land managers have the time and expertise to collect their own seed, most restoration will be done with seed purchased from the few seed companies that sell southeastern sourced seed.

**Plant Longleaf:** It's never too early to plant longleaf if the following conditions are met: the site is prepared (see Fall Site Prep recommendations), there is adequate soil moisture, seedlings are available, and a planting crew is available.

# Q&A

---

Q.

Dear Longleaf Alliance,

I live on a recently purchased property in Forrest County, Mississippi near the National Forest. Recently I observed what appeared to be a small army spreading fire in the forest. What's going on? I thought Smokey Bear, the Forest Service mascot, preached, "Only you can prevent forest fires?"

Perplexed in Forrest County

A.

Dear Perplexed,

What you observed was the Forest Service using prescribed fire. Prescribed fire is the skillful application of fire under specific weather conditions to achieve management goals. Longleaf pine forests are common in Forrest County, and they evolved under a regime of periodic lightning caused surface fires that kept the underbrush cleared and allowed the diverse understory of native grasses and succulent forbs common in these open woodlands to thrive.

Prescribed fire is a tool that foresters and wildlife biologists use to:

- Reduce hazardous fuels, reducing the threat of wildfire
- Control of low value, off-site hardwoods
- Prepare land for the planting of pines
- Wildlife habitat improvement
- Improving the quality of forage for woodland grazing of cattle
- Controlling certain diseases such as brownspot needle blight of longleaf pine
- Improving aesthetics and accessibility

Prescribed fire is our most economical tool for managing vegetation. Skilled, responsible use is essential for meeting the above management goals and allowing the continued use of fire in our forests.

For additional information on the subject, go to The Longleaf Alliance website at [www.longleafalliance.org](http://www.longleafalliance.org)

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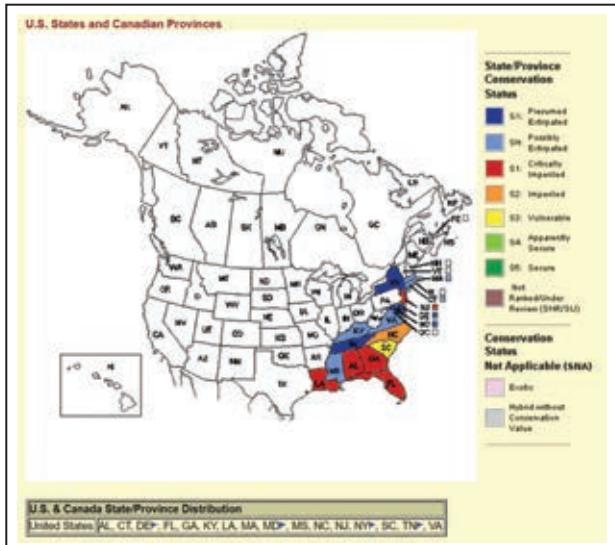
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By Carol Denhof, The Longleaf Alliance

# PLANT SPOTLIGHT

## *SCHWALBEA AMERICANA L.* AMERICAN CHAFFSEED



(Left) Map showing distribution of American chaffseed. USDA PLANTS Database.

(Right) Flower of American chaffseed. Photo by Latimore Smith/The Nature Conservancy.

### Description

American chaffseed is a member of the *Orobanchaceae* (Broomrape) plant family. This herbaceous perennial species can reach a maximum height of 2 feet when in flower. The plant is covered in dense, soft hairs. The leaves are elliptical in shape and range in size from .8-1.6 inches with the largest leaves at the base of the plant and becoming reduced in size as they go up the stem. Each stem bears a narrow, terminal raceme of flowers. The sepals are approximately ½ inch long with five 1 inch long petals that form a tube-like flower structure. The petals are yellowish or purplish with darker purple lines. Flowering occurs during late spring to early summer and is stimulated by fire.

### Distribution & Habitat

American chaffseed is listed as a federally endangered species under the Endangered Species Act. This plant, that inhabits the ecotone between depressional wetlands and upland piney woods, is imperiled because of fire suppression and habitat loss. It originally was found in 16 states in the eastern US but now is only found in seven states: NJ, NC, SC, GA, FL, AL, and LA.

### Life History

*Schwalbea americana* is a hemiparasitic plant that uses structures called haustoria to attach to and parasitize neighboring groundcover species. The preferred host for this species is silkgrass (*Pityopsis graminifolia*). These plants require open conditions and

without the use of regular prescribed fire will decline quickly. American chaffseed responds quickly following a burn with rapid growth of stems and subsequent flowering and seed distribution.

### Conservation Efforts

Partners across the region are working to protect existing populations of this rare species by conserving properties where they occur and managing properly with fire. Ex situ and in situ conservation work is also being conducted by horticulturists and restoration scientists in the Carolinas and northward in the New Jersey pine barrens. This work safeguards genetic material and allows for augmentation of native populations.

### References

Sorrie, B.A. 2011. A Field Guide to Wildflowers of the Sandhills Region. The University of North Carolina Press. Chapel Hill, NC. 378pp.

NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://explorer.natureserve.org>. (Accessed: August 15, 2017).

US Fish & Wildlife Service. *Schwalbea Americana Species Profile*, USFWS Webpage.  
[www.fws.gov/southeast/wildlife/plants/americana-chaffseed/](http://www.fws.gov/southeast/wildlife/plants/americana-chaffseed/).

# WILDLIFE SPOTLIGHT

## Innovative Management Techniques Improve Reticulated Flatwoods Salamander Recovery Efforts



Captive Breeding Program Cattle Vats, Escribano Point Wildlife Management Area. Photo by Kelly Jones, Virginia Tech University.

Reticulated Flatwoods Salamander. Photo by Kelly Jones, Virginia Tech University.

The reticulated flatwoods salamander (*Ambystoma bishopi*) is a federally endangered mole salamander species endemic to the coastal plains of Florida, Georgia, and Alabama. Optimum habitat for this species is open, moderately wet woodlands of longleaf or slash pine flatwoods that contain shallow, ephemeral wetlands with a grassy/herbaceous groundcover that is maintained by frequent fires.

Adult reticulated flatwoods salamanders migrate to ephemeral wetlands during the cool, rainy months of October to December. Females lay their eggs in herbaceous vegetation near the edges of the wetland basins, typically before the wetlands fill with water from winter rains. As winter rains fall, the pond basins brim with water, inundating the eggs, and release the larval salamanders into the herbaceous vegetation. As the larval salamanders mature, they continue to depend on the herbaceous ground cover for both forage and refuge from predators.

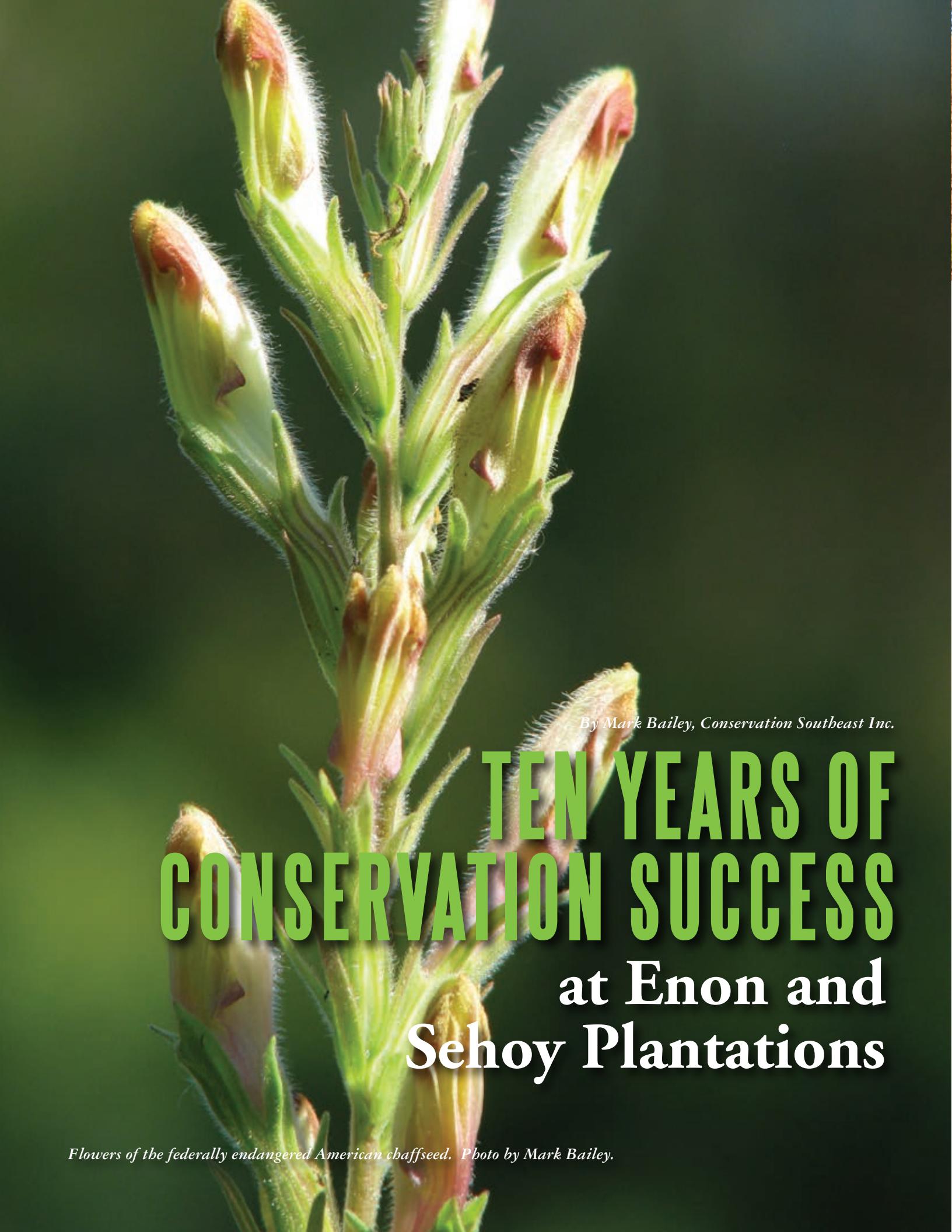
As spring approaches and winter precipitation slows, the pond basins begin to dry out, and the larval salamanders complete their metamorphosis. Emerging from the ponds as adults, the salamanders leave the pond basins to begin their lives underground in upland habitat, returning to the wetland basins each year to breed.

Although the species was once common in flatwoods habitat throughout its range, the reticulated flatwoods salamander has recently seen dramatic population declines. Among many reasons both known and unknown, the lack of fire within breeding ponds is one significant factor that has contributed to population declines. With the exclusion of fire comes an ensuing woody plant invasion that precludes the herbaceous ground cover this species needs to successfully breed and recruit.

Innovative management techniques are currently being developed that show great promise in restoring breeding habitat and stabilizing populations. One such practice utilizes heavy machinery to mechanically remove duff and woody vegetation that impedes native ground cover establishment. A follow-up application of selective aquatic labeled herbicides further reduces aggressive re-sprouting of woody plants in the pond basins. With the mechanical removal of heavy and duffy fuels, the risks of catastrophic outcomes in subsequent prescribed fire applications is considerably reduced, ultimately affording resource managers more opportunities to apply fire in pond basin habitat.

Another technique showing great promise involves utilizing cattle tanks as artificial breeding ponds to assist larvae in completing metamorphosis. Within the relatively controlled environment of the cattle tank breeding pond, many of the factors limiting successful larval development (e.g. predation, lack of sufficient precipitation, poor forage availability) can be reduced or eliminated. Thus, a much higher percentage of larvae survive through metamorphosis and (hopefully) become breeding adults. Assisted metamorphosis efforts are designed to help bolster natural recruitment within populations struggling to successfully recruit or whose population is so small that one stochastic event could stamp out the entire population. In addition, utilizing artificial breeding ponds to assist larval metamorphosis may be a necessary technique in future repatriation efforts.

With continued habitat improvement and strategic application of new and innovative species management techniques, land managers across the species range can take proactive measures to help ensure this species has a continued presence in the forests of the coastal plain.



*By Mark Bailey, Conservation Southeast Inc.*

# TEN YEARS OF CONSERVATION SUCCESS

at Enon and  
Sehoy Plantations

*Flowers of the federally endangered American chaffseed. Photo by Mark Bailey.*



*Regular prescribed fire is an essential tool in managing for RCWs.*  
Photo by Mark Bailey.



*Adult RCW bringing food to cavity for chicks.*  
Photo by Mark Bailey.

Until recently, the story of the red-cockaded woodpecker (RCW) on private lands has been one of habitat loss, declines, and controversy. Only one population in Alabama is restricted entirely to private land, the contiguous Sehoy and Enon plantation complex about 45 miles southeast of Montgomery. Twenty years ago, a visionary landowner, Cam Lanier III, put together this block of over 26,000 acres as Alabama's finest quail hunting preserve, over two-thirds of which was suitable RCW habitat. In 2002 and 2003, when more than half the property was placed under conservation easements held by the Alabama Forest Resources Center, the cursory surveys I conducted turned up five active RCW clusters (cavity trees close to each other and inhabited by at least one RCW), but not all had breeding pairs. The management plan was to maintain RCW habitat but not to take proactive measures for expansion, and I was not optimistic for the future of this dwindling population.

Fortunately, Eric Spadgenske arrived in Alabama a couple of years later as U.S. Fish and Wildlife Service Private Lands Biologist. Eric did his Master's degree research on RCWs and worked on the species for ten years at Fort Stewart, Georgia. Naturally, he wanted to work with the birds on Alabama's private lands, and I pointed him to the Enon-Sehoy property. Little did I know he and I would end up working closely together on this project every year for more than a decade.

When Eric told Mr. Lanier that despite the habitat being in excellent condition, without intervention it was only a matter of time before these remaining groups winked out, Mr. Lanier's response was, "Not on my watch. What do we need to do?" Eric told him that to save this remnant population we needed to install artificial cavities and bring in some birds—and act fast.

Less than a year later, Cam Lanier was the inaugural enrollee in the Alabama RCW Safe Harbor Program. Under a Safe Harbor agreement, landowners agree to manage their land in a way that benefits RCWs, but they will not incur any new restrictions if the birds expand beyond the baseline level that exists on the property when the agreement is signed. A landowner can even enroll with a baseline of zero, and not fear future restrictions on land use should RCWs from a neighboring property colonize his/her property. Safe Harbor agreements are popular with forest landowners and considered a 'win-win' program: RCW populations are protected while the rights of landowners are respected. In 2006, we conducted a thorough property-wide survey to determine the baseline number of RCW groups and documented four active clusters with only two potential breeding pairs. USFWS was understandably reluctant to allow the great effort and expense of translocating young birds—a very limited resource—to grow the population if at some point Mr. Lanier decided to exercise his right (under Safe Harbor) to reduce the larger population back to just four groups. He agreed to set his baseline at ten groups—a number we knew we could achieve. That generous act proved to be a pivotal decision securing the future of this remnant population.

With initial funding from USFWS (and later from the Alabama Department of Conservation and Natural Resources, National Fish and Wildlife Foundation, and Southern Company), we started an intensive artificial cavity provisioning program and made our case to the RCW Southern Range Translocation Cooperative (SRTC) to receive our first birds from Fort Benning in the fall of 2007. The SRTC is a regional group

of state, federal, and private properties that meets annually to decide how many available “surplus” young birds from established populations can be assigned to needy recipient sites. With the incredible habitat quality that had resulted from decades of intensive quail management through prescribed burning, our translocation efforts were more successful than anticipated. We repeated this effort for three more years, ultimately translocating 32 juvenile birds.

In the spring breeding season of 2007, before the first translocation was done, only one fledgling was produced, and only two of the four RCW groups nested. We were in an unsustainable position and without translocation of birds from elsewhere it is likely the RCWs of Enon and Sehoy would soon be history. But by 2011 we had grown to 16 breeding groups, and local reproduction was producing enough fledglings that bringing in outside birds was no longer necessary. This past breeding season, ten years into the project, over 50 fledglings were produced from 32 breeding groups. Two of these groups “budded off” by themselves, taking up residence in places where we had not provided artificial cavities. We now have a stable and self-sustaining population that requires only minimal support beyond the ongoing habitat management for quail.

Going from four to 32 RCW groups in ten years was not easy, but the ingredients for success are not complicated. Park-like open stands of mature pines at a low basal area (20 to 60 sq. ft/acre) and a good prescribed fire program are critical. Translocation got us the jump-start we needed. Provisioning of artificial cavities gave the translocated birds and new fledglings a place to roost without having to excavate their own, which can take months or years. Many of the trees are just approaching the age where red heart fungus makes them suitable for the birds to make their own cavities. As the stands mature, the birds will increasingly make their own homes, reducing the need for artificial cavity assistance. Each fall we have enjoyed a cavity installation partnership with the U.S. Forest Service when two to three teams of their experienced cavity installers are dispatched for what we call our “insert blitz,” installing about 50 replacement cavity inserts in roughly a day and a half.

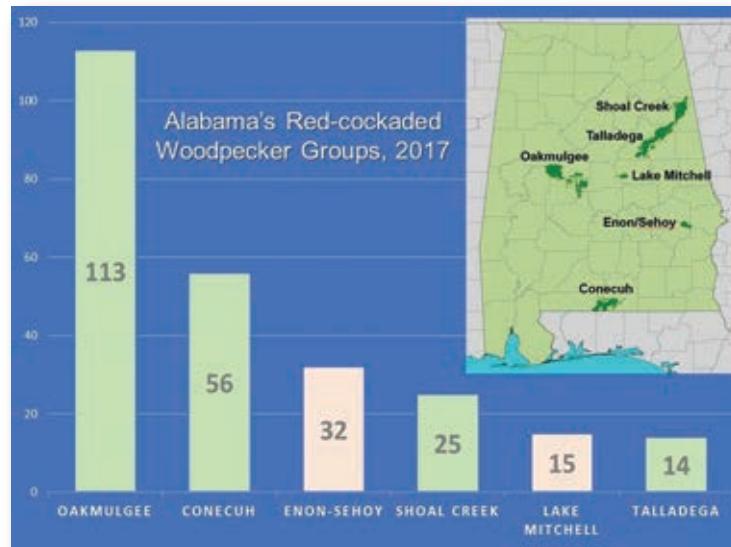
Another important part of the management has been annual control of a major cavity competitor, the Southern Flying Squirrel. These seldom-seen yet surprisingly abundant creatures love to take over the woodpeckers’ cavities, and they will also eat the eggs. Using a pole-mounted video camera, we periodically check the cavities for squirrels, and if they are present, we evict them. Flying squirrels and RCWs have of course coexisted naturally for millennia, but with a critically small population such as ours, the birds need all the help they can get.

Due largely to the history of agriculture on these properties over a century ago, longleaf is the least common of the three pines present. Shortleaf predominates, followed by loblolly. There are pockets of mature longleaf, and part of the funding we have received has gone toward planting about 2,000 acres of longleaf in some of the gaps where the shortleaf and loblolly was sparse. There is no timber harvest quota; mature pines are selectively cut only when they are dead or dying.

These properties are special not just because they are home to the largest RCW population on private lands in Alabama; they also have abundant northern bobwhite quail and Bachman’s sparrows along with other now-uncommon wildlife of open pine forests.

This is the only site known in the state to support the federally listed endangered American chaffseed, an endangered plant of frequently-burned southeastern pineywoods. Portions of the grant funding we have received have gone to successful surveys for additional chaffseed subpopulations that have increased our understanding of this incredibly rare species.

We have achieved and surpassed our original goal of 30 RCW breeding groups, and the hard work is behind us, but we plan to continue the annual cavity maintenance, competitor control, and monitoring. I know I can speak for Eric when I say this has been the most rewarding conservation success that either of us has been involved in. Without the early and continued support of the Lanier family and their land manager John Stivers, none of this would have happened, and today three counties would be missing this iconic bird of our southern pine forests.



*Distribution of RCW groups in Alabama.*

# 1 MILLION

plants.

# 2,400

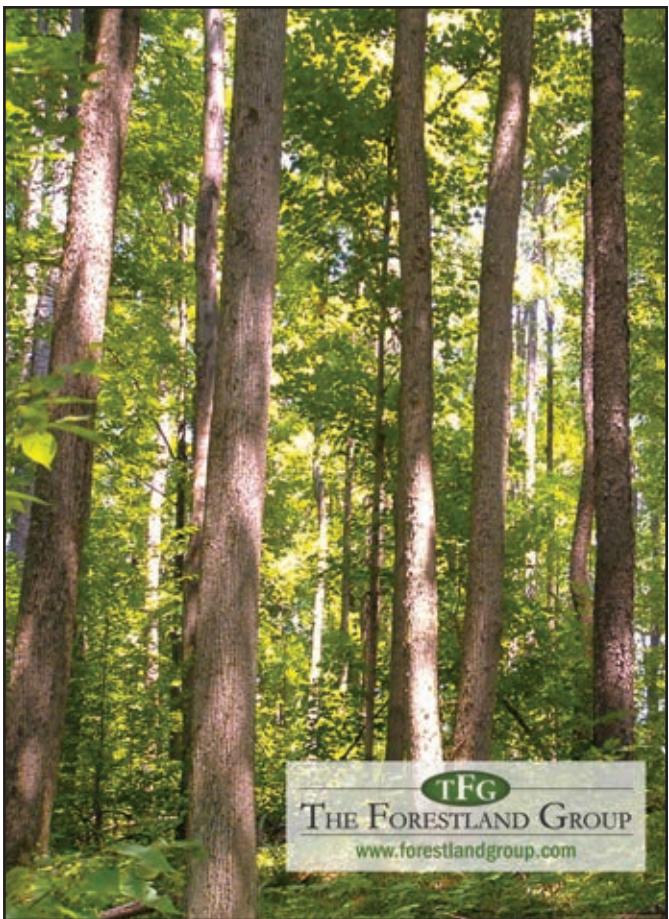
animals.

# 1

perfect day.

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By Kim Sash, Tall Timbers Research Station and Land Conservancy

# Quail Country Candidate Conservation Agreement with Assurances

Private landowners in the Greater Red Hills and Albany Regions are creating a conservation attitude that has received nationwide attention. The region's residents have conserved over 150,000 acres with conservation easements, the area harbors the largest red-cockaded woodpeckers (RCWs) population on private lands, and there is prevalent use of prescribed fire. The region is a leader not only in conservation but also proper land management.

There are so many other features of the Red Hills that strike a match in my biologist soul. About three percent of the bird species worldwide are cooperative breeders, and the Red Hills is home to two of them (RCWs and brown-headed nuthatches). The Red Hills is apt at raising quail and was designated as a "National Legacy" Bobwhite landscape in 2015. Lastly, the Red Hills is home to one of the most hospitable southern creatures, a reptile that opens its home to over 350 other species, the gopher tortoise.

The gopher tortoise is currently listed as state threatened in both Florida and Georgia. It has received more attention since being elevated as a federal candidate species by the U.S. Fish and Wildlife Service (FWS) in 2011. Due to the status of the gopher tortoise, surveys to identify population abundances have been conducted throughout its range. Many

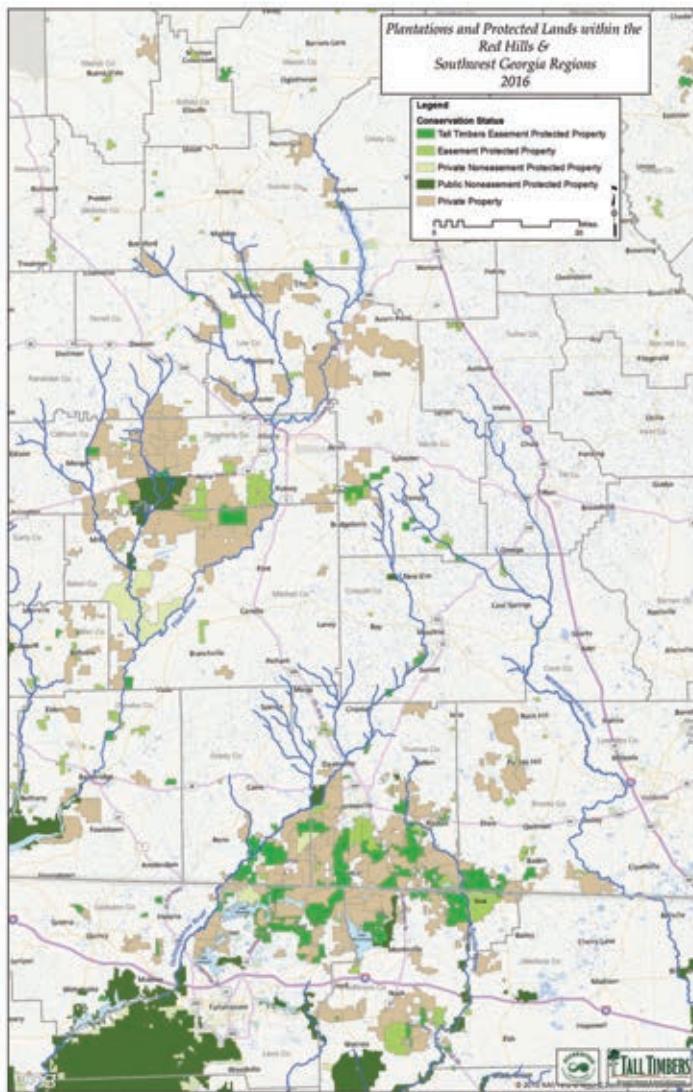
agencies and NGOs have been involved in these surveys including surveys conducted by Tall Timbers.

The FWS currently considers 250 gopher tortoises on a property to be a viable population; many properties that were surveyed currently meet this criteria (0.4 – 1.3 tortoises/acre). But there are some populations that fall short of this number and, in many cases, time and proper land management are the best solutions to grow the population. Throughout the Greater Red Hills and Albany regions, excellent land management practices (i.e., prescribed burning, brush control, eliminating exotics) is expected to promote gopher tortoise populations, allowing this important species to thrive.

Private lands play a key role in protecting gopher tortoises into the future. The FWS's estimates that nearly 88 percent of the 23.5 million acres of gopher tortoise habitat in the eastern gopher tortoise range is on private lands. With that knowledge, Tall Timbers has teamed up with Florida Fish and Wildlife Conservation Commission, Georgia

Department of Natural Resources and the FWS to get private landowners on board with key habitat management provisions that benefit the gopher tortoise.

The FWS has been creative in developing agreements with private landowners to benefit species such as the Candidate



*Map of plantations and protected lands in southwest Georgia.*

Conservation Agreement with Assurances (CCAA). These tools provide landowners with additional incentives for engaging in voluntary proactive conservation through assurances that limit future conservation obligations. In short, given that the gopher tortoise is a candidate species, it will likely be designated to

federally threatened in the coming years. Tall Timbers and our partners have developed the Quail Country CCAA which includes land management provisions private landowners agree to conduct to limit burdens of federal regulations once the gopher tortoise is listed. This voluntary agreement is nearly out

of the development stage, and launch of the Quail Country CCAA is expected in 2018. Since many of the land management provisions listed in this agreement are already conducted on properties with gopher tortoise populations, we are hoping for support in protecting a flagship species of the southern states.

You can read more about CCAs here: <https://www.fws.gov/endangered/what-we-do/cca.html>



*Gopher tortoise emerging from its burrow. Photo by Pierson Hill.*



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# LANDOWNER SPOTLIGHT

*Sandhill habitat on Nokuse showing results of growing season burn. Photo by Matt Aresco.*

## Nokuse: MC Davis' Legacy of Longleaf

*By Matthew J. Aresco, PhD, Director, Nokuse Plantation*

During a heavy rainstorm in the spring of 1995, MC Davis was leaving a business meeting in central Florida and looking for a break from rush hour traffic before heading home to the Florida Panhandle. He spotted a small sign with the Defenders of Wildlife logo that read “Black Bear Conservation Meeting” and pulled into the parking lot. MC knew little about black bears or conservation and was slightly curious about what was going on. When he left the meeting later that evening and drove home, he could not stop thinking about the plight of the Florida black bear and the loss of its habitat, and he decided to do something about it. As a successful entrepreneur, when MC Davis decided to commit his time and resources to any venture, he was “all in.” He knew that he could apply his knowledge and skills at buying and selling large tracts of timberland to private land conservation efforts that had never been attempted on such a grand scale in the southeastern United States. MC’s early efforts, with his conservation partner, Sam Shine, included establishing a 30,000-acre preserve in Lafayette County called Mallory Swamp (now owned by the State of Florida). By 1999, MC decided to fully focus his conservation effort in his own backyard in central Walton County. This area of the Florida Panhandle is an ecological “hot spot” or geographic location

that supports an unusually high diversity of plants, animals, and many distinct types of natural communities that were threatened by development, agriculture, and silviculture. The specific area where he would focus his acquisitions was strategically located to create a vital habitat linkage area to over one million acres of existing State and Federal conservation land in southern Alabama and northwestern Florida. This area includes Eglin Air Force Base, Blackwater River State Forest, and Conecuh National Forest to the west, and the Choctawhatchee River Wildlife Management Area to the east. Thus, in 2000, MC and Sam Shine began buying land for a preserve that would one day total 54,000 acres (84 square miles). This is the largest private conservation project east of the Mississippi River. He named his new preserve Nokuse, (pronounced “no-go-see”) because it is the Creek Native American word for black bear. He chose this name because the black bear is an “umbrella species” and, of course, the animal that first inspired him to commit his life to conservation. The goal of Nokuse is to preserve, conserve, and restore a critical part of Florida’s unique natural landscape.

MC Davis was successful in business because he strictly followed the philosophy of efficiency. He knew that landscape-

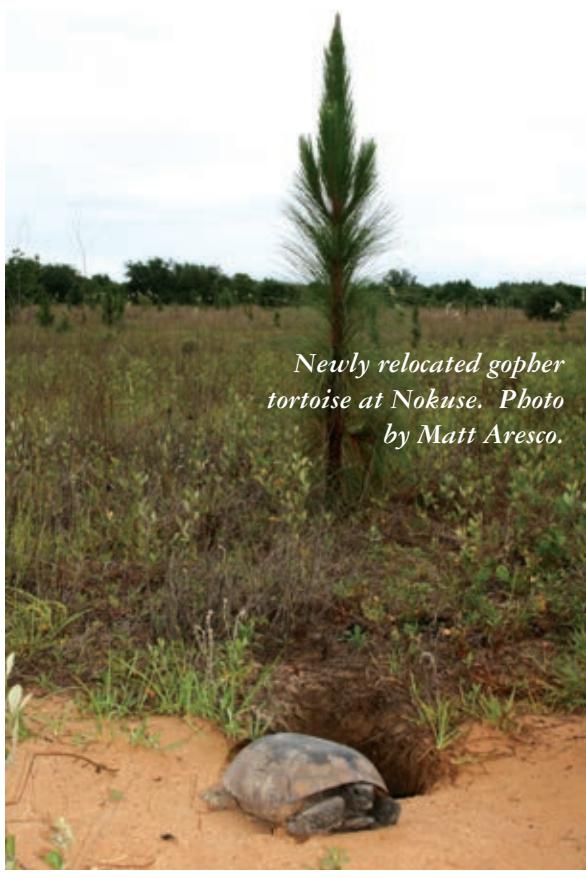
level conservation and restoration must follow the same approach to be successful. He often said that “conservation cannot be too expensive or no one will be able do it.” In the early days of the Nokuse project, he needed to purchase the largest contiguous parcels of land that were available, but he could not overpay, as the real estate comps would quickly put the dream of a 50,000-acre preserve out of reach, even with MC’s resources. This was a monumental feat to accomplish in one of the fastest growing counties in Florida, but anyone that met MC Davis knew his prowess as a negotiator and a gambler was second to none. The first 1,000 acres that MC purchased as the cornerstone of Nokuse was high-quality longleaf pine-wiregrass sandhill and wet prairie with intact groundcover that had escaped the conversion to silviculture or agriculture that was typical of most longleaf pine communities in the region. However, not surprisingly, the larger tracts that were purchased next were either in commercial pine plantations or large-scale agricultural land and were acquired knowing that the land would require various degrees of restoration. About 22,000 acres of former longleaf pine flatwoods, savanna, and sandhill on Nokuse was commercial timberland

(primarily International Paper Co.) planted in slash, loblolly, and sand pine since the mid-1950s. About 25,000 acres of former longleaf pine-turkey oak sandhill was cleared for commercial agriculture by First American Farms Corp. in the late 1960s and planted in soybeans, cotton, and peanuts for about two decades. MC sought to follow a reasonable scientific approach to restoration but was also a man of action who believed “we should not spend a pile of money trying to know the unknowable before we do anything.” MC was fond of pointing out that “we are only 15 years into a 300-year project,” meaning we must be patient as the longleaf pines we are planting now slowly reach old-growth status. However, while

following the principles of efficiency, the overall habitat restoration on Nokuse over the last 17 years has proceeded at a rapid rate. MC’s vision went further than simply protecting land; he sought to share his vision with others so that they might know, and also come to value, the tremendous diversity of life around them. MC espoused the idea that large-scale conservation could be accomplished by “joining the passion of individuals with the resources of the entrepreneur and the power of government, all guided by science.”

There is a tremendous diversity of natural communities on Nokuse including sandhill, mesic/wet flatwoods, floodplain swamp, bottomland hardwood forest, baygall, wet prairie, dome swamp, upland hardwood forest, seepage streams, flatwoods/prairie lakes, and blackwater streams. Although about half of Nokuse was historically commercial silvicultural land, the pine and hardwood communities retain good native species composition, natural community structure, and ecological integrity. The floodplain swamps, creek swamps, and wetlands are intact and high quality. The habitat diversity supports a wide variety of plants and animals. Many of them are considered rare, threatened, or endangered by the Florida Natural Areas Inventory (FNAI). This list, which continues to grow as new species are found, currently includes some 44 species, among them

amphibians, reptiles, mammals, birds, invertebrates (mussels and butterflies), and plants. Some of these species include animals such as the Florida black bear, gopher tortoise, eastern diamondback rattlesnake, Florida pine snake, pine barrens tree frog, southern hognose snake, Henslow’s sparrow, coal skink, one-toed amphiuma, and Gulf sturgeon, and plants such as flame azalea and the Federally endangered Cooley’s meadowrue that occurs nowhere else in Florida. Despite the intensive history of the silvicultural and agricultural lands, significant areas of remnant intact longleaf pine communities were discovered that have provided refugia for species such as the fox squirrel, eastern diamondback rattlesnake, pine snake, pine



*Newly relocated gopher tortoise at Nokuse. Photo by Matt Aresco.*



*MC Davis with longleaf. Photo by Stella Davis.*

barrens tree frog, and bobwhite quail. These species have benefited from Nokuse's restoration efforts and have started to expand their range and abundance.

Nokuse has followed a successful restoration plan of removing or thinning off-site planted pines, longleaf pine reforestation, groundcover restoration, eradication of exotics (feral hogs and cogongrass), and the reintroduction of fire. Historic aerial photos are used to help determine original community types and appropriate desired future conditions. Restoration of the commercial silvicultural lands on Nokuse consists of converting plantations back to the historic longleaf pine communities. On sites that were historically wet prairie or open wiregrass-dominated savannas, no trees are replanted, and fire is the primary tool to enhance herbaceous groundcover. Nokuse staff burns about 10,000 acres annually. From 2003 to 2016, over 8 million longleaf seedlings were planted by hand on 24,000 acres of former agricultural land and timberland, at an average of 350 seedlings per acre and in a random (non-row) pattern and spacing arrangement. To restore the function of the longleaf ecosystem, Nokuse began the process of restoring the diverse groundcover plants of the wiregrass/sandhill communities. This plant diversity provides habitat for wildlife, pollinator food sources, and the fine fuels necessary for the fires that maintain the health of this ecosystem. Quality understory is being restored in the sandhills and flatwoods of Nokuse in two ways, either by enhancing remnant populations with prescribed fire and hardwood removal, or by supplemental plant or seed material obtained from commercial producers, state plant nurseries, or appropriate donor sites. To help meet the demand for native seed, Nokuse (with support from The Longleaf Alliance) established a 40-acre production field for sandhill species including wiregrass, lopsided Indian grass, splitbeard bluestem, pineywoods dropseed, shortleaf blazing star, and anise-scented goldenrod. As more of Nokuse is restored, the growing diversity of plant life helps to drive the increasing health of the ecosystem.

As the restoration progresses and natural communities begin to heal, reintroduction of native species becomes possible for those that were either extirpated or driven to near extirpation by factors such as habitat conversion, habitat loss and degradation, and human harvest. Full restoration of natural communities can only be attained by bringing back a full complement of animal species. Populations of species on Nokuse such as the fox squirrel and Florida black bear are recovering quite well as their habitat recovers and matures. Other species such as the gopher tortoise, gopher frog, eastern indigo snake, red-cockaded woodpecker, and reticulated flatwoods salamander require a substantial effort to reestablish. The gopher tortoise was one of MC Davis' most beloved species, and Nokuse became a new home for tortoises translocated from development sites starting in 2006. Gopher tortoises were greatly reduced historically (less than 300 on 27,000 acres of habitat) on Nokuse. By partnering with the St. Joe Community Foundation, U.S. Fish and Wildlife Service, The

Humane Society of the U.S., and FWC, over 4,500 gopher tortoises have been translocated to Nokuse from development sites throughout Florida. Most of these tortoises came from sites where the State issued incidental take permits that allowed the tortoises to be entombed. Nokuse employs both temporary silt fence enclosures (12 months) to enhance acclimation and site fidelity and permanent electric fences to keep out predators (coyotes). Tortoise survival is high and successful reproduction is occurring. Both the gopher frog (State listed) and eastern indigo snake (Federally threatened) were extirpated decades ago due to habitat destruction, and loss of gopher tortoise burrows that they used for refuge. With the help of GCPEP partners (Eglin AFB) and The Orianne Society, these two species will be reintroduced to Nokuse in the next few years. With the abundance of gopher tortoise burrows coupled with the habitat restoration, Nokuse expects these reintroductions to be successful. Nokuse lands include USFWS designated critical habitat (historic breeding ponds and uplands) of the Federally endangered reticulated flatwoods salamander. Potential breeding pond sites for creatures like the reticulated salamander are also being rehabilitated with restoration of natural hydrology, prescribed fire, and wiregrass restoration in uplands and pond ecotones. MC Davis also hoped that Nokuse would become a model and a catalyst for future landscape-level conservation projects that would allow for reintroduction of large, wide-ranging animals like the red wolf.

MC took another bold step in 2009 when he created the E.O. Wilson Biophilia Center at Nokuse, an environmental education facility serving 4th and 7th grade students, teachers, and professionals of the area. The EOWBC is dedicated to honoring Dr. Edward O. Wilson and his life-long mission to educate the public about the importance of conserving the world's biodiversity. Each year the EOWBC provides a multi-day curriculum for some 5,200 students from the surrounding five-county area, giving students an opportunity for inquiry, investigation, and innovation while they gain knowledge of the natural world. The EOWBC is also open to the public on select days, providing a variety of environmental presentations.

MC Davis was a man of action, and his passion for the longleaf pine ecosystem created a conservation initiative that will be carried on for generations. MC Davis passed away in July 2015 but his vision, foresight, and leadership set Nokuse on a course of restoration and preservation that in just 17 years is already well on the way to being the biological warehouse he sought to build. One can only imagine how the once degraded sandhills and flatwoods of Nokuse will look 50 or 100 years from now, with lush groundcover and tall longleaf pines, and the call of a red-cockaded woodpecker, and perhaps, the red wolf. MC often said that "we can begin the restoration process and help Nature along, but Nature must do 98% of the work to heal herself." Our goal at Nokuse is to continue to do our part every day and work with Nature to carry on the legacy of MC Davis.



*88-year-old Joseph McKinney stands in his majestic forest. Photo courtesy of NRCS.*

# A Majestic Love | Becomes One Man's Mission

## Alabama Natural Resources Conservation Service

Even as a small child growing up in rural Alabama, Joseph McKinney had an affinity for trees. "I love trees, all kinds of trees. I love the forest," McKinney says as he walks under a beautiful canopy on his property in central Alabama. Even though his love doesn't discriminate against any species, he has a particular fondness for one, the longleaf pine. "When I was a child growing up, I remember a mature longleaf forest that was just majestic. I just loved it." Now, several years later, he's come back to his family's homestead and re-established the native tree on his grandparents' land in Coosa County, Alabama.

Joining forces with his local USDA-Natural Resources Conservation Service office, Coosa County Forestry Planning Committee, and Alabama Forestry Commission, Mr. McKinney has worked diligently to make his land the perfect host for the majestic pine. Through the NRCS' Environmental Quality Incentives Program (EQIP), he was able to plant 15 acres of seedlings on his land in 2005. From there, he began his duty as steward and nudged them to grow into their regal potential.

But, he says it has been a practice in patience over the last 12 years. When he first planted the small seedlings, McKinney

worried that they wouldn't make it. "I was frustrated because I couldn't see the longleaf pine for all the grass. A couple of years and a (prescribed) burn later, they started to grow and have continued to grow ever since."

Definitely a sight to see, the beautiful trees now boast an understory that is the perfect early successional habitat for wildlife such as turkey and deer. Alex Johnson, district conservationist for NRCS, said, "It has tremendous wildlife value."

Joel Glover, with the Forestry Planning Committee, has worked with Mr. McKinney from the beginning and says not only is he a great advocate for trees, he's a great ambassador in the community.

"He tells people that something's going to be growing there. Why don't you manage it and get something out of it instead of just letting it go." McKinney says he's simply making sure he can leave his land in better condition than he found it and to leave a legacy for his

children. "We didn't inherit this land. We borrowed it from our children. It's about the future and not about the past."

One tree at a time, he's doing his part to ensure that we have a future full of trees.



*Pictured left to right: District Conservationist Alex Johnson, Joseph McKinney and Joel Glover with the Coosa County Forestry Planning Committee have worked together to nurture 15 acres of longleaf pine on McKinney's land. Photo courtesy of NRCS.*

# HARDWOOD REDUCTION METHODS IN MOODY FOREST NATURAL AREA

*By Caroline Ritchey, Miami University Graduate Student/The Nature Conservancy*

The reintroduction of fire in pine forests is a slow process, and even slower when the pyrophobic properties of hardwoods reduces the overall flammability of the forest. The mitigation of hardwood midstory is not only important for the overall health of a pine forest but for the species there-in. The case in point for Moody forest is the endangered red-cockaded woodpecker: the short-term goal was to release five newly relocated birds on the preserve. However, in several areas, recurrent burns could not control persistent hardwood patches that needed to be thinned to support this rare species. Preserve Manager Chuck Martin agreed to allow research in these areas as Ritchey worked to reduce hardwoods in the midstory on one of those problem spots (a 3.5-acre area).

The study allowed for a cost-benefit analysis of two chemicals using the application method of “hack-and-squirt” performed with a hand-held-hatchet and a squirt bottle of the desired chemical. Based on the concentration and soil activity of the costlier chemical, imazapyr, it was predicted that it would be both quicker to apply and also more effective at killing hardwoods than the more common chemical, glyphosate. At the same time, it was also hypothesized that imazapyr would have a greater negative impact on the surrounding plants. Lastly it was thought that glyphosate’s labor-intensive application method would take longer to apply decreasing its cost-to-benefit ratio. After designing the experiment, Ritchey spent two weeks treating the trees and allowed a month to pass before returning to analyze the results.

## RESULTS

Glyphosate and imazapyr application data were analyzed first to determine the cost-benefit ratios both fiscally and temporally. Based on the chemical purchase receipts from The Nature Conservancy, imazapyr was valued at \$116 per gallon and glyphosate at \$13 per gallon. Imazapyr was applied at a 50% dilution, so for the sake of this study, the applied cost was \$58 per gallon. Over the five timed treatments administered, glyphosate appeared to take longer to apply, and imazapyr seemed the more expensive. On average, it cost \$.02 more per tree to treat with imazapyr. The price difference was more exaggerated when compared over the five tests versus the price per tree (See Figure 2 below). Over the course of this experiment, the average price per test for imazapyr was \$1.34 while the average for glyphosate was \$.32. This was significantly different with a p-value of 0.0427.

When analyzing the temporal data, the five tests were compared to each other using Excel statistical software. Imazapyr took a total of 3 hours, 0 minutes, 54 seconds to apply

to the whole 3.5-acre plot. Meanwhile, the glyphosate application took 4 hours, 15 minutes, 21 seconds. However, no significant difference in application time was found between the two with a p-value of 0.5152 ( $p>.05$ ).

The data was analyzed for trends in mortality percentages between tree species, size (DBH), chemical type, and chemical dose. Only two tree species showed significant differences in mortality between the chemical treatments. Both the post oak and the red oak had a higher mortality percentage when treated with glyphosate. The glyphosate treated post oak was on average

Average Calculated Cost Per Test			Average Time In Minutes Of Test		
Test #	Imazapyr	Glyphosate	Test #	Imazapyr	Glyphosate
1	\$1.13	\$0.20	1	46.583	46.783
2	\$1.99	\$0.35	2	60.233	54.600
3	\$1.63	\$0.42	3	48.167	58.017
4	\$0.59	\$0.43	4	25.917	59.983
5	-	\$0.20	5	-	35.967
<b>TOTAL</b>	<b>\$5.34</b>	<b>\$1.60</b>	<b>TOTAL</b>	<b>180.900</b>	<b>255.350</b>
				(3 hours, 0 minutes, 54 seconds)	(4 hours, 15 minutes, 21 seconds)
<b>AVG cost per test</b>	<b>\$1.34</b>	<b>\$0.32</b>	<b>AVG time per test</b>	<b>45.225</b>	<b>51.070</b>
<b>STD</b>	<b>0.60912506</b>	<b>0.11379807</b>	<b>STD</b>	<b>14.243</b>	<b>9.83170796</b>
<b>T-TEST</b>	<b>0.0426706</b>		<b>T-TEST</b>	<b>0.51514989</b>	
	<b>p&lt;.05</b>			<b>p&gt;.05</b>	

*Fiscal and Temporal Expenditures for Chemical Application.*

30.03% higher in mortality ( $p=2.784-9$ ,  $n=187$ ) than the imazapyr treated trees of the same species. Similarly, the glyphosate treated red oak was 39.62% higher in average mortality than the imazapyr treated ones ( $p=.0114$ ,  $n=23$ ).

In the individual treatment groups, glyphosate showed a higher mortality in mid-range DBH trees (1ml-4ml treatments for trees ranging from 1-8 inches DBH) meanwhile imazapyr was more scattered with the mortality in regards to the milliliters of chemical applied ( $p=2.383-8$  and  $p=.0134$ , respectively).

When comparing the two chemical treatments, the mid-range DBH trees in the glyphosate group (treatment groups of 2ml, 3ml, and 4ml) have a significantly higher percentage of mortality. This is seen with an average of 27.18% higher mortality in the 2ml glyphosate treatment group ( $p=6.72-8$ ,  $n=143$ ), 37.50% higher in the 3ml glyphosate treatment group ( $p=8.697-8$ ,  $n=81$ ), and 30.03% higher in the 4ml glyphosate treatment group ( $p=.004$ ,  $n=42$ ).

## CONCLUSION

Through this study, it was found that glyphosate may be the most effective treatment. The glyphosate treated trees cost less to kill and are more effectively killed. However, they have the potential of taking more time for chemical application over larger treatment areas. Land managers should be aware of the time it may take to treat a stand based on the tree size considering that a frill/girdle may take longer, and applicator

fatigue may cause some cuts to be ineffective in penetrating the cambium.

The details of this experiment have the potential of informing land managers about safer methods of herbicide with minimal environmental impact. The current objective for fall 2017 is to submit the research to the Journal of Forest Ecology and Management where it can be available to researchers, land managers, and policy makers. With tools such as glyphosate to reduce the hardwood midstory, the natural burning process in the southern pine forest can begin again, allowing the pine savanna to become an ideal red-cockaded woodpecker habitat once more.

*Miami University graduate student Caroline Ritchey worked as a preserve assistant in 2016-17 on Moody Forest Natural Area, a preserve jointly owned by The Nature Conservancy and DNR in southern Georgia.*

T-Test Results:	Is there a significant difference between mortality % and the milliliters used of each chemical?					
	1ml	2ml	3ml	4ml	5ml	6ml
Glyphosate						
AVG	68.57%	87.54%	77.22%	63.70%	55.65%	38.00%
STD	0.41804534	0.221354156	0.26188902	0.304956678	0.330049703	0.376828874
Imazapyr						
AVG	45.15%	60.36%	39.72%	33.67%	45.00%	80.00%
STD	0.38503941	0.347953199	0.340576076	0.29548185	0.636396103	-----
T-TEST:	0.20752646	6.7197E-08	8.69679E-07	0.003984282	0.852318442	-----
p>.05	p<.05	p<.05	p<.05	p>.05		

Average Mortality Difference in DBH prescriptions between chemicals.



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TIMBER SALES ■ APPRAISALS ■ FOREST CERTIFICATION ■ HABITAT RESTORATION ■ EXPERT MAPPING ■ FINANCIAL ANALYSIS

By James M. Guldin, US Forest Service

# MANAGING FOR RARE SPECIES: THOUGHTS FROM THE CHAIR OF THE LONGLEAF PARTNERSHIP COUNCIL

I'm the last person who should be included in an issue of the Longleaf Leader devoted to rare species of flora and fauna in longleaf pine forests, woodlands, and savannahs! My colleagues on the Longleaf Partnership Council and in the Forest Service can testify to my ineptitude with respect to the ecology and taxonomy of organisms that can't be hunted, fished for, or turned into lumber.

But thankfully, I know dozens of colleagues who are, in fact, experts—and in some cases, THE scientific experts--on the flora and fauna of southern forest landscapes, and especially of longleaf pine-dominated forest ecosystems. Those colleagues will tell you that longleaf pine ecosystems are among the most diverse forests outside of the tropics, that hundreds of species of plants and animals can be found in mature longleaf forests and woodlands, and that dozens of species absolutely require longleaf pine ecosystems to survive. So, it shouldn't come as a surprise that the loss of more than 95 percent of the area of longleaf pine forests over the past three centuries has resulted in dramatic reductions in the host of flora and fauna that depend upon longleaf pine for their survival.

I am, however, something of an expert in the dark arts of silviculture, especially related to the active management of southern forest ecosystems. I'm firmly convinced that under the America's Longleaf Restoration Initiative, those of us who love longleaf pine ecosystems can restore the kind of habitat that will be useful for the flora and fauna that make those ecosystems their home. And I believe equally firmly that active management is better than any alternative to establish that habitat.

Silvicultural prescriptions are pathways that carry a stand from an existing condition to a desired future condition. In the last half of the 20th century, that 'desired future condition' often had to do with timber production. But defining a desired future condition in the context of habitat requirements for a given species is an equally important goal for silviculturists, especially in the 21st century. If that is the goal, active silvicultural tactics such as thinning, planting (not only trees but also understory vegetation), use of herbicides to control unwanted vegetation (including invasive exotics), and prescribed burning are

important tools in the toolbox of the silviculturist, and for the forest landowner who is interested in the restoration and management of longleaf pine and the habitat values that longleaf pine ecosystems provide for species of conservation concern.

A classic example of active management for rare species is the ongoing and increasingly successful work in recovery of the endangered red-cockaded woodpecker (RCW). The South has millions of acres where current stand conditions support fully-stocked pine-dominated stands at greater than 100 square feet of basal area, a dense hardwood midstory that grew in from decades of fire exclusion, and virtually no understory. This is an inhospitable environment for the endangered RCW. The desired future condition that would support the RCW (and my personal friend, the northern bobwhite) consists of open pine forest or woodland, the absence of that encroaching hardwood midstory, and development of an understory dominated by grasses and forbs. A silvicultural prescription that thins the overstory, uses timber sale receipts from that thinning to remove the encroaching midstory by mechanical felling and possibly herbicide also, and restores cyclic prescribed fire, has been a demonstrated success in creating RCW nesting and foraging habitat on hundreds of thousands of acres of southern pine-dominated stands, including but not limited to longleaf pine stands, across the South. And one final hidden secret has been key to the RCW recovery—the use of artificial nest boxes in medium-sized pines that are not yet mature enough to be infected by the red-heart fungus. Nest boxes will help carry the bird through for the next several decades until our pine-dominated stands mature to the point where red-heart-infested trees will be sufficiently numerous for the RCW to make enough of their own natural cavities to support active clusters.

I'm optimistic about our ability to develop active silvicultural prescriptions that create habitat conditions within which the flora and fauna of longleaf pine ecosystems can thrive—provided that we can continue to expand the use of prescribed fire! That's a story for another day.



By Ryan Bollinger, The Longleaf Alliance

## LOCAL IMPLEMENTATION TEAM SUMMIT AT BERRY COLLEGE

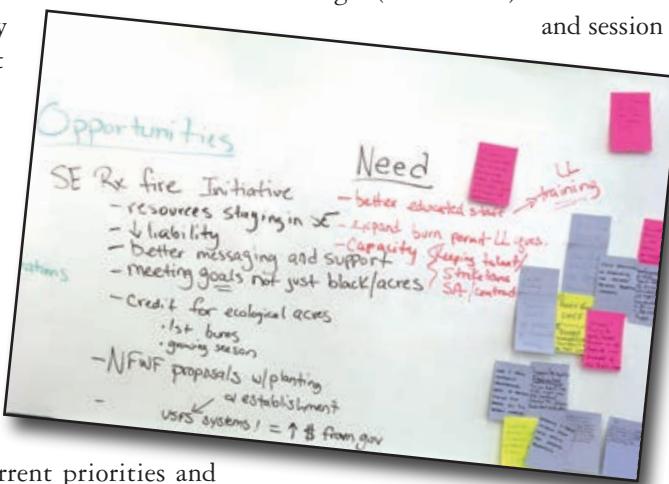
Above: Field trip participants enjoying bike. Photo by Robert B. Clontz (The Nature Conservancy.) Below: Results of a Public Lands Breakout Session. Photo by Ryan Bollinger.

In the heat of the summer when many of us prefer AC to working in the woods, coordinators and representatives from all 17 Local Implementation Teams (LITs), Longleaf Partnership Council (LPC) leadership team members, and partners in longleaf gathered in an ideal spot to beat the August heat for a LIT Summit at Berry College. In the mountains of Northwest Georgia, Berry's campus is located in Rome, and is part of the Talladega Mountain Longleaf Pine Conservation Partnership's (TMLPCP) landscape. Dr. Martin Cipollini, who has been conducting research and restoration of mountain longleaf at Berry for many years, graciously hosted the roughly 50 participants of the Summit.

The meeting objectives were to discuss the America's Longleaf Restoration Initiative (ALRI) mission, current priorities and opportunities in longleaf pine restoration, discuss the role of LITs in priority area mapping and goal setting toward the ALRI goal of reaching 8 million acres of longleaf by 2025, and building relationships between LIT Coordinators and the LPC leadership

team. To get the most of the 2-day agenda packed with presentations, open forum discussions, and breakout sessions, Rob Sutter (Enduring Conservation Outcomes) and Colette DeGarady facilitated the meeting in collaboration with Ryan Bollinger (LIT Consul). Over the course of two days, presenters and session facilitators covered a range

of topics from the LPC's newly formed Public Lands Task Force, upcoming US Forest Service Leadership Summit in September, progress on the Longleaf Range-wide Road Map, improving collaboration with the Natural Resources Conservation Service and private landowners,



opportunities and strategies for accelerating restoration on public and private lands, building capacity for prescribed fire, and the future of LITs. To cap off the



*Left: Ford Dining Hall on Berry College Campus. Photo by Ryan Bollinger.*

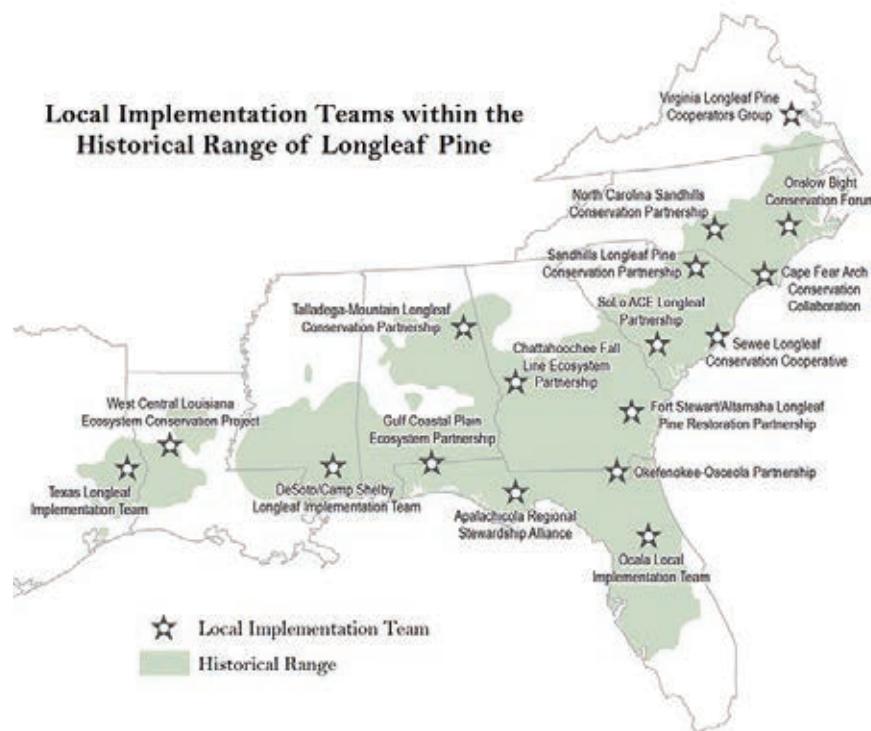
*Right: Vista overlooking longleaf restoration site. Photo by Robert B. Clontz (The Nature Conservancy.)*

successful gathering, a mountain longleaf walking tour was organized by Dr. Cipollini the afternoon of the Summit's second day. Dr. Cipollini and Katie Owens from The Nature Conservancy shared the history of mountain longleaf in the region and current restoration efforts on Berry's campus and the TMLPCP landscape. Participants were led on a rugged hike through the mountainous terrain of an old growth longleaf stand. Along the way, hikers were treated to gorgeous vistas, learned about the unique characteristics of mountain longleaf, gained a

deeper understanding of the challenges of burning in the mountains, shared lessons learned on returning fire to long unburned stands, and explored montane longleaf restoration sites.

By all accounts, the LIT Summit was a huge success. Thank you to all participants and contributors to the gathering. The Summit brought the LIT Coordinators and ALRI partners closer together on a personal level and gave us each a deeper understanding of how we contribute to America's Longleaf Restoration Initiative. From the Summit, the shared lessons learned, exchange of great ideas, and action items identified will weave their way through the LITs at the local level and into the Longleaf Partnership Council's priorities.

#### Local Implementation Teams within the Historical Range of Longleaf Pine



## Eastern Indigo Snake Reintroduction Marks a Stewardship Milestone

By Brian Pelc, Restoration Project Manager, The Nature Conservancy



*Eastern indigo snake in a gopher tortoise burrow immediately after release, July 17th 2017. Photo by Tim Donovan.*

The federally threatened eastern indigo snake, an icon of the southern longleaf pine forest, has now been reintroduced to northern Florida at The Nature Conservancy's Apalachicola Bluffs and Ravines Preserve (ABRP). The release of indigo snakes to the restored habitat marks a milestone in successful landscape restoration and ecosystem management and is a key step towards species recovery in the region. Partnership among NGO, state and federal organizations continues to be a hallmark in this region.

The Nature Conservancy, Central Florida Zoo's Orianne Center for Indigo Conservation (OCIC), Auburn University, the Florida Fish and Wildlife Conservation Commission (FWC), US Fish and Wildlife Service (USFWS), The Orianne Society, Joseph W. Jones Ecological Research Center, Gulf Power, Southern Company through the National Fish and Wildlife Foundation (NFWF), and the Fish & Wildlife Foundation of Florida have partnered to reintroduce this non-venomous apex predator, an essential component of

the longleaf ecosystem, and have worked together for many years to make this release possible.

The indigo, which often seeks shelter in gopher tortoise burrows, can grow to be between 8 and 9 feet long, and is the longest native snake in the U.S. The indigo's historic range included the southernmost tip of South Carolina west through southern Georgia, Alabama, into eastern Mississippi, and throughout Florida, though it is now far more restricted. Largely eliminated from northern Florida due to habitat loss and fragmentation, the indigo was last observed at ABRP in 1982. The indigo forages on a variety of small animals including both venomous and non-venomous snakes. It serves a critical function as an apex predator that is important for a healthy and balanced longleaf pine community.

## Cape Fear Arch and Onslow Bight LIT Updates

By Hervey McIver, NC Longleaf Protection Director and Onslow Bight LIT Coordinator, The Nature Conservancy



*The Black River in the North Carolina coastal plain. Photo by Fred Annand.*

The longleaf pine forests which covered most of the southeast before saws and plows whittled it down to a small remnant of its former grandeur rightly deserves the serious conservation attention it is now receiving. This ecosystem is one of the world's most biodiverse with many plant and animal species making it their home, especially as part of the rich, fire-dependent forest floor. In the North Carolina Coastal Plain, the LIT partners continue to protect new, outstanding habitat, expand fire across the landscape, and plant longleaf and groundcover seedlings.

Much of the biological diversity over our coastal plain is accounted for by the interplay between the longleaf forests and the myriad wetland and aquatic natural communities embedded within it. These isolated wetlands, serpentine

rivers, and broad floodplain forests serve as critical habitat to many of the animals which move about the landscape. To conserve them is to further our vision of preserving a fully functioning longleaf ecosystem.

One river system in North Carolina is receiving particular attention at the moment. The Black River gathers form in Sampson County before flowing southeast into the Cape Fear River a little above Wilmington. The oldest known trees in eastern North America are bald cypress in its river swamps, the oldest dating to 364 AD but likely with older ones to be discovered according to Dr. David Stahle, Director of the University of Arkansas Tree-Ring Laboratory who first cored them in the mid-1980s. Upstream from these cypress swamps are extensive bottomland hardwood forests, considered the best on a blackwater river in the state.

Since 1980 conservation partners have protected over 16,700 acres along the river and its tributaries, including 2,260 in the last year by The Nature Conservancy. Work is underway to establish a new state park on the Black River with some of these acres. This park will raise public awareness of this beautiful resource and the longleaf pine forests through which it flows.

## Mapping Longleaf Priority Areas Along the Chattahoochee Fall Line

By LuAnn Craighton, The Nature Conservancy and Lucas Furman, The Longleaf Alliance



*Partners reviewed spatial data and draft priority maps in order to define high priority longleaf restoration opportunities along the Fall Line. Photo by LuAnn Craighton.*

Recently, the Chattahoochee Fall Line Conservation Partnership (CFLCP) and The Longleaf Alliance collaborated on a 90-day mapping project designed to help identify potential restoration areas for longleaf pine along the Fall Line. The goal of the project was to spatially identify strategic restoration targets in order to maximize conservation outcomes and support range-wide conservation planning efforts for longleaf.

The project launched with an extensive data discovery and collection phase. The Core Project Team and CFLCP Steering Committee worked together compiling data from both existing and new partners to inform the assessment process. The data was intensively reviewed for accessibility, alignment with existing knowledge of the landscape, and range-wide compatibility.

Based upon well-vetted data, a draft map was produced highlighting potential longleaf priorities within the CFLCP. Next, over 20 Partners, representing diverse organizations and interests, spent a full day together in a charrette reviewing the draft map. Participants engaged in robust discussion, provided in-depth feedback based on local knowledge, and collectively identified “next steps” for improved assessment

outcomes. Incorporating partner feedback from the charrette, a final draft map was produced.

This priority mapping process, designed around holistic partner engagement, provided a substantially improved baseline map of potential longleaf restoration areas along the Chattahoochee Fall Line. Further refinement of the map will continue as additional partner reviews and new local data is incorporated into the assessment process.

## Ft. Stewart/Altamaha Longleaf Partnership Hosts 78th Longleaf Academy

By Randy Tate, The Longleaf Alliance



*LLA staff member Karen Brown leading seedling activity during Ft. Stewart field trip. Photo by Randy Tate.*

The Longleaf Alliance and partners held the 78th Longleaf Academy at the Mary Kahrs Warnell Forest Education Center in Guyton, Georgia in July 2017. This Longleaf 101 Academy includes everything about longleaf pine that can be taught in three days! This course was partially funded by the Fort Stewart/Altamaha Longleaf Partnership through a Longleaf Stewardship Fund grant provided by the National Fish & Wildlife Foundation (NFWF).

It was another sell-out, with thirty- two folks attending the Academy. Attendees included a mixture of private landowners, non-profit conservation staff, and agency personnel. One attendee came all the way from Virginia where he manages one of the northernmost stands of longleaf pine.

As is often the case, the field trip portion was a favorite. Staff from the Fish and Wildlife Branch and the Forestry Branch of Fort Stewart helped plan the field trip exercises on post at Fort Stewart. Tony Rubine, the Fire Management Supervisor, hosted the trip providing good insight to the well-managed longleaf forests on Fort Stewart.

According to one participant, “All of the lectures greatly increased my understanding of longleaf pine habitat. Not only has the course increased my interest and awe of dynamic ecosystem, but I will be able to share some of this information with landowners and those interested in purchasing conservation easements.”

## Bringing Back the Eastern Indigo Snake in Alabama

By David Steen, Auburn University Museum of Natural History and Alabama Natural Heritage Program



*Michelle Hoffman, Curator at the Orianne Center for Indigo Conservation at the Central Florida Zoo and her daughter, Mary Alice Birchfield, age 5. Photo by Candis Birchfield, Auburn University.*

breeding in the wild. Our monitoring efforts, as well as occasional reports from the general public, have revealed that there are at least a few large indigo snakes crawling around the forest.

Along with our reintroduction efforts, we are monitoring populations of other animals in Conecuh National Forest so we can experimentally determine how the return of a large predator like the indigo snake affects them. Because indigo snakes like to eat copperheads, one prediction is that we will observe a decline in the numbers of this venomous snake.

In July of 2017, we released 25 additional animals into Conecuh National Forest, and we plan to release comparable numbers over the next few years. It is our hope that these efforts eventually result in a self-sustaining population of indigo snakes in Alabama as this will contribute to the overall recovery of the species while restoring an important part of our cultural and natural heritage to the state. Our reintroduction efforts in Alabama are largely funded by the Alabama Department of Conservation and Natural Resources, with additional assistance provided by the National Fish and Wildlife Foundation Longleaf Stewardship Fund, and resulted from collaborations between multiple state and federal agencies as well as non-governmental conservation organizations like the Orianne Center for Indigo Conservation.

## The Nature Conservancy Awarded Grant to Restore Longleaf Pine in West Central Louisiana

By Dan Weber, Coordinator, West-Central Louisiana Ecosystem Partnership, The Nature Conservancy



*Kisatchie National Forest pitcher plant bog. Photo by The Nature Conservancy.*

The Louisiana Chapter of The Nature Conservancy (TNC) was awarded a \$226,117 grant from the National Fish and Wildlife Foundation Longleaf Stewardship Fund to advance longleaf restoration in the Fort Polk/Kisatchie National Forest Significant Geographic Area (SGA). The project, known as the Pineywoods Longleaf Restoration Project (LA) Phase III, will benefit critical species in central Louisiana including the red-cockaded woodpecker and the Louisiana pine snake and will be matched by partners for an additional \$226,117 of non-federal funds. The effort is a part of International Paper's Forestland Stewards Initiative created to identify, restore and protect landscapes in three priority regions in the southern United States, one of which is The Piney Woods of Texas and Louisiana.

Funding will be used to strengthen the capacity of the local longleaf implementation team, the West Central Louisiana Ecosystem Partnership (WLEP), by supporting a WLEP

Coordinator and a Program Delivery Specialist to work with NRCS staff to improve delivery of Farm Bill cost-share programs. The Coordinator will oversee the efforts of the implementation team to increase private landowner participation in restoration programs. Additional activities include longleaf pine management field days for private landowners and technical longleaf restoration workshops for agency resource management staff and consultants. Combined efforts of the Delivery Specialist, Coordinator and partners are expected to result in the protection and restoration of 1,500 acres of longleaf pine.

## North Carolina Sandhills Conservation Partnership Update

By Stephanie Wagner, Sandhills Area Land Trust



*Growing Season Burn & Learn participants conduct a test fire. Photo by Sandhills Area Land Trust.*

On June 15th, 2017, over 40 landowners, community supporters (including several fire departments) and agencies (including North Carolina Department of Environmental Quality and North Carolina State Parks) came together for a Growing Season Burn & Learn workshop in Moore County. Terry Sharpe, a retired wildlife biologist, forester, PBA program mentor, and burn boss, discussed why landowners are being encouraged to move toward growing season burns. Attendees had the opportunity to burn a tract of longleaf that had not been burned for four years.

This event was part education and part celebration of the NC Sandhills Prescribed Burn Association (PBA) initiative. The PBA connects landowners with the peer support, training, and tools needed to accomplish their longleaf restoration goals, including prescribed burning.

This summer wrapped up Phase I of the NC Sandhills Longleaf Private Lands Project, which was generously funded through the National Fish and Wildlife Foundation. This project, including the PBA initiative, has resulted in a substantial increase in private landowners enrolled in longleaf cost share contracts. Thanks to the support of the NC Forest Service setting up additional training classes, 10 landowners have become NC Certified Burners. We look forward to the second phase of this project and the continued collaboration of so many partners working to enable private landowners to become stronger and more self-sufficient stewards of their longleaf woodlands.

## Okefenokee Swamp Fire Put Out by Rain

By Hunter Bowman, The Nature Conservancy

This spring and into the summer, members of the Okefenokee/Osceola Longleaf Implementation Team (O2LIT) battled the West Mims wildfire in the Okefenokee Swamp. At the fire's conclusion in June, it had burned over 150,000 acres including 40,000 acres of private timberland. Although swamp fires are a periodic occurrence in the region (usually once every seven years), this year conditions were particularly dry prior to the fire-ending-rain. The O2LIT expects this trend to continue in the future.

Moving forward, the Georgia Forestry Commission and Farm Service Agency are working with victims of the fire to replant their property with dollars from the Emergency Forest Restoration Program. The O2LIT will be assisting landowners financially to replant in longleaf pine. Longleaf is the most fire resistant of all the Southern yellow pines, and the goal is to create a fire resilient buffer on the burned area immediately adjacent to the swamp.

## Planning for the Future in the Midst of a Dry Spell: Ocala Longleaf Pine Local Implementation Team (OLIT) *By Cheryl Millett, The Nature Conservancy*



*Ivor Kincaid at the LIT Coordinator Summit in Rome, GA. Photo by Cheryl Millett.*

We've got great news! The OLIT is delighted that the National Fish and Wildlife Longleaf Stewardship Fund awarded \$250,000 to Alachua Conservation Trust (ACT) to extend our longleaf restoration and maintenance work into 2019! This will allow time to bridge leadership from The Nature Conservancy (with commitments through December 2018) to ACT. This new work will continue prescribed burning by the Northeast Ecosystem Restoration Team, restore endangered red-cockaded woodpecker habitat and support longleaf planting on public lands, restore and maintain longleaf on private lands, initiate a Private Landowner Prescribed Fire Trainer position, and support training workshops and field trips. ACT has been a key partner in the Ocala LIT, including participating in the recent LIT Coordinators Summit in Rome, Georgia to learn more about other regions' approaches and strategies, and we are happy to have their leadership into the future.

In the meantime, the National Forest Foundation completed 245 acres of red-cockaded woodpecker habitat restoration in longleaf sandhill at Ocala National Forest. Partners eked out other work during the transition from drought to frequent rain. The Northeast Ecosystem Restoration Team run by Wildland Restoration International conducted 6.25 total acres of longleaf management, including 2 acres of hardwood thinning, and 4.25 acres of planting longleaf while waiting for weather conditions to favor the continuation of controlled burning.

The Florida Forest Service announced the next private landowner incentive program for longleaf restoration and management, so we look forward to sharing results in the future.

## The Sandhills Longleaf Pine Conservation Partnership Begins Comprehensive Mapping Project. *By Charles Babb, SLPCP Coordinator.*



*HGTC forestry student intern Delta McDaniel. Photo by Susan Griggs, NRCS Conservation Technician.*

This summer, the SLPCP partnered with South Carolina's Horry-Georgetown Technical College (HGTC) and hired a forestry major intern to digitize the privately owned forests within the LIT's 465,000 acre focal area. Delta McDaniel, a senior forestry student at HGTC spends her days on the road, mapping areas prioritized by Bret Beasley, USFWS biologist who is the technical lead on the project. Beasley prioritized the areas that McDaniel is now mapping, removing publicly managed longleaf acres and unsuitable soils from collection. "By reducing the acres which Delta had to put eyes on, we were able to reduce our 468,000 acre focus area roughly by half," said Beasley. On each tract, McDaniel identifies characteristics such as forest type, age-class, and evidence of current management. At the time of this article, she had data on over 160,000 acres.

Charles Babb, LIT Coordinator, expects this data to be useful in a wide array of outreach efforts when combined with landowner information from the tax assessor's office. "Using this data, we will be able to focus our outreach efforts on landowners who offer the best opportunities to create larger, contiguous longleaf areas, as well as identifying stands that would benefit from specific management to improve wildlife habitat." Babb also intends to use the information to tailor outreach efforts to landowners who have opportunities to convert unproductive forests to longleaf stands, and may not be aware of the assistance available from the Partnership.

## SoLoACE Longleaf Partnership Update

By Bobby Franklin, The Longleaf Alliance



*KapStone forester Scott Pellum discussing salvage logging after Hurricane Matthew. Photo by Bobby Franklin.*

will be available to interested and qualified landowners within the gopher tortoise range in the SoLoACE region and adjacent areas in Georgia with suitable habitat. The Georgia Department of Natural Resources and the South Carolina Department of Natural Resources are partnering with us in this effort.

We are also excited to announce the award of another National Fish and Wildlife Foundation Grant that will continue the work on the ground to plant and manage longleaf pine ecosystems in the ten county SoLoACE Region! In addition, this grant supports the gopher tortoise project at the SREL, continues red-cockaded woodpecker restoration efforts, and provides working land protection efforts in cooperation with our land trust partners. We are grateful for the continued faith and support of our efforts.

## Texas Longleaf Implementation Team (TLIT) Update

By Kent Evans, TLIT Coordinator and Wendy Ledbetter, The Nature Conservancy



*Burn Crew L to R Elizabeth James, Jerald Landowner Amanda Haralson is guided White, Alona Snow, Jerry Martinez. Photo in the use of drip torch by Toni Aguilera, Texas Parks and Wildlife Department. Photo by Kent Evans.*

Two of The Nature Conservancy Forest Program staff in Texas, Shawn Benedict and Zach Breitenstein, recently completed a field season with the Gulf Coast Fire Mentoring Program. This program was funded for several southern states with a National Fish & Wildlife Foundation award. This award focused on working with disadvantaged youth, providing career experience and opportunities and advancing burning for longleaf forest systems. It also allowed the crew additional exposure to different agencies and allowed burning to be completed with many of our key partners.

In partnership with the Student Conservation Association, four young women and men were assigned to the Texas Forest Program to assist with fire operations and stewardship for 20 weeks. The crew had assignments burning longleaf in east Texas, but also west Texas, the Hill Country, and the coast. The TNC Texas fire team assisted by providing guidance and mentoring for a safe and rewarding experience. Shawn Benedict supervised the crew as they participated in over 15,000 acres of controlled burning.

The TLIT hosted the Texas Department of Agriculture Certified Prescribed Burn Manager course in June. The training provided the academic requirement for certification. Using fire in east Texas to manage piney woods vegetation was the emphasis. Most of the 23 participants had prior burning experience as staff with burn vendors and agencies but included five landowners that wanted to develop their own expertise. Training was assisted by the Texas Parks and Wildlife Department, The Texas Forest Service, The Nature Conservancy, and Winston Ranches. Training leaders were Ray Hinnant and Kent Evans.



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# While you're in the grass stage...

"Grass Stage" is a section just for kids and/or kids-at-heart. Longleaf forest management is a long-term endeavor, and in order to keep the longleaf pine ecosystem in longleaf, the next generation must get engaged or else all of the hard work, restoration, and protection currently going on will be for naught. We hope you share "Grass Stage" with your "next generation" longleaf enthusiast.

Lesson 25: Fire is to the longleaf pine forest like rain is to rainforest or tides are to salt marshes. Similar to how your doctor writes you a prescription to take care of a cold, land managers write a prescription to help heal the land. For the longleaf pine forest, fire is the common cure for illness. Use Lesson 25 found on our website (<http://www.longleafalliance.org/what-we-do/education/next-generation>) to help unscramble the words, then use the circled letters to form the mystery word below. Answers can be found below the picture.

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Answers: smokebear, arsonist, wildfire, climax, burning

## LONGLEAF LITERATURE

*Wiregrass, Bluestem, Indian Grass, Palmetto, Ferns, Wildflowers, Blackberry, Gallberry, Longleaf Pine, the Sweep of Fire*

By Daniel Corrie

i.

Awhile, I stood beside some land I burned  
and heard fire's sound.  
Beneath the pines, gallberry crackled black  
where fire gleamed.  
I closed my eyes and recognized the sound  
seemed heavy rain.  
By the firebreak, my eyes closed as  
pines dreamed me there.

ii.

Dark's depths of fireflies and stars will blink,  
sparking through sleep.  
In night's deep trance, Shiva will shiver bright  
as shimmer's dance.

Dark sees his shape twist, ripple, pour, veer, glare,  
flare, rear, devour.

Stars follow stars into the starless night,  
in dreamlessness.

iii.

Through fleeting quests and meaninglessness,  
days blaze a line.  
Beneath the pines, I bore the driptorch down  
the scar of earth.  
I walked the firebreak and heard flames call  
as rain's loud fall.  
When grasses sprouted back from blackened earth,  
pines dreamed my path.

Daniel Corrie's books of ecopoetry are *Words, World* (Blue Horse Press) and *For the Future* (Iris Press). His poems have appeared in *The Birmingham Poetry Review*, *Denver Quarterly*, *Greensboro Review*, *Hudson Review*, *Image*, *Kenyon Review*, *Measure*, *Missouri Review*, *New Criterion*, *Shenandoah*, *Southern Review*, *Southwest Review*, *Terrain.org*, and *Virginia Quarterly Review*, with poems selected for four anthologies and *Verse Daily*. One of his poems was selected by *Terrain.org* as their featured poem for this year's Earth Day. Another one received the first-place 2011 Morton Marr Poetry Prize from the *Southwest Review*.

This poem originally appeared in Volume IV, Issue III of *About Place Journal*, a literary journal published by the Black Earth Institute dedicated to re-forging the links between art and spirit, earth and society.

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# LONGLEAF ART SPOTLIGHT



In March 2017, a Facebook group of 13 pine needle artisans joined together to become *Create To Donate*, whose collaborative mission is to create works of art for donation to chosen charities. Their group of six voted to create a basket for The Longleaf Alliance. In honor of their craft, in October 2018 this basket will be included in the silent auction during the 12th Biennial Longleaf Conference in Alexandria, Louisiana.

## About the Artists and Their Contributions to the Basket

**Debra Keazer**, Wichita, Kansas – Moss Agate cabochon center, Peyote stitched and bead embroidered, 5 rows Ti stitch and wrapped with gray waxed thread and Florida longleaf pine needles.

**Gladys Schreiner**, Vancouver, Washington/Kingsland, Georgia – 5 rows of basic stitching and coil wrap using Georgia longleaf pine needles and waxed variegated thread.

**Rena Harris**, Bend, Oregon – 4 rows glycerin Georgia longleaf needles, natural color waxed thread using Ti stitch.

**Leslie Lannefeld Moore Lewis**, Cushing, Oklahoma – 7 rows blue dyed longleaf pine needles Fern stitched with waxed linen thread.

**Lisa Jordan**, Aiken, South Carolina – 6 rows of dark brown needles stitched and wrapped incorporating glass beads.

**Judy Burkett**, Flintville, Tennessee – Finished last 3 wrapped rows with gray and blue waxed thread and ornate handles made from coiling and faggot stitching.

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# Longleaf Destinations

By Wade Harrison, The Nature Conservancy

## COLUMBUS, GEORGIA AND THE CHATTAHOOCHEE FALL LINE

*Fort Benning, just outside Columbus, is a stronghold for the endangered red-cockaded woodpecker, surviving here due to recurring fire in pine woodlands, like this well-marked nesting site in longleaf pine. Photo by Wade Harrison, TNC.*

In July 1775, William Bartram accompanied an unruly party of Indian traders on a westward journey to the “Creek Country” of west Georgia and south Alabama. As they approached the great river *Chata Uche*, Bartram wrote of biting flies, oppressive heat, severe thunderstorms, and even the cruel punishments inflicted by the traders on their packhorses. Still, his lyrical prose is sweetened by phrases like *high swelling ridges, glittering brooks, expansive green savannas, Cane meadows with lawns between, chains of low hills supporting high forests, and open airy groves of the superb terebenthine Pines*. Pausing near the banks of what soon became known as Pine Knot Creek, his party collected *a great quantity of wood and Pine knots to feed our fires and keep up a light in our camp*. Bartram, the traders, and the horses spent about a week among the Creek and Yuchi peoples that lived along what we know today as the Chattahoochee River and the Chattahoochee Fall Line, before continuing west and south to Mobile.

Today we can ponder Bartram’s recollection of his travels, his descriptions of the native people, their culture and

architecture, and the all-but-lost wonders of the natural world that sustained them. Modern-day explorers following in his footsteps will find their own adventures near and along his path—in Columbus, Georgia and Phenix City, Alabama, at the Army’s Fort Benning, and in the parklands of Callaway

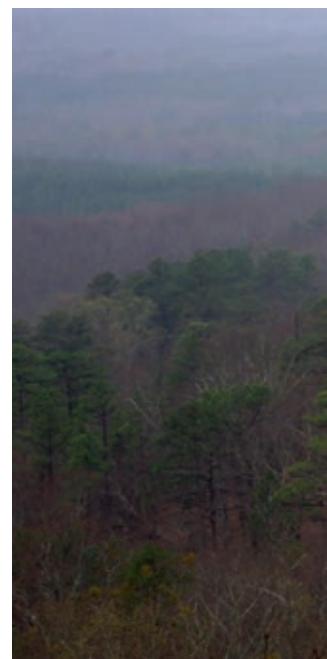
Gardens and FDR State Park on Pine Mountain. They will also find that transportation and lodging is easier than it was in Bartram’s time, but the natural world he so eloquently described is harder to find. Fortunately, remnants have been saved and are being restored, and they are all the more precious for their rarity.

Bartram’s name for the pine trees in airy groves, “terebenthine,” literally

means “essence of turpentine” and of course refers to the longleaf pine, which once dominated the Fall Line Sandhills geography of western Georgia. The advent of sawmills, the turpentine industry, and eventually the push to convert sandy, cutover, burned-over hills to agriculture and industrial plantation forest, has degraded and diminished much of the native longleaf forest and grassland. But some of the best

*Research and monitoring of Fort Benning’s longleaf pine woodlands benefits military training, land conservation, and recovery of endangered species.*  
Photo by Erika Nortemann, TNC.





examples of the *longleaf pine – little bluestem woodland* plant community have persisted and expanded on Fort Benning, a 182,000-acre Army post just south of Columbus, which manages not only infantry and armor training for the entire U.S. Army, but also one of thirteen recovery populations for the red-cockaded woodpecker, an endangered species that depends on healthy fire-managed pine woodlands. As a result, Fort Benning is not only “Home of the Infantry” but also home to a tremendous amount of ecological land management research and practice. That work includes an effort to better manage and restore the longleaf pine woodlands, and the fire-adapted flora and fauna associated with them, not only on Army lands but on conservation lands and working forests near Fort Benning. The sand-hill “pine barrens” and sandstone outcrops, together with the bogs, seeps, beaver ponds, and wetlands of this remote country, are rich with ecological treasures to be appreciated by the practiced eye, from rare orchids and carnivorous plants, to fox squirrels and gopher tortoises. The Chattahoochee Fall Line Wildlife Management Area, co-owned and co-managed by the State of Georgia and The Nature Conservancy, is a good public entry point to exploring the biodiversity of the area.

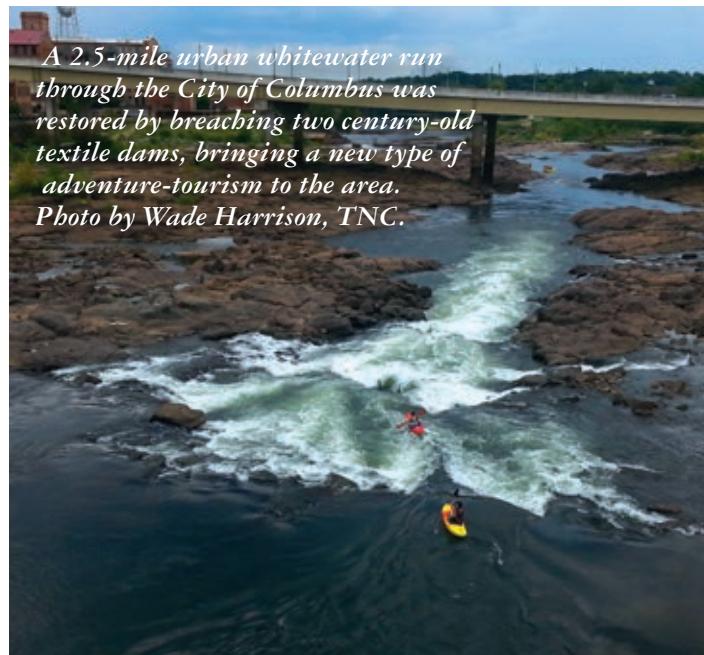
The Fall Line, a dividing line between the rocks and clays of the piedmont, and the sands and sediments of the coastal plain, is often considered the borderland of longleaf pine country, but not so here on the Fall Line of the Chattahoochee. Just 30 miles north of Columbus, well beyond the first river shoals and the sandhills, a startling piece of ancient geology rises above the piedmont, forested mostly in chestnut oak and other hardwoods but oddly named *Pine Mountain*. Observant hikers exploring the magnificent 40-mile Pine Mountain Trail System through Franklin D. Roosevelt State Park will discover evidence of its piney legacy here and there, in the form of scattered old-growth

longleaf pine trees, with their younger progeny often still lingering in the encroaching hardwood shade. Here too, a significant amount of ecological management inquiry is being invested, not only on how to conserve this unusual longleaf pine resource, with sister sites that extend well into the northern highlands of Georgia and Alabama, but also on how extensive the longleaf once was and could be again, and how to manage the needs and expectations of recreational visitors who know and love the shady montane hardwood forests as they are, many hours from the higher elevations of the Appalachian Mountains. Just across the ridge, one can visit the iconic Callaway Gardens, a regional attraction and horticultural masterpiece of floral beauty among old-field loblolly pines, where Cason and Virginia Callaway restored and stabilized eroded farmland, explored creative agricultural strategies, and eventually created a garden designed to connect people and nature, to benefit both. The Callaway legacy also includes conservation easements, protecting about six miles of the Pine Mountain Ridge from development, adjacent to the ten miles of ridgeline in the State Park.

In between the forested paths of Pine Mountain and the resurgent ecology of the Fall Line lies the city of Columbus, third largest city in Georgia, and a place well-connected to its history, from Indians to industrialists, and still making and restoring those connections. In the same way that the country around Columbus turned its back on its original longleaf pine forest, and almost forgot it existed, so had the city of Columbus turned its back on the Chattahoochee River that birthed it. The river was *power* to operate mills, and a *highway* to reach the Gulf, but as those uses waned in importance it became little more than a boundary and a barrier. But over the last two decades, the city has come back around to embracing its river. Columbus Waterworks undertook a massive utility project to



*Longleaf pine on the south slopes of the Pine Mountain ridge, FDR State Park.*  
Photo by Wade Harrison, TNC.



improve sewage treatment and water quality, developing in the process a 15-mile linear park, the Chattahoochee Riverwalk, now a tremendous community asset for cyclists, runners, and walkers, both residents and tourists. The water utility also collaborated with the city and Columbus State University to develop an environmental learning center, Oxbow Meadows, adjacent to the Riverwalk and the river's floodplain. And most recently and dramatically, the City of Columbus, the W.C. Bradley Company, and other partners and supporters teamed

up to breach two historic textile dams that had impounded the Fall Line shoals of the Chattahoochee River through downtown Columbus for over a hundred years. That project created a 2.5-mile urban recreational whitewater course, a boon for tourism and economic development, a visual and recreational treat for both residents and visitors, and a model for restoring some of the habitat connectivity that fish and other aquatic wildlife depend on from free-flowing rivers.

While looking for LONGLEAF, here are some specific destinations for channeling the broader natural and cultural heritage of Columbus, Georgia and the Chattahoochee Fall Line...

- The Chattahoochee Fall Line WMA includes two tracts in Marion and Talbot Counties, about five miles east of Fort Benning, and is open for hunting, hiking, and camping (<http://georgiawildlife.com/chattahoochee-fall-line-wma>). Also, the Chattahoochee Fall Line Conservation Partnership is a collaboration of public and private partners working to restore longleaf pine throughout the region, and offers occasional opportunities to see and experience additional longleaf pine sites via educational workshops and tours (<http://www.cflcp.org>).
- For a cultural experience on the same Fall Line landscape, head south from the WMA toward Buena Vista, Georgia, and look for Pasaquan, an amazing farmstead turned folk art installation created by the late local artist/visionary Eddie Martin, recently restored, named to the National Register of Historic Places, and managed by Columbus State (<https://pasaquan.columbusstate.edu>).

- For adventuring on the Chattahoochee River, check out Whitewater Express for rafting and kayaking [www.whitewaterexpress.com/chattahoochee](http://www.whitewaterexpress.com/chattahoochee); they also offer zip-lining across the river. Or if you'd prefer just to watch, look for the pedestrian bridge across the river at the end of 14th Street in Columbus, and/or head south along the Chattahoochee Riverwalk to Waveshaper Island and Woodruff Park.

- Near the south terminus of the Chattahoochee Riverwalk, check out not only the Oxbow Meadows Environmental Learning Center (<https://oxbow.columbusstate.edu>), but also Fort Benning's National Infantry Museum and Soldier Center, a world-class museum and education center depicting the important military history of U.S. Army Infantry soldiers (<http://nationalinfantrymuseum.org>). Ask about other great local museums, including Historic Westville, set to open in Columbus in 2018, with living history experiences depicting Native Americans, frontier settlers, and agrarian communities of the eighteenth and nineteenth centuries (<https://www.westville.org>). The National Civil War Naval Museum (<http://portcolumbus.org>) and the Columbus Museum (<http://www.columbusmuseum.com>) are also worth a visit.

continued

- In the Pine Mountain area north of Columbus, FDR State Park (<http://gastateparks.org/fdroosevelt>) and Callaway Gardens (<http://www.callawaygardens.com>) are popular destinations. The Pine Mountain Trail Association is an excellent resource for hiking and camping opportunities. (<http://www.pinemountaintrail.org/trail-descriptions.html>)
- If you are a cyclist, the Columbus area is an excellent destination for you and your bike, and also affords opportunities to see longleaf pine landscapes while riding. Check in with a local bike shop and ask about rides on Fort Benning. Sunshine Road on Fort Benning includes some beautiful longleaf pine and red-cockaded woodpecker habitat you can safely observe from the road. The Chattahoochee Riverwalk, the Dragonfly Connector, and the Fall Line Trace, represent connected bicycle routes around Columbus (and connecting Columbus and Fort Benning) and include both rural and urban forests, some longleaf pine plantings, and historic markers worth reading and pondering. Mountain bike trails are available on both Fort Benning (check with bike shops for access and organized rides) and the city's Flat Rock Park (another great example of Fall Line geography within the city of Columbus).
- Any nature-and-history trip to Columbus would be incomplete without a casual walk around "Uptown Columbus," to take in the waterfront highlights of the Chattahoochee Riverwalk and the nearby section of Broadway with its art installations, coffeeshops, cafes, and bars, and its paddling, biking, and running shops. Just south on Broadway, beyond the Rivercenter for Performing Arts, are the beautiful homes, monuments, and markers of the historic district, with wooded median and bricked pavement.

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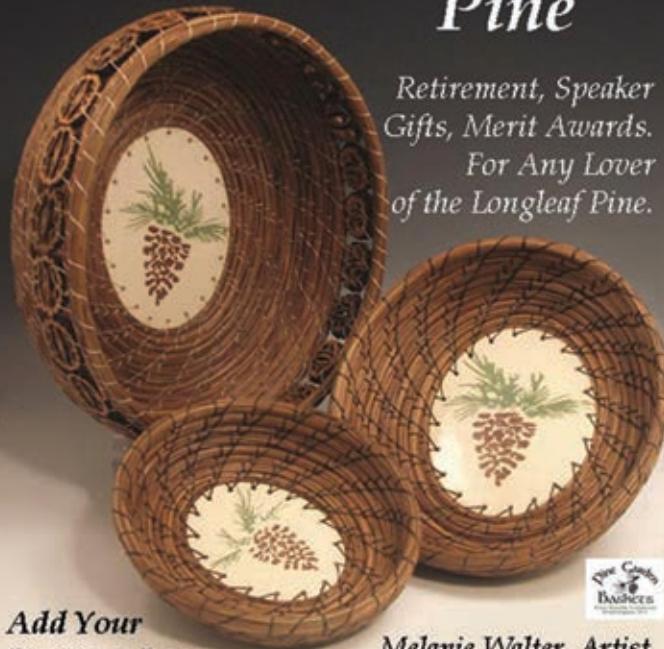


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The Longleaf Alliance is pleased to welcome three new members to our Board of Directors. Rufus Duncan, Amanda Haralson, and Reese Thompson are all passionate longleaf landowners and advocates of longleaf restoration. We are excited to have them as part of The Longleaf Alliance team!



**Rufus Duncan**

Rufus is currently CEO of Higginbotham Holdings, Ltd., a holding company of home center assets and operations across the state of Texas. He also serves as President of Lufkin Distribution & Supply and as Manager of The General Partner of Duncan – Two, Ltd. Rufus graduated from Trinity University in 1979 with a B.A. in Business Administration. He is an active volunteer in the city of

Lufkin and is currently serving as a board member on the Angelina County Appraisal District, Conserve East Texas, and Lufkin Firefighter's Pension Board. Rufus and his wife Marianna reside in Lufkin; they have one son Scott. Rufus and Marianna's passion for longleaf comes from their East Texas longleaf timberlands, part of the former Temple-Inland Timber Company's Scrappin' Valley. Rufus graciously opened the beautiful well-managed Scrappin' Valley for a Longleaf Academy held in East Texas a few years ago.



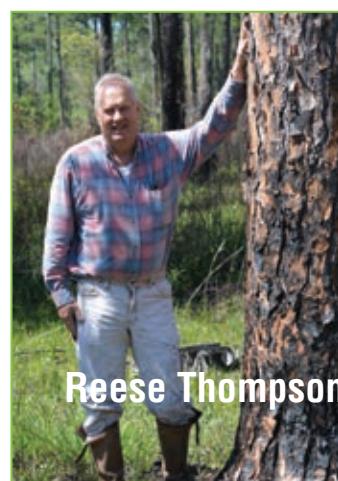
**Amanda Haralson**

Amanda developed a conservation ethic as a young child wandering the family forestland near Colmesneil, Texas. She has been actively engaged in the management of her land since 1992 and in 2008 began efforts to re-establish the native longleaf pine ecosystem – especially pine hill bluestem grass. Using prescribed fire as an essential management tool now dominates her approach to forestry.

While forestry and native ecosystems are her passion, Amanda's professional life has been philanthropic fundraising

and management of mission driven non-profit organizations. She served as Director of Development for the School of the Coast & Environment at Louisiana State University, Western Washington University, and for the New Mexico Environmental Law Center; and Executive Director for the Northern New Mexico Grantmakers, the Amarillo Museum of Art, and the Texas Association of Museums. Her volunteer activities include serving on the Board of Directors for the Rayburn Country Municipal Utility District, the Texas Longleaf Implementation Team, Master Naturalist for Texas Parks and Wildlife, and on the Board of Directors for the Chihuahuan Desert Research Institute.

Amanda attended Southwestern University and earned MS and BS degrees with honors from the University of Texas at Austin. She is a member of Delta Delta Delta Sorority and Leadership Texas Class of 1988. Amanda and husband Tom Livesay reside on the shores of Lake Sam Rayburn. Son Seth, daughter-in-law Dawn, and grandson John David Stover are avidly involved with Amanda in the effort to restore native working forests with intact ecosystems.



**Reese Thompson**

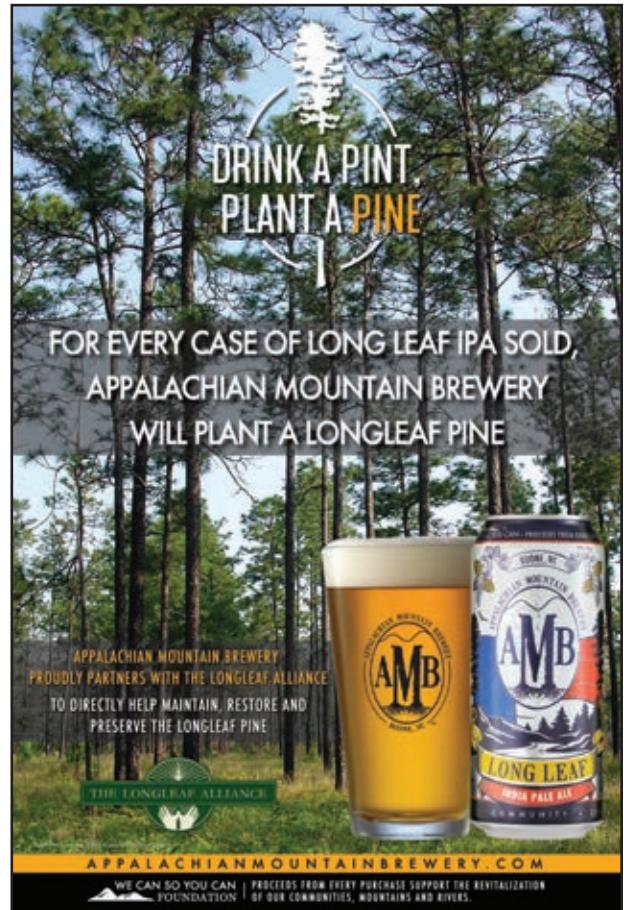
Reese is a sixth-generation Georgian of Scottish descent. His family has been tied to the land through forestry. Whereas for many generations turpentine was the main business, now the focus is tree farming, planting, and growing longleaf pine in harmony with the environment.

He works closely with US Fish and Wildlife Service, Georgia Department of Natural Resources, Longleaf Alliance, Orianne Society and others. Reese was honored to serve 14 years on the Board of the Georgia Department of Natural Resources, and a term on the Longleaf Partnership Council. Presently he has served six years on the USDA, Farm Service Agency, Georgia State Committee. He also serves on the Partners for Conservation

Board. Reese was recognized by the Longleaf Alliance with the Gjerstad/Johnson Landowner of the Year Award in 2016 and honored by USFWS with the Southeast Region 2015-2016 Regional Director's Private Landowner of the Year Award.

Reese and his family are blessed with some undisturbed land that is home to several threatened species: indigo snake, eastern diamondback rattlesnake, gopher tortoise, and spotted turtle. His mission is to protect, enhance, and restore the longleaf ecosystem that has been entrusted to him, and set a good example for the next generation.

Reese received a degree in Finance from the University of Georgia where he is a member of the President's Club, Heritage Society, and established the Reese Jordan Thompson Scholarship in Finance. His wife Pam, son Reese, and daughter Audrey are alumni of UGA and are actively involved with the tree farm.



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By Lynnsey Basala, The Longleaf Alliance

# Support The Longleaf Alliance

## 'Tis The Season of Giving and We Need Your Help"

The Season of Giving, a great American tradition, is upon us. It is an exciting time of year as many of you prepare to buy gifts, host parties, and donate thoughtful year-end contributions. Did you know that Americans donate \$300 billion dollars to 1.1 million charities each year making it the



*Kari Currello of Las Vegas Wins Annual Toilet Paper Wedding Dress Contest and \$10,000 Grand Prize. Photo by Quilted Northern®*

largest charitable sector in the world? Needless to say, a crowded charitable marketplace exists. We need your help! By choosing The Longleaf Alliance (LLA) as your charity of choice you are undoubtedly making a high-impact donation. Maintaining longleaf pine stands is crucial in supporting biologically diverse habitats throughout the southeast, and LLA is a leader in this effort. Thanks to the unwavering commitment of our members and partners, LLA allocated an astounding 84% of income to programs and services last year, a figure that steadily increases and we're quite proud of.

You should have received the annual appeal, a fall campaign letter, which shares exciting and collective successes achieved in areas of education, habitat protection, and restoration in 2017 while providing a wonderful opportunity to make a high-impact donation as a new or renewed member. We hope that we can count on you to help us achieve and surpass our \$45,000 campaign goal by making a year-end contribution. The fall campaign extends from October 1-December 31 and donations of \$50 or more include a one-year membership in The Longleaf Alliance. All contributors receive a longleaf-themed thank you

gift and recognition in the winter edition.

To double or possibly triple your contribution this year be sure to mark your calendar for the annual Giving Tuesday campaign on November 28, 2017. #GivingTuesday is a global day of giving fueled by the power of social giving and collaboration. Please look into your company's matching gift program before donating as LLA is an eligible 501(c)(3) nonprofit. Post #GivingTuesday #LongleafAlliance to social media in support of the longleaf ecosystem. Donations can be made at [www.longleafalliance.org](http://www.longleafalliance.org) or direct (334) 427-1029.

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*Thanks to all for everything you do to promote and educate the public and land owners for The Longleaf Alliance and its mission. You have helped to inspire Michael and me in our goal to have a longleaf forest. You have given us a foundation upon which to build; I am better able to talk with and ask questions of our land manager. I also know where I can come for advice, wisdom, and answers as we continue our goal of a taking care of the little bit of land we own. – Cordelia M. Apicella; Longleaf Academy: Longleaf 101 Graduate*

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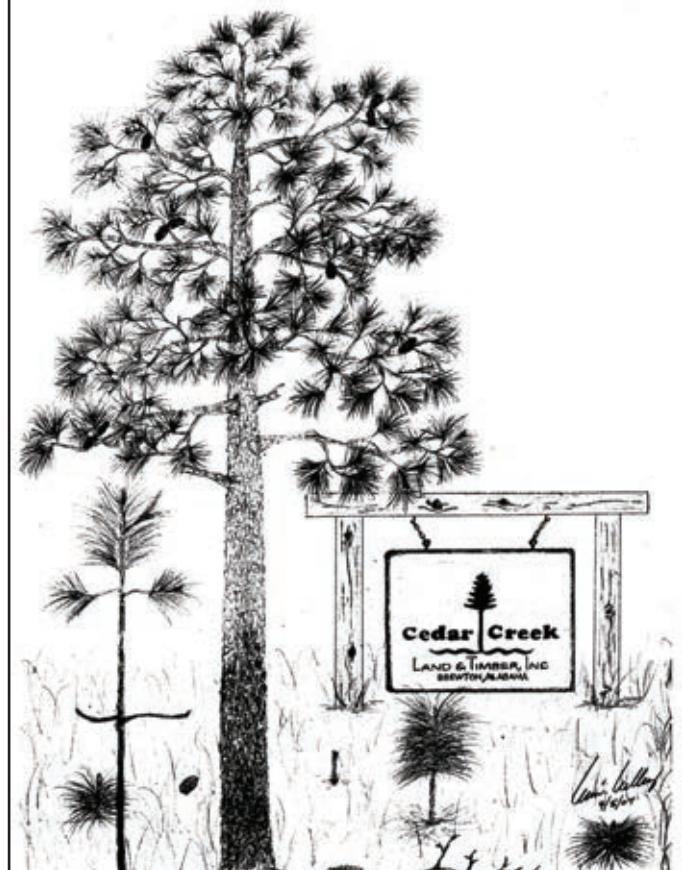


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# Heartpine

By Rob Shapard

## Heart pine lends both strength and beauty to the home that my parents built in Griffin, Georgia in the 1960s.

Indeed, the house is loaded with heart pine boards and timbers, rescued and reused from older structures around the state. In the kitchen, thick pine boards line the walls. The boards are unpainted so that the pine grain shows and the wood has taken on an amber hue that gives the room a warm character—along with the warmth generated by countless family meals, celebrations, squabbles, and mishaps. For many decades, these heart pine boards had “lifted up,” if you will, the parishioners of St. George’s Episcopal Church in Griffin, as they were made from the seats of the old wooden pews there. My parents, Bobby and Ginger, salvaged the pews when the church installed new ones in the ‘60s, and they trimmed and sanded the seats to make the kitchen wall boards. I am still researching the microhistory of these pews, installed sometime after the church was completed in 1871, to confirm they were made from longleaf pine. But the fact that they have always been described as “heart pine” is strong evidence.

My parents also salvaged the heart pine used in the columns of the Griffin Female College, built in 1855 when the city was new, and demolished in 1967, and they used that wood for the floor boards in the main hallway. They hauled away heart pine timbers from Old Wesleyan College in Macon, Georgia just a day or two before that structure burned as it was being torn down in 1963, and heart pine timbers from the old *Constitution* building in downtown Atlanta, constructed in 1884 and demolished in 1967. These dense, sturdy timbers comprised the very bones of our house, as did similar longleaf timbers for structures across the South, the American West, and elsewhere in our country and overseas.

Griffin and Spalding County are a few counties north of the native range of longleaf, even though longleaf surely has grown in spots within Spalding over the centuries. A family friend, who tends to think against the grain, has even planted longleaf

in his yard—within the city limits—and he dutifully burns his small stand. I say, Godspeed, and more power to him. It might turn out that this longleaf-ophile, a local attorney, has anticipated a shift in longleaf’s range that climate change might provoke. But loblolly has long been the most prevalent pine in the natural landscapes there, in which I immersed myself since childhood, while longleaf was a mystery.

It was about an hour’s drive south from home to the coastal plain, along routes to the Georgia coast and Florida Panhandle that crossed waterways and passed rural communities, rich wetlands, and vast expanses of flat pastures and crop fields. Even where the pine trees and other vegetation were plentiful, by the time I started passing through in the 1970s, these landscapes were virtually devoid of the old-growth longleaf that once was so abundant. Like many Americans today, I never experienced a thriving forest of old longleaf.

I feel a deep regret that earlier generations destroyed so much of the longleaf ecosystem, even as I appreciate longleaf’s historical importance as a building material, the key naval-stores tree, and a critical economic driver for the Longleaf South into the early 1900s. I think about longleaf as a historian with roots in journalism, a southerner, and someone who recognizes healthy and beautiful ecosystems as the *sine qua non* for all life, rather than a landowner in the longleaf region, botanist, forester, conservation biologist, ecologist, wildlife manager, or active longleaf advocate. Approaching the topic as a historian means exploring human ideas, desires, and actions that help to explain the drastic changes in this ecosystem over time, especially since the American colonial era. It means “unpacking” the views of people like Robert Jehu Massey, a physician who regularly traveled through the longleaf region in his native state of Georgia before and after the American Civil War.



To find Massey, I followed an intriguing clue that Janisse Ray left in *Ecology of a Cracker Childhood*. Ray briefly cited a dispatch in the Brunswick newspaper from September of 1885, in which the author “R.J.M.” expressed his amazement at how drastically the timber crews and saw-millers had cleared the pine forests from the area that became the Georgia counties of Eastman and Dodge since he had last passed that way in 1858. “An invasion of a terrible army of axemen, like so many huge locusts, has swept over the whole face of the land, leaving naught of former native grandeur but treeless stumps to mark the track of their tramp,” wrote R.J.M. OK, very interesting, but exactly who was R.J.M. and what did this person make of the changes?

Further digging in the historical record convinces me that R.J.M. was physician Robert J. Massey, born near Madison in 1828, and a well-known Georgian by his death in Atlanta in 1915. While Ray noted Massey’s shock at the deforestation, my take is that, even though Massey at first appeared to be upset by this “invasion” of axemen, he was in fact pleased with the timbering and development he observed in the Georgia longleaf region. His remarks about the forest destruction around Eastman essentially were a set-up for his larger point—that the costs were greatly outweighed by the benefits from developing a forlorn antebellum landscape of

“pine trees, wire-grass, rude tents, cow paths and deer-trails” into a small but thriving piece of the New South, with “fields, farms, cottages, refinement, civilization, plenty, thrift, [and] commerce.” Massey liked what he saw in 1885, even if the destruction of the pine forest truly was striking to him.

But he had some critical blind spots in his viewpoint, such as his failure to note that many people did not have an equal shot at sharing in this economic progress. Nor did Massey give a full accounting of the costs of the deforestation, such as the negative impacts on the larger longleaf ecosystem and its biodiversity. Massey was a fairly representative figure, as a white, middle-class man in the New South who embraced the economic development enabled in part by longleaf. He shared this sensibility with people like the directors of a lumber company in Louisiana, which I researched for my dissertation, who dealt with longleaf through a “lumber lexicon” of acres, board feet, and train-loads of logs and lumber, with

no meaningful room for recognizing the forests as a living ecosystem with diverse and valuable life. These directors focused relentlessly on assessing and quantifying the forests, on the way to commodifying them. At that point in the early 1900s, most such companies continued to treat longleaf solely as an economic resource to be exploited to the fullest extent.

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# Heartpine

But there were alternatives to exploiting the longleaf forests in such destructive and short-sighted ways, and we can see now that earlier generations made choices. We know as well that the conceptions of longleaf have changed over time to include the view that, like other timber trees, longleaf is a crop to be renewed via agricultural and scientific principles. Also, many of us understand now that longleaf is part of an ecosystem, and it forms a realm of diverse, interconnected life. The range of ideas that we have about longleaf has expanded to include notions like sustainable use, and ecological, cultural, and aesthetic values, rather than solely economic values.

Still, it seems to me that the debate among these various conceptions of longleaf is ongoing, and the outcome is uncertain. The most holistic, ecologically oriented views have by no means gained an unquestioned dominance.

Longleaf advocates today clearly are committed to promoting the understanding of longleaf as part of an ecosystem, with a wide range of values that include but go beyond economic value. I see that commitment in studying longleaf history and advocacy, and I have gained a better sense

of how challenging it is to convincingly explain the value of biodiversity, to a broad range of people when working for longleaf restoration and conservation—as compared to talking about potential economic values. Nevertheless, we still need more compelling ways of communicating this value of biodiversity, as supported by fire-maintained longleaf forests, in spite of any fears that many people will not be able to grasp this notion. Advocates must make the related point even more strongly and clearly that, while millions of acres of pines are growing in the South, a plantation of loblolly or slash is not at all the same as a longleaf forest managed under ecological principles. Longleaf enthusiasts know this very well. But many more people, within and beyond the Longleaf South, need to see the light on this point.

—Rob Shapard ([rpschapar@email.unc.edu](mailto:rpschapar@email.unc.edu)) is a former reporter and current lecturer in U.S. history at the University of North Carolina at Chapel Hill, where he recently completed his doctoral dissertation, an environmental history of the longleaf forests.

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