THE LONGLEAF LEADER

Healthy Forests

VOLUME XIII - ISSUE 3

FALL 2020

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COVER The brilliant red of winged sumac under montane longleaf in Cherokee County, Alabama. Photo by Ad Platt.

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The Longleaf Alliance

PRESIDENT'S MESSAGE

CAROL DENHOF

For good reason, health is on everybody's mind these days. We are all doing our collective best to remain personally healthy in order to keep up with our day-to-day activities. We understand that healthy individuals make for healthy communities. The same can be said for longleaf forests. As landowners, land managers, and restoration professionals, we are all working to create healthy, functioning longleaf forests that can endure for many years to come.

In this issue of *The Longleaf Leader* we are focusing on the work being done throughout the southeastern United States to create and maintain healthy forest ecosystems. The content has been carefully curated to provide practical applications and considerations for all working with longleaf.

The restoration of a longleaf forest is a long-term process and there are many threats along the way that can thwart progress – fire suppression, insect pests, and invasive exotic species, just to name a few. The good news though, and an important factor in deciding to grow longleaf, is that longleaf pines are more resilient to many common problems that can severely impact other southern yellow pine species. The Alliance was pleased to work with Dr. David Coyle with Clemson University Extension and the Longleaf Partnership Council Communications Committee to publish the second in the Longleaf Resiliency Series of outreach documents describing the resilience of longleaf to wind damage. Of course, there is a limit to what any tree can withstand, but this publication discusses why longleaf is more resistant to damage than others. This series provides important information that can be put into practice by landowners and managers.

Controlling invasive species in our natural habitats is essential in maintaining healthy forests. These species can outcompete the natives and can make managing the habitat extremely difficult. The Alliance is working with our partners in the Gulf Coastal Plain Ecosystem Partnership to identify and treat infestations of cogongrass and Chinese tallow. Having a staff person dedicated to this work is already producing some significant results in the GCPEP landscape. Ed O'Daniels will share these results in this issue's feature article.

These subjects and many others will be featured in the Virtual Longleaf Conference that is being held October 20-23, 2020. The Conference Planning Committee has been working hard to create an outstanding conference experience for everyone. I invite you all to register and attend this event which will include speaker panels, live social events, a virtual poster session, and interactive working groups. You don't want to miss it!

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Blackwater River State Forest. Photo by Vernon Compton, LLA.

MANAGEMENT CHECKLIST FALL 2020

- **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 when using Imazapyr (Arsenal®/Chopper®) or Metsulfuron Methyl (Escort®/Patriot®). The waiting period will vary based upon the rate applied, date applied, rainfall since application, and soil type.

- **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 significantly reduce erosion. Subsoil or rip sites with hardpans, but remember, do not plant seedlings directly into the sub soiled/ripped furrow. Plant just beside the rip, and the taproot will find it.

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

- **Harvest native herbaceous seeds:** Certain species, such as the Indiangrasses, 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!

- **Consider Wildlife:** Avoid disturbance around intermittent wetlands as some amphibians, especially salamanders, are moving to seasonal breeding ponds when heavy rains occur. Use caution with any mechanical operations around gopher tortoise burrows as any newly hatched tortoises will be nearby and shallow.

- **Plant longleaf:** It is never too early to plant longleaf if the following conditions are met: the site is prepared (see previous fall site preparation recommendations), there is adequate soil moisture, seedlings are available, and a planting crew is available.

- **Order native seed for understory restoration:** Seed from local ecotypes and endemic species is limited and expensive. Although some landowners have the time and expertise to collect their own, the most restoration will occur with purchases from the few seed companies that sell southeastern sourced seed.

- **Thin longleaf stands:** Drier conditions typical of the fall season favor pine thinning operations.

Reach out to The Longleaf Alliance with any questions you may have pertaining to establishing and managing longleaf stands at longleafalliance.org/contact-us.

Q&A

Q. Dear Longleaf Alliance,

Help! What's happening here? I went out to walk through my young longleaf planting and found parts of my 3-year-old stand swarmed by snails. On some seedlings, there were 50 to 100 and especially clustered near the tops of my 3' tall trees. What do I need to spray or otherwise do about this?

Alarmed in North Florida

A. Dear Alarmed,

Every now and then, we get an isolated report of this. Fortunately, this is more of a curiosity and nuisance than a problem, though we are sure it would be alarming to see! Jeff Eickwort, Florida Forest Service entomologist, has helped narrow this species down to *Bulimulus sporadicus*, a species of tree snail from the West Indies. Outbreaks have been reported from Florida, Georgia, Alabama, and Mississippi so far, often 200 miles from the last report.

What to do? Jeff comments that "We've never seen any significant damage to pines. These tree snails are not plant pests, but rather "cleaner" species that feed on algae, lichens, and other organic matter on the surfaces. They could likely complicate the harvesting of row crops, as populations build to large numbers, and crawl all over structures and plants." Various products tested to control these snails in a forest setting have thus far shown little effectiveness.

These outbreaks tend to appear suddenly and then subside, suggesting some kind of natural control mechanism. Quite a few types of creatures are reported to prey on snails, from various insects to small mammals like mice, shrews, squirrels, opossums, raccoons, various reptiles including some skinks and turtles, and several species of birds including blackbirds and wild turkey. We are not sure where *Bulimulus* ranks in terms of preference, but if you happen to observe any wildlife taking advantage of this bonanza, we'd be interested in hearing about your observation.

Snails do best in high temperatures and high humidity (thus, the South). They prosper in damp years like this one, and when the soil temperature heats up, tree snails will climb up anything available to get away from the ground. It is possible that mowing and/or herbicide work done between the rows might make that appear worse, by reducing the number of available "ladders," concentrating more on whatever is left.

Sincerely,
The Longleaf Alliance

Q. Dear Longleaf Alliance,

I have a 700-acre property in south central Georgia that I am considering leasing for hunting. The property has 300 acres of longleaf of varying ages that are routinely prescribed burned, 200 acres of loblolly pine plantations, 120 acres of stream and swamp hardwoods, and 80 acres of old fields that were previously in row crops. What are some of the things that I need to consider when leasing hunting rights?

Inquiring in Telfair County

A.

Dear Inquiring,

This is an excellent question! From the description you provided, your tract has good diversity and should be a desirable property for leasing.

Before entering the hunting lease market, do your research, and ask yourself a few questions. The first question is, do you want to market your property yourself or hire a real estate agent or forestry consultant to do it for you? You only need to do an internet search of "hunting leases near me" to find a good number of properties available. These are usually marketed by forestry consultants or real estate firms. These firms will charge a fee, but they know the market and are skilled at marketing your property to get you the best offer. In 2012, one report indicated that deer hunting leases in Georgia were bringing an average of $15/acre annually, with a range of $10 to $30/acre, sometimes more. These higher prices were usually indicative of more amenities available to hunters than just deer hunting or in higher demand locations. Local professionals who know the market demand can best guide you regarding the amount you could expect to receive.

Next, ask yourself, do you want to lease to a local or out-of-towner? To a single person or a group? Anyone you'd want to lease your land should be trustworthy, regardless of where they are from, and price should not be the only deciding factor. The right person or group could be like having extra sets of eyes on your land, helping reduce or prevent instances of trespassing, illegal garbage dumping, poaching, or other illicit uses.

Regardless of who you lease to, have a written lease prepared that specifies who is allowed to hunt, during what times of the season, who is responsible for what, the length of the contract, for how much, payable when, and terms by how either party can cancel the lease. It is also a good idea for you to require the individual/group to have minimum liability insurance and name you as coinsured. Some landowners will also require the party leasing the property to show proof of completion of an appropriate hunter safety course and license(s) for all the individuals.

There may be other items to consider after your research. Talk to your neighbors who may be leasing their property, professionals in your area who are leasing land, and consult with your local Georgia Department of Natural Resources representative and University of Georgia Extension Agent. There is a wealth of information about leasing property for hunting, managing wildlife, and recreational enterprise, including archived webinars.

We recommend "Tips for Creating a Hunting Lease Agreement" (https://extension.uga.edu/publications/detail.html?number=C971).

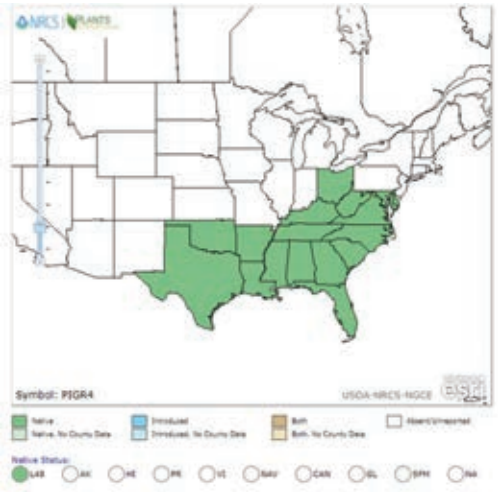
Sincerely,
The Longleaf Alliance

By Carol Denhof, The Longleaf Alliance

PLANT SPOTLIGHT

Pityopsis graminifolia (Michx.) Nutt.
Silkgrass
Aster Family – Asteraceae

Yellow composite flowers of silkgrass with a pollinating skipper. Photo by LLA.



Map showing distribution of silkgrass. USDA PLANTS Database.

Gopher tortoise eating a leaf of a silkgrass plant. Photo by Carol Denhof.

Description
Silkgrass is an herbaceous, perennial member of the aster or sunflower family that resembles a grass when not in flower. The plants form clumps of narrow silvery-green leaves that are linear in shape and measure up to approximately 12-13 inches long. The color of the leaves comes from the long, spreading silver hairs that cover them. In late summer, silkgrass forms showy masses of small yellow daisy-like flowers.

Distribution & Habitat
Silkgrass tends to be somewhat ruderal and can be found in young tree plantations, open forests, forest openings, and rights-of-way. It occurs in all parts of the longleaf range from Virginia south to Florida and west to Texas.

Wildlife/Medicinal Uses
Silkgrass is known to be an important forage for gopher tortoises.

Plant Availability
Silkgrass is not generally available commercially. However, the seed is easily wind-dispersed, making it an early colonizer in disturbed and old field sites. This is one of the easier native plants to propagate by hand-collecting fully ripe seed (that easily strips) and moving it to other locations you would like to enrich.

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WILDLIFE SPOTLIGHT

By Sarah Crate, The Longleaf Alliance

Chicken Turtle

Deirochelys reticularia (Latreille 1801)

FOREST USE AT A GLANCE

Embedded wetlands and adjacent uplands.

MANAGEMENT TIP

Consider wetland buffers and connectivity between disjunct wetlands as chicken turtles are known to travel overland between aquatic habitats and use uplands for nesting and sometimes overwintering.

Photos by Charlie Abeles, LLA (top) & Jessica Sandoval, LLA (L & R).

ID Tips: The chicken turtle is characterized by its long neck with yellow stripes. Vertical stripes also run down its legs. Its carapace (upper shell) is pear-shaped, ranging from olive to black with netlike patterns. The plastron (bottom shell) is yellow/orange. This species is a moderate-sized turtle; adults range from 3-10 inches in length with females typically larger than males.

Food: Mostly crayfish and aquatic insects.

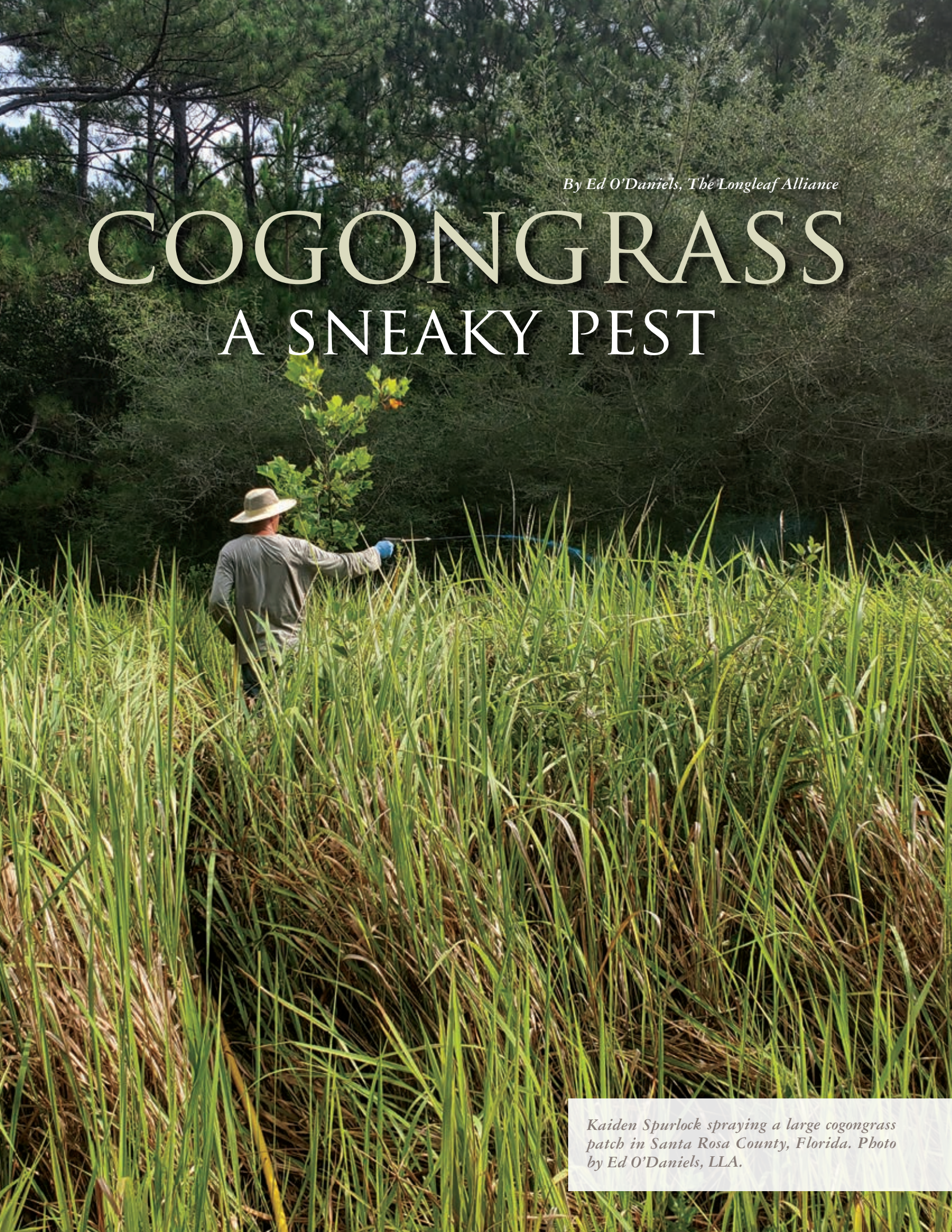
Distribution & Habitat: Most common in shallow, still water with abundant vegetation including ponds, Carolina bays, cypress swamps, ditches, and ephemeral aquatic habitats, but typically in small populations. A semi-aquatic species, chicken turtles are commonly seen on land. They require terrestrial habitat for nesting and sometimes overwinter on land or burrow into the soil during dry conditions. Multiple subspecies are found throughout the longleaf range and beyond into Arkansas and southeastern portions of Oklahoma and Missouri.

Reference:

Buhlmann, K. A., J. W. Gibbons, and D. R. Jackson, and K. 2008. *Deirochelys reticularia* (Latreille 1801) - chicken turtle. In *Conservation Biology of Freshwater Turtles and Tortoises: A Compilation Project of the IUCN/SSC Tortoise and Freshwater Specialist Group. Chelonian Research Monographs 5: 014.1-014.6.*

By Ed O'Daniels, The Longleaf Alliance

COGONGRASS
A SNEAKY PEST



Kaiden Spurlock spraying a large cogongrass patch in Santa Rosa County, Florida. Photo by Ed O'Daniels, LLA.

The strong partnership between public and private lands is proving to play a vital role in controlling cogongrass.

Florida Department of Transportation treated a portion of this cogongrass patch along a state highway; The Longleaf Alliance assisted with treatment on the adjacent private lands. Photo by Ed O'Daniels, LLA.

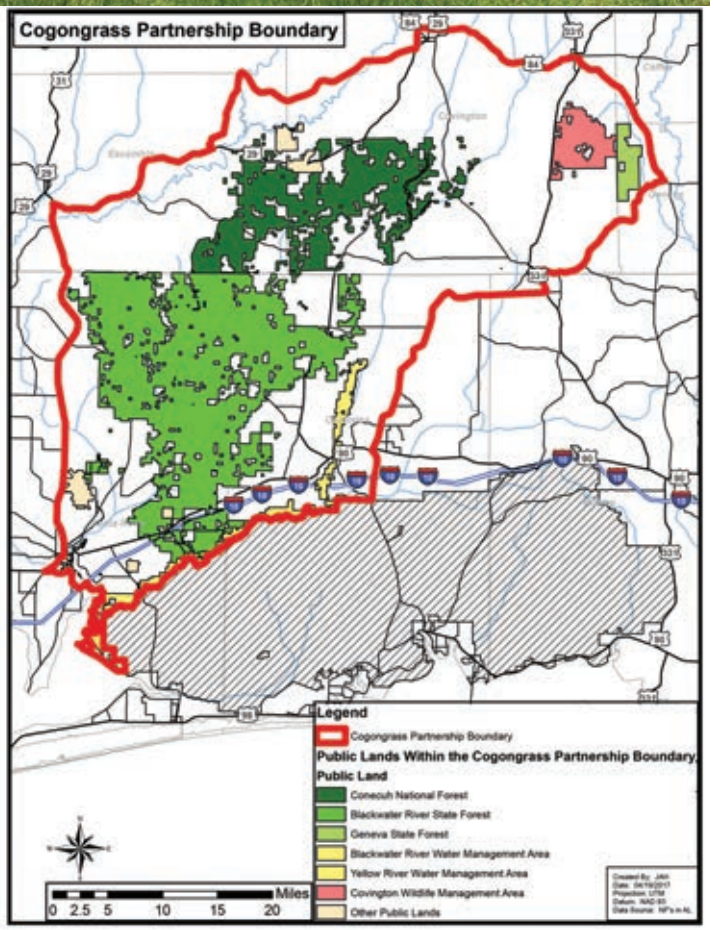
As stewards of this land, we are continuously in math class. How much should we put in versus take out? These questions pass through our minds regularly. A healthy ecosystem is never the result of a single, easy answer; it is a complex system of inputs and outputs. All too often, we miss portions of these inputs that can have dire consequences on the outputs: excess carbon in the atmosphere, nutrient additions to the soil, garbage in the ground, and asphalt over areas once dominated by trees. These things, among others, are watched for and mitigated accordingly—to a point.

One very important, but often overlooked, aspect is that of non-native invasives. Yes, the group of words we try to avoid as much as possible. But they are here, and they mean business, bad business. From the pythons in the South to the Japanese Knotweed in New England and the many in between, the effect of non-native invasives is profound. This growing list is largely due to human intervention. Whether accidentally or intentionally, many of these species would not have been translocated without help from us.

The longleaf ecosystem is known for its biodiversity, particularly in the groundcover, which is threatened by the non-native invasive cogongrass *(Imperata cylindrica)*. Since its introduction to the U.S. in 1911, the cogongrass invasion has gained serious ground. It is now widespread in the Southeast, primarily in Mississippi, Louisiana, Alabama, Florida, and Georgia (Minogue et al., 2018; Dozier et al., 1998). It has the potential to go much, much further. Cogongrass could easily take over the prairie states, New England, and just about every island in the Caribbean and Hawaii (Koop, 2018).

Cogongrass spreads mostly through its creeping rhizome, with over half of the plant underground (Sellers et al., 2012; Koop, 2018). The rhizomes are energy storage banks that can sprout a new plant nearly every inch and in any direction for several meters. If the rhizome is cut, each end can resprout. Moving soil, tilling, and other disturbances to the infested soil is a major source of cogongrass movement (FDACS, 2020; Koop, 2018; Dozier, 1998). Humans are responsible for transporting it long distances on equipment (Minogue et al., 2018). Cogongrass also spreads by seed, although seed production has been documented to vary regionally with seeds having low or short-term viability (Lowenstein et al., 2011; Sellers, 2018).

Cogongrass Coordinator Ed O'Daniels teamed up with Florida Forest Service staff from Blackwater River State Forest to treat a cogongrass infestation. Photo by Gabby Chavers, Florida Forest Service.



Cogongrass Partnership Focal Area Map.

Cogongrass invades rapidly, "pushing out" multiple species (FDACS, 2020; Divate, 2016), including longleaf pine seedlings. This loss of vegetation reduces biodiversity (Koop, 2018). Longleaf pine ecosystems are naturally a fire dominated system, with species adapted to frequent fire. Typically, this fire is necessary for seed bed preparation and germination, as well as thinning out light-competing shrubs and midstory trees. However, the benefits of fire are lost once cogongrass takes hold. Once-beneficial fires can be extremely dangerous in cogongrass infested areas, killing native species, including well-established, overstory pines, from excessive heat (Sellers et al., 2012 and FDACS, 2020). And yet, cogongrass benefits from these intense fires, resprouting with greater vigor (Lowenstein, 2020).

On the farm and the ranch, cogongrass takes away from the use of valuable land (Divate, 2016). Row crops and pastures can be entirely consumed by it. Cogongrass is not very palatable to most animals, including horses and cattle (USDA, 2018; Dozier, 1998). It is high in silicates and has serrated margins making it tough to chew and digest (Koop, 2018). Once cogongrass takes over, the land is useless until the cogongrass is eradicated. In Florida alone, it causes an estimated $35 million in economic loss (Divate, 2016). This will indeed throw off the math of animal units per acre and product tons per acre.

So how do we manage it? Fire does not work, and tilling can only be done if in rapid succession and complete. That means herbicide is the primary tool to control cogongrass (Minogue, 2018; Divate, 2016; Dozier, 1998), but the entire patch must be treated as well as the buffer around the known extent. If the entire patch and buffer are not treated and retreated, it will return. Complete treatment has not always been possible, as cogongrass knows no boundaries. It grows under fences and across property lines.

Conecuh National Forest and Blackwater River State Forest, and other partners were well aware of this working "across the fence" problem. The Cogongrass Partnership was created to increase cogongrass management across public and private lands, facilitated by the Cogongrass Coordinator, who works to expand existing control efforts through landowner collaboration. This is cogongrass control on a landscape scale, pairing neighbor with neighbor to effectively create a team to manage cogongrass from all angles. Great emphasis is taken to rid cogongrass from one property, then continue to the adjacent land, and so on until the entire infestation is eradicated. For example, as staff with the Blackwater River State Forest recently treated cogongrass on their property, I completed treatment on the adjoining private lands, thus ensuring the treatment of the entire patch. As the Cogongrass Coordinator, I work with as many landowners, land managers, and partners as I can to further this model of collaboration, including the U.S. Forest Service, NRCS, Florida Forest Service, Florida Fish and Wildlife Conservation Commission, Alabama Forestry

Treated cogongrass patch on Blackwater River State Forest. Photo by Vernon Compton, LLA.

Commission, County and State roads departments, and many others. They are all making a difference in addressing this major invasive species threat. The Cogongrass Partnership's current focal areas are Covington, Escambia, and Geneva Counties in Alabama and Santa Rosa and Okaloosa Counties in Florida.

Cogongrass does not balance anything in the natural equation of our longleaf ecosystem. It is our responsibility to adjust our equations and respond to this noxious input and push this invasive species out of the ecosystem. The strong partnership between public and private lands is proving to play a vital role in controlling cogongrass. We feel this is a valuable model that could be replicated in other landscapes.

Thank you to the Gulf Power Foundation and the U.S. Forest Service for their support of the cogongrass coordination and control efforts in the Gulf Coastal Plain Ecosystem Partnership landscape. A special thanks also to Six Rivers CISMA for their work with not just cogongrass, but many invasive species. Without the vision and leadership of multiple partners, cogongrass would continue to go unchecked.

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Ed O'Daniels began work as the Restoration Project Manager in September 2019. He divides his time between managing the hurricane salvage logging and restoration efforts at Tyndall Air Force Base and the challenges of cogongrass control efforts in the GCPEP landscape. Previously, Ed served as The Longleaf Alliance's Wetland Ecosystem Support Team Leader.

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Photo by Ryan Mitchell

Blowing in the Wind: Advantages of Longleaf Pine in Wind Storms

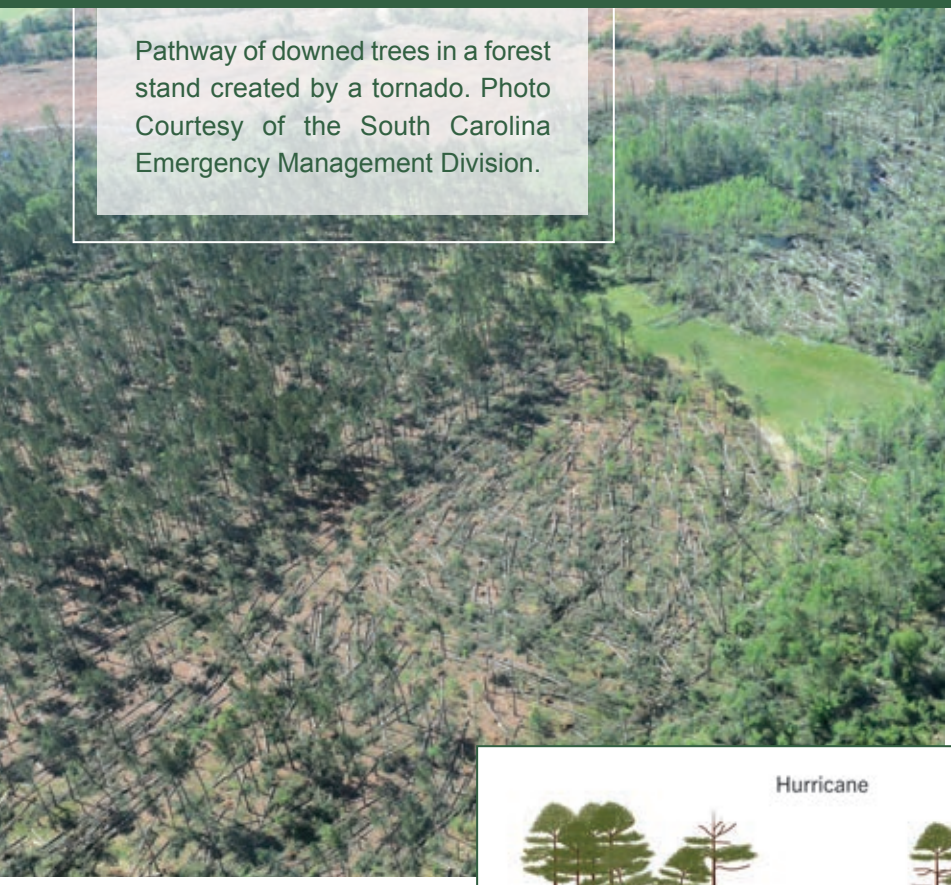
Dr. David Coyle, Clemson University
and Lisa Lord, The Longleaf Alliance

Windstorms, such as hurricanes and tornadoes, can cause tremendous damage to forest stands and the impacts can be felt by a landowner many years after a storm event. Hurricanes and tornadoes can decrease the volume of merchantable wood in the forest and can negatively impact or degrade many other ecosystem services offered by the forest including wildlife habitat, water quality, and carbon sequestration. The impact of hurricanes in the southeastern U.S. is expected to increase over the next several decades, and tornado frequency and intensity will continue to impact humans and the ecosystem. Despite the relative infrequency of hurricanes and tornadoes, landowners should work towards having a long-range approach to sustainable forest management in addition to managing the threats of today (which can include forest pests and competing vegetation).

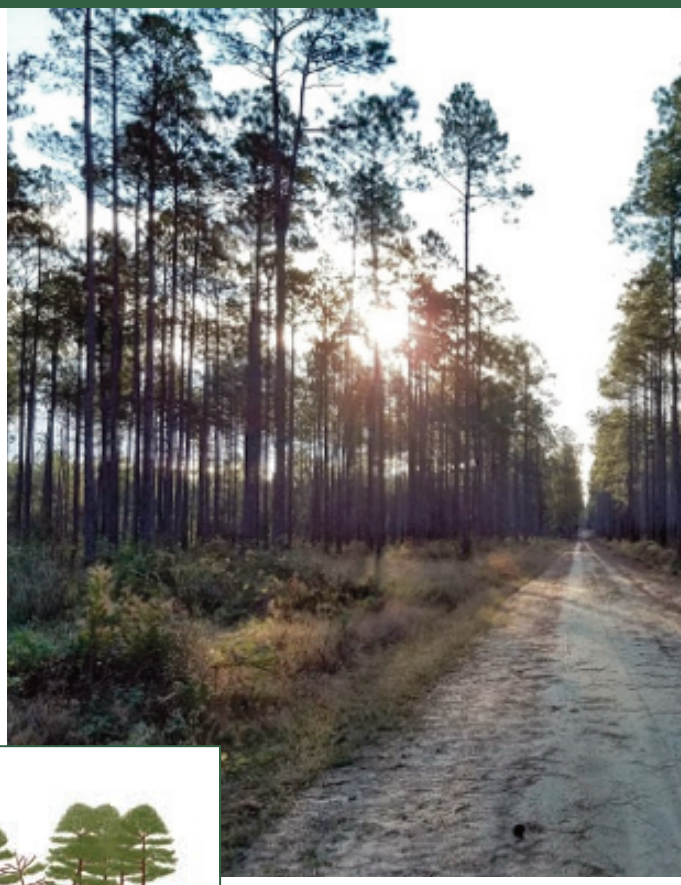
Landowners in storm prone areas should consider wind threats when making management decisions, such as tree species selection or thinning, to decrease their risk and protect their economic and ecological interests. While there is no silver bullet that can prevent hurricane or tornado damage, longleaf pine offers benefits worth considering. In fact, many native coastal species such as live oak, bald cypress, and longleaf pine are better adapted to hurricanes and other wind-related disturbance events.

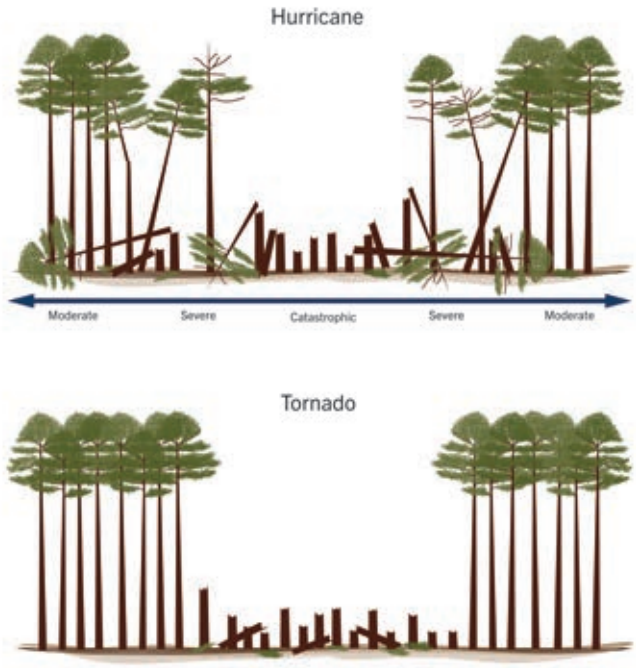
Hurricanes and tornadoes result in different types and patterns of wind damage. Hurricanes leave a gradient of wind damage. The eye wall, the part around the calm center or eye of a hurricane, has the strongest winds and rains. Stands in the path of the center of the storm often experience the most storm damage. Moving outward from the center, the wind intensity decreases, but it can be highly variable depending on the storm. Hurricanes rotate counterclockwise, and winds on the eastern (or right) side of the storm as it moves forward and typically northward can be more intense because the force is higher. Most damage from tornadoes, on the other hand, occurs within the storm's path, often leaving a more distinct "cut path" where the storm travels.

Damage (including breakage and uprooting) and mortality is often less in longleaf than slash or loblolly pine after hurricanes. For instance, 73% of longleaf pine was undamaged compared to 48% of loblolly pine in Hobcaw Forest, 100 km from the eye of Hurricane Hugo which hit the coast just north of Charleston, SC in 1989. Even when stands were of different ages and stocking, longleaf was the most resistant pine, followed by slash and then loblolly. Preliminary studies being conducted after Hurricane Michael, which occurred in 2018, are yielding similar results. Research from southern Mississippi showed that longleaf pine suffered less damage than slash or



Pathway of downed trees in a forest stand created by a tornado. Photo Courtesy of the South Carolina Emergency Management Division.





Characteristic impacts from wind storms. Hurricanes can cause a gradient of damage while tornadoes cut more of a distinct pathway. Figure by Bek Diamond, Clemson University.

Damage to trees within a forest stand from hurricanes and tornadoes can vary in scope and scale.

loblolly after Hurricane Katrina in 2005. While tornadoes tend to damage all tree species in their path, longleaf tends to show better recovery after a tornado than some other southern pines.

Why is longleaf more resistant to wind damage?

Many contributing factors influence how wind can damage trees. The ultimate factor in how much damage a hurricane does to a forest stand may be the proximity of a stand to the eye of a hurricane and the strength of the winds. For tornadoes, it's a little more straightforward – trees in the path are very likely to get damaged, while those outside the path will likely be spared. However, even if a tree is spared from obvious wind damage, there may be damage that's not visible to the naked eye, and this damage can weaken the tree and increase its susceptibility to insects and pathogens.

Other factors that play a role include tree species and stand structure (height to diameter at breast height ratio, age, etc.), wind speed, and site characteristics such as topography and soils. Forest composition, tree spacing, time since thinning, and height-to-diameter ratios are also important factors that may impact windthrow. Longleaf pine's growth characteristics can be a benefit contributing to its greater wood strength and density which are critical to wind resistance.

Longleaf pine also is naturally found in areas that are prone to frequent storm events, and there is some evidence supporting the idea that selection pressure for resistance to wind has occurred over time. Other physical characteristics of longleaf may also be beneficial compared to other species – for instance, loblolly and slash pine have denser foliage than longleaf, which may contribute to increased stem breakage in those species, and longleaf pine has a large, deep taproot which serves as a sturdy anchor during wind storms.

Impacts of Hurricane Michael on a forest stand located within 5 miles of the eastern eye wall with sustained winds over 150 miles per hour. Photos by Ryan Mitchell.

Before & After a Storm

Managing your longleaf pine after a storm event

So, it happened…now what? After a wind event occurs, there are short-term considerations involving loss of merchantable timber and clean-up as well as long-term considerations for potential hazards (i.e. insect outbreaks and wildlife) and reestablishing the site. Damage often occurs twice after large storms: immediately, and then again about 12-18 months after the storm. The immediate damage is obvious, in the form of uprooted, broken, or bent trees. Delayed tree injury or mortality often occurs from several factors including sublethal injury and bark beetles or other pests. Trees may survive the initial storm and look healthy but may actually have internal or physiological damage that is not visible. This can weaken the tree and increase its susceptibility to secondary pests.

Develop a plan well in advance of a storm. Have your plan and contacts ready. A professional forester can help assess the damage, appraise the timber, and set up a sale, clean-up, or reestablishment. To that end, it is beneficial to have an ongoing working relationship with a professional forester, as they can help you with land management in general – not just after a disaster. There may also be disaster related federal aid programs through the USDA Farm Service Agency (FSA) or Natural Resources Conservation Service (NRCS) or state forestry agencies. Depending on the level of damage incurred, there may also be casualty loss tax deductions that can be taken if a basis of value has been set prior to the storm. Again, it's best to work with a professional to make these determinations.

Assessing your timber

It's important to assess your timber stands after a storm. Trees may be leaning or broken, or perhaps there's just some breakage in the branches. Extensive limb damage and broken tops are often catastrophic injuries for pines, while sometimes trees get twisted during strong winds and the damage isn't immediately evident. Understand which trees (based on their current condition) may not survive in the long run and need to be salvaged. Also, damaged trees are stressed trees, which could encourage insect and disease outbreaks.

In addition to assessing a stand immediately after a storm, revisit the stand when making plans for reestablishment. Often heavy mechanical work is unavoidable. However, if natural regeneration occurs, the stand may not need to be treated with herbicides or replanted.

Salvage logging

Following a storm, it's likely that not only you, but also your neighbors, were impacted. This can make it difficult to line up crews to salvage the timber, lower the landowners return, and create an excessive supply of wood, overloading the market and lowering prices. When large storms occur, the crews that harvest the timber and the mills that process the timber may very well be affected too. These events can create a situation where there's a glut of timber on the market and a lack of harvesting crews or operational mills. Unfortunately, this means that salvage may not be an option for some landowners who own smaller acreages. In this case, landowners are advised

to focus on cleaning up their stands (via mulching, piling and burning damaged trees, or carefully administered prescribed fire to remove debris) to prevent further damage from secondary pests and other tree health issues. Check with your State Forestry agency and local municipality to confirm burning is allowed and what the legal requirements are to burn on your property after a storm. Often there's not much that can be done, but it is important to understand the challenges that may be faced.

Conclusion

In the Southeast, the frequency and intensity of storms is expected to increase in the coming years. And, while no tree species can withstand the full force of a direct hit from a hurricane or tornado, some species, like longleaf pine, are better suited than other species at withstanding high winds. If your land is in an area subject to hurricanes, tornadoes, or other storms that often come with high winds, the ability of your timber to withstand wind damage should be a consideration.

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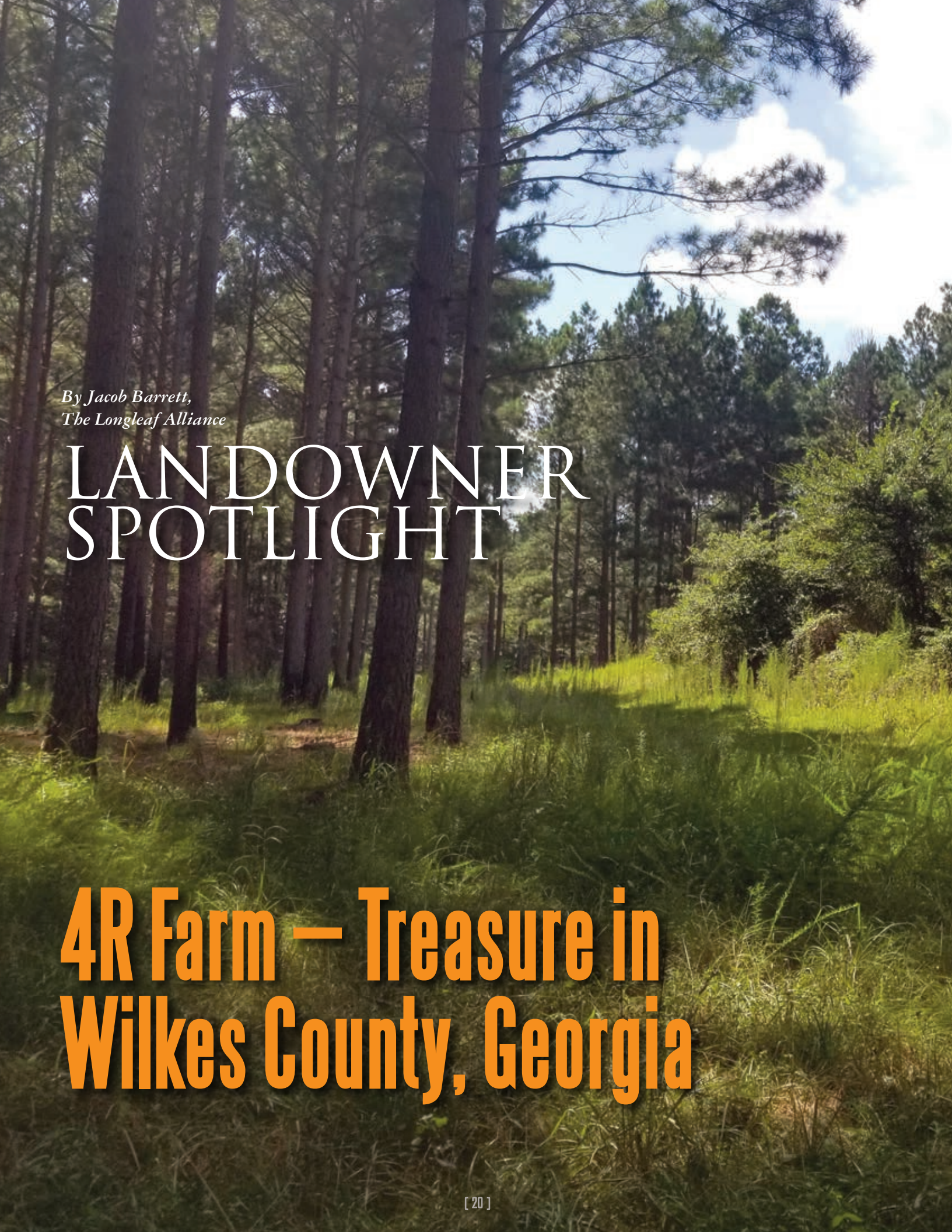
Thank you to our participating partners



By Jacob Barrett,
The Longleaf Alliance

LANDOWNER SPOTLIGHT

4R Farm – Treasure in Wilkes County, Georgia

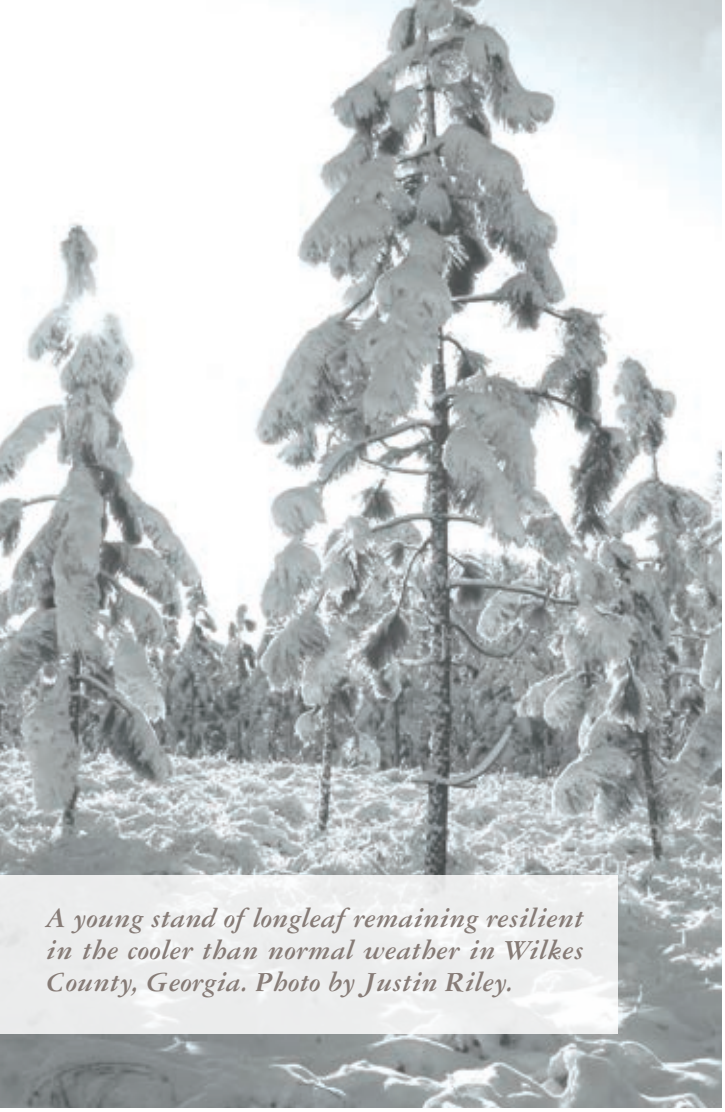
An example of forested, wildlife opening and brush pile habitat blended together on the 4R Farm. Photo by Jacob Barrett, LLA.

Tucked away in the Piedmont backroads of Wilkes County, Georgia, where its pygmy rattlesnakes and soils share the same pinkish hues, lies the town of Danburg. Sitting at the intersection, two long-abandoned stores face each other from their posts on opposing sides of the road, having kept watch over the town's happenings for at least the latter half of the 1900s. Sprawling out from the town's center are roadsides sprinkled with magnificent Victorian-style homes, some sporting picket fences with compact yards while others host an expansive space unbound by fences. With so much visible history in this area, it would not be surprising to see *American Pickers*, Frank and Mike cruising through these winding roads, searching for hidden, rusty treasures.

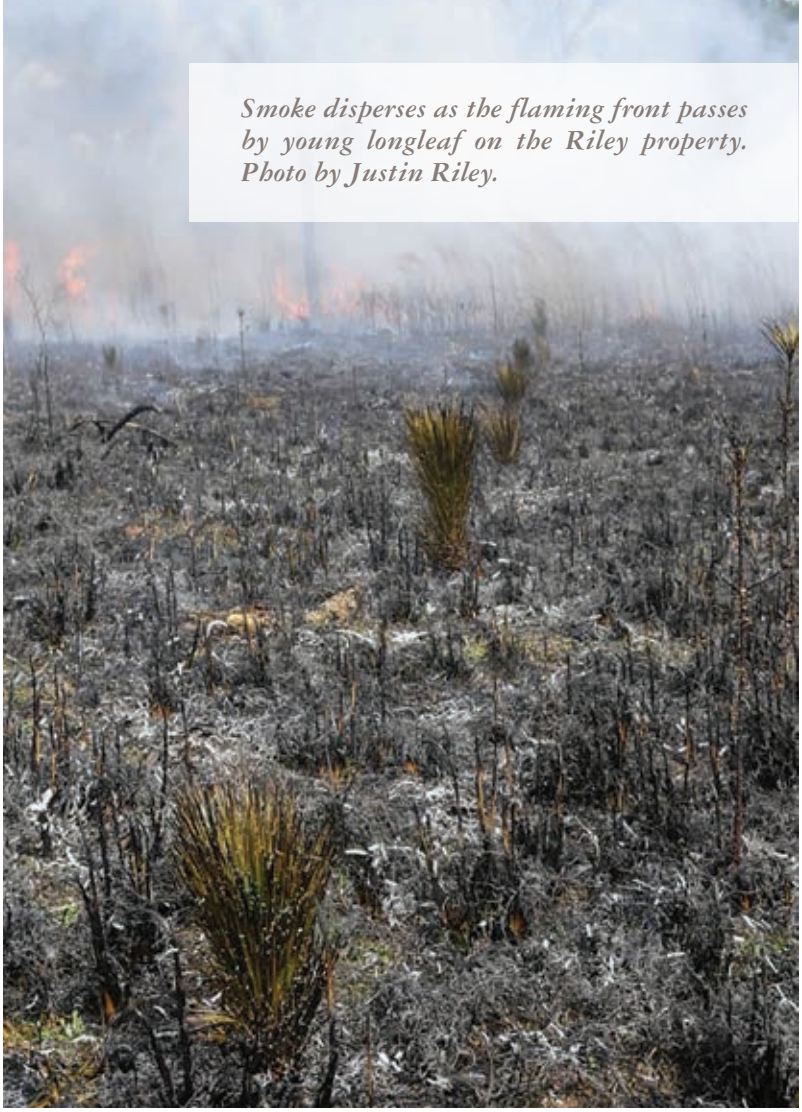
On the northern edge of the natural longleaf pine range in Georgia sits a beautiful property and a deeply rooted love for the longleaf pine ecosystem. Joe Riley and his wife, Heather, have called this slice of heaven home for over 30 years. Here, they instilled a love for longleaf while raising their children Justin and Elissa. Driving mile after mile through what are increasingly loblolly pine roadside vistas, the transition from the county blacktop to their gravel driveway is immediately comforting to anyone that may notice the towering, up-and-coming longleaf stand. In a land that is vastly loblolly country, why plant longleaf? Joe chose longleaf because he "had a natural attraction to it—he loves everything about it from the tree itself to the groundcover that accompanies it." He planted his first longleaf stand in 1999 and has not stopped since.

Joe Riley's curiosity and love for longleaf began well before his professional career with the Natural Resource Conservation Service (NRCS), formerly the Soil Conservation Service (SCS), ever started. He attended Abraham Baldwin Agricultural College (ABAC) in southern Georgia, where he found two of his lifelong loves—his wife and longleaf. He recalls seeing his first stand of "huge, majestic longleaf" at a park in downtown Tifton that left the lasting impression he still carries with him. After transferring to McNeese State University in Lake Charles, Louisiana, Joe received his bachelor's degree in Wildlife Management. His degree, coupled with summer internships, catapulted him into the beginning of a fulfilling career with Georgia SCS as a Soil Conservationist, eventually serving as NRCS District Conservationist. Joe says he was drawn to this work because, "We spent a lot of time with landowners, building relationships, and being able to play an active role in the management of their properties."

Along the way, Joe and Heather planted roots in Wilkes County. The Riley property, known as the 4R Farm, is extremely diverse in all aspects, from recreation to forest species



A young stand of longleaf remaining resilient in the cooler than normal weather in Wilkes County, Georgia. Photo by Justin Riley.



Smoke disperses as the flaming front passes by young longleaf on the Riley property. Photo by Justin Riley.

"Joe has much success and some failures. We've had some fires too hot, herbicides too close, snow and ice and not enough rain after planting, but through it all, the beauty and promise of the longleaf pine come shining through. The beautiful sound of the bobwhite quail song every spring reminds us why we do it." Heather Riley

composition. It has come a long way since the days that it was a cotton and cattle farm. Today, close to 25% of the managed acreage has been planted in longleaf, and some 60% is a loblolly-hardwood mix. To add to the property's diversity are close to seven acres of wildlife openings, mast-producing tree orchards, and native grass fields. These plots are spaced throughout the property and range from a quarter acre to one-acre areas. "His dream was to buy 100 acres and put a house in the middle. I wouldn't let him build it so far off the road, but we've done just about everything else he proposed to do," says Heather.

With the primary goal of northern bobwhite *(Colinus virginianus)* and eastern cottontail *(Sylvilagus floridanus)* management, Joe knows and advocates that prescribed fire plays an intricate role in restoring and maintaining habitat for not only for the aforementioned species but many more. "There is always something to learn, especially with fire," Joe says. Joe's first burn on 4R Farm was in 1990 as a part of the Wildlife Habitat Incentives Program (WHIP) program with SCS. Over the years, he has strategically emphasized creating smaller burn blocks across the property to give plenty of burned and unburned cover for wildlife. Another benefit of using multiple, smaller burn units is that it is easier to monitor specific fire effects. "You don't feel rushed to get a big block burned out before you lose good burning conditions," Joe remarks.

▲ *Grass stage longleaf responding well months after a successful prescribed fire on 4R Farm in Wilkes county, Georgia. Photo by Jacob Barrett, LLA.*

◀ *4R Farm is a family affair. Pictured with Joe and Heather (right) are daughter-in-law Melissa, son Justin, and dog Gauge. Not pictured is daughter Elissa and her husband Cody. Photo by Jacob Barrett, LLA.*

With more than 90% of Georgia being privately owned lands, private landowners are the key to effective habitat management. Joe approaches longleaf management by mimicking the natural longleaf ecosystem whenever possible. He follows the practice of uneven-aged stand management and frequent burning to eliminate competition and enhance the stand while also providing plenty of natural and planned hedgerows. This year he plans on planting some native ground cover in between. Managing a longleaf ecosystem takes a village, which has helped the Riley farm get to where it is today. There is always work to do on the farm, and an extra hand is always just a phone call away. Whether it be limbing along roads, prescribed fire, food plot planting, or longleaf seedling planting, their hunting club (comprised of six friends of 30 years), family, and friends have shaped the farm to what it is today. Like many other landowners, achievements and successes are not reached alone, and the Rileys are eternally grateful to all the help that they have received along the way.

For landowners that are looking to break into longleaf for the first time, Joe highly recommends participating in longleaf academies and workshops. He first attended a longleaf workshop at Tall Timbers Research Station in 1982 with NRCS Biologist and good friend, Louis Justice. Justice encouraged Riley to join The Longleaf Alliance as a member in 1999. Since then, Riley has attended several LLA academies, with plans to attend an Understory 201 to expand his knowledge in the area of native groundcover restoration. Riley comments, "The Longleaf Alliance has built itself to be the premier source for information on longleaf, and they are a valuable and helpful organization." He also recommends reaching out to your local forestry commission, "Although they may be stretched thin via budget and time constraints, they are another wealth of knowledge and expertise." Riley encourages landowners interested in longleaf to ask themselves, "What is your ultimate objective for your property? If economics is your only objective, longleaf may not be for you. But from the standpoint of the ecosystem, you will not beat the beauty of longleaf or the understory species composition. You cannot put a value on the feeling you get from hearing a bobwhite whistle." Riley concludes, "Longleaf is a labor of love. I am blessed beyond my richest dreams, and I thank the good Lord for my wife and family's support through it all."

By Bobby Franklin, The Longleaf Alliance

Living on Longleaf

The Importance of Writing a Plan

I've been blessed to work my entire professional career in the longleaf pineywoods, mostly in Alabama and South Carolina, with the Cooperative Extension Service. During this time, I was supposed to be providing information to landowners and natural resource professionals on how to better manage their land for forestry and wildlife objectives. What usually happened was I came away from those encounters learning more from them than I could teach!

I learned early on that regardless of a landowner's objectives, the vast majority need a financial return on their property. There are always property taxes to pay, management expenses to offset, routine, and unexpected costs that arise in life. Many landowners will say, "I have to make a living off my land," or "My bank is in the woods." 'Living on Longleaf' aims to provide considerations, both practical as well as stewardship concerns, that can ensure our time as land stewards will leave our property better than we found it.

> MANAGE THE FOREST YOU HAVE, NOT THE ONE YOU WISH YOU HAD.

First and foremost, it pays to have a written plan! By one estimate, only 3-5% of family forest owners have a current, written management plan. There are resources available from your state natural resource agencies as well as consulting foresters who can assist you. Having a plan will help you reach your desires and goals faster and at less expense.

Putting a plan in writing may be easier than you think. Two sources of assistance are your state's forestry agency through their Forest Stewardship Program and your local Natural Resources Conservation Service planning technical assistance that includes forest management plans. In both programs, a forester or a soil conservationist will help you identify your own goals and objectives and develop a basic forest management plan based on these goals and the existing condition of your woodlands. The service may have a nominal fee or a minimum charge; contact the local offices of these agencies to apply.

There's nothing to prevent a forestland owner from developing their own management plan. Consider following a template or guide like the American Forest Foundation's 'My Land Plan' program which offers a series of online modules that will help you learn more about your property, options available, and considerations, all developed to help you ultimately craft your own plan. mylandplan.org

For more information, check out Clemson Extension's Land-Grant Press publication 'Fundamentals of Forest Resource Management Planning' (https://lgpress.clemson.edu/publication/fundamentals-of-forest-resource-management-planning).

As always, contact The Longleaf Alliance for technical questions about longleaf you may have, or for additional information on forest management plans.

Going Virtual: Tips and Tricks for Online Meetings and Webinars

As the longleaf community continues to deal with COVID-19 related impacts to our work, the need for rethinking how we communicate and deliver outreach has pushed us to learn and use new and existing technologies. While the threat of Zoom fatigue is real, and remote trainings are an imperfect replacement for face-to-face meetings, we are finding success, sharing lessons learned, and moving forward.

This Technology Corner is a Q&A with Jennifer Fawcett (North Carolina State Extension), Laurel Keys (North Carolina State Extension/Southern Fire Exchange), and Lisa Lord (The Longleaf Alliance) who organized and ran virtual meetings and webinars this summer. We hope that their experiences will help others as we improve and make the most of these socially distanced opportunities.

What are the benefits of these new virtual communication platforms?

Jennifer: In today's times, when meeting in-person is not an option, online platforms allow us to continue to learn and connect with one another! Many of these platforms have chat or video functions where participants can say hello or see a familiar face. Education and training can continue during the pandemic when it would otherwise be impossible.

Laurel: While "virtual platform" is often synonymous with video services like Zoom, there are many additional tools, including online bulletin board applications like Padlet, Q&A applications like Slido, and live social media broadcasts.

Lisa: Virtual platforms can help us reach outside of our day-to-day professional sectors, partners, or geographic circles. Online learning allows us to connect with people that wouldn't otherwise be able to attend an in-person event due to logistical constraints, time of day, or season. Not only can people access information from any location, but meetings can be recorded for later viewing. It is a convenient, efficient, and inexpensive way to come together.

Laurel: Also, using virtual platforms for outreach allows us to tailor programs more specifically to meet our audiences' needs. We need to make sure we are thinking of those with limited internet access, or people who require accommodations such as closed captioning.

How do you tailor your content to reach the audience you are seeking to engage?

Lisa: It's important to define the meeting's purpose and the target audience, which will influence the platform you choose. Webinar platforms such as Zoom and Go ToMeeting™ have been around for some time, but there are other platforms such as MURAL, a digital workspace similar to a virtual whiteboard that are available where more collaboration and interaction is preferred. For larger meetings or working groups, software like Padlet, which acts as a bulletin board, help maintain sharing and creating content before a meeting and posting items afterward.

Laurel: Tailoring content for virtual programs may use different tools, but it requires answering the same questions as in-person events: Why am I doing this event? Who am I trying to reach? What is the best and most efficient way to do that? How do I mitigate obstacles to engagement? Once you have answers to those questions, figure out which platforms and tools you have access to, and use those to plan an outreach event that best meets the needs of your audience and accomplishes your goals.

Do you have the same impacts in a virtual format?

Laurel: There are some components of in-person learning, like the casual networking and conversations that happen before and after events, which are challenging to replicate virtually. However, with careful planning and clear directions for participants, virtual learning can be effective.

Jennifer: Some topics can be covered in a basic presentation. Others need in-depth, hands-on training, which can be very difficult, maybe impossible, to do in a virtual format. But you can still provide baseline knowledge, and even attempt to show some hands-on training in a video format. Once we can come back together again, providing hands-on experiences may be appreciated even more.

We've all heard of horror stories of things that went wrong on conference calls and virtual meetings, what lessons can you share to reduce issues during your virtual meeting?

Lisa: Planning and practice with the software or app before going live can alleviate many issues. And be prepared with a back-up plan if something falls through. In some cases, it might be helpful to email presentations (pdfs) ahead of time. Gathering a few colleagues or partners to assist with managing the virtual event can help everything run smoothly. For example, one person can run the meeting, while another could handle the technology, and a third person could control the chatbox.

Laurel: Schedule time with presenters and other collaborators to test their technology and make sure everyone knows the event's game plan. Share platform FAQ pages, system requirements, or other resources with participants ahead of time, so they are ready to use the required platforms. Maybe most importantly, don't panic if something goes wrong. Take a deep breath and resolve the issue as quickly as possible – just as you would at an in-person event.

Jennifer: If you set the expectation at the start of the event that we are all learning here together, and that something might go wrong, most people are understanding.

What advice do you have for others?

Lisa: Set up expectations from the beginning of the meeting for participants, especially regarding participation, video use, chatbox use, and sound. It can also help to walk participants through controls and features at the beginning of the meeting if it's a new, lesser-used platform. Take opportunities to interact with your audience if appropriate through features such as polls or breakout groups. These features keep people engaged, despite the distance.

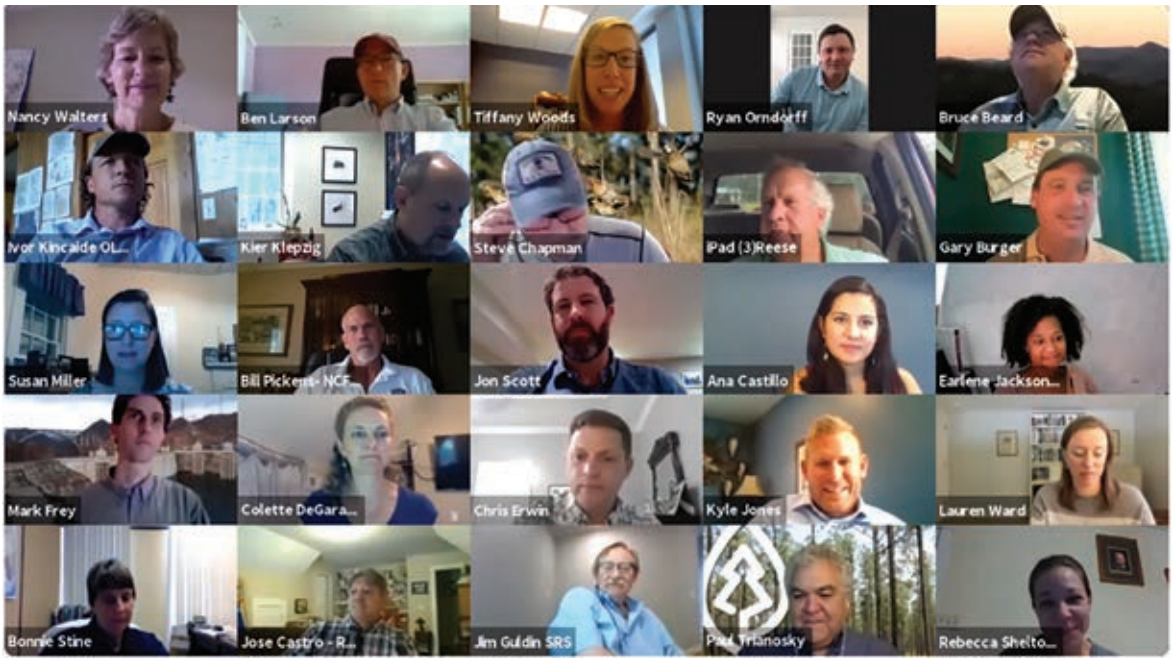
Laurel: Don't try to replicate in-person events virtually. Decide on your goals and work with partners to find the right way to achieve that goal virtually. The world is a different place than it was six months ago – try things out and find out what works and what doesn't. I'll put in the standard Extension plug for evaluation to help understand how to improve virtual programs.

Jennifer: We're all in this together, so don't be afraid to try hosting a virtual event! If you don't have experience leading one yet, talk to some other people who have done them before to get some tips. In July, we hosted a webinar with five Natural Resource professionals from around the country who shared lessons learned on hosting virtual events. That webinar recording, along with several helpful resources from the panelists, can be found here: go.ncsu.edu/virtualprogramswebinar. They provide some great advice from their personal experiences!

Laurel: Online learning is different, and a lot of us really miss in-person connections. But this is what we have right now, so let's make the best of it to keep reaching and teaching our audiences!

News from the Longleaf Partnership Council

By Tiffany Woods, LPC Chair, National Wildlife Federation, Director of Southeast Private Lands Forestry



Summer LPC meeting Zoom screenshot. Courtesy of Tiffany Woods.

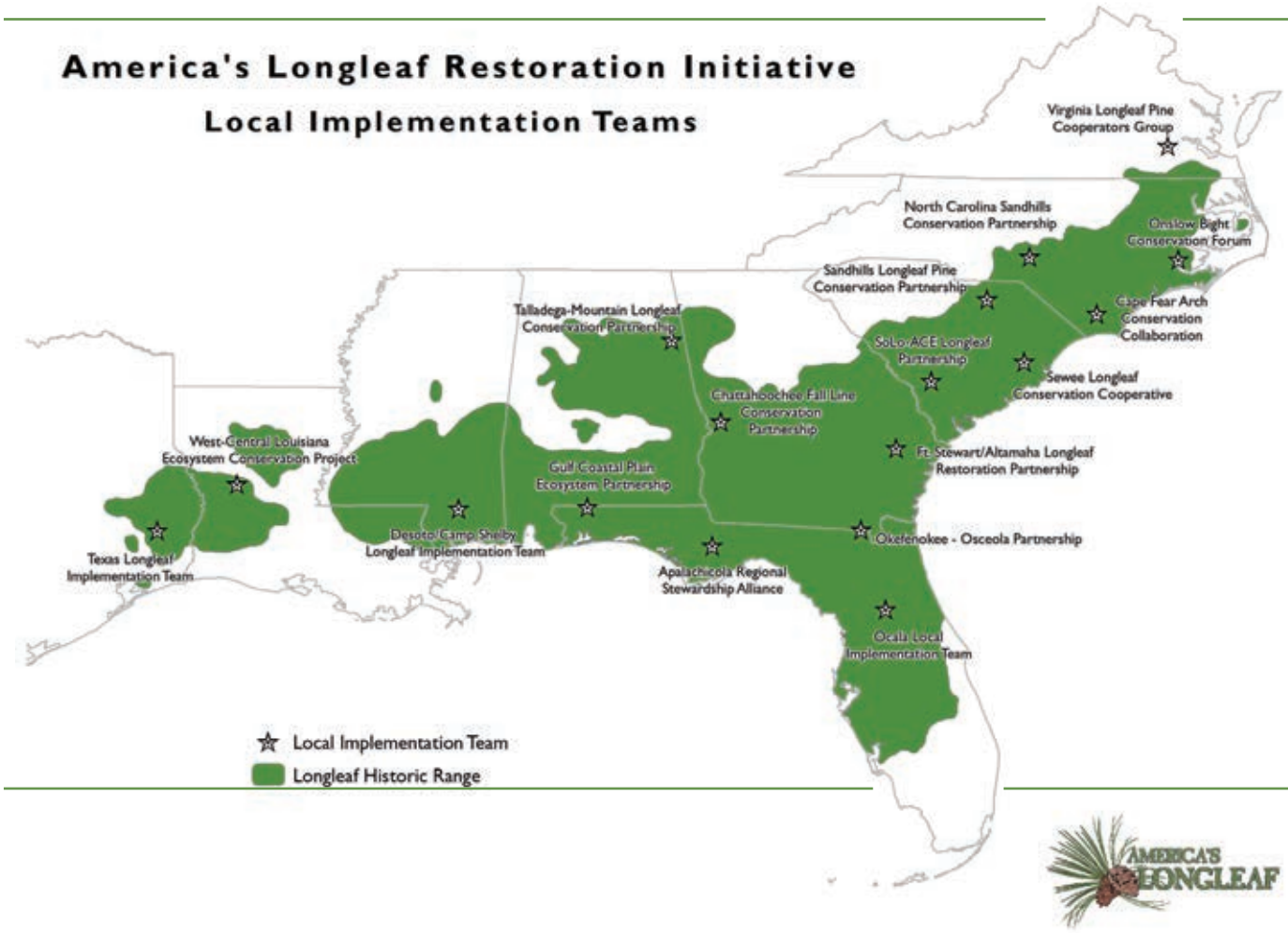
Like you, American's Longleaf Restoration Initiative (ALRI) spent the summer adjusting to new norms. I am happy to share that the first virtual Longleaf Partnership Council (LPC) meeting this summer was incredibly insightful and engaging. The LPC found that the virtual platform, Zoom, was a useful way to reconvene when our in-person meeting could not occur. With over 40 participants, we found that using the breakout feature allowed all attendees the opportunity to voice their thoughts on how current events impact our longleaf work. Moving forward, we plan on opening our virtual meetings to the entire longleaf community so that more individuals can participate and see how the range-wide coalition operates.

This coming year, many organizations, companies, and staff will face new challenges due to these dynamic and changing times. The LPC recognizes that COVID-19 will have ongoing effects for ALRI and our 8-million-acre goal, and we are looking into how we address and potentially prepare for this. We identified immediate challenges during our meeting: reductions in funding/staff capacity for organizations/agencies, landowner preferences shifting towards shorter rotation pine species, and timber markets being down compared to 2019 levels. Some members of the LPC are also working to address a potential shortage in H-2B workers (workers on seasonal temporary visas), which is projected to cause drastic reductions in forestry crews able to plant, burn, and manage properties.

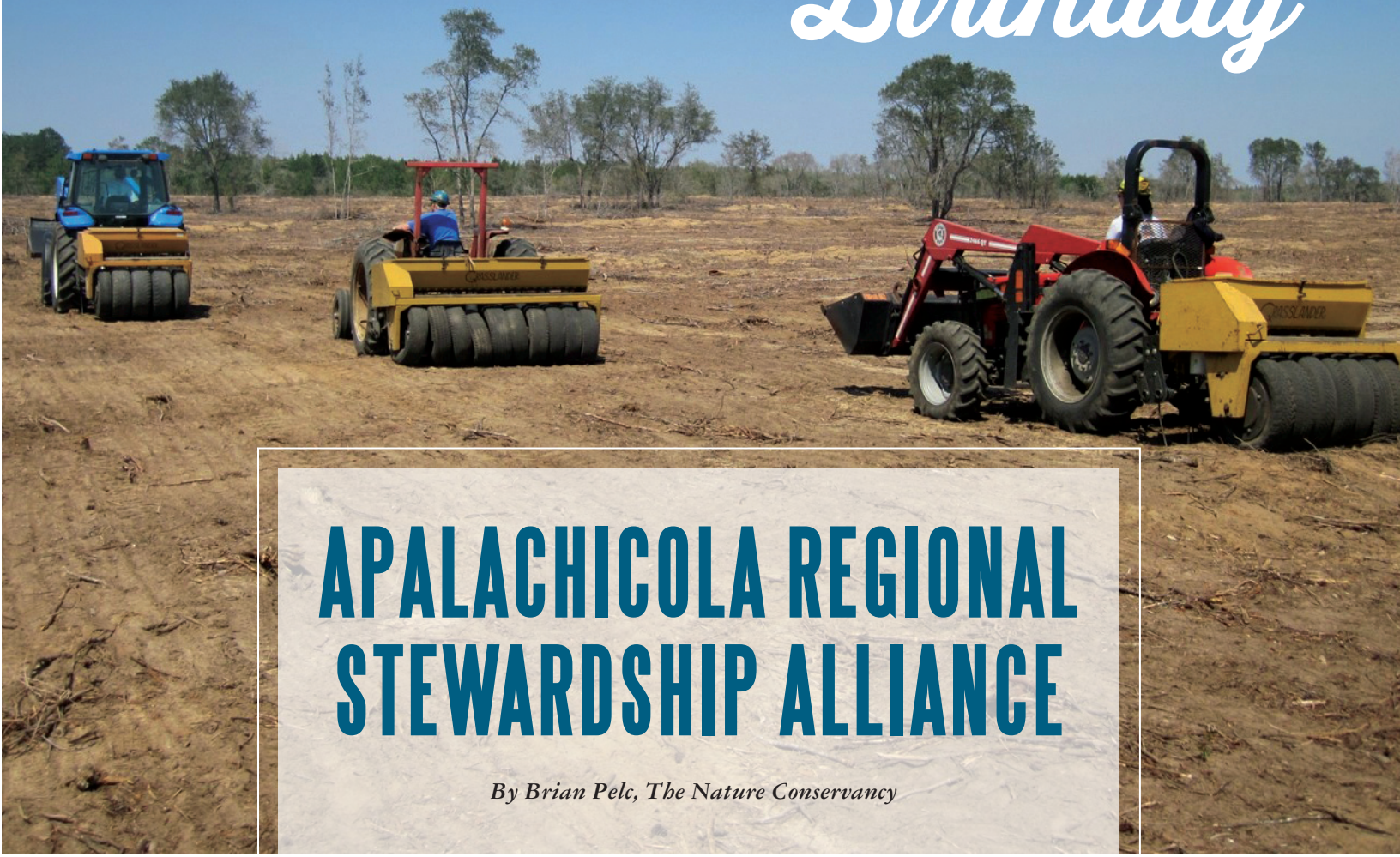
Another current and timely discussion topic for the LPC is inclusivity, diversity, and racism related to forestry, private, and public lands. ALRI's success is rooted in bringing people together to forge productive relationships; introducing and engaging as many people as we can to longleaf is core to our mission. However, we recognize that private and public land opportunities are not equal for all. The LPC is taking time to listen, learn, and educate ourselves on these issues. There is excellent work being done by many groups and individuals in the forestry realm that we want to elevate and to become more reliable partners. As a coalition, we have an opportunity and responsibility to see that all people have a right to enjoy and access longleaf on public lands and receive equal opportunities for outreach (whether as landowners or service providers) on private lands. The LPC is committed to creating more opportunities and spaces where conversations and actions can occur to generate positive change; this commitment will remain on our agenda well into the future.

As we prepare for a new season, I am excited and grateful to think about all that longleaf continues to offer us all. Hunters will be taking their bows and rifles into the woods; families will prepare for hiking and camping trips, and restoration and forestry work will continue.

Regards,
Tiffany


America's Longleaf Restoration Initiative
Local Implementation Teams
Virginia Longleaf Pine Cooperators Group
North Carolina Sandhills Conservation Partnership
Onslow Bight Conservation Forum
Sandhills Longleaf Pine Conservation Partnership
Cape Fear Arch Conservation Collaboration
Talladega-Mountain Longleaf Conservation Partnership
SoLo ACE Longleaf Partnership
Sewee Longleaf Conservation Cooperative
Chattahoochee Fall Line Conservation Partnership
West-Central Louisiana Ecosystem Conservation Project
Ft. Stewart/Altamaha Longleaf Restoration Partnership
Gulf Coastal Plain Ecosystem Partnership
Okefenokee - Osceola Partnership
Desoto/Camp Shelby Longleaf Implementation Team
Texas Longleaf Implementation Team
Apalachicola Regional Stewardship Alliance
Ocala Local Implementation Team
Local Implementation Team
Longleaf Historic Range
AMERICA'S LONGLEAF

Happy 20th Birthday



APALACHICOLA REGIONAL STEWARDSHIP ALLIANCE

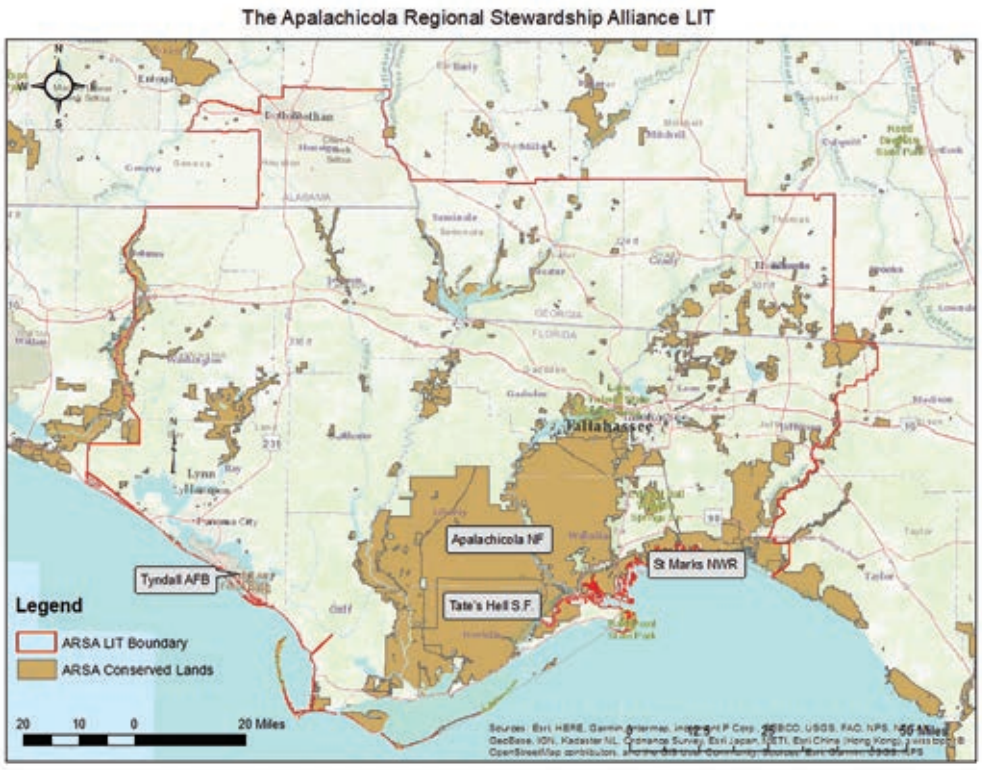
By Brian Pelc, The Nature Conservancy

Sharing resources: tractors and staff from The Nature Conservancy, Florida State Parks, and Florida Fish and Wildlife Conservation Commission participate on a groundcover restoration project in the Sandhills of Torreya State Park. Photo by Brian Pelc.

The Apalachicola Regional Stewardship Alliance (ARSA) Local Implementation Team (LIT) is almost old enough to buy moonshine – well almost. While not ancient, like the old-growth longleaf pine it supports, this nearly grown-up LIT does cover a vast region in the eastern half of the Florida Panhandle, reaching up into the southwest Georgia Red Hills and southeast Alabama. An impressive 1.5 million acres of longleaf are known to occur within the LIT, and over a million acres of state, federal, and private conservation land is managed for conservation, timber, recreation, and ecosystem services. There are less than 750,000 people in the region, among the lowest population density in all the longleaf range; Florida's State Capitol is here in Tallahassee, as well as several state and federal agency headquarters, three universities and at least as many community colleges and trade schools.

Within this boundary, the 150 or so ARSA members representing over a dozen state and federal agencies and several non-profit conservation organizations, are working to restore the landscape, ranging from high and dry pine uplands and sandhills to low and wet flatwoods and prairies. The conventional wisdom in this group includes: protect important places from conversion, implement more (and better) fire where appropriate, keep invasive species out of the best places, remember the species diversity is "from the knees down," assist private landowners, and train future land managers within our communities. Some of the greatest longleaf accomplishments in the region are the perpetual protection of millions of connected acres in the heart of the ARSA region (Apalachicola National Forest, three State Forests, three State Parks, four State Wildlife Management Areas, and St Marks National Wildlife Refuge)

ARSA members meet bi-annually to exchange ideas and hear updates from across the Alliance. Photo by Brian Pelc.



The Apalachicola Regional Stewardship Alliance LIT Boundary includes the eastern Florida Panhandle and adjacent Georgia and Alabama counties. Longleaf habitats in this area range from pine uplands and sandhills to mesic flatwoods.

and equally important, but not connected protected areas (like Tyndall Air Force Base, Tall Timbers Land Conservancy, Torreya State Park, and many more).

History

Like much of the longleaf range, the ARSA region suffered massive and unsustainable timber extraction followed by offsite pine reforestation and natural fire suppression. However, enclaves of landowners interested in quail hunting, livestock, and timber maintained fire management traditions while other parts of the range swelled up with hardwoods. The legacy of these early fire practitioners is found in places like The Wade Tract, where rebar can be hand pushed six feet deep into spongy soils that never suffered heavy machines and now offer a reference for pine community plant diversity. In the early days of the 21st century, land managers from a dozen state, federal and NGO (non-governmental organization) lands along the Apalachicola River decided the best way to solve common problems (such as limited funding, equipment, and staff) was to partner up and share resources and knowledge. A decade of informal, but committed partnership resulted in important cooperative projects and a genuine trust among the cooperators. This bedrock of trust evolved into a formal Memorandum of Understanding in 2010 and a committee-authored Longleaf Pine Conservation Plan in 2017.

The Path Forward

Those are the ARSA origins, but a timeline of the region would be incomplete without acknowledging the 2018 hurricane that put 70 years' worth of mill capacity timber on the ground in a matter of hours. ARSA members have been recovering together in the two years since. Colleagues at Tyndall Air Force Base suffered the most direct hit from Hurricane Michael. Still, the strong commitments by the Department of Defense and cooperators from U.S. Fish and Wildlife Service are doubling down on longleaf, using the disaster to replace offsite pines. Other corners of the ARSA region are equally sunny now that the storm has passed. Partners are looking forward to potential funding from the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act (RESTORE Act) while adding more prescribed fire acres each year. ARSA members are funding ongoing pre- and post-restoration monitoring to build a "Wet and Mesic Flatwoods Restoration Toolbox" and lowering the funding and equipment obstacles for groundcover restoration on private lands.

A Longleaf Reflection

ARSA is, in some ways, like a longleaf pine tree itself, forming strong roots that dig deep to reach resources to support the strong partnership and innovative stewardship. The trunk holds the mass and stands tall in strong winds and frequent fires; this is the people in our communities and working within our membership for the long-term good of the forest. Finally, the canopy turns sunlight from above into resources the whole forest benefits from; the long needles being the numerous funders, regional planners like the Longleaf Partnership Council, and support organizations like The Longleaf Alliance. Of course, all these components must work together for the tree to live.

Restoration at Bonnie Doone Lake Natural Area

By Caroline Krom, U.S. Fish & Wildlife Service

Left: Caroline Krom and Wendy Dunaway assist with coring of old-growth trees for dendrochronology work by the UNC Greensboro laboratory. Photo by Joshua Junot. Right: Mechanical understory removal at Bonnie Doone. Photo by Wendy Dunaway.

The 262-acre Bonnie Doone Lake Natural Area boasts the largest old-growth longleaf stand remaining in North Carolina, and one of less than a dozen enduring in the Southeast. Located in the sandhills of Cumberland County, it is owned by the City of Fayetteville and managed by the Fayetteville Public Works Commission. Bonnie Doone Lake is the uppermost lake in a series of four within the Little Cross Creek watershed, a drinking water source for the city of Fayetteville.

The management goals for the property are protection of water quality and restoration and enhancement of the longleaf ecosystem for wildlife habitat. Recent projects include timber stand improvement on 47 acres, and the first prescribed burn in over 10 years. These two actions are contributing to restoring the open forest aspect and have welcomed the first red-cockaded woodpeckers to the property in over four decades. Bonnie Doone is host to characteristic sandhill flora and fauna and was registered as a Natural Heritage Area by the North Carolina Natural Heritage Program in 1990. The sandy, rolling hills harbor longleaf pines dating to 1770 with countless flattop, turpentine and relic cavity trees.

Contributing partners in the restoration efforts have been the U.S. Fish & Wildlife Service, NC Chapter of The Nature Conservancy, NC Sandhills Prescribed Burn Association, Dine Development Corporation, Ft. Bragg Endangered Species Branch, Dr. J.H. Carter III & Associates, Inc., NC Natural Heritage Program, and the dendrochronology laboratory with the University of North Carolina at Greensboro.

Groundcover Restoration Takes Root on the Chattahoochee Fall Line

By Nathan Klaus, Georgia Department of Natural Resources

Jennifer Ward and Luke Johnson, technicians with the Georgia Department of Natural Resources, using a tree planter to plant lopsided Indiangrass on Sandhills Wildlife Management Area in Taylor County, GA. Photos by Nathan Klaus.

Members of the Department of Natural Resources West-Central Georgia crew take groundcover seriously. We've learned how important it is to the biodiversity of our longleaf pine ecosystems and how critical good groundcover is to fuels. For five years now, our crew has spent a portion of their time restoring groundcover from sites where it was lost through heavy-handed herbicide use or past agriculture, rebuilding our longleaf ecosystem, and laying the foundation for great burns in the future. Throughout the summer, hourly technicians with this crew collected the seed of over 50 species of forb and a half dozen species of grass. During the fire season, volunteers from the crew with an interest in restoration, botany, or related disciplines undertake the tedious work of cleaning the wildflower seed, treating it with cold-stratification or other techniques to enhance germination, then planting it into plug trays. Hand-collected grass seed is sent to Roundstone Native Seed Company, where plugs are grown and shipped back. The 2020 crew outplanted more than 3,200 wildflower and 10,000 native grass plugs into restoration areas, jump-starting the return of these species to several properties. Outplantings are regularly monitored; survival is high and getting better every year. Most exciting is the discovery that many restored species are beginning to spread on their own!

Nighttime burning: versatile and beautiful land management tool

By Matt Grunwald, Georgia Department of Natural Resources

Left: The pines lit up by the moonlight above and the flickering orange glow below. Right: Burn crew members enjoy the satisfaction of seeing their firing patterns in action. Photos by Garrett Anderson.

In early May, burn crews funded through a Longleaf Stewardship Fund grant from NFWF to The Longleaf Alliance were lucky enough to burn through the night at the Orianne Indigo Snake Preserve. Large scale nighttime burns can be hard to pull off. The weather must be just right, with good winds and low humidity throughout the night, plus folks aren't usually looking to end their shift at 4 am. But conditions were perfect, and there was a great showing from the Georgia Interagency Burn Team. The Orianne Society, The Nature Conservancy (TNC), and Georgia Department of Natural Resources crews (all but TNC is currently receiving funding from The Longleaf Alliance) were all there, though we were kept separate in our groups for social distancing purposes. Prescribed fire after dark also presents unique hazards compared to our normal operations. The firefighter watch-out situations, "In country not seen in daylight" and "Taking a nap near the fireline," suddenly become very real and dangerous scenarios. However, with a solid briefing, communication, and a buddy system, everyone felt comfortable going into the night. The cool night air helped moderate fire behavior, and we made significant impacts in the name of habitat restoration. Everyone stayed safe, the burn boss was blown away by the effects, and on top of all that, the fire was beautiful.

Unique Natural Communities Thrive at the Blackwater River State Forest Thanks to Exemplary Prescribed Fire Program

By Vernon Compton, The Longleaf Alliance

Left: Blackwater River State Forest seepage slope after a burn. Right: Dewthreads. Photos by Vernon Compton, LLA.

There are many unique embedded natural communities in the longleaf ecosystem; like the longleaf pine itself, these communities are also fire-dependent. Due to the emphasis placed on prescribed fire as a critical management tool, the Gulf Coastal Plain Ecosystem Partnership (GCPEP) landscape is fortunate to have numerous examples of highly diverse bog/seepage slope communities. These communities are full of life, including an abundance of carnivorous plants such as pitcher plants and sundews. To take in this high level of diversity, you must look below your knees at the ground layer, as some of these plants are very small. Carnivorous plants all have unique mechanisms to trap unsuspecting insects, essential to capturing nitrogen and other minerals otherwise unavailable to them in these environments. Without prescribed fire, these sun-loving natural communities quickly change to being dominated by woody species. Blackwater River State Forest has long prioritized prescribed fire, and it is clearly evident as one explores the forest and comes across a wetland filled with white-top pitcher plants, sundews, butterworts, and pine lilies. From 2015 to 2019, Blackwater River State Forest averaged 63,804 acres of prescribed fire per year, even with fire staff providing statewide emergency assistance such as hurricane relief. It is their dedication and hard work to keep prescribed fire in an ecosystem built for fire that leads Blackwater River State Forest to be one of the forest gems in the longleaf range. Congratulations to the staff and fire crews that work each year to make it so through effective use of prescribed fire. Carry on this outstanding work!

Update from the Mississippi - Alabama - Louisiana Longleaf Implementation Team

Longleaf pine improvement project in collaboration with Weyerhaeuser Corporation. Photo by Clay Mangum.

The Mississippi Alabama Louisiana Longleaf Implementation Team (MS LIT), continues to collaborate with partners on longleaf restoration projects, including work committed through a NFWF grant received in 2018 to restore and improve longleaf pine in Southeast Mississippi. Since receiving the grant award in 2018, partners have completed 3,146 acres of prescribed fire on private land, three longleaf-related outreach programs with more than 100 participants, 325 acres of longleaf pine restoration, and 25 acres of non-native invasive species treatment.

Expanding influence in priority areas, the MS LIT collaborated with Weyerhaeuser Corporation to identify portions of the Florida Parishes in Louisiana and South Mississippi to restore and improve longleaf pine. These projects will advance conservation goals, and particularly benefit listed and at-risk species.

South Carolina Sandhills Longleaf Conservation Partnership

By Charles Babb, SLPCP Coordinator

Johnny Stowe and Charles Babb guide students as they identify Indian artifacts during a field day last year. Photo by Susan Griggs.

Despite being hampered by the COVID-19 pandemic, the South Carolina Sandhills Longleaf Conservation Partnership (SLPCP) found ways to educate youth about the importance of the longleaf ecosystem.

After a planned fourth grade field day was canceled, the SLPCP secured a coveted session at the 5th annual conference of The Southeastern Environmental Education Alliance, a collaboration of environmental educators covering the eight southeastern states from Kentucky to Florida. This virtual conference was hosted by the Environmental Education Association of South Carolina, and the theme was "Environmental Legacy. It's our Past, Present, and Future."

"We reached out to partners around us who have significant experience in longleaf history and management," said Coordinator Charles Babb. "We wanted to make this a memorable experience for teachers to take back to their classrooms and pass on to the next generation of forest landowners."

Bob Franklin (SoLoACE LIT Coordinator) and Jesse Wimberley (Sandhills Prescribed Burn Association) joined SLPCP partner, Johnny Stowe (SCDNR) and student intern Savannah Hebler on the virtual platform. They discussed topics such as the influence of human activities in the longleaf forest, the history of fire and cattle in longleaf, the process of engaging private landowners in longleaf restoration, and the introduction of the next generation of managers into the longleaf forests.

Attendees heard the history of longleaf from the pre-historic period to-date, its demise, the ecological impact on Southeastern species, and how our plans for restoration will ultimately depend on the very students they teach.

SoLoACE — Growing Partnerships in the Region

By Bobby Franklin and Lisa Lord, The Longleaf Alliance

Natural recruit found at the gopher tortoise headstarting project site, heading toward his itty-bitty burrow. Photo by Lisa Lord, LLA.

The Southern Low Country/ACE Basin (SoLoACE) Partnership works closely with the Savannah River Clean Water Fund (SRCWF) to provide landowner outreach and permanently protect forests that support and protect the water supply for communities and businesses in the watershed. The Fund recently welcomed International Paper (IP), which owns and operates two Savannah River Basin mills in Port Wentworth and Savannah, as the first industry partner. IP announced 'Vision 2030," which includes goals to increase focus on water stewardship, and this partnership will further multiple conservation goals in the region.

SoLoACE continues to move longleaf restoration forward despite the rain, heat, and social distancing. Prescribed fire carried on into the summer months while landowners also turned toward other restoration activities such as timber stand improvements and site-preparation before planting this winter. Seventy-six headstarted tortoises were released this summer as part of the SoloACE gopher tortoise headstarting project with the Savannah River Ecology Lab. We are meeting with landowners virtually, or we provide technical assistance through solo site visits, followed by reports to the landowner. The Partnership held its first virtual meeting with twenty-four partners tuning in to hear about the Forest Action Plan, woodland grazing, and project updates. Throughout a week in June, we partnered with Clemson Extension to present an Invasive Species Workshop, a series of one-hour programs during the lunch hour. Forty-three landowners, foresters, and natural resource professionals participated.

Texas Team Focuses on Program Delivery & Digital Content Development

By Jenny Sanders, Texas Longleaf Implementation Team Coordinator

A snapshot of the new "Birds of the Longleaf Forest" page developed for the Texas Longleaf Implementation Team website earlier this year.

While the global pandemic threw challenges at all of us that few were prepared for, the dedicated and creative team in Texas did not allow the pace of longleaf restoration to be one of the casualties. As all face-to-face outreach activities came to a halt, we focused on program delivery and digital content development.

First, the Texas team launched a new e-newsletter focused on appealing to the growing cadre of landowners interested in wildlife and recreational values. Bright, colorful, and fresh – the newsletter content highlights the many values of the longleaf forest, management strategies, financial and technical assistance opportunities, and celebrates our partners and their accomplishments.

The e-newsletter also served as a launchpad for new digital content developed for www.txlongleaf.org. Visit the site to see new pages dedicated to the groundcover plants and birds of the longleaf forest. Lastly, the team worked with partners at the Texas A&M Forest Service to develop a program delivery dashboard for easy, real-time assessment of progress toward annual restoration objectives.

Thanks to this creative use of digital resources and active promotion by our partners, our team has leveraged over $250,000 of cost-share funds into longleaf projects on more than 6,000 acres, resulting in a total longleaf restoration and enhancement value of over half a million dollars, year-to-date!

Despite the frustration, fear, and sadness that has characterized recent months, this time has allowed groups like ours a bit of a reset, and for that, we are grateful.

USFS Storm Cleanup Creates Restoration Opportunity on the Kisatchie

By Dan Weber, The Nature Conservancy

Tornado damage and salvage harvest on the Kisatchie. Photos by Jim Caldwell, U.S. Forest Service.

The Kisatchie National Forest consists of 604,000 acres in several large tracts throughout northwest and west-central Louisiana. It forms the core of the Kisatchie/Fort Polk Significant Geographic Area (SGA) where the local longleaf implementation team, the West Central Louisiana Ecosystem Partnership, composed of the U.S. Department of Defense, state and federal wildlife agencies, conservation non-governmental organizations (NGOs), and others have united to restore longleaf pine and other native ecosystems within a six-parish conservation area.

In December of 2019, a devastating tornado moved through Vernon and Rapides Parishes damaging approximately 3,700 acres on the Kisatchie. The storm cut a swath from DeRidder to Pineville, Louisiana 60 miles long and a quarter to one-half mile wide. Most of the damage occurred on the Calcasieu Ranger District, a longleaf showpiece equaling anything else found across the range and features prominently in statewide restoration plans for both the red-cockaded woodpecker and the Louisiana pine snake.

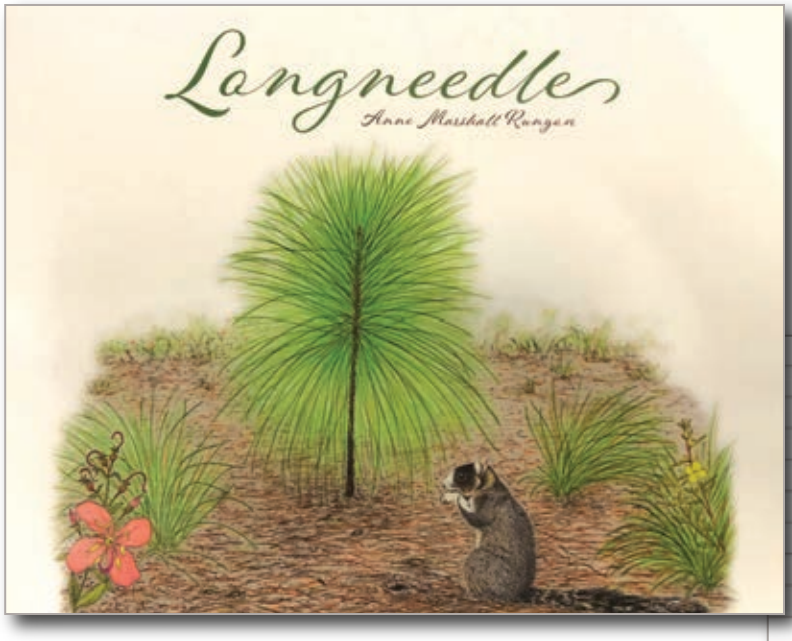
The U.S. Forest Service estimates 35 MMBF (million board feet) of timber was damaged as a result of the storm. Approximately 27 MMBF have been removed so far during salvage operations, with a remainder of 1-2 MMBF left to go. The storm did not discriminate impacting all ecosystem types, but a significant portion (1,400 acres) of the blowdown occurred across high-quality longleaf stands. Woodpecker inserts were introduced to make up for lost nesting cavities and were very shortly after occupied. Once the salvage work is finished, restoration work will get underway. Much of the impacted area will be reforested with longleaf seedlings this planting season, while other areas will be left to regenerate naturally.

Note: Impacts to the area from Hurricane Laura, which made landfall on August 27th near Cameron, Louisiana as a Category 4 storm, are still being assessed.

LONGLEAF LITERATURE

Author: Anne Marshall Runyon
Publisher: North Carolina Office of Archives and History, 2020

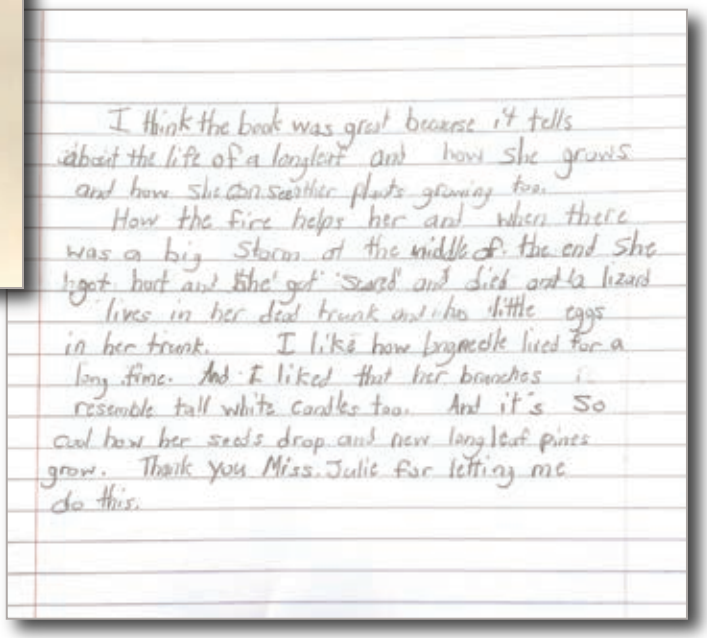
Reviewed by Julie Moore



This spring, I anxiously awaited a copy of the just-published *Longneedle* by author and friend, Anne Runyon. When my postman, Keith, handed me the 10x12-inch envelope that I quickly opened, he could tell I was excited and asked if it was good news. And it was. As he looked over my shoulder while I flipped through the pages, he was amazed to see the landscape he got to know as a child from New York City visiting his grandparent's home in eastern North Carolina, running free in the pineywoods.

Familiar with Anne's illustrations in numerous other publications, I had anticipated how *Longneedle* would look. Through her detailed depictions of the longleaf forest and its many components, Anne became as intrigued with the longleaf story as I am. She studied this now uncommon southern forest from numerous perspectives.

Anne shared several versions of her story with me as it evolved to assure the accuracy of her descriptions of a single longleaf seedling growing into a 300-year-old tree within a forest teaming with wildlife. She persisted in bringing to life and publication this fascinating tale not just for children, but also for all to be amazed by how an individual tree, part of a complicated forest and human system, grows and eventually dies. In *Longneedle*, she has maintained a biological perspective to create a factual story, not a fantasy, for all of us. A friend, who grew up in the North Carolina Sandhills, thought his grandson living in New York City would enjoy knowing something about the forest where he enjoyed hiking and hunting, and where his relatives derived some income. In fact, several friends of all ages with interests in natural history are receiving copies of *Longneedle* for their birthdays, for Christmas, or for especially good behavior in these trying times. Purchase a copy for yourself or to share with others from The University of North Carolina Press (www.uncpress.org).



I think the book was great because it tells about the life of a longleaf and how she grows and how she can see the plants growing too. How the fire helps her and when there was a big storm in the middle of the end she got hurt and she got scared and died and the lizard lives in her dead trunk and the little eggs in her trunk. I like how longneedle lived for a long time. And I liked that her branches resemble tall white candles too. And it's so cool how her seeds drop and new longleaf pines grow. Thank you Miss. Julie for letting me do this.

For a child's perspective on Longneedle, *I asked Leila Krom, age 10, daughter of my friend Caroline Krom, to read it and let me know what she thought. She provided the review above. The Kroms live in a longleaf forest in the North Carolina Sandhills.*

About the Author

Anne Runyon lives in North Carolina and is a freelance illustrator and author. In addition to her children's books, she also creates woodcut prints and designs paper sculpture craft activities. Anne's artwork is featured in environmental education publications and exhibits throughout North Carolina. www.annerunyon.com

LONGLEAF *Art* SPOTLIGHT

Elizabeth Hayes Halderson

ABOUT THE ART

The design celebrates the gopher tortoise as a keystone species. The gopher tortoise butter domes and plates are made of tan stoneware clay. Both pieces are formed on custom-made hump molds from soft slabs of clay; this is much like handling large sheets of pie dough. The tortoise head, tail, and pine cone handle are made separately and attached while the clay is still soft. The shell design is incised or drawn into the clay. After the bisque, first firing, the plates are decorated with hand-painted, underglaze animals then dipped in clear glaze. The domes are dipped in various glaze colors, but the cone handle is left unglazed for a better grip. After a second firing, glazes are food and dishwasher safe. This whimsical pottery can be enjoyed every day for generations.

ABOUT THE ARTIST

Coastal Georgia, especially the memories of my childhood, is the inspiration for my artwork. Each piece is handmade by me. I try to create a sense of place or memory or just a fondness for Georgia's wildlife. Though I may retell a story from time to time, each piece is unique and lovingly and prayerfully made.

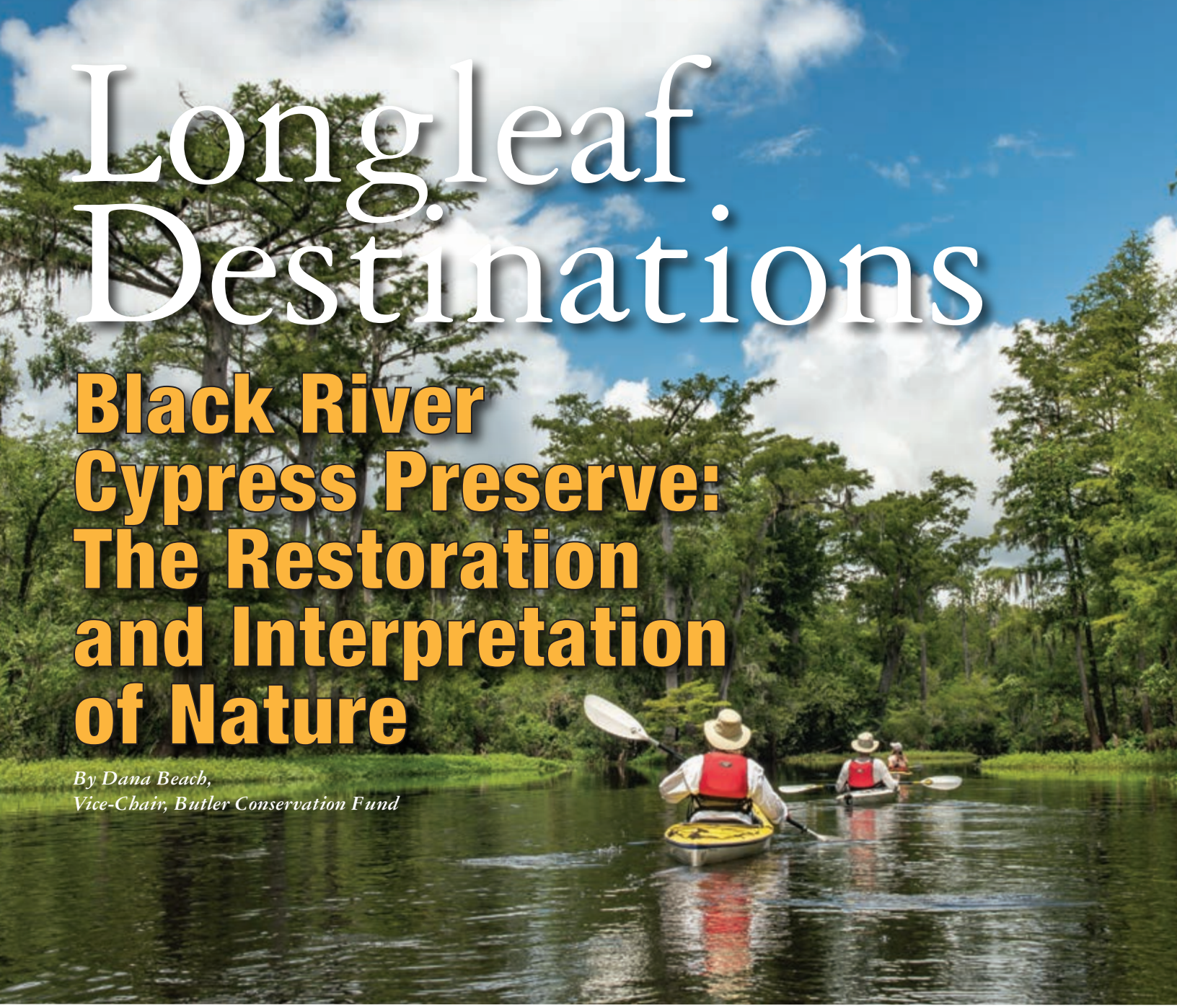
I make dinnerware because it makes me happy to have my stories passed around your table. I believe the best stories and most important talks take place around the table. I hope my pieces inspire dinner conversation about your families' island memories and the natural value of the Golden Isles of Georgia. My wish is that you and yours will do what you can to conserve this unique place because you care.

Elizabeth Hayes Halderson, St. Simons Island, Georgia
www.etsy.com/shop/elizabethpottery

Longleaf Destinations

Black River Cypress Preserve: The Restoration and Interpretation of Nature

By Dana Beach,
Vice-Chair, Butler Conservation Fund



I met Gilbert Butler 17 years ago, kayaking on the Francis Marion National Forest's iconic Wambaw Creek. The private equity pioneer-turned-conservationist's love of southern cypress swamps had been decades in the making. Its source lay one thousand miles to the north, in the foothills of the Adirondack mountains, and on Maine's Mt. Desert Island, where Gil had developed a passion for wilderness kayaking.

His enthusiasm for paddling eventually led to the Southeast. Every spring he would explore Georgia's coastal waterways, and later those of the South Carolina Lowcountry. Over time, Gil became convinced that saving the environment, while encouraging people to live healthier lives, meant exposing them to the transformative beauty of nature.

Gil and I first toured the 1,000-acre Black River tract (near Andrews, South Carolina) in the spring of 2015. The owner, Resource Management Services (RMS) of Birmingham, Alabama, had recently placed the property on the market. Six hundred acres of old-growth cypress and tupelo were protected by a conservation easement purchased a few years earlier by The Nature Conservancy. The "residual" 400 upland acres consisted of medium-aged loblolly pines, growing characteristically "thick as dog hair" in the sandy soils.

We were all mesmerized by the swamp, and Gil, especially, by the fact that the property across the river – six miles of mature cypress and tupelo forests interlaced with channels and alluvial ridges – was already owned by The Nature Conservancy. Applying decades of corporate experience in leveraged buy-outs to conservation work, Gil asserts, "The goal of protecting rivers is to get both sides. And the best case is not having to pay twice."

The Cypress Preserve purchase represented a distinct departure from previous South Carolina projects supported by Gil's

Johns Lake Pavillion is one of several facilities at Cypress Preserve. Photo by Dana Beach.

Scenic paddling adventure on South Carolina's Black River. Photo by Dana Beach.

New York based charitable foundation, the Butler Conservation Fund. The Fund had become the lead private sector funder of land protection on the Black for a decade, helping protect eight properties along the Black, encompassing more than 4,000 acres of land and 15 miles of river frontage.

But the Cypress Preserve was the first South Carolina property the Fund would own outright, with the goal of developing recreational and educational programs for school children and the public. The precedent had been set decades ago in upstate New York near the Butler family seat of Alder Creek. There, in the foothills of the Adirondacks, Butler charitable entities own and operate eleven campuses with 50 miles of trails for canoeing, hiking, bicycling, snowshoeing, cross-country skiing and nature study. Students from schools in the mostly rural area of the Adirondack foothills have logged approximately 120,000 visits to the campuses. Beyond the partnerships with area schools, the campuses are open to the public year-round. More than 10,000 people annually enjoy the trails, picnic areas, and interpretive displays.

Sometimes circumstances align too closely to be considered coincidence. The Butler family estate in Alder Creek, New York – 1,000 miles to the north of Andrews, South Carolina – is also bordered by a Black River. This one was legendary in the economic history of the Northeast – part of the massive canal system that supported industrialization of the region in the 19th century.

It was this northern Black River where a young Gilbert Butler spent summers canoeing and swimming. Prophetically, perhaps, the Butler's beautiful family vacation home on the property was built in the early 20th century of longleaf pine – perhaps harvested from the forests of coastal South Carolina.

Although motivated initially by the majesty of the cypress-tupelo swamp, Gil recognized the significance of the upland pinelands at the Cypress Preserve. An insatiable scholar of American history and collector of 18th and 19th-century natural history prints, he had been inspired by narratives and images of the Southern landscape for decades.

Fortunately, most of the subjects painted by John James Audubon, Mark Catesby, and Alexander Wilson continue to animate South Carolina's Black River woodlands 300 years later. The springtime blackwater swamps still ring with the persistent "sweet, sweet, sweet" of prothonotary warblers. Even in their altered state, the pinelands still resound with the songs of Bachman's sparrows, sedge wrens, red-headed woodpeckers, summer tanagers, blue grosbeaks, and orchard orioles.

As the Butler Conservation Fund team mapped out the development and restoration of the Cypress Preserve, it seemed as if the spirits of these early naturalists, in concert with the forest's current residents, were reminding us of the former glory of the adjacent pinelands, urging their rehabilitation. Fortunately, the scientific foundation for reconstituting the intricate beauty of the native pine forests had been laid during

Longleaf pine underplanting in a loblolly pine overstory. Photo by Dana Beach.

Trails at Cypress Preserve offer many hiking and biking opportunities, including through their recent longleaf restoration projects. Following Hurricane Matthew, this loblolly pine stand was underplanted with longleaf pine. Photo by Dana Beach.

the middle of the last century and further developed by a small cadre of longleaf devotees, notably The Longleaf Alliance.

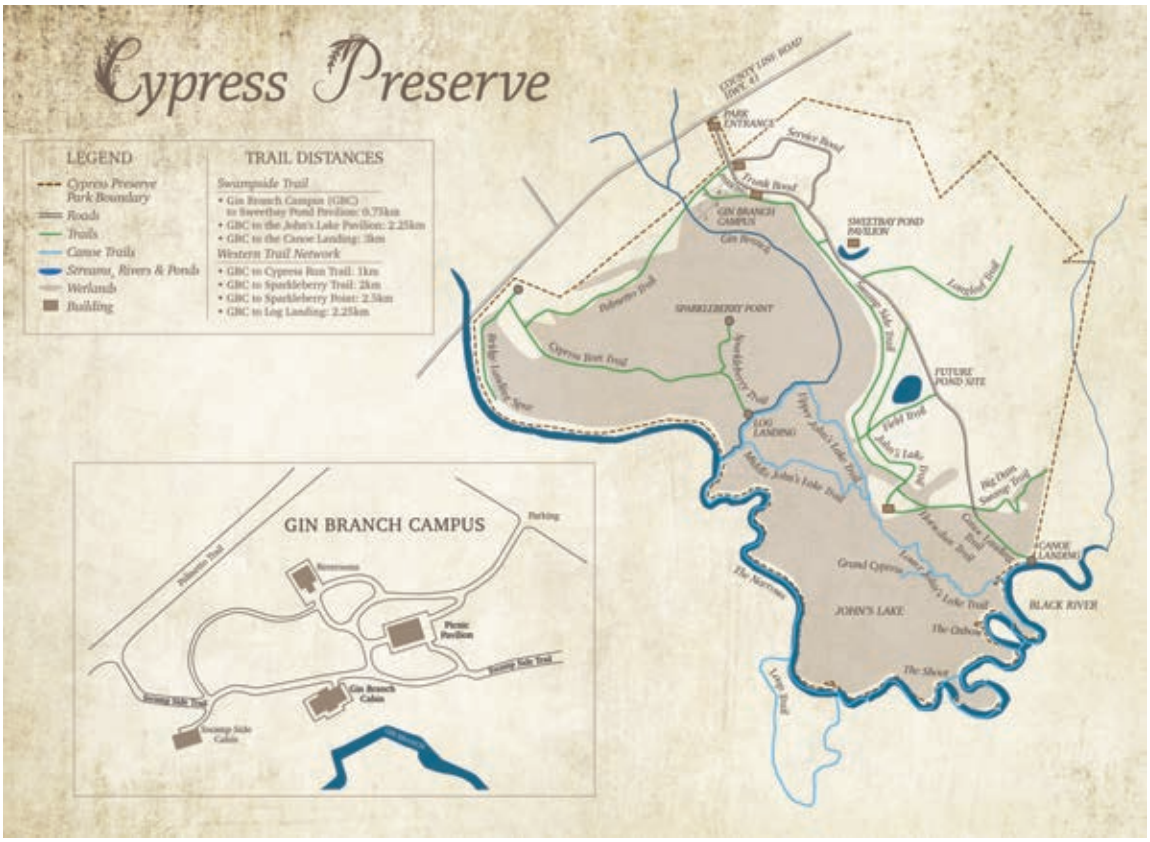
After purchasing the property in December 2015, we decided to thin the loblolly stands to allow more sunlight and space to stimulate plants in the understory. Initial botanical reconnaissance revealed an impressive diversity of understory plants that had survived in the plantation landscape. With a little help, we believed they and other native species could flourish.

We did not intend, however, to begin the longleaf restoration work immediately. It took a hurricane to set the stage for that.

In the fall of 2016, Hurricane Matthew took the initial thinning and doubled it, knocking down half of the remaining loblollies and leaving the forest floor a tangle of downed trees. The Butler Conservation Fund contracted with Amy McFadden, who had overseen the earlier forestry work, to clean up the fallen forest. In addition, we began the process of restoration by planting 70,000 longleaf seedlings. Today, four years later, a healthy percentage are thriving, as they emerge from the grass stage. This adds a critical component to the ecological education program. The Cypress Preserve is now a living laboratory to demonstrate the restoration opportunities for a heritage upland forest and to study its evolution over time.

To accommodate visitors and scholars, the Cypress Preserve offers eight miles of trails for biking, hiking and nature study, and another eight miles of kayak and canoe routes. The aquatic paths follow the main stem of the Black River and wind along the sloughs among the dark stands of ancient cypress and tupelo.

The centerpiece of the system is the Swampside Trail, extending from the Cypress Preserve campus near the property entrance on Highway 41 to a kayak landing on the river. The



While the official opening of Cypress Preserve is delayed, interested visitors can reserve a time to visit and enjoy the property by contacting Erin Pate (erin@cypresspreserve.org or 803-413-500).

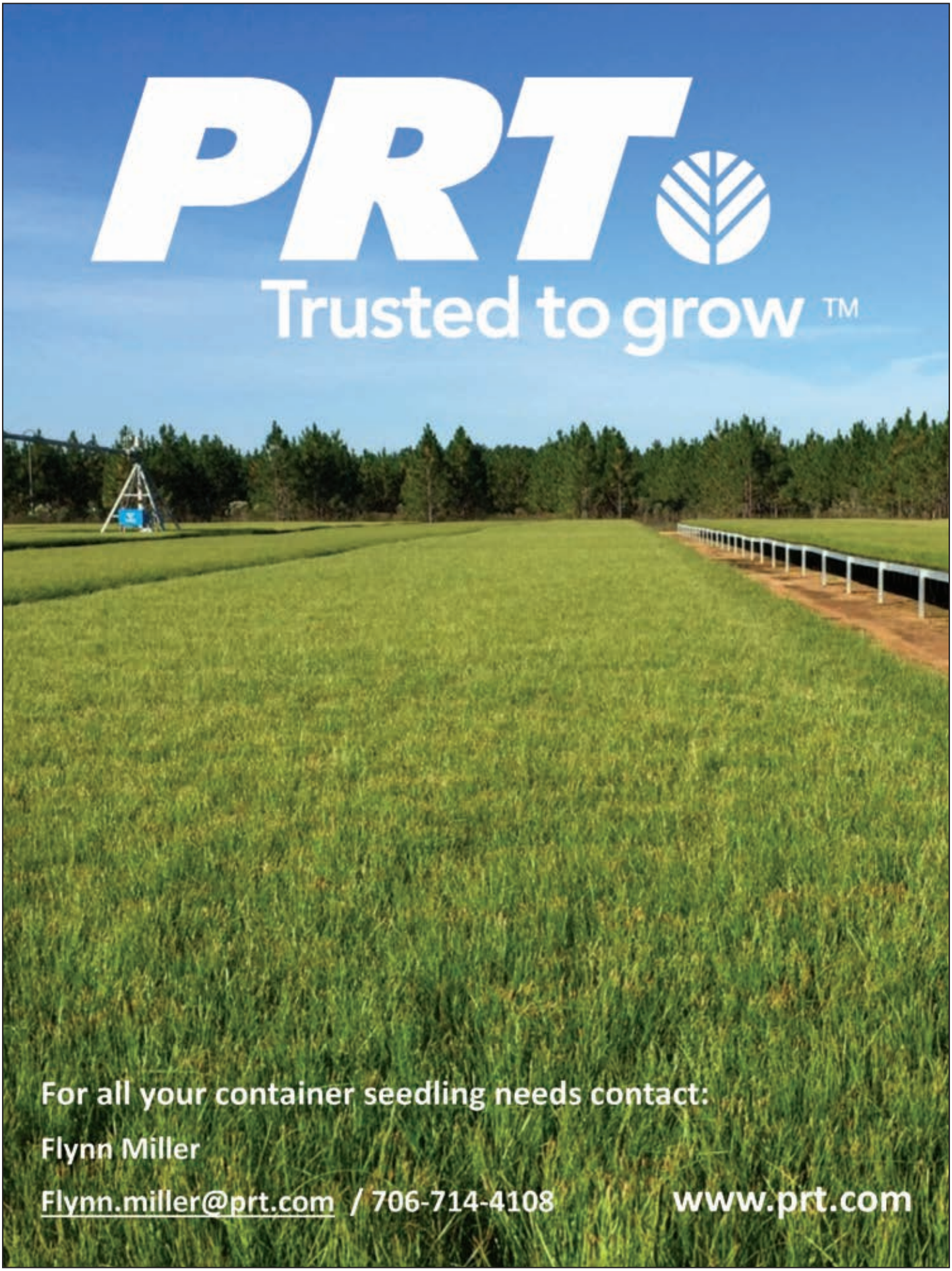
trail is unique in allowing visitors to traverse the ecotone between upland and swamp habitats. It is a compelling expression of the Butler Conservation Fund's vision of education – respectful, active, inspiring access into the mysterious world of the cypress/tupelo swamp. Not surprisingly, the Swampside trail, where the pinelands and swamp meet, hosted the highest number of bird species during the year-long bird survey of the Preserve. A bird study of the property, conducted by Citadel ornithologist Brogin van Sloik, has catalogued resident and migratory species that have visited and nested on the property, chronicling the birds' abundance according to the time of year and habitat type.

The Preserve is also serving as a botanical research site. Cecelia Daley, a protégé of the legendary Citadel biology professor Dr. Richard Porcher, completed a survey of the thousand-acre property this year, cataloguing 452 vascular plants, including eight rare or threatened species. Cecelia will wind up another survey on an upriver campus called the Peninsula Tract this December. So far, she has identified 341 plant species on that 176-acre property, including five that are rare or endangered. One of the most exciting discoveries this spring was a grove of *Macbridea caroliniana*, commonly known as "birds-in-a-nest." The Butler Conservation Fund plans

Eastern bluebird. Photo by Dana Beach.

additional work on birds, reptiles, mammals, insects, and mosses in the coming year, along with broadening the scope of the forest ecology and restoration agenda.

The Cypress Preserve's fall opening has been delayed because of COVID-19, but the scientific research and campus development continues unabated. In keeping with the spirit of partnership and leverage, the Butler Conservation Fund looks forward to collaborating with The Longleaf Alliance in this unfolding journey of discovery, education, and restoration.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2020 Regional Longleaf Award Recipients Announced

The Longleaf Alliance is excited to recognize an exemplary set of individuals and teams for their positive efforts to conserve the longleaf ecosystem as part of the Regional Longleaf Awards Program at the upcoming 13th Biennial Longleaf Conference. Award recipients will be recognized during a Virtual Awards Presentation on Thursday, October 22. More information at longleafconference.com/awards.

Individual Award Recipients

The Bill Boyer Natural Resource Professional of the Year Award: recognizes a natural resource professional who has made outstanding contributions within the field of longleaf ecosystem conservation – ***David Printiss, The Nature Conservancy***

The Palustris Corporate Achievement Award: recognizes a corporation with long-standing commitment toward conservation of the longleaf ecosystem – ***Resource Management Service, LLC***

The Gjerstad/Johnson Landowner of the Year Award: recognizes a private landowner for ensuring the future of the longleaf ecosystem on private land – ***Richard, Charles, and Dohn Broadwell, Jr. and posthumously Dohn Broadwell, Sr.***

The Burner Bob® Prescribed Fire Champion Award: recognizes an individual or organization for outstanding efforts in championing prescribed fire to ensure the future of the longleaf ecosystem on private land – ***Shan Cammack, Georgia Department of Natural Resources***

True Longleaf Champion Awards: recognize a lifetime of dedication to the conservation and restoration of the South's iconic forest – ***Robert Abernethy, Louis Bacon, Lynda Guerry Beam, Stella Osborn (posthumous honor), and Bill Pickens***

Conservation Partner Award Recipients

Natural Resource Conservation Service Team Achievement Award: recognizes an NRCS team that has gone above-and-beyond the call of duty in delivering longleaf restoration for private landowners – ***Alabama NRCS***

Department of Defense Team Achievement Award: recognizes a DoD team that has excelled in managing and restoring the longleaf ecosystem on military installations – ***DoD Team at Tyndall Air Force Base***

U.S. Fish and Wildlife Service Team Achievement Award: recognizes a USFWS team for their exemplary management and restoration of the longleaf ecosystem for wildlife. – ***USFWS Team at Tyndall Air Force Base***

USDA Forest Service Team Achievement Award: recognizes a USDA FS team that has significantly improved and expanded the management and restoration of the Longleaf ecosystem on and around the National Forest System – ***Conecuh National Forest***

Non-Profit Conservation Partner Award: recognizes a non-profit organization that has significantly improved, protected and conserved the longleaf ecosystem – ***The Orianne Society***

By Tim Beaty, Lawrence Carlile, Rena Ann Peck, and Dena Thompson

Stella Osborn—A Memorial Tribute

Her legacy lives on in the wind that whispers through the forest at Fort Stewart, and in the hearts of the many conservationists she trained and inspired.

The longleaf forest lost a great champion in February with the passing of Stella Osborn. Stella was an indispensable member of the natural resource management team at Fort Stewart for more than 30 years. She began her career in the Forestry Branch in 1980, cruising and marking timber, watching for wildfires from the fire tower near her home in Ellabell, Georgia, conducting prescribed burns, and otherwise being a steward of the longleaf forest. In 1991 she brought her talents to the Fish and Wildlife Branch as Fort Stewart was transitioning toward a proactive, ecosystem-based approach to forest stewardship. If ever there was a match made in heaven, this was it. Stella understood ecosystem management before the term was popularized. Her deep understanding of the whole forest helped others see the importance of things like growing season fire and native groundcover restoration. She could identify nearly all of Fort Stewart's 1000+ plant species. She led the installation's efforts to begin restoring wiregrass in old agricultural fields, an important program that will continue for years to come. She adapted the methods developed by others to fit the unique needs of a working forest on a military installation, helping make Fort Stewart a leader in wiregrass restoration.

Stella was a key contributor to the management of the installation's "charismatic fauna," like the infamous red-cockaded woodpecker and the eastern indigo snake, but she also understood Leopold's first rule of intelligent tinkering: "… save all the pieces." She recognized the importance of transitional zones, with their unique assemblages of species like *Elliottia racemosa* and *Stewartia malacodendron*. She kept a detailed journal of her observations. In 2012, after spending several weeks working in the flatwoods on the east side of Fort Stewart, she noted that "… I've come to realize that Ft. Stewart's true treasure is not the longleaf alone, but the longleaf/slash flatwoods. The older I get, the more I really understand the meaning of: 'You can't see the forest for the trees.'" She noted things like which species bloomed in any given month (if you visited Stella's home, you would always find something native blooming, no matter the season). In 2014, she noted the spread of a single specimen of *Agrimonia incisa* to a population of some 50 plants following a hot fire the previous growing season. Such an observation first required a keen, well-trained eye to spot the single plant, the presence of mind to note its exact location, and the scientific curiosity to return the next year to see how it had responded to the fire. She was a total naturalist, the likes of which we seldom see, and she is sorely missed by all who knew her. Her legacy lives on in the wind that whispers through the forest at Fort Stewart, and in the hearts of the many conservationists she trained and inspired.

The Longleaf Alliance Board of Directors Welcomes New Members

The Longleaf Alliance is pleased to welcome two new members to our Board of Directors. Josh Raglin and Angus LaFaye begin their terms on October 1st. Board members are selected based on their ability to contribute through their experience, wisdom, talents, personal contacts, and willingness to support The Alliance and its goals. The Longleaf Alliance is fortunate to have a generous and supportive board, and we are excited to have Josh join and Angus return.

Josh Raglin, a resident of Summerville, South Carolina, serves as Chief Sustainability Officer for Norfolk Southern Railway (NS). In this role, he leads efforts to transform the company's sustainability program, in part through increased attention to optimizing ecological assets including carbon, wetlands, and wildlife through conservation-based forest management practices, along with initiatives to improve the environmental impacts of all the company operations. Josh gained considerable recognition inside and outside the company as a conservation leader in his previous role as General Manager of Facilities at Norfolk Southern's Brosnan Forest. Now Josh is tasked with taking his success at the Forest and scaling it up for the rest of the company, to become the industry leader in sustainability.

Josh's approach is to look for outcomes that combine economic development with environmental benefits. Some examples include leading efforts for a wetland mitigation bank and 6.5-mile stream restoration to restore valuable wildlife habitat at Brosnan Forest while supporting economic growth in the region. Beginning in 2010, Josh worked on a project with Green Trees, the leading carbon reforestation program in North America, to restore 10,000 acres of former woodlands in the Mississippi Delta. As the trees mature, NS expects to earn over 1.1 million carbon credits that can be used to offset company carbon emissions. Through Raglin's efforts, NS already is selling carbon credits generated from our woodlands at Brosnan Forest.

From these kinds of experiences over many years, Raglin has developed a broad network of internal and external contacts that can contribute to future partnerships. Josh says, "I'm looking forward to the great things we will achieve together."

Angus B. Lafaye – The Alliance is delighted to welcome Angus Lafaye back to the Board for a three-year term, as he brings a vital perspective as a working professional forestry consultant. It is essential for The Longleaf Alliance and our members to remain close to the day-to-day business of managing forest resources.

A Clemson University graduate, Angus has over 50 years of hands-on experience as a consulting forester and appraiser in the Southeast. A resident of Columbia, South Carolina, he is a long-standing member of the Association of Consulting Foresters, the Society of American Foresters, and is a past chairman of the South Carolina Forestry Association. He is also a Registered Forester in SC, GA, and NC and a licensed realtor in SC and NC. From his experience gained as President and Chairman of Milliken Forestry, Lafaye has considerable experience and expertise in managing longleaf forests and is a long-time staunch supporter of The Longleaf Alliance's mission. Milliken was founded over 70 years ago and currently manages nearly 1 million acres of private forests across the South.

From his service as a Board Director from 2011-19, and Chair in 2013-14, Angus is well-known and enjoys the connections and rapport with our staff, members, and key partners; his depth of experience provides a full understanding of the history, origin, and growth of The Alliance. He brings a genuine interest in the longleaf ecosystem and the success of our organization, and a particular interest in creating better recognition for the premium values longleaf forests create.

GCPEP Adds New Staff to the Wetland Ecosystem Support Team (WEST)

Welcome to the Wetland Ecosystem Support Team, Conner Wagner (left) and Laura Roncal (right). Photos by Nicole Barys, LLA.

The Gulf Coastal Plain Ecosystem Partnership welcomed two new staff in August to the Wetland Ecosystem Support Team (WEST). **Laura Roncal** joins WEST as a Wetland Resource Technician. Laura has a B.S. in Environmental Science from Loyola University Chicago. Her previous experience includes Assistant Crew Manager at Friends of the Forest Preserve in Cook County, Illinois, serving as a Habitat Technician for the McHenry County Conservation District, and as a volunteer for The Nature Conservancy. **Connor Wagner** also joins the WEST as a Wetland Resource Technician. Connor has a B.S. in Environmental Science and Management from the University of West Florida and a M.S. in Environmental Science and Policy from the University of South Florida. His previous experience includes serving as a Teaching Assistant for the University of South Florida School of Geosciences. He also served with the AmeriCorps Florida Conservation Corps, as a Volusia County substitute teacher, and as an intern for the Florida Department of Environmental Protection.

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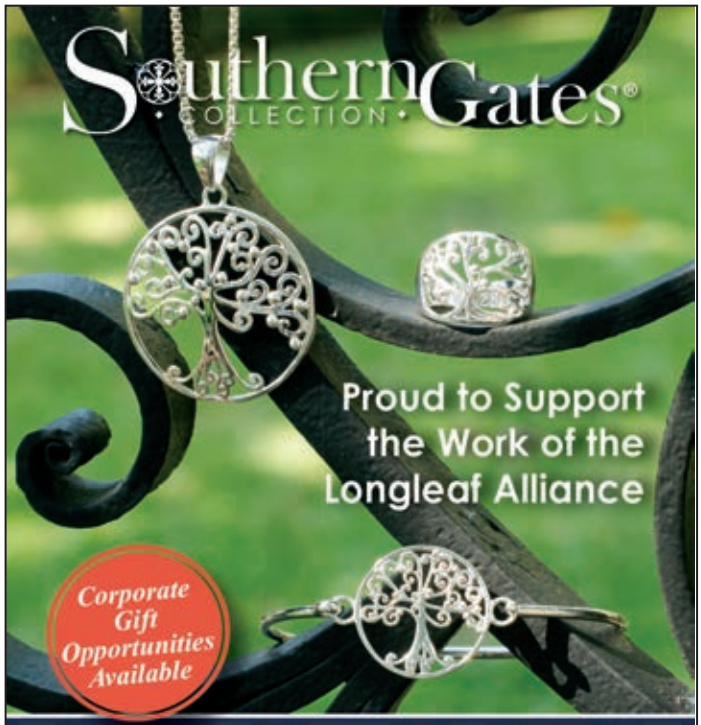

Inspired by historic wrought iron gates throughout the South, this fine collection of sterling silver jewelry celebrates special times both past and present.

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www.southerngatesjewelry.com/pine

by Lynnsey Basala, The Longleaf Alliance

Thank You for Sticking with Us!

What a year, y'all. Later, when the dust settles, I'm almost certain '2020' will be rewritten in the dictionary as a verb used to describe an action or occurrence that's chock-full of obstacles. All jokes aside, there are still many unknowns this year. But despite all that, you're doing it. You're showing up in a big way for The Longleaf Alliance because our conservation and restoration efforts must continue, a gesture we don't take lightly. **Thank you for sticking with us.** The Longleaf Alliance just concluded what is projected to be a positive fiscal year. But before we celebrate, there's something serious that requires your time and attention.

The holidays are upon us, and many of you are mulling over year-end contribution opportunities. We realize there are many worthy conservation efforts to support, and many are understandably pulling back. But may we respectfully recommend a high-impact donation to The Longleaf Alliance? Thanks to the unwavering commitment of our members and partners, **we allocated an astounding 89% of income to programs and services last year.**

The Longleaf Alliance's primary objectives include outreach, education, habitat management, protection, and restoration. We are the only conservation nonprofit organization solely dedicated to restoring the longleaf ecosystems of the South. **In fact, The Longleaf Alliance has guided longleaf restoration in your backyard for 25 years.** We need your help! By choosing The Longleaf Alliance as a charity of choice, you are undoubtedly making a thoughtful contribution. **Maintaining longleaf pine stands is crucial in supporting biologically**

diverse habitats throughout the Southeast, and we are here to assist these efforts across the range.

You should have received the annual appeal, a fall campaign letter via USPS, which shares exciting and collective successes achieved in areas of education, habitat protection, and restoration in 2020 while providing a meaningful opportunity to make a donation as a new or current member. **We hope that we can count on you to help us achieve and surpass our $80,000 campaign goal by making a year-end contribution.** The fall campaign extends October 1-December 31, and donations of $50 or more include a one-year membership. Contributors receive a subscription to *The Longleaf Leader*, longleaf-themed thank-you gift, discount to the upcoming 13th Biennial Longleaf Virtual Conference in a few weeks, and invitations to member-exclusive outdoor events in your area.

To double or possibly triple your contribution this year, be sure to mark your calendar for the annual Giving Tuesday campaign on December 1, 2020. #GivingTuesday is a global generosity movement fueled by people like you and social media. Please investigate your company's matching gift program before donating as The Longleaf Alliance 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 or directly at (334) 427-1029.

The Conservation Partners

The conservation partners above confirmed or renewed support to The Longleaf Alliance prior to August 20. There will undoubtedly be more nonprofits, agencies, and corporations that have stepped-up since then. We look forward to providing an updated roster in our Winter issue. For partnership opportunities and incentives, contact Lynnsey@longleafalliance.org.

The Longleaf Alliance Presents The 13th Biennial Longleaf Pre-Conference Auction

Don't Miss the Opportunity July 1 - October 16!

In an effort to include all of our members and conservation partners near and far in the upcoming 13th Biennial Longleaf Conference, we are hosting a pre-conference auction for Longleaf Leader subscribers! The following unique and enticing items are on the auction block. Buy it now options available.

Visit Colonial Williamsburg

Colonial Williamsburg, Virginia is the largest living history museum in the world. It's also home to the largest longleaf pine restoration effort on private lands in the northern range. LLA Board of Director Dr. William "Bill" Owen wants to share the 'Historic Triangle' that is Williamsburg, Jamestown and Yorktown with you and up to *three guests. You're cordially invited to Colonial Williamsburg to spend two nights (optional third night) at his lovely home in the colonial district, which is within walking distance to some of the best restaurants, arts, history, activities and events in the country. We recommend an encounter with Colonial Nation Builders who portray real historic figures associated with 18th-century Williamsburg who made significant contributions to the American story. You will be provided daily breakfast and one dinner; surrounded by comfortable furniture and historic period-style rooms and decor. General admission to the Historic Triangle and an optional forestry experience, which includes a personal guided tour across the James River on the ferry to Bill's place in Sussex County is also included. This experience is truly unmatched, rich in culture, scenery and hospitality.
*Small children and pets are not recommended for this space and experience. There will be a gentle Briard large breed dog onsite. Should the COVID-19 situation continue and cause serious delays, the buyer may postpone the trip to 2021 or request a full refund.

Reserve Price: *$1,000*
Buy It Now Fall or Spring Timeframe: *$2,000*
Buy It Now Premium | Christmas Timeframe: *$2,600*
Bids must be placed in $250 increments

Beretta Model 471 Silver Hawk Side by Side Shotgun donated by Charley Tarver

Beretta Model 471 Silver Hawk Side by Side in 12 gauge with pistol grip stock. Stock is a beautiful semi-gloss European walnut with a hand checkered grip and fore-end. The receiver's sides, underside, bolsters and trigger guard feature beautiful scroll engraving along with a satin-nickel finish. The barrels are cold hammer forged with a blued finish and the 3 inch chrome lined chambers. The Silver Hawk has a single, selective trigger, which has an inertial block that sets the second barrel to fire. Barrel selection is made via a button mounted on the tang safety. Overall this shotgun is in excellent condition. It is approximately 20 years old with minimal use. FFL required.

Reserve Price: *$2,000*
Buy It Now: *$3,500*
Bids must be placed in $250 increments

Longleaf Heart Pine Print by Timber Wood Prints

This framed screen print was made from salvaged Longleaf Heart Pine lumber by Artist Linne Hutto in Charleston, South Carolina. "Making Waves in Pantone 2166U" is screen printed on white 18"x24" high quality acid-free paper. To make an original relief print, Linne's process includes surfacing and burning the wood to prepare it for printing. Fire reduces the soft rings leaving a printable surface that reflects the life of the tree. Ink is rolled on the surface and paper is hand pressed onto the grain. The paper is removed to reveal a unique image of the growth rings. Screen prints are then pulled by hand using traditional methods. This piece is theperfect balance of old made new. Add Charleston charm to your wall today!

Reserve Price: *$250*
Buy It Now: *$500*
Bids must be placed in $50 increments.

To place your bids from July 1- Oct 16 contact Lynnsey@longleafalliance.org or (314) 288-5654.
All bids are first come, first served.
Pre-Conference Auction expires at 11:00pm ET on October 16, 2020.

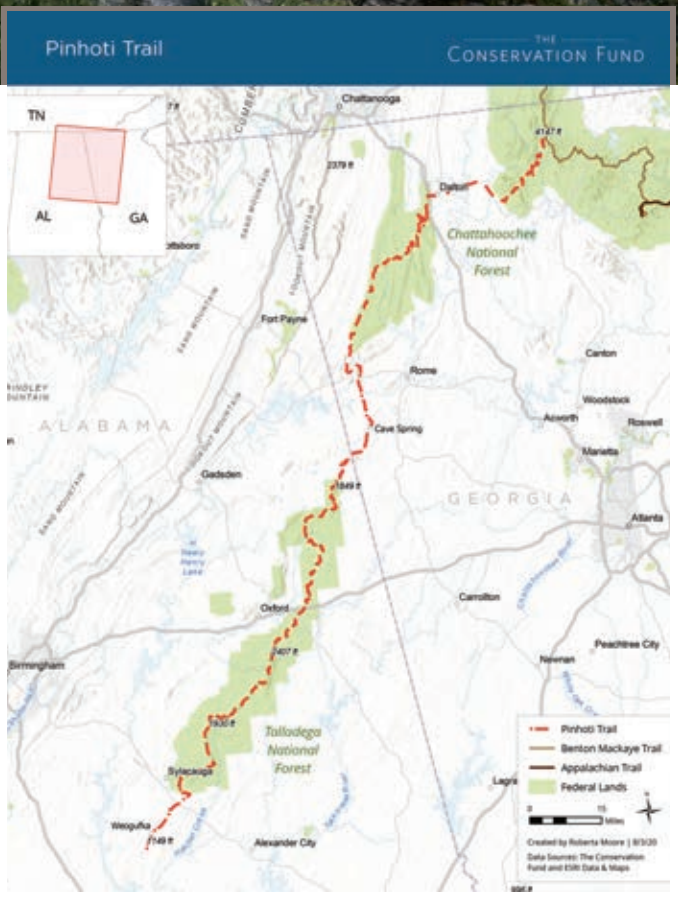
By Andrew Schock, Georgia State Director, The Conservation Fund

Pinhoti Trail: A True Connector of the Southeast

Andrew Schock and Claire Cooney of The Conservation Fund look out over an Alabama portion of the trail. Photo by Ivan LaBianca.

The Pinhoti Trail in the Southern Appalachian Mountains can be seen as many things to those who enjoy it—a great hike, a beautiful place to view wildlife, an exploration of a lifetime. But I see the Pinhoti Trail as a connector. In fact, it may be one of the most pristine connecting trails in the Southeast. As a popular backpacking destination, it connects people with nature and each other. Its 339-mile stretch of trails connect the states of Georgia and Alabama. And maybe most surprisingly, it's a key link between two healthy longleaf pine forests that have been beautifully connected through recreation, conserved land, and the Pinhoti Trail's legacy.

Those who embark on the two to three-week journey along the Pinhoti will start and end their trip viewing two longleaf pine woodlands, both in very different stages of life. At the southern terminus of the Pinhoti Trail near Weogufka, Alabama, you'll find older, mature longleaf pine that have been



Pinhoti Trail hikers can enjoy 339 miles of beautiful scenery and natural space.

very lightly managed since the early 1900s. The average age of these trees is around 200 years old, with the oldest recorded longleaf reaching 365 years and roughly five feet in circumference.

Contrarily, over 250 miles northeast near Cave Spring, Georgia, towards the northern terminus of the trail, you will find young, restored longleaf pine that are just starting to grow. These two forest populations, located at both extremes of the montane longleaf region, not only enhance the beauty of the trail but also the ecological value of the surrounding forestland and wildlife habitat.

The older southern longleaf forest and the newly restored northern longleaf lands are also connected by cooperation in land management and land protection by many organizations. The Alabama and the Georgia Forestry Commissions are engaged with The Nature Conservancy to ensure appropriate fire management, and the trail is maintained by the volunteer-led Pinhoti Trail Associations in each state. Fire restoration is underway at both ends of the trail. The older longleaf at the southern terminus was burned this past winter for the first time in over 75 years (except the occasional wildfire). This coming winter, burning will be conducted on the recently established stands near Cave Spring. Over time, Pinhoti Trail hikers will have the opportunity to learn more about longleaf restoration and ecosystem management while enjoying the beautiful montane longleaf.

In the spirit of connection—and linking together valuable and important places in the region—The Conservation Fund has been working since its founding over 35 years ago to connect the Pinhoti Trail to the Appalachian Trail and better link all sections of the Pinhoti from end to end to improve the recreational and scenic elements of the trail. The Fund has helped acquire nearly 10 properties along the trail corridor, protecting more than 8,000 acres, and adding more than 20 miles to the Pinhoti Trail along the route in both Alabama and Georgia.

In several areas through which the trail courses, hilly topography has made timber management particularly challenging, but it has also cultivated some of the best montane longleaf pine in the world. By protecting forestland around the Pinhoti Trail, we increase boundaries and expand management capabilities for prescribed burning necessary for a healthy longleaf ecosystem along the trail's narrow terrain. This conservation also ensures that the Pinhoti Trail remains a vital connector for people, wildlife, and longleaf forests across state lines, making it even more valuable to its surrounding communities.

To learn more about The Conservation Fund's longleaf pine conservation and restoration efforts across the Southeast, visit conservationfund.org.