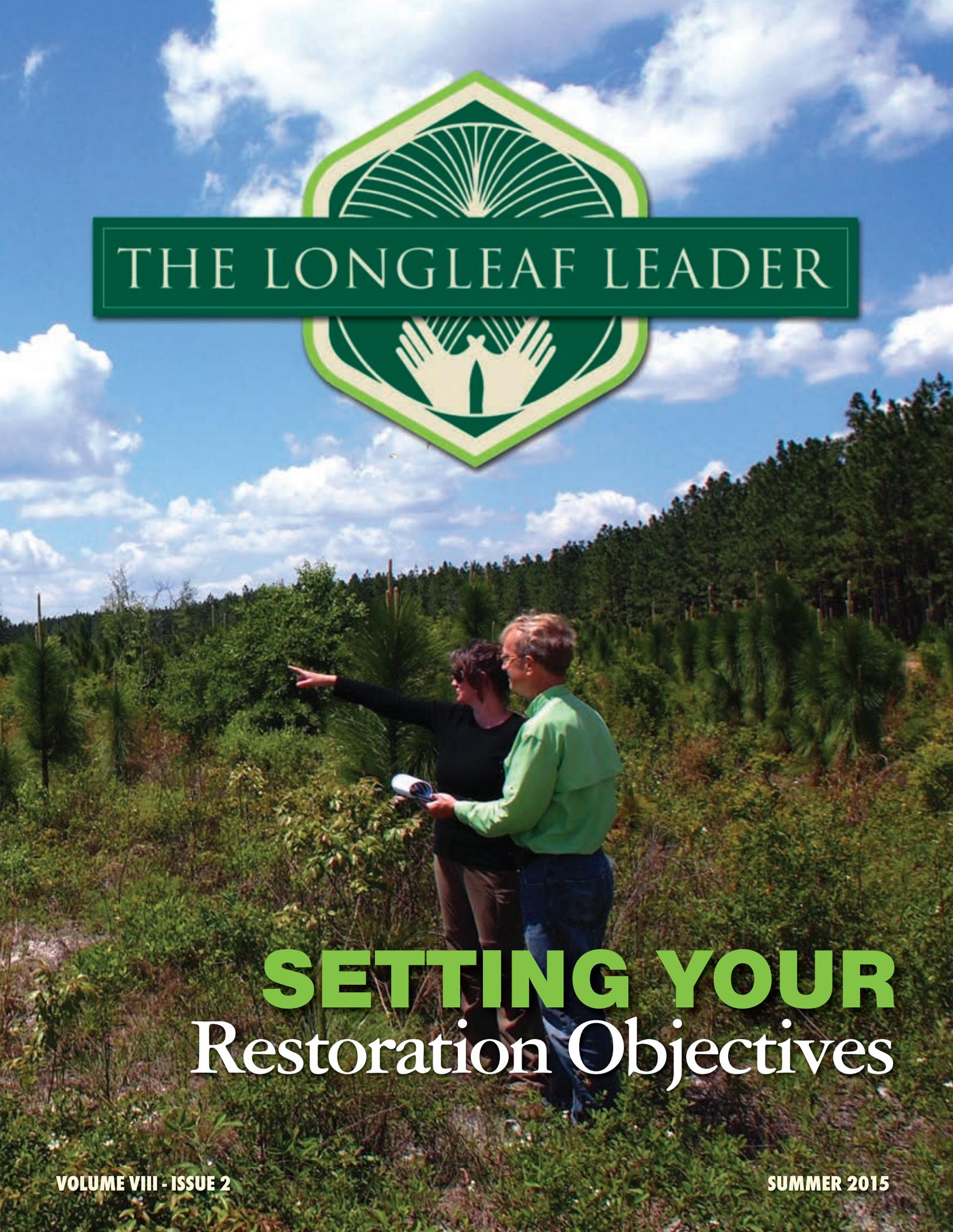




THE LONGLEAF LEADER



**SETTING YOUR**  
Restoration Objectives

VOLUME VIII - ISSUE 2

SUMMER 2015

# MEEKS'

Farms & Nursery, Inc.

Growers of Deep Plug Container Pine Seedlings

## Introducing "The Super Deep Plug"

### The Largest Longleaf Plug On The Market

Our new Super Deep Plug Pine Seedlings will have the same root structure as our regular seedlings, but with 15% more volume.

Same 6-inch depth, same high quality you have come to expect from Meeks' Farms & Nursery.



#### Advantages of the Super Deep Plugs:

- Largest 6-inch deep plug on the market
- Advanced genetics
- Compact/intact root system
- Ease of planting
- Exceptional early growth
- Faster emergence from the longleaf grass stage
- Decreased time of timber rotation



**Advanced Generation Loblolly and Slash Seedlings  
Improved Longleaf Pine Available for Sale**

**At Meeks' Farms & Nursery,  
we measure our success by your success!**

**Steve Meeks**

877-809-1737

[www.meeksfarms-nursery.com](http://www.meeksfarms-nursery.com)

**Nursery Office**

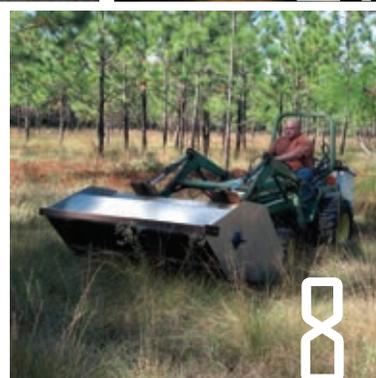
478-469-3417

Linc: 18\*14655

**George Meeks**

912-536-3844

# TABLE OF CONTENTS



President’s Message .....2  
 Upcoming Events .....4  
 Letters from the Inbox .....5  
 Green Side Up .....6  
 Setting Your Groundcover Restoration Objectives .....8  
 Understory Plant Spotlight .....11  
 Growth & Yield Models for Longleaf Pine Plantations  
 .....12  
 Landowner Spotlight .....14  
 USDA Offers Assistance .....17

REGIONAL UPDATES .....18  
 International Forest Company Experience Growth ...23  
 HISTORY .....24  
 ARTS & LITERATURE .....27  
 Longleaf Destinations .....30  
 While You’re in the Grass Stage .....33  
 PEOPLE .....34  
 SUPPORT THE ALLIANCE .....36  
 Heartpine .....37

**PUBLISHER** The Longleaf Alliance, **EDITOR** Carol Denhof, **ASSISTANT EDITOR** Margaret Platt, **DESIGN** Bellhouse Publishing  
**ADVERTISING** Carol Denhof 678.595.6405 – editor@longleafalliance.org  
**COVER** Alison McGhee and Charles McMillan with The Nature Conservancy discussing goals and objectives  
 for a growing longleaf stand. Photo by Randy Tate.

*The Longleaf Leader (USPS#) is an official publication of The Longleaf Alliance, 12130 Dixon Center Road, Andalusia, Alabama 36420 and is published 4 times a year. The Longleaf Alliance reserves the exclusive right to accept or reject advertising or editorial material submitted for publication. Advertising rates quoted upon request. Postmaster: Send address changes to Longleaf Alliance, Address 12130 Dixon Center Road, Andalusia, Alabama 36420. Periodicals Postage Paid at Montgomery, Alabama.*

In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, age, or disability. (Not all prohibited bases will apply to all programs.) To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

BY ROBERT ABERNETHY, THE LONGLEAF ALLIANCE



## PRESIDENT'S MESSAGE

# {Setting Your Objectives}

**We all need a plan. If you are going on vacation this summer, you probably started thinking about it and developing your plan several months ago.**

Maybe you said, “I just want to kick back and relax.” Or you might have outlined specific objectives and said, “I want to go to the mountains where it is cool and I can trout fish in August.” Financial limitations should be secondary. You first need an objective and then you figure out how to get there financially. The point is, if you lay out a plan and set your objectives; you are more likely to achieve them.

Developing a plan for your farm or forest is much like planning a vacation. It all starts with setting your objectives.

**Those objectives might be:**

- I want the farm to pay for itself and make a profit.
- I want more deer, quail, and wild turkeys to hunt.
- I want to walk in beautiful woods and learn my wildflowers and songbirds.

As with anything in life, there are trade-offs. If you want the most quail and turkeys possible on your property, you might have to cut more trees up-front and maintain fewer growing trees on the property over time (lower basal area = more grasses and ground cover). This will increase income early but you will sacrifice income later because you will be growing fewer trees and more quail. If you want good populations of wild turkeys and bobwhite, you will need to manage for them by burning the woodlands and maintaining openings through mowing or fire so the young poult and chicks can find enough insects to sustain their growth. These management activities will cost money and time.

Up to this point we have not discussed what tree species to plant. Again, there are trade-offs. Go back to your vision for the land; what do you want the land to look like and how do you want it to provide returns over your lifetime? Loblolly pines might produce more income earlier in the rotation, but longleaf can allow you to burn earlier and maintain your wildlife habitat while improving the stand. Significant income can be derived from longleaf, but you might need to rake straw early in the rotation and run the rotation longer to grow the more valuable poles and saw-timber. Could you consider ecologically sensitive straw raking that leaves some of the groundcover? Again, trade-offs occur. The key is achieving your objectives while optimizing your income.

As with everything in life we set our objectives and then balance those objectives against the financial realities. With property we should consider the land use history and what resources are available today. But we have to start with setting objectives. If you do not know what you want in the end, how will you know when you achieve it?

We own land for only a very short time and we have to ask ourselves, “How do I want to use this land and in what shape do I want to leave it for my kids or the next owner?” In the South, longleaf can play a significant role in fulfilling YOUR objectives for YOUR land while providing income to help pay for your management expenses. Have a wonderful summer!



# Whitfield Farms & Nursery

GROWING QUALITY SEEDLINGS SINCE 1996

2497 Lambs Bridge Rd  
Twin City, GA 30471  
bwhitfield@pineland.net  
912-682-4948

## THE DEEPEST CONTAINER ON THE MARKET!

Introducing our new 6.5" deep, lower density container for longleaf seedling production. Each cell holds 8.2 cu.in. (134 ml) of soil to help develop a larger root system for a superior stand of trees. The longer plug and greater soil capacity should result in a seedling with a higher survival rate than those with shorter plugs.



CONTAINER GROWN LONGLEAF, SLASH, AND LOBLOLLY PINE SEEDLINGS

WhitfieldPineSeedlings.com

### Longleaf Alliance Board of Directors

- Barclay McFadden –  
*Chairman*
- Salem Saloom –  
*Vice-Chairman*
- Judd Brooke –  
*Secretary/Treasurer*
- Angus Lafaye –  
*Past Chairman*
- Lynda Guerry Beam
- Katherine Eddins
- Julie Moore
- Dick Porterfield
- Charley Tarver
- George Tyson
- Marc Walley
- Phillip Woods

### Staff

**Robert Abernethy**  
*President*  
robert@longleafalliance.org

**Ad Platt**  
*Vice President of Operations*  
ad@longleafalliance.org

**Anne Rilling**  
*Vice President of Business*  
anne@longleafalliance.org

**Lynnsey Basala**  
*Development Director*  
lynnsey@longleafalliance.org

**Ryan Bollinger**  
*Local Implementation Team Consul*  
ryan\_b@longleafalliance.org

**Vernon Compton**  
*GCPEP Director*  
vernon@longleafalliance.org

**Carol Denhof**  
*Understory & Media Coordinator*  
carol@longleafalliance.org

**Bobby Franklin**  
*SoLoACE Partnership Coordinator*  
bobby@longleafalliance.org

**Ryan Mitchell**  
*Outreach & Technical Assistance  
Coordinator*  
ryan@longleafalliance.org

**Brian Schumann**  
*Ecosystem Support Team Member*  
brian@longleafalliance.org

**Randy Tate**  
*Ft. Stewart/Altamaha Longleaf  
Restoration Partnership Coordinator*  
randy@longleafalliance.org

**Mike Thompson**  
*Ecosystem Support Team Supervisor*  
mike@longleafalliance.org

**Donna Vassallo**  
*Ecosystem Support Team Member*  
donna@longleafalliance.org

**Casey White**  
*Administrative Assistant*  
office@longleafalliance.org

**Bob Wilken**  
*Fire Specialist*  
bob@longleafalliance.org

**Karen Zilliox**  
*Ecosystem Support Team Field  
Leader*  
karen@longleafalliance.org



*Passionflower (Passiflora incarnata), host plant for gulf fritillary caterpillars, in flower. Photo by The Longleaf Alliance.*

### NRCS Landowner Assistance Workshop

Troy, Alabama  
July 8, 2015

### NRCS Landowner Assistance Workshop

Grove Hill, Alabama  
July 9, 2015

### Longleaf Academy: Longleaf 101

Aiken, South Carolina  
July 14-16, 2015

### NRCS Landowner Assistance Workshop

Clanton, Alabama  
July 15, 2015

### Longleaf Pine Workshop

Kolomoki Mounds State Park, Blakely, Georgia  
July 24, 2015

### \*Longleaf Academy: Fire 201

Webb Wildlife Center, Garnett, South Carolina  
August 18-20, 2015

### Longleaf Pine Workshop

Seminole State Park, Donalsonville, Georgia  
September (TBD)

### \*Longleaf Academy: Understory 201

Moody Forest Natural Area, Baxley, Georgia  
September 29-October 1, 2015

### \*Longleaf Academy: Understory 201

Brooksville, Florida  
October 20-22, 2015

### \*Herbicide & Longleaf 201 Academy

Brooksville, Florida  
November 17-19, 2015

\*Registration is not open at this time. Email The Longleaf Alliance office ([office@longleafalliance.org](mailto:office@longleafalliance.org)) if interested, and we'll notify you when it is open.

Check The Longleaf Alliance website ([www.longleafalliance.org](http://www.longleafalliance.org)) for updates on scheduled events.

## SUMMER MANAGEMENT CHECKLIST

- Secure soil samples for selected longleaf restoration sites.
- Spray invasive species such as: kudzu, cogongrass, bermudagrass, bahiagrass, and fescue.
- Inspect new longleaf plantings and plan future treatments if problems are noted.
- Mow or spray problematic species such as: crabgrass, coffee weed, partridge pea, hairy indigo, and other emergent weeds.
- Order longleaf seedlings and native grass seed for upcoming planting season.
- Burn wiregrass and native groundcover to maximize fall seed production and viability.
- Count cones on mature longleaf.
- Burn mature longleaf stands to prepare seedbed for natural regeneration.



Financial assistance for The Longleaf Leader provided by the U.S. Department of Agriculture's Natural Resources Conservation Service and the National Fish and Wildlife Foundation through a grant from the Longleaf Stewardship Fund.



## Q&amp;A

*Recently treated bermudagrass spot in Houston County, Alabama. Applicator applied imazapyr which caused damage to some of the adjacent longleaf. Photo by Ryan Mitchell.*

**The following is a composite question we have been getting more often lately from all across the longleaf range. We have modified the general question to avoid revealing any individual's personal specifics.**

**Q.** Dear Longleaf Alliance Staff,  
You have helped us several times over the years when we needed technical advice on questions about management of our family lands. This may not exactly be a technical question, but I am getting on in years and am worried about what will happen to this place I care so much about. We still have some challenges to deal with from invasive pests and getting the place burned regularly, but over the years this has become my favorite spot in the whole world. What concerns me now is more about the family than the trees. What suggestions do you have about how best to manage the future of my property so that all my hard work is not liquidated upon my passing?  
Thanks,  
Thinking Ahead

**A.** Dear Thinking,  
Your question is timely, and rest assured it is not unique. We receive this, or a very similar question, all too often. It is being reinforced by a number of recent news stories that observe "The largest transfer of wealth in history is now underway." Much of this wealth is financial wealth, but other important investments like timberland also figure prominently into these decisions. If we ask ourselves what comes after the "Greatest Generation", well, it might tend to make one worry.  
What happens next is of great importance to anyone who cares about their own well managed property and also those concerned about a sustainable future for longleaf ecosystems in general. A lot of technical questions look pretty easy by comparison. While family and legacy questions are difficult and deeply individual, they are generally not improved by avoidance or procrastination.

The Alliance has received some vital support from a donor organization to develop a new Longleaf Academy to meet this need, which will be focused specifically on Estate Planning and Transfer. We hope to debut it late this year at the Dixon Center as the Legacy Academy. The challenge we share is this; we manage long-lived resources (forest ecosystems), but our own tenure as managers of these systems is comparatively short. As the next generation inherits the land, more are likely to continue the management if they have been engaged and prepared, and thus less likely to quickly sell the timber and perhaps the land. Towards that end, this Academy is meant to be a "paired" training, involving both the current manager and the future heir.

Many of the issues that you will want to consider will be discussed in this Academy, which will provide the private

landowner insight and in-depth knowledge of several approaches for estate planning, successful intergenerational land transfer, conservation easements, economics of managing longleaf, and charitable trusts. The two day course of instruction will be taught by estate planning attorneys, certified public accountants (CPAs), and experts in economics and longleaf timber management. These resources are all too often unavailable to the typical longleaf landowner. Case studies of successful approaches will be provided, with an emphasis on keys to success. And as in all of our Academies, a manual of the presentations will be developed as a textbook and a future reference for the landowner.

Sincerely,  
Ad

**Q.** Ryan,  
We planted a coastal bermudagrass pasture with longleaf in 2010. Per your site-prep recommendations, we ripped, scalped the pasture, and chemically treated the bermudagrass with imazapyr. Initially we had a clean site and good survival. We planted a native seed mix consisting of two bluestems, indiagrass, black-eyed susans, and partridge pea. The grasses and longleaf are doing well. One problem we have encountered is the bermudagrass has returned in spots. How do we kill the bermudagrass without killing the longleaf and native grasses? I have heard experts say pasture grasses are horrible for quail. Would you be available to make a site visit?  
Sincerely,  
M.D.

**A.** M.D.,  
We have received several calls this year about bermudagrass competition in old field sites. If your site was an old field located in the coastal plain, there is a good chance that bermudagrass will be lurking in the seedbank waiting for the chance to rear its ugly head. The good news is the bermudagrass should not pose much competition to your longleaf now that they are out of the grass-stage. The bad news, as you have already seen, is that bermudagrass will likely out-compete the natives you have planted unless controlled. The best herbicide to eliminate bermudagrass is imazapyr. Unfortunately, the rate of imazapyr needed to eliminate bermudagrass would kill, or at least severely damage, longleaf. The next best option would be a grass selective herbicide. Clethodim and Fluazifop-P-butyl (Envoy® and Fusilade DX®, respectively) are two grass selective herbicides that you can use to control bermudagrass. Each label gives a range for the amount of herbicide to use, on a per acre basis. The lower end is for annual grasses and the higher end is for perennial grasses. The spots may require two treatments when the new growth is 3"-4", using the highest label recommended rate to achieve the best control. Some collateral damage will be expected with your native grasses in any of the treated areas, but your longleaf will be fine.

Since the grass selective herbicides only control bermudagrass, you'll need to monitor the spots and retreat if necessary.

Give me a call at the office (334-427-1029) and we can get a site visit scheduled.

Sincerely,  
Ryan

# GREEN SIDE UP

*Herbicide application for site prep in a cutover site. Photo by The Longleaf Alliance.*

Advice from Mark

*By Mark Hains*

## HERBICIDE CHOICES IN SITE PREPARATION & WOODY RELEASE

Many thousands of acres of longleaf will be planted in 2015 & 2016. Many thousands of acres of longleaf will also be transitioned into pinestraw production. It's likely that the native range of longleaf pine will see an increase in longleaf acreage, and a decrease in healthy longleaf ecosystems.

Let's throw this into the mix; it is possible to have a healthy longleaf ecosystem, without longleaf pine.

The range of the longleaf pine was determined by climate, soils, and fire. Within the native range of longleaf pine, there were always other species of pine competing, and in places, replacing the native longleaf. Longleaf was the dominant species because it was best adapted to frequent fire on upland soils from Virginia to Texas. But as sites transitioned to wetlands, slash pine often replaced longleaf in the lower coastal plain. Pond pine may have played the same role in the northeastern portions of longleaf's range. The equally fire-adapted shortleaf pine intergraded and eventually replaced longleaf as we moved north into Tennessee, Arkansas, and Oklahoma. Loblolly stood by as a ruderal species, awaiting its opportunity to colonize acreages impacted by severe

disturbances in the form of tornadoes, hurricanes, and old fields abandoned by Native Americans.

One constant of what we call "the longleaf ecosystem," was a diverse herbaceous layer maintained by frequent fire. This herbaceous layer may be present beneath a fire-maintained stand of loblolly, slash, or shortleaf pine as well.

It is estimated that there were 90 million acres of longleaf pine, give or take, before the first Europeans arrived. By the mid 1990's we were down to 3 million acres of longleaf. Across much of that prior acreage, longleaf was harvested, and the sites were fire excluded, transitioning the forest to mixed pine hardwood stands in which the tree – longleaf pine, was absent. However, much of the native groundcover remains, in a suppressed state, beneath a thick, shading canopy of loblolly, laurel oak, water oak, and other trees not named longleaf pine.

If these fire-excluded forests are clearcut again, the missing groundcover often reappears as if by magic. It isn't magic. That clump of wiregrass was hanging on before the clearcut, as a single blade of grass. Once the canopy is removed the wiregrass has the necessary sunlight and it grows rapidly, along



*Deerberry (Vaccinium stamineum) in flower. This species and many other plants in the blueberry family are especially sensitive to herbicides. Photo by The Longleaf Alliance.*



*Three-year-old longleaf stand showing diminished groundcover diversity as a result of herbicide site prep. Photo by The Longleaf Alliance.*

with native legumes, huckleberries, and asters that were invisible just before the logging crew arrived.

This transition allows us to restore a native longleaf forest fairly cheaply and easily on sites that have never been in agriculture. But this transition will not happen if the landowner is advised to apply an intensive site preparation with high rates of imazapyr and glyphosate.

We have recognized for some time, that the more intensive the site prep, the better the early survival and growth of the planted pine. And what does an intensive site preparation accomplish? It takes a complex system (lots of species) and makes it simple (very few species). A site preparation's goal is to remove competitors for the crop tree—which is longleaf pine in this scenario. And an intensive site prep, especially those that include high rates of imazapyr and glyphosate, does a very good job of removing most of the components of a native longleaf ecosystem.

Longleaf stands established through intensive site preparation treatments, certainly have the appearance of our natural longleaf forests. There is the tree. The hardwoods and shrubs will have been controlled. Often, broomsed, *Panicums*, and witch grasses will eventually recolonize the site. But these stands retain a tiny percentage of the diversity and wildlife habitat that are present in healthy longleaf ecosystems.

In our Herbicide 201 Longleaf Academy, we do our best to help attendees understand the tradeoffs between intensity and diversity. For landowners interested in restoring a longleaf

forest, rather than a longleaf plantation, we steer them towards the use of fire and more selective herbicides such as triclopyr and hexazinone. We discuss timing, rates, active ingredients, and how these components are matched with targeted species, soil types, and plant families worthy of retention.

A new resource we will share with attendees is a publication from the Georgia Department of Natural Resources, titled, *Is Your Site Prep Helping or Hurting Your Longleaf Pine Restoration*. This brochure summarizes the effects of our most commonly utilized site prep herbicides. Included graphs depict: tradeoffs in longleaf survival, change in longleaf: groundcover, grasses, woody species, and herbaceous cover. For more information email: [Nathan.klaus@dnr.state.ga.us](mailto:Nathan.klaus@dnr.state.ga.us), [alan.isler@dnr.state.ga.us](mailto:alan.isler@dnr.state.ga.us), or [jklaus@gordonstate.edu](mailto:jklaus@gordonstate.edu).

We are not anti-herbicide. In the coming decades, we will do our part to recommend the application of millions of gallons of imazapyr and glyphosate on cogongrass, Japanese climbing fern, bermuda, bahia, and fescue. There are millions of acres of former agricultural sites where native groundcover has been virtually eliminated, and intensive site prep treatments are entirely appropriate on many cutover sites.

But there are also many landowners whose properties contain suppressed components of native groundcover. They hope to restore the tree, the fire, and the ecosystem. For these landowners, their choice of site prep treatments will determine whether they end up with a diverse longleaf forest, or a simple longleaf plantation.



# SETTING YOUR GROUNDCOVER RESTORATION OBJECTIVES

*By Carol Denhof, The Longleaf Alliance*

**An increasing number of landowners that are restoring longleaf to their lands are becoming interested in using a whole ecosystem approach to longleaf restoration. In addition to the traditional interest in longleaf timber production, they have come to appreciate the value in managing forests that supports plant and animal diversity as well as the overall health of the ecosystem. Having this diversity in place is essential to achieving their objectives as landowners. It also contributes to true restoration of the South's great longleaf forest.**

Not all landowners are fortunate enough to possess a mature, fully-functioning longleaf forest. If you are one of the lucky few, please do your part to maintain it for generations to come. For others, who may be establishing longleaf on formerly cultivated lands or converting forested lands back to longleaf, it is a significant undertaking to achieve both the short and long term goals of restoration. Whether you are managing for recreation, timber, hunting, non-game wildlife, or aesthetics, groundcover and a canopy of longleaf are the building blocks for a functional forest system. If lost, groundcover is the hardest part to restore.

Groundcover performs many roles in the longleaf forest. The most important quality of herbaceous groundcover is its ability to support the frequent fires that are central to managing longleaf. Some plants are better “fire species” than others but if fire is part of your management scenario, then your stands must have some form of consistent herbaceous groundcover. The diversity of the longleaf ecosystem is linked to the quality of the existing groundcover. As this layer becomes more diverse, you will notice a corresponding increase in animal

diversity. A rule of thumb to consider is that each new plant species provides for 10 new insect species. All these little things provide food for the bigger things. Rare bird species like red cockaded woodpeckers and Bachman's sparrows, game species such as bobwhite quail and wild turkey, and also reptile species like gopher tortoises and indigo snakes thrive in early successional habitats with abundant herbaceous plant species. Herbaceous species and low-growing shrubs provide cover, food, and habitat for these and many other animal species. Flowering groundcover species are also very important in supporting native pollinator populations that are being threatened across the US.

Restoring longleaf habitat from the ground up can be daunting. However, if you form realistic objectives based on your property's current condition and land classification, a solid restoration plan can be developed that will allay some of the fears of tackling a groundcover restoration project. The primary steps in developing this plan include (1) Assessing your current conditions; (2) Setting your goals and objectives; and (3) Developing your restoration and management plans.

## Assessing your current conditions

Before embarking on a restoration project, it's incredibly important to have basic information about the land to be restored. What is the current condition? Is it former agricultural land or was/is it forested? If it is forested, what is the dominant canopy species? Are there invasive species present? What is the habitat type? What is the soil type? Where is it located geographically? These are just a few of the questions that should be answered in order to develop realistic objectives and expectations for restoration. Your starting condition will dictate the level of restoration required to meet your objectives. In the chapter dedicated to ground layer restoration in the book *The Longleaf Pine Ecosystem: Ecology, Silviculture, and Restoration*, Joan Walker and Andrea Silletti discuss in depth all aspects of groundcover restoration. Especially interesting is the below graph which displays the relationship between time and resources needed for restoration and the abundance of remnant biota on the site to be restored. The take home message is know what you have to start with and form realistic expectations based on that knowledge.

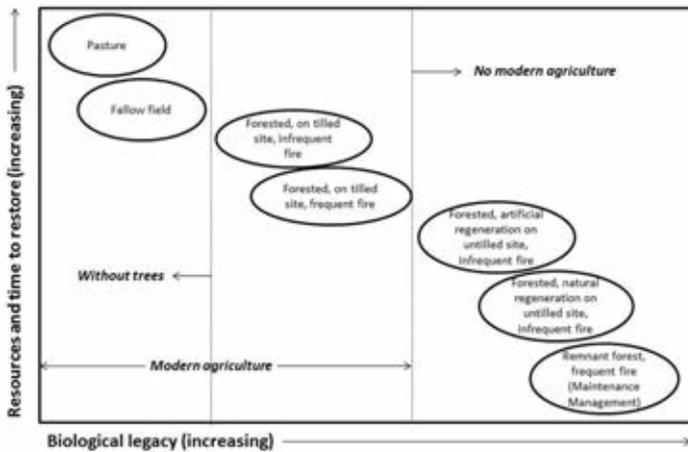


*Example of a reference site for determining desired future conditions. Photo by Carol Denbof.*

land with no existing groundcover, it would not be necessary to establish groundcover during those years when harvesting straw is a priority. However, if managing for wildlife, it is essential to include a groundcover component in your restoration planning in order to burn and provide high quality habitat. And just as our interests change over time, plans can be flexible. Your land may have considerable variability, and

the right plan may accommodate different objectives on different acres.

Your selected reference conditions, in combination with your objectives, will also shape the level of groundcover restoration. If you are only interested in native warm season grasses to carry fire, then acquiring a highly diverse seed mix is unnecessary. If your interests tend towards aesthetics, pollinators, and wildlife, you may need to enhance existing groundcover or select a diverse seed mix to support these objectives.



*Relationship between time and resources needed for restoration and the abundance of remnant biota on the site to be restored. Walker & Silletti, 2006.*

## Setting your goals and objectives

What is the desired future condition?. The answer is based upon your site assessment questions, historical knowledge of the site, and/or condition of similar properties that can serve as reference sites. An accurate determination is very important since your restoration success will be judged against these reference conditions.

Do you want to manage for quail, grow high quality timber, and/or harvest pine straw? Your personal interests and objectives for the land will impact the type and scope of restoration. This is especially important to consider when thinking in terms of groundcover restoration. If pine straw is your objective and you are starting with formerly cultivated



*Wiregrass seed collection at Ft. Stewart, GA. Photo by Carol Denbof.*

## Developing your plans

With your overall strategies in place, it is time to consider the specifics of restoring your longleaf forest. Each site requires a unique plan of attack. This plan will be greatly influenced by your starting conditions. As discussed, highly impacted sites will require a much heavier hand in order to reach

{continued on page 10}



*Growing season burn in a longleaf stand.  
Photo by Robert Abernethy.*

restoration goals. Consider incentive programs or other resources that may help you reach your objectives. Regardless of starting conditions, when approaching this idea of restoration, it's important to address the following components in your planning process:

### Control Competition

Whether it is non-native cogon grass or naturally occurring scrub oaks, competing vegetation must be brought under control in order to enhance or establish native groundcover species. Many of our most desired groundcover species develop gradually at first, and aggressive competitors will grow faster and quickly overtake the species you are trying to establish. A variety of control methods can be used including fire, herbicide, and mechanical treatments. The method used will be determined by what species you are trying to eliminate or minimize.

### Increase Biodiversity

In some cases fire alone may increase biodiversity. This is generally the case in cutover and forested sites that have been

unburned for extended periods. However, in areas without existing native groundcover, the desired species diversity must be created. This can be done through seeding or planting seedlings. Species composition will be determined based on habitat and landowner objectives. No matter the species, it's important to consider using ecotype plant material that is adapted to your specific geographic area.

### Maintain Diversity

Burn, burn, burn! The longleaf forest is dependent on fire to maintain ecosystem health and its high biodiversity. The groundcover makes this happen. Burning on short rotations and in varying seasons will allow herbaceous species to grow and flourish through encouragement of flowering, seed set, and seedling recruitment.

So, if you are interested in starting on this adventure of longleaf restoration, I highly recommend including a groundcover component in your plans. After all, we are working to restore the longleaf ecosystem, and without the groundcover we are really only painting half of the picture.

### References:

Jose, Shibu, Eric Jon Jokela, and Debbie Miller. 2006. *The longleaf pine ecosystem: ecology, silviculture, and restoration*. New York: Springer.

## Art of the Longleaf Pine

Created with needles from the longleaf pine, one-of-a-kind pieces that will last a lifetime.

Baskets, art pieces, project kits, and jewelry.

Retail or wholesale. Your organization logo can be included.



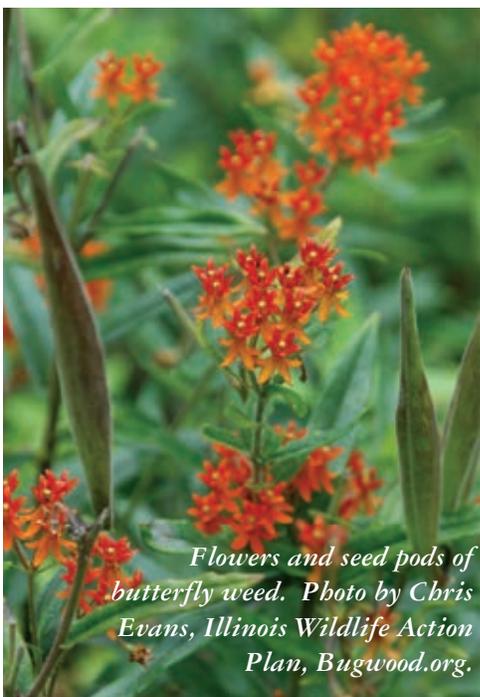
**Melanie Walter, Artist**  
[pgb@pinegardenbaskets.com](mailto:pgb@pinegardenbaskets.com)  
[www.pinegardenbaskets.com](http://www.pinegardenbaskets.com)  
 910-799-8363



By Carol Denhof, *The Longleaf Alliance*

# PLANT SPOTLIGHT

{ BUTTERFLY WEED *ASCLEPIAS TUBEROSA* L. }



## Description

Butterfly weed is one of over 20 species of *Asclepias* that occur within the southeastern United States. Milkweeds come in a range of colors and sizes. Unlike other milkweeds, this stout plant does not have stems with milky sap. The hairy, branched stems of butterfly weed can reach heights up to 31". The leaves of this species are alternately arranged on the stem and are mostly elliptical in shape, hairy, and approximately 4" (L) by 1" (W) in size.

Butterfly weed flowers throughout the summer. The terminal clusters of flowers are very showy and range in color from yellow-to-red. The pointed fruit pods are large (up to 6" long) and split along a seam to reveal numerous seeds with plume-like appendages that aid in seed dispersal.

## Distribution & Habitat

Butterfly weed can be found throughout the range of longleaf and naturally occurs across most of the United States. It grows in a variety of habitats, from dry to moist and open to semi-shady. However, it is generally found in open, somewhat disturbed habitats.

## Wildlife Uses

Milkweeds are a subject of much discussion these days because of their relationship with monarch butterflies. Native milkweeds are important host plants for these butterflies that are in decline throughout their range. Additionally, the brightly colored flowers are an attractive nectar source for a number of other native pollinator species.

## Other common species

A few other milkweed species that you might find in longleaf habitats include clasp milkweed (*Asclepias amplexicaulis*), pinewoods milkweed (*A. humistrata*), Michaux's milkweed (*A. michauxii*), and whorled milkweed (*A. verticillata*).

## Commercial Availability

Because of their beauty as garden plants and also their importance in monarch conservation, many nurseries throughout the region are making milkweeds available through the horticultural trade. When buying from a nursery, make sure that you are buying natives (as opposed to the non-native



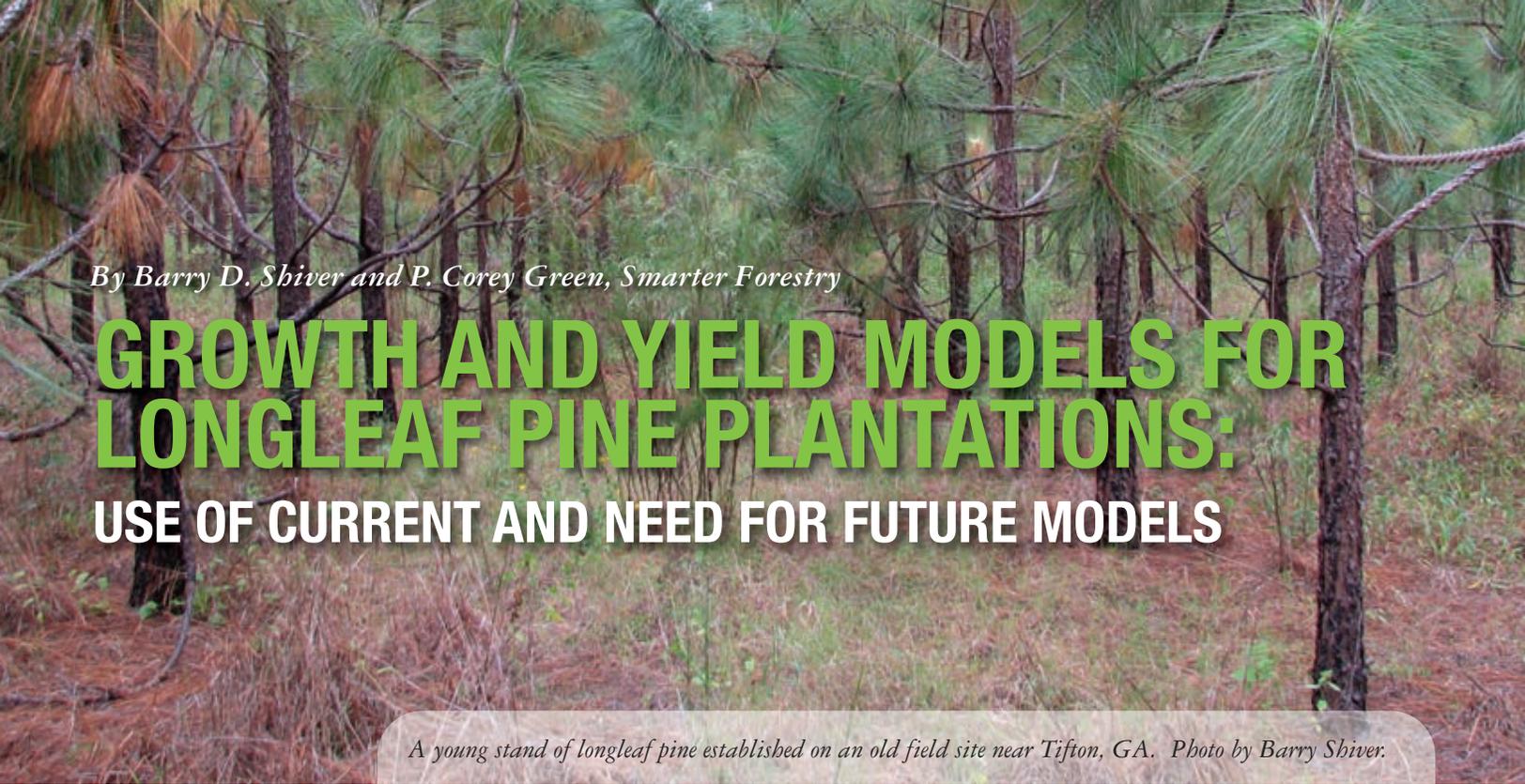
Map showing distribution of butterfly weed. USDA PLANTS Database.

and widely available *Asclepias curassavica*) and that the plants have not been treated with neonicotinoid insecticides that are toxic to honey bees and other native pollinators. For more information on pollinators and native milkweeds visit the Xerces Society website ([www.xerces.org](http://www.xerces.org)).

## References

Florida Museum of Natural History. *Southeastern US Monarchs & Milkweeds*. Gainesville: Florida Museum of Natural History. Xerces Society. Web. 16 April 2015. Miller, J.H. and K.V.

Miller. 2005. *Forest Plants of the Southeast and their Wildlife Uses*. The University of Georgia Press, Athens, GA 30602. 454pp.

A photograph of a young longleaf pine plantation. The trees are densely packed, with their characteristic long, thin needles and dark trunks. The ground is covered in a layer of dry, brown pine needles and some green undergrowth. The background shows more trees, creating a sense of depth.

By Barry D. Shiver and P. Corey Green, *Smarter Forestry*

# GROWTH AND YIELD MODELS FOR LONGLEAF PINE PLANTATIONS: USE OF CURRENT AND NEED FOR FUTURE MODELS

*A young stand of longleaf pine established on an old field site near Tifton, GA. Photo by Barry Shiver.*

Growth and yield models provide estimates of how much wood in different products a stand will yield at different ages. Why would anyone need such estimates? Primarily to make informed decisions. Consider the following questions. If I plant 450 longleaf trees per acre, when will I be able to thin the stand? Does that timing change if I plant 600 trees per acre? I have a stand that is eight years old; when can I thin it? What is the difference in expected cash flows, timings, and eventual rotation age if I manage for timber production versus wildlife or aesthetics? If I increase the rotation age for my longleaf stands to 50 or more years versus the optimum for timber management, what is the cost? I had a timber cruise conducted five years ago on my longleaf stands, but how can I provide an appraiser with an estimate of current products by stand? All of these are questions that a forestry consultant can answer with a good growth and yield system. Unfortunately there has been much less work on longleaf plantation growth and yield over the years than for other southern pine species such as slash and loblolly pine.

The ability to manage timber stands for different objectives is dependent on the ability to estimate expected change in those stands over time. Forest managers have attempted to estimate change in yields of southern pine stands since at least 1929 when Miscellaneous Publication 50 was published. Beginning in the 1960s, work on slash and loblolly pine plantation yield prediction was financed in large part by large corporate forestry organizations. These companies understood the value of yield information for making management decisions that would increase yields for products they needed for their manufacturing facilities or to optimize timber management for financial returns. Loblolly stand development and yields were found to be different in different regions, and different models were

developed for the Atlantic Coastal Plain, the Gulf Coastal Plain, the Upper Coastal Plain, Piedmont, and for East Texas. Likewise different models were needed for slash pine in the Atlantic Coastal Plain versus the Gulf Coastal Plain. Very few acres were planted to longleaf because of difficulties with regeneration and perceived slower growth compared to the other species.

Existing longleaf plantation growth and yield systems are very limited. A system was published by Gonzalez-Benecke et al. in 2012. It is based on re-measurement of longleaf studies in the western Gulf region established as much as 25 years before current longleaf regeneration methods were developed. Gonzalez-Benecke was on the faculty at Florida so this is designated here as the Florida model. Over the last 20 years, probably not coincidentally beginning with the initiation of The Longleaf Alliance, we have learned a great deal about how to plant and grow longleaf pine. Plantations established more recently represent a different population than previous plantations in that they are largely planted with container grown seedlings and receive some form of herbaceous weed control to encourage early emergence from the grass stage. The image above shows a very consistent young longleaf plantation where most of the trees emerged within a year of each other. Their development and competition with each other, and their resulting product yields, will be very different from plantations where emergence from the grass stage occurred over a period of many years. Another longleaf plantation growth and yield system has been developed over time by Brooks (John Brooks, Professor of Forestry at West Virginia University) from re-measured plot data in a very small geographic area of southwest Georgia. These stands are younger and most had the advantage of more current regeneration methods. His system, based on

the latest measurements, has not been published at this time, but he shared his system with Smarter Forestry. As can be seen in the graph below, the estimates of production in different products (pulpwood, chip-n-saw, and sawtimber) at the same ages is very different for the two models given the same inputs. At age 10 the Florida model, based on older regeneration methods, has negligible pulpwood whereas the Brooks model, based on plantations more like the ones in the photo, has significant pulpwood volume. At age 30, the graph implies that newer plantations (Brooks) contain roughly double the tons/acre as older silviculture plantations (Florida) and there are large differences in product distribution. These different expectations can change the decision of which species to plant on many areas, particularly for institutional investors with a return on investment objective.

Until new models are developed, how should landowners obtain estimates of future production? Both existing models were developed from data with limited geographic range. However, the models fit the data well for the longleaf populations from which they were developed. While some frustrated managers have used modified slash pine and other species' yield systems, until new models are developed, the Brooks models seem to exhibit the trends of low mortality and fast early basal area development seen in more recent longleaf plantations such as CRP plantations. Landowners with plantations established using older regeneration treatments will likely find that the Florida model predicts their yields at given ages better than the Brooks model. It should also be pointed out that users tend to extrapolate models well beyond the range of data, especially the age range, used to produce the models. Though Figure 2 provides estimates to age 60, above age 30 in both models have very little data to support stand development predictions at those ages.

It is likely that different models will be needed for longleaf across as many as six geographic areas from Texas to Virginia including coastal plain and montane sites just as different models have been necessary for slash and loblolly pine across the South. Data are needed in existing plantations over this range to build models that will help landowners make informed decisions. For landowners and organizations that would be willing to have their plantations included in the sampling effort

to build new growth and yield systems, the following stand information and characteristics are needed: permission to establish a plot of about ½ acre including buffer, access, known planting year, unthinned, uniform spacing in that ½ acre acre with uniform dominant heights, and perhaps most important, the ability and willingness to leave the sampled area undisturbed for five years or so till remeasurement so that change can be documented. Plots that will not be left undisturbed (no thinning, fertilization, herbicide treatments, etc.) have very low value for development of growth (change) systems.

Growth and yield models are a necessity for making informed decisions regardless of the species being managed or the objective. The evidence indicates that a similar sampling process to the one used over the last 40 years for other southern pines is needed for longleaf plantation growth and yield development. Field data collection is an expensive process, but is necessary to build models. The Longleaf Alliance has

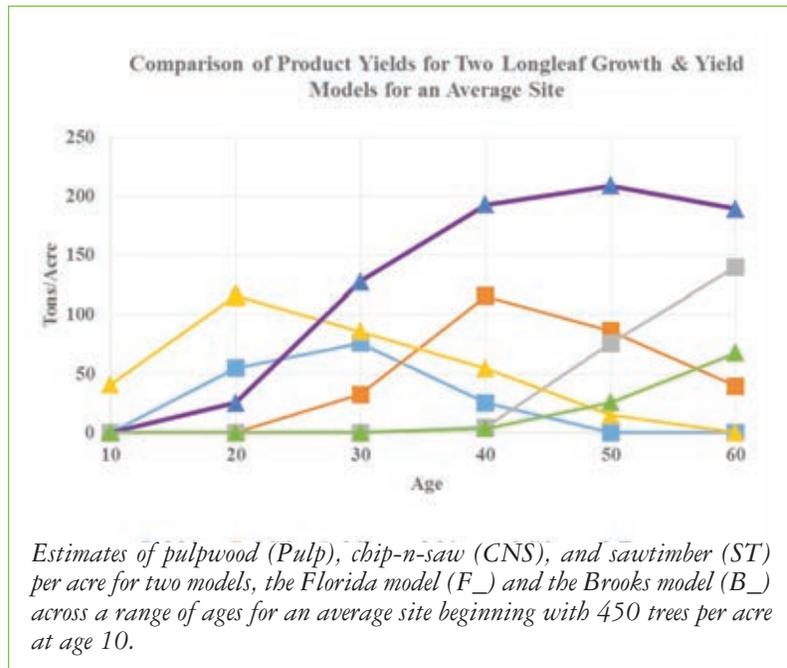
brought together interested landowners, government agencies, and others interested in re-establishing longleaf pine and its associated ecosystem on their lands. Those landowners as well as landowners who require a better quantified risk profile for their investments need longleaf plantation growth and yield models developed using sound model building techniques on data collected across the South. If enough individuals and organizations pool their resources, the project, though expensive, could be financed with oversight from an organization with a long successful history such as The Longleaf Alliance.

Barry D. Shiver is President and P. Corey Green is analyst for Smarter Forestry, [www.smarterforestry.com](http://www.smarterforestry.com)

### Literature Cited

Gonzalez-Benecke, C. A., S. A. Gezan, D. J. Leduc, T. A. Martin, W. P. Cropper, Jr. and L. J. Samuelson. 2014. Modeling Survival, Yield, Volume Partitioning and Their Response to Thinning for Longleaf Pine Plantations. *Forests* (3): 1104-1132.

U. S. Department of Agriculture. 1929. Volume, Yield, and Stand Tables for Second-Growth Southern Pines. Miscellaneous Publication 50. 202p.



# RESTORING OUR FARM

By Beryl Trawick with Ad Platt



*Beryl Trawick surveying her growing longleaf pines on horseback. Photo by Beth Maynor Young.*

We originally thought this farm, Headright 44, came into family ownership around 1850. A “headright” is an old English term for the original settlers landgrants. But a few years ago, I was contacted by a distant cousin - a genealogist who searched our common line back to the Revolutionary War. She told me the first ancestor to acquire this headright was a Tory who fled (to avoid the bounty on his head) to Natchez following the American victory.

When the Americans then took over the Natchez area, they left again moving to Southeast Louisiana in 1785. At the time, this area was governed by Spain. The genealogist believes they are in the unmarked graves in the family cemetery.

This part of Louisiana is called the Florida Parishes as it was settled by Spain and included in the Florida territory that went at least as far west as Baton Rouge. Part of the Old Spanish Trail runs through our place for over a mile. We know that my great grandfather lost it to taxes in 1869 but managed to remain as its steward and eventually reclaimed it. Whether it was 165 or 230 years ago, this farm has always had a timber component.

We have a restored cottage on the property made of longleaf that’s over a hundred years old, although it’s not the original house on the site. We restored the cottage in the 1990s, after I moved back from Chicago. We used posts from an old barn for the addition. They had been hewn by a broad axe and placed in the ground with the bark still on the underground part of the posts. When we pulled them out, you could still smell the resin in these 100+ year old timbers. There’s a sign outside the house with the words “Broad Axe Farm circa 1850” burned into the wood.

Along with restoring the cottage, we began to plant more longleaf. When I was a child we had forested sections with longleaf pines. I remember the sound from the breeze through the trees -- a murmur that I found reassuring and uplifting. Longleaf is also a practical choice, as it’s resistant to pine bark beetles, which were invading and causing wide spread devastation to our loblolly pines. The forestry service spotted the damage using helicopters. To stop the beetles, infected trees were cut down. We called these areas “bug spots” and started planting longleaf seedlings in the bare spots. And these

were bare root seedlings. First we started with a few hundred and it wasn't easy - you had to dig quite a hole for the long tap root. It was great when we found out about containerized seedlings for longleaf. And what a difference - although I'm not sure that the old bare root weren't better. Of course I don't think we could have planted more than a few hundred of the bare root even using a machine planter.

After the bug spot planting, we converted a hay pasture from bahia grass to longleaf. This was labor intensive mainly because of competing vegetation. A great family friend built a cabin out here because he loves to hunt and fish. He's practically a chemist and directed the weed control operations with both chemicals and burning.

After converting the bahia field, we tackled a sixty acre section that had been completely cut out except for about forty residual longleaf and a few oaks - mainly white oaks - that we kept for wildlife. One can see the forest rising again on this site and it's a delight to ride on horseback through our rapidly growing young trees.

We used an aerial pine release spray on this cut-over site. I remember my father saying many times that you don't need to plant loblolly - just leave enough seed trees. Clear cuts simply were not okay. But that was and is only true for loblolly (somewhat of a weed). The initial transition to longleaf was not so easy. And I'm not sure we would have continued planting longleaf, but for Hurricane Katrina. The tornadoes she spawned took down most of the timber on hundreds of acres, destroying the homes of so many forest creatures. Our own home made of longleaf came through virtually unscathed. It was simply due to chance; one can clearly see the swaths of land where the tornadoes tore through, but the houses on the property were not in these paths of destruction.

In studying the aftermath of this storm and Hurricane Ivan, foresters documented the higher survival rate of the longleaf relative to other pines and this information apparently impressed the NRCS & US Fish & Wildlife Service. About a year or so after the storm we were contacted first by the NRCS and then the US Fish & Wildlife Service about programs to

{continued on page 16}



**“Heed nature, for in its workings is an age-old wisdom. Allow diversity, for it has sustaining capabilities that a monoculture does not.”**

*Field of planted longleaf pine and native groundcover. Photo by Beryl Trawick.*

{continued from page 15}

help restore our forest. We had never contemplated using these agencies but from our experience with the bahia pasture, the cut-over site, and the hand planting of hundreds of bare root seedlings, we realized what this assistance would mean to us financially and spiritually. We love these woods but weren't at all sure how we would swing the restoration by ourselves. And thanks to those studies documenting the better survival of longleaf, these agencies were 100% behind planting back with longleaf. These programs have assisted in the site prep, planting (including seedlings), and periodic burning as well as advice and support.

When we first planted longleaf, there was no encouragement because longleaf wasn't supposed to do well outside of uplands. So this great change in thinking has been welcome. *Pinus palustris* (aka longleaf) means 'of the swamp' and they certainly have had wet feet around this place this year. This April has

been the wettest in over a hundred years and as long as records have been kept. For those who had not previously considered longleaf on moist and fertile sites, the rapid growth of these trees would be a revelation.

Our objective has been to create a healthy natural environment. I hope to restore this land to its past state and let it be a bulwark against the subdivisions that are devouring the land around our farm.

One indication of our success is the flourishing wildlife; we have deer, quail, gopher tortoises, bobcat, rabbits, and black bear. We also have restored native plants or rather they restored themselves which is wonderfully amazing and the easiest part of the restoration so far.

I would offer this advice to others: Heed nature, for in its workings is an age-old wisdom. Allow diversity, for it has sustaining capabilities that a monoculture does not.

## Donate a Vehicle to Support The Longleaf Alliance

Got a vehicle you don't need anymore? Donate your car, truck, boat, motorcycle, tractor, jet skis, or farm equipment to the Longleaf Alliance. Your donation will help support the Alliance's mission.



Simply go online to the website at [www.1car1difference.com](http://www.1car1difference.com) or call 877-557-1CAR. It is easy and quick. They will pick up the vehicle, handle all the paperwork, auction it and send the proceeds to the Alliance. You receive a receipt for tax deduction purposes. Thank you for making a difference!!!



*NRCS offers technical and financial assistance to producers interested in restoring and enhancing longleaf pine forests.*

# USDA Offers Assistance to Producers Interested in Restoring and Enhancing Longleaf Pine Forests

*By Tim Albritton and Michael Sampson, Natural Resources Conservation Service*

Do you own or manage land and want to restore and enhance longleaf pine forests? If so, USDA's Natural Resources Conservation Service (NRCS) can help. Longleaf pine forests are among the most biologically diverse ecosystems in the nation, providing critical habitat for a variety of wildlife. They also provide ample opportunities to generate income since lumber from longleaf is stronger and its pine straw is highly valuable.

NRCS offers technical and financial assistance that helps producers with planting and managing longleaf pine trees. Assistance comes from two key Farm Bill conservation programs – the Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program (CSP).

Through EQIP, NRCS shares the cost with the producer to implement conservation improvements, or practices, such as planting longleaf pine trees.

Through CSP, producers are paid based on their level of conservation performance – the better the performance, the higher the payment. CSP often bundles conservation activities and develops a conservation management system. This helps producers in the southeast who want to better manage longleaf forests with prescribed fire and other management activities.

CSP is a new opportunity for producers interested in restoring and enhancing longleaf pine trees on their land.

NRCS is piloting the program in several landscape-level conservation efforts, including the Longleaf Pine Initiative (LLPI).

NRCS created the initiative in 2010 and more than 260,000 acres of longleaf have been planted since its creation. This initiative aims to reverse the decline of longleaf pine ecosystems and expand healthy forests across the nine southeastern states targeted through the initiative.

Both technical and financial assistance is available to producers in priority areas of Texas, Louisiana, Mississippi, Alabama, Florida, Georgia, South Carolina, North Carolina, and Virginia. Producers are encouraged to visit with their local NRCS conservationists for more information about programs, field days, and training opportunities hosted by conservation partners.

NRCS accepts applications for both programs on an ongoing basis. Find your local USDA service center and learn more about conservation opportunities at [nrcs.usda.gov/GetStarted](https://nrcs.usda.gov/GetStarted).

Tim Albritton is the state forester with NRCS in Alabama and can be reached at [tim.albritton@al.usda.gov](mailto:tim.albritton@al.usda.gov). Michael Sampson is the state forester with NRCS in Georgia and can be reached at [michael.sampson@ga.usda.gov](mailto:michael.sampson@ga.usda.gov).

**More information on NRCS assistance:** [nrcs.usda.gov/GetStarted](https://nrcs.usda.gov/GetStarted)

**Find information by state:** **Alabama:** [al.nrcs.usda.gov](https://al.nrcs.usda.gov) • **Georgia:** [ga.nrcs.usda.gov](https://ga.nrcs.usda.gov)  
**Florida:** [fl.nrcs.usda.gov](https://fl.nrcs.usda.gov) • **Louisiana:** [la.nrcs.usda.gov](https://la.nrcs.usda.gov) • **Mississippi:** [ms.nrcs.usda.gov](https://ms.nrcs.usda.gov)  
**North Carolina:** [nc.nrcs.usda.gov](https://nc.nrcs.usda.gov) • **South Carolina:** [sc.nrcs.usda.gov](https://sc.nrcs.usda.gov)  
**Texas:** [tx.nrcs.usda.gov](https://tx.nrcs.usda.gov) • **Virginia:** [va.nrcs.usda.gov](https://va.nrcs.usda.gov)

By Kevin McIntyre, JW Jones Ecological Research Center  
Partnership Council Chair

# Longleaf Partnership Council News

“ A T I M E T O C E L E B R A T E ”

It was great to see so many friends and colleagues from the longleaf world at the recent spring Longleaf Partnership Council meeting in Pensacola Beach, Florida. Special thanks go to the National Fish and Wildlife Foundation (NFWF) and the Southern Company for once again graciously allowing us to tag on to their annual Stewardship Partners Meeting. We also very much appreciate the dedicated members of the Council for their thoughtful engagement. The continued commitment of our partners and the momentum of our collective longleaf efforts are truly amazing.

This level of commitment is required to realize our goal of doubling the acreage of longleaf pine. The time scale at which longleaf pine operates is one of the most challenging as well as inspiring aspects of this incredible ecosystem. The choice to engage in longleaf pine restoration and management is, by its very nature, a long-term commitment. The old saying that “the true meaning of life is to plant trees under whose shade you do not expect to sit” is certainly applicable to our work. The open, sun-dappled mature piney woods with diverse grass-dominated understories that motivate so many landowners to choose longleaf are the product of decades of stewardship and active, thoughtful management. The span of time necessary to realize that vision often exceeds the lives of the landowners that plant the trees, the foresters that tend them and the biologists that work to create good habitat for wildlife. As one of our partners recently observed, this is a marathon, not a sprint, and we are committed.

In that spirit, the Council meeting was full of good news and stories of success. The results of our 2014 accomplishment report showed steady progress toward our goals, with numbers very consistent with those from 2013. Given that this was only

our second rollup of data, it was exciting news indeed that there was so little variance. We appreciate Council members’ input to the working group that is drafting the update of our Strategic Actions and priorities. We learned a lot about the great work that all of our Local Implementation Teams (LITs) are



*Gathering of the Longleaf Partnership Council in Pensacola Beach, Florida. Photo by Stephanie Hertz.*

doing on the ground across the longleaf range. We heard from new partners in rotational seats and welcomed Ryan Bollinger to our group as the LIT Consul. NFWF provided information about the Longleaf Stewardship Fund and a new mapping grant. Our Federal partners reported on a range of topics including the next round of Regional Conservation Partnership Program (RCPP) grants, personnel changes, gopher tortoise credits, and RESTORE act news. Non-governmental organization partners provided informative updates on some of their work, including longleaf marketing analyses, prescribed fire outreach, land protection, and understory restoration.

Many of these are familiar topics from past meetings or ongoing dialogues in the longleaf conservation community. But that is the key to long-term, lasting success: persistence and commitment to steady progress as we work toward the established goals of the partnership. This sort of steadfast focus on a long-term goal has become increasingly rare in our modern world, where sound bites, slick marketing and sensational headlines feed a short-term view on so many things. I believe, however, that our partnership is different, that longleaf is not a fad, and that we have the commitment and the vision to stay the course and realize our goals over the long haul. You know, I like to think that maybe it was a gopher tortoise that bested the hare in that race that we all remember from Aesop’s Fables - a committed gopher tortoise. Thanks to all of you for your continued commitment to longleaf pine.

## Apalachicola Restoration Stewardship Alliance (ARSA) Update

**WANTED: Waterproof Fire Boots** *By Brian Pelc, The Nature Conservancy*



*Wiregrass (Aristida stricta) growing in the nursery at Apalachicola Bluffs and Ravines will help bring critical fire to newly converted longleaf stands at the Conservancy's conservation neighbor, Torreya State Park. Photo credit: B. Pelc.*

ARSA members as needed. ARSA members look forward to sharing the report with other Local Implementation Teams facing similar climate challenges.

In other news, ARSA continues to monitor the progress of The Apalachicola Project, a proposal to the Restore Council for restoration and management across the ARSA region.

Land managers deal with many variables in order to keep their properties in good health. Predictions of rising sea levels and warming climate must now be incorporated into long term plans for reforestation, invasive species control, and prescribed fire, but little guidance has been developed to assist with those needs. For that reason, ARSA members focused on predictive models and their own observations to develop a comprehensive list of potential impacts from both a warmer southeastern coastal plain, and rising sea levels. This list will be compiled into a report from the front lines that members hope will inform regional and national efforts to proactively address impacts from climate change. Subjects ranged from unknown effects of warmer winters on newly planted longleaf seedlings to uncertain/unreliable politics' impacts on budgets and planning. The exercise was preceded by a presentation by researchers from the Apalachicola National Estuarine Research Reserve, which can provide accurate, local information about rising sea levels to

## Supporting Flatwoods Salamander Conservation in the Ft. Stewart/Altamaha

**Longleaf Partnership** *By John Jensen, Georgia Department of Natural Resources*



*Survey team that located and captured flatwoods salamanders at Ft. Stewart. Photo by Kurt Bublmann.*

The U. S. Fish and Wildlife Service listed this species under the federal Endangered Species Act in 1999 due to drastically declining populations. This species is found in low, mesic longleaf pine-wiregrass habitats with embedded, seasonal cypress ponds which they use for breeding, egg deposition, and larval growth. Both the terrestrial flatwoods and the breeding ponds are fire-dependent and quickly degrade

into unsuitable habitat when fire is excluded or infrequently applied. The loss of fire on the landscape, as well the conversion of longleaf flatwoods to agriculture, high intensity silviculture, and other uses are the major causes implicated in the decline of flatwoods salamanders. With thousands of suitable habitat acres and a robust prescribed fire program, Ft. Stewart provides the best remaining conditions for this species in Georgia. Even so, the once fairly widespread population on the installation has been reduced to only one (known) productive breeding pond, and finding larvae in this pond has not been annually reliable lately. Precipitous range-wide declines of this species have triggered desperate actions in an effort to save flatwoods salamanders from extinction. Twenty flatwoods salamander larvae were captured during this April's search, four of which were collected and transported to Atlanta Botanical Garden where they will be raised, hopefully, to adulthood and become the founder stock for a captive breeding program that ideally will allow the species to be returned to extirpated sites where habitat has been restored.

Rich in salamander diversity with 57 currently recognized species; Georgia is a destination state for amphibian enthusiasts. Six such enthusiasts, biologists representing Georgia Department of Natural Resources, Florida Fish and Wildlife Commission, U.S. Department of Defense, Savannah River Ecology Lab, and Atlanta Botanical Garden, met at Ft. Stewart in early April to search for arguably the most imperiled salamander in the Southeast, the flatwoods salamander (*Ambystoma cingulatum*).



*Adult flatwoods salamander. Photo by John Jensen.*

## Gulf Coastal Plain Ecosystem Partnership (GCPEP) Tackles Invasive Plants

By Vernon Compton and Mike Thompson, *The Longleaf Alliance*



*EST Team Member, Brian Schumann, using chainsaw to remove non-native invasive Chinese tallow tree. Photo by Mike Thompson.*

Invasive non-native plants have been identified as a critical source of stress across the GCPEP landscape. These species change community structure and composition and alter hydrological and fire regimes, resulting in impacts to wildlife habitat. High ecological and economic costs of this stress have been identified by both private and public land managers. Increasing emphasis is being placed on the control of invasive species through the efforts of Cooperative Invasive Species Management Area (CISMA) partners, including the Six Rivers CISMA that wraps around the GCPEP landscape. Major invasives in the landscape include Chinese tallow tree (*Triadica sebifera*), Chinese privet (*Ligustrum sinense*), cogongrass (*Imperata cylindrica*), and Japanese climbing fern (*Lygodium japonicum*). To address the control of these invasive plant species, the GCPEP partners have identified invasives treatment as a priority for the Ecosystem Support Team (EST). The EST has worked with public and private landowners to control hundreds of acres of invasive plants, including a recent effort in the Jones Swamp managed by Escambia County in Florida. Jones Swamp, part of a greenway being developed by Escambia County, has numerous invasives that the county has been tackling. The EST assisted with control of Chinese tallow tree, many of which were

large trees capable of producing extremely large seed crops, on 39 acres of the swamp. Other GCPEP partners have been identifying and treating invasive species and are making a dent on their advancement. In addition, three summer interns have been hired by the LLA to assist in invasive species control through a National Fish and Wildlife Foundation Longleaf Stewardship Fund grant. An excellent document for the control of invasive plants is *A Management Guide for Invasive Plants in Southern Forests*, a USDA Forest Service Southern Research Station General Technical Report SRS-131 which may be downloaded at [http://www.srs.fs.fed.us/pubs/gtr/gtr\\_srs131.pdf](http://www.srs.fs.fed.us/pubs/gtr/gtr_srs131.pdf). In addition, a very helpful and easy to use phone app, titled *Invasive Plants in Southern Forests* was also developed by the Southern Research Station.

## Okefenokee/Osceola Local Implementation Team (O2LIT) Provides Landowner Outreach

By Alan Dozier, O2LIT



*Byron Hart of the Osceola National Forest puts on a live prescribed fire demo. Photo by Alan Dozier.*

Pending approval of the O2LIT 2015 Longleaf Stewardship Fund grant, the Okefenokee and Osceola local implementation team will begin a new year under tutelage of The Nature Conservancy. Alison McGee with TNC in Savannah will assume administration of the grant, and Alan Dozier will continue as the O2LIT Coordinator. Kudos to Andrew Schock and The Conservation Fund for envisioning the implementation team and for getting it kicked off.

O2LIT just completed two longleaf landowner field days, April 21 in Georgia, hosted by the Okefenokee National Wildlife Refuge and the Georgia Forestry Commission and April 23 in Florida, hosted by the Osceola National Forest, Florida Forest Service and Gateway College. The Southern Fire Exchange was a big help to sponsor advertising, registration and other administrative support. A litany of partners provided cadre for the indoor sessions and the field tours. Between both field days, there were just over 100 attendees who witnessed longleaf pine restoration on both public and private land.

The O2LIT/TNC/Job Corps burn team was successful in preparation and burning of nearly 20,000 acres on the Osceola National Forest. Stephen Foster State Park at Fargo, Georgia also utilized the team for fire mitigation work around their rental cabins and other structures. The team gained valuable experience as they assisted the North Carolina Advanced Job Corps team with burning at Moody Forest Natural Area.

The Greater Okefenokee Association of Landowners held its spring meeting on March 19, 2015 which included updates from the Georgia and Florida State Foresters, the Okefenokee National Wildlife Refuge Manager, the Osceola National Forest District Ranger as well as a presentation from Georgia Forestry Commission on invasive species identification and control. O2LIT coordinator Alan Dozier presented an update of team accomplishments to the 65 GOAL members present.

## Private Lands Work, Sharing Information, and Plans for the Future Ocala Longleaf Pine Local Implementation Team (OLIT) *By Cheryl Millett, The Nature Conservancy*



*Field activity during the recent Longleaf 101 Academy in Brooksville, FL. Photo by Cheryl Millett.*

The Ocala LIT worked with The Longleaf Alliance and Florida Forest Service (FFS) to conduct a Longleaf 101 at the FFS Withlacoochee Training Center in Brooksville, Florida from April 14-16, 2015. The 30 participants were a good mix of county foresters, private lands biologists, private landowners, and a utility company land manager. Reviews are still being compiled, but everyone was engaged and one private landowner said, “This class was an eye-opener. I can visualize what I want now and know how to say it. I learned about what I have and what it could be.”

On February 10th, outreach talks continued with a presentation of “Investing in a Forest that Fire Built” to 45 Ridge Audubon Society members and to the Alachua Environmental Protection Advisory Committee on March 3rd.

The Ocala LIT Coordinator has been focused on GIS, exploring the recently-released FFS statewide Longleaf Pine Ecosystem Geodatabase to consider its applications for setting LIT priorities. The Ocala LIT Coordinator also participated in the Longleaf Partnership Council meeting on April 6-7th to learn about range wide efforts and provide a LIT level perspective, particularly about the mapping prioritization work now occurring in Florida. Additionally, private lands work continues through the incentive program with FFS!

## A Push to Keep Cogongrass from Spreading in South Carolina *By Colette DeGarady, The Nature Conservancy*



*Mark Danaber, USFS Wildlife Biologist, examining new cogongrass occurrence in the Francis Marion National Forest found October 2014. Photo by Ricky Wrenn.*

After attending last fall’s Longleaf Alliance conference in Mobile, Alabama, members of the Sewee Longleaf Conservation Cooperative (SLCC) on the coast of South Carolina, were more inspired than ever to keep cogongrass from spreading in South Carolina. Through the SC Exotic Pest Plant Council, the SLCC helped organize a workshop that was held May 7, 2015 in the Sewee area to train professionals and landowners to identify and search for this aggressive invader. More than 50 participants were in attendance. There are only 30 or so known locations of cogongrass in South Carolina. The workshop included a field trip to two of these known sites

in the Francis Marion National Forest. The Department of Plant Industry is a leader in surveying annually in this state and treating known occurrences. You can learn more about cogongrass in SC by visiting <http://www.clemson.edu/cafls/cogongrass/index.html>.



*Map of cogongrass occurrences in South Carolina.*

## Sandhills Longleaf Pine Conservation Partnership Understory Restoration and “Learn and Burn”

*By Jimmy Lisenby, Sandhills Longleaf Pine Conservation Partnership*



*Johnny Stowe and Don Cockman (SC DNR) along with Brian Davis SCFC instruct “Learn and Burn” participants. Photo by Susan Griggs.*

In the fall of 2014 the Sandhills Longleaf Pine Conservation Partnership (SLPCP) in South Carolina harvested close to 100 pounds of native ecotype longleaf understory seed using its new Prairie Habitats pull type harvester. A large variety of species were collected including wiregrass, blue stem, split beard blue stem, blazing star and several asters. This spring, private landowners within the SLPCP focal area were given the opportunity to use the new Grasslander Seeder™ to plant this seed in their longleaf pine stands. The resulting understory will serve as fine fuels for landowners using prescribed fire as part of their forest management plan. The Grasslander Seeder™ and Prairie Habitats harvester were



*Grasslander Seeder™ planting understory seed on a recently burned longleaf site. Photo by Susan Griggs.*

purchased using National Fish and Wildlife Foundation grant funds.

In March 2015, the SLPCP held its first “Learn and Burn” demonstration day as part of its “Longleaf and Lunch” education series. Instructors at the event were from the SC Forestry Commission, SC Department of Natural Resources, USDA-Natural Resources Conservation Service, US Fish and Wildlife Service and The Longleaf Alliance. This was a hands-on demonstration day where landowners participated in the entire process of prescribed fire from ignition to mop-up. Participants were encouraged to use a drip torch to get firsthand experience during the burn. Landowners learned about the benefits of burning, where to get assistance, and burning techniques.

## SoLoACE Longleaf Partnership Update

*By Bobby Franklin, The Longleaf Alliance*

Late winter and early spring has been a busy time between the Edisto and Savannah Rivers in South Carolina. The ending of quail season brought with it wisps of smoke throughout the area as land managers started the age old tradition of prescribed burning in the region. While folks burn earlier and later now, February-March is the traditional time to burn between the rivers. It’s been challenging this year as wet weather played havoc with burning and getting longleaf planted. Here’s hoping that wet weather will continue for our late planted seedlings, yet let up enough for some growing season prescribed burning in May and June.

**SoLoACE Longleaf Partnership activities these past few months include:**

- Cost sharing the planting of 364 acres of new longleaf pine in the project area.
- Participating at the Sewee Fire Fest in March.
- Assisting 35 landowners with longleaf management related questions.
- Participating in two local landowner association meetings, answering questions and disseminating longleaf pine information.
- Participating in the leadership of the South Carolina Tree Farm Committee.

Summer in the SoLoACE will be busy as we continue to recruit landowners for the various cost share programs offered by our project and our partners. We will be hosting two longleaf academies this summer:

- Longleaf 101 at the UGA Conference Center in Aiken County, SC July 14-16, 2015
- Longleaf & Fire 201 at the Webb Wildlife Center in Hampton County, SC August 18-20, 2015

*For additional details go to The Longleaf Alliance website calendar at [www.longleafalliance.org](http://www.longleafalliance.org) or call Casey at 334-427-1029.*

The SoLoACE Longleaf Partnership is a 3.9 million acre area between the Edisto and Savannah Rivers in South Carolina covering nine counties. For additional information on the Partnership and longleaf management assistance in the area, contact:

Bobby Franklin - SoLoACE Longleaf Partnership Coordinator - Phone: 843-893-7775 - Email: [bobby@longleafalliance.org](mailto:bobby@longleafalliance.org)



*Containerized longleaf seedlings at IFCO nursery facility.  
Photo by International Forest Company.*

*By Matt Hestad, HL Strategy*

# International Forest Company Experiences Growth with Western Gulf Region Expansion

International Forest Company (IFCO), the largest and oldest container seedling producer in the United States, has expanded production of seedlings into the Western Gulf region with a new facility near DeRidder, LA.

In 2014, IFCO produced 8 million longleaf and loblolly pines at its facility in Deridder, and in 2015, the company increased production at the facility to 24 million seedlings, including longleaf, loblolly, slash and shortleaf pine. This move brings IFCO to a total production of over 80 million seedlings for 2015 including its locations at Moultrie, GA, LaBelle, FL and DeRidder, LA.

According to IFCO COO Wayne Bell, the company has experienced an increase in production due to a high demand for better genetic material, increased longleaf planting in Louisiana and Texas and anticipation of the Louisiana Office of Forestry closing all of its nursery and genetic facilities.

“The trees in our orchards are bred from the best genetics in the nation’s premier research co-ops,” Bell said. “We are excited at the opportunity to provide years of genetic research to the common landowner.”

IFCO has also initiated a full fledged tree improvement program in longleaf pine in addition to its existing programs in loblolly and slash pine. Our work will be coordinated with the help of the Western Gulf Tree Improvement Cooperative and the N. C. State Tree Improvement Cooperative.

The aim of this program is to improve the growth of the company’s seedlings, but maybe more importantly, the research will help to increase fusiform rust resistance, stem quality and reduced forking over unimproved seed from which most seedlings are produced.

This effort is yielding results. In the fall of 2014, IFCO harvested the largest improved longleaf seed crop in history. The cones came from orchards previously established by state agencies and industry companies that are no longer interested in longleaf. Genetic testing of open pollinated families began in 2011 with the N.C. State Tree Improvement program and more trials are planned in 2015.

“Longleaf is the second most planted pine in the South, and the opportunities to improve our quality of trees for landowners is huge for a variety of traits,” Bell said.

IFCO services industrial and government customers, including the U.S. Forest Service, state forestry agencies and military organizations. Approximately half of the company’s production is for consulting foresters and private landowners. For more information on IFCO, forest management techniques in the southeast and more, visit [www.internationalforest.co](http://www.internationalforest.co) or call 800-633-4506.

# Memories from The Age Of Turpentine

*By John Morgan*

*Pine showing cut for turpentine, near Fort Meade, FL. Photo courtesy of State Archives of Florida, Florida Memory, <http://floridamemory.com/items/show/36356>.*

Stanford Tillman has been a friend of mine for a little over four years. We were introduced by my cousin, Gary Beall, who is a running buddy with Stanford. Gary called Stanford to examine the longleaf planting on my land near Hazlehurst, GA. Stanford's wit and intellect were readily apparent. Stanford and I began helping each other with our longleaf. He helped with my spraying and burning and I helped him with his site prep and burning. Stanford lives in Hazlehurst in Jeff Davis County, Georgia, but his land is in Appling County, the county to the east, along the Altamaha River. The Tillman and Eason families were the first settlers in Appling County. In fact, there is a well maintained Eason cemetery adjacent to his property that dates back to 1803. On the 50 mile roundtrips from Hazlehurst to Appling County, Stanford shared stories about growing up in the 40's and 50's and his experiences with turpentine, logging, timber growing, and timber cruising. I thought that passing on Stanford's knowledge about turpentine may be of interest to readers of The Longleaf Leader.

### The Process

The turpentine process begins in March. The product produced from the tree is called gum. After processing, it is called "spirits of turpentine" with an additional product of rosin. Stanford told me that processing gum to spirits was somewhat similar to making moonshine from mash. When a tree is put into production, the first step is making a "Face" with a hatchet or ax. The face goes from ground level to a foot or so up the tree. The bark is gently removed while avoiding cutting into the tree. An instrument called a hack is used to remove bark every two weeks after the tree is put into production. This chipping takes off the bark but does not penetrate the cambium of the tree. Within the face, small strips of metal called tins or gutters are nailed into the tree to direct the gum into the cups. The cups were held in place with a 20 penny nail. After this process is completed, a 32 ounce plastic squeeze bottle with sulfuric acid is sprayed where the hack has removed the bark on the new streak. The acid begins the process of the gum flowing down to the tins then into the cups. In Stanford's day, the cups

were plastic or tin, but in earlier days, clay cups were used to catch the resin and the face was kept open and extended up the bole of the tree by continuous chipping rather than acid. Clay cups would crack in the winter after a hard freeze if not turned over to prevent water from collecting in the cups. Every two weeks each tree's bark was chipped with the hack about ¼" to ½" above the previous streak. Stanford covered the cups with a flat piece of wood to prevent bark chips from falling into the cups while making a new streak called "chipping boxes." Acid was squeezed onto the new cut. Two weeks later the cups were emptied into a 5 gallon bucket. A paddle which looks like a spatula helped remove the gum from the cups. The 5 gallon buckets were dumped into a barrel.

Stanford used a 30 gallon barrel called a three quarter barrel. The full size barrels were called "blue whistlers." This process continued, chipping/ streaking every 2 weeks, and emptying the cups every four weeks throughout the growing season. After each season, the tins and the cups were moved up the face as new streaks were made. Some people continued working the trees at heights higher than a hack could reach. In this scenario a hack is replaced by a "puller." A puller is a hack with a longer handle and the term for removing bark at elevated heights is "pulling boxes."

### The Family Business

The family's property has a large black water creek called Ten Mile Creek as well as land on the Ochoopee River. The loggers used

Ten Mile Creek to float cut trees to the Altamaha for rafting down river to Darien where they were loaded on ships bound for Europe. Stanford's father, born in 1902, was able to work with the rafters as a 15 to 17 year old. His grandfather, born in 1873, made many trips over a 20 year span. These trips were made in the winter after the crops were harvested in the fall. The men would ride on the attached logs themselves, using large poles on the front and a large rudder or "sweep" on the back to guide these log flotillas down river. After guiding the logs down river, the men would catch a train back home and repeat the process several times in a season. The era ended in about 1920 when the longleaf in the area were nearly all harvested.



*Stanford Tillman standing among his planted longleaf holding a turpentine paddle. Photo by John Morgan.*

{continued on page 26}

{continued from page 25}

Stanford's father grew up in the turpentine business. He was a "woods rider." Riding on his horse, he would supervise 20 or 30 men who each had his own "crop" of trees to work. These full time turpentiners worked about 10,000 trees. The turpentine business was often worked on "halves," the land owner and the turpentine folks splitting the profits. In the summer, work was often from sun up to sun down. In the winter all the land that was being worked would be burned. Each man would burn the trees he was working. Each tree was raked around the face before burning so the face would not catch on fire. Local people would often be hired in the winter to cut bushes that were not completely burned. They also kept paths between trees clear for walking. The men all had backpacks containing 5 gallons of water to spray if a face caught fire.

As a youth, Stanford was sickly, he had rheumatic fever at 11 and 13. At the age of 14, Stanford's daddy gave him 50 acres of trees to work. Most folks didn't believe he could keep up the workload, but he persevered. The tract had 1109 trees (a combination of longleaf and slash pines) that were 10" dbh or larger. This was the minimum size allowable to work for turpentine. Stanford loved the work and can still recall where each of the 1109 trees was located. He entered his turpentine demonstration in an FFA contest and was recognized as the state of Georgia winner. As a result, he was flown to Kansas City as the Georgia representative of the FFA and awarded a college scholarship to the University of Georgia.

but the ability to obtain a product called tall oil as a by-product of processing pulpwood was of equal consequence. Tall oil was not as good as the resin from turpentine, but was good enough for most needs. By 1960, the second "great cut" of timber began in Appling County.

As the turpentine business began its decline around 1960, Stanford's father transitioned to the timber business with his sons Stanford and Rooney. Stanford told me that by the early 1970's, the business was virtually gone from Appling County, a county that once called itself "The Turpentine Capital of the World." Stanford specialized in cruising timber and credits a great amount of his success to recognizing "pole quality" timber. While competitors would grade timber as saw timber and pulp, Stanford would carefully make note of poles. He could then outbid his competition and still be profitable.

Today Stanford is retired but still cruises timber for friends. He travels nearly every day to his 1200 acres along the Altamaha River (800 acres of river hardwood and 400 acres in pine) and works on improving his land. He burns his 400 acres of pine regularly. The majority of his 240 acres of longleaf pine was planted on rolling hills about a mile from the river in December 2012. He has gopher tortoises throughout this stand. He has also planted longleaf in the Altamaha flood plain. He experimented with 22 acres on the flood plain three years ago. The three year olds on the flood plain have done exceptionally well. They are eight to ten feet tall with some taller. Although

**As a youth, Stanford was sickly, he had rheumatic fever at 11 and 13. At the age of 14, Stanford's daddy gave him 50 acres of trees to work. Most folks didn't believe he could keep up the workload, but he persevered.**

Stanford worked the trees for 4 years in high school and during his first three years at Georgia. Every two weeks during the growing season, Stanford would hitchhike home from Athens to turpentine. Stanford and I laugh that it is a pretty safe bet that he was the only frat boy at UGA coming home to turpentine. After seven years the faces of his trees were too high to work with a hack, and by that time timber prices had become much higher so he sold the trees for timber. When he began turpentine, one year of gum was about equal to the value of a tree. By the late 1950's, it took more than 10 years of turpentine products to equal the value of the tree. The price of timber was a great factor,

they were under water several times, they now have their "noses above the water" and Stanford thinks one day they will produce a tremendous stand. He says about the flood plain longleaf, "they have my sand and your clay," referring to clay washed down the river from the piedmont.

Stanford will be 79 on July 4 and still runs 6 miles a day 4 days a week. His wife, Barbara, a retired school teacher, his daughters, and granddaughter, a recent college graduate, all make regular visits to inspect Stanford's work and help in managing the land.

## LITERARY REVIEW

# Proactive Strategies for Protecting Species: Pre-Listing Conservation and the Endangered Species Act

Edited by C. Josh Donlan

*Proactive Strategies* is a book that provides a road map for anyone interested in programs that reward environmental stewardship and species conservation so that they are both effective and happen upstream of regulations. Compiled as the Endangered Species Act turns 40 years old, the perspectives and ideas gathered in this work provide insights into improving conservation success while reducing conflicts and expensive litigation. Josh Donlan, the editor of this work said “Rhett Johnson and The Longleaf Alliance played a pivotal role in developing both the framework and the on-the-ground nuts and bolts of what a pre-listing conservation program looks like.”

The Endangered Species Act (ESA) remains a landmark act in conservation and one of the world’s most comprehensive laws designed to prevent species extinctions and support recovery efforts for imperiled species. A controversial law, and often subject to political attack, the ESA is successful overall but not without difficulties. Those who enforce the ESA, for example, struggle to achieve viable recovery goals for many species. Landowners consistently report an interest in wildlife



and stewardship, but share strong concerns about litigation.

This volume brings together the perspectives of landowners, conservation biologists, social scientists, lawyers, ranchers, government officials, and others to create a legal, scientific, sociological, financial, and technological foundation for designing solutions that reward conservation action for hundreds of at-risk species—prior to their potential listing under the ESA. *Proactive Strategies for Protecting Species* explores the perspectives, opportunities, and challenges around designing and implementing pre-listing programs and approaches to species conservation.

*Proactive Strategies for Protecting Species* is published by University of California Press. C. Josh Donlan is director and founder of Advanced Conservation Strategies, an organization that makes

livelihoods and environments better through science, human-centered design, and innovation. He is a recipient of Fulbright and Guggenheim fellowships and has published over eighty scientific and public articles in venues such as *Nature*, *Conservation Biology*, and *PNAS*.

*“There’s a big idea at the heart of this book - the kind of big idea that promises to transform how we conduct the business of species and habitat conservation. Everyone wins when the public and private sectors work together to sustain wildlife and natural resources through the use of proactive incentives instead of only relying on regulation. These types of approaches are at the foundation of environmental health, economic opportunity, and cross-sectorial cooperation.”* - Craig Hanson, Global Director of Food, Forests & Water at the World Resources Institute

*“... an invitation to innovation, bristling with fresh ideas. Some suggestions may not work, others will surely move us forward. A must read for rethinking the future of the Endangered Species Act.”* - Bruce Babbitt, Former United States Secretary of Interior

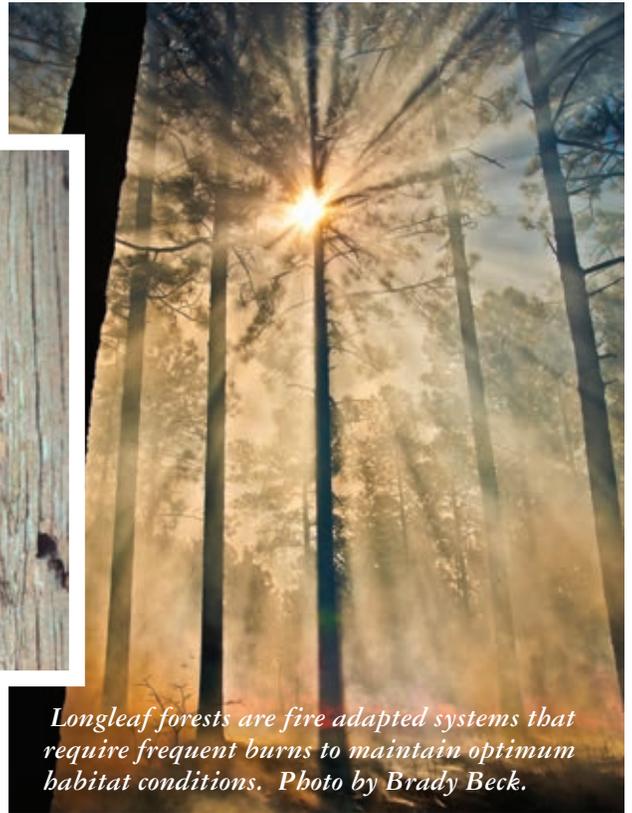
By The Arts Council of Moore County

# LONGLEAF ART SPOTLIGHT

## BLEEDING PINES ORATORIO



"Cat Faces" on mature longleaf trees indicate their use in the turpentine industry. Photo by Frank Hunter.



Longleaf forests are fire adapted systems that require frequent burns to maintain optimum habitat conditions. Photo by Brady Beck.

*Bleeding Pines Oratorio* is the title of a new musical work being developed for the North Carolina Symphony (NCS). Planned as a composition for full symphony orchestra, *Bleeding Pines* will feature new and traditional songs set for soloists and chorus. David Ludwig, one of America's foremost contemporary composers, will create the oratorio with words by Ray Owen.

Inspiration for the piece comes from the actual account of conservationist Helen Boyd Dull, who in 1904 saved an ancient stand of longleaf pines after encountering former slaves bleeding the trees of their resin for the turpentine industry. Known today as the Boyd Tract, part of Weymouth Woods/Sandhills Nature Preserve in Southern Pines, North Carolina, the forest encompasses the world's oldest longleaf pines. Hundreds of trees still bear the V-shaped marks made by the turpentiners in what is now one of America's great historic forests.

The oratorio will be based upon a play written by Owen, titled "*Bleeding Pines of Turpentine*." The account is told through the voices of two characters: Helen and the Spirit of Turpentine. Helen recounts the day she first encountered the old pines and the passion she felt for the land, while the Spirit speaks from the perspective of the turpentine, whose hardships and life are reflected by the trees.

The play came to the attention of Josiah Stevenson, former director of development for the Boston Symphony and Dartmouth College, and vice president of development at the Curtis Institute of Music in Philadelphia. Stevenson volunteered as a co-producer, helping to formulate a plan for the oratorio's creation, enlisting the support of NCS and many of the nation's leading musical organizations.

The goal is to produce a signature work for the Symphony that would be performed throughout the state on a regular basis and by musical ensembles both nationally and internationally. A further goal is to see the composition performed in schools. NCS maintains an educational program, unrivaled by any U.S. orchestra, with approximately 40 concerts per year for school children.

*Bleeding Pines* is a story that both addresses and transcends region, speaking to conservation everywhere. Set to music, the message is a powerful one for North Carolinians, lovers of the forest and nature, and for everyone who cares about preserving what is unique and beautiful in our environment.

For more information, contact: Chris Dunn, Executive Director, Arts Council of Moore County, phone: (910) 692-4356, email: [chris@mooreart.org](mailto:chris@mooreart.org).



BETH MAYNOR YOUNG  
CONSERVATION PHOTOGRAPHY  
FINE ART PHOTOGRAPHY  
PRINTED ON CANVAS & FINE ART PAPER  
[WWW.BETHMAYNORYOUNG.COM](http://WWW.BETHMAYNORYOUNG.COM)



**NOT ALL SEEDLINGS  
ARE CREATED EQUAL.**

---

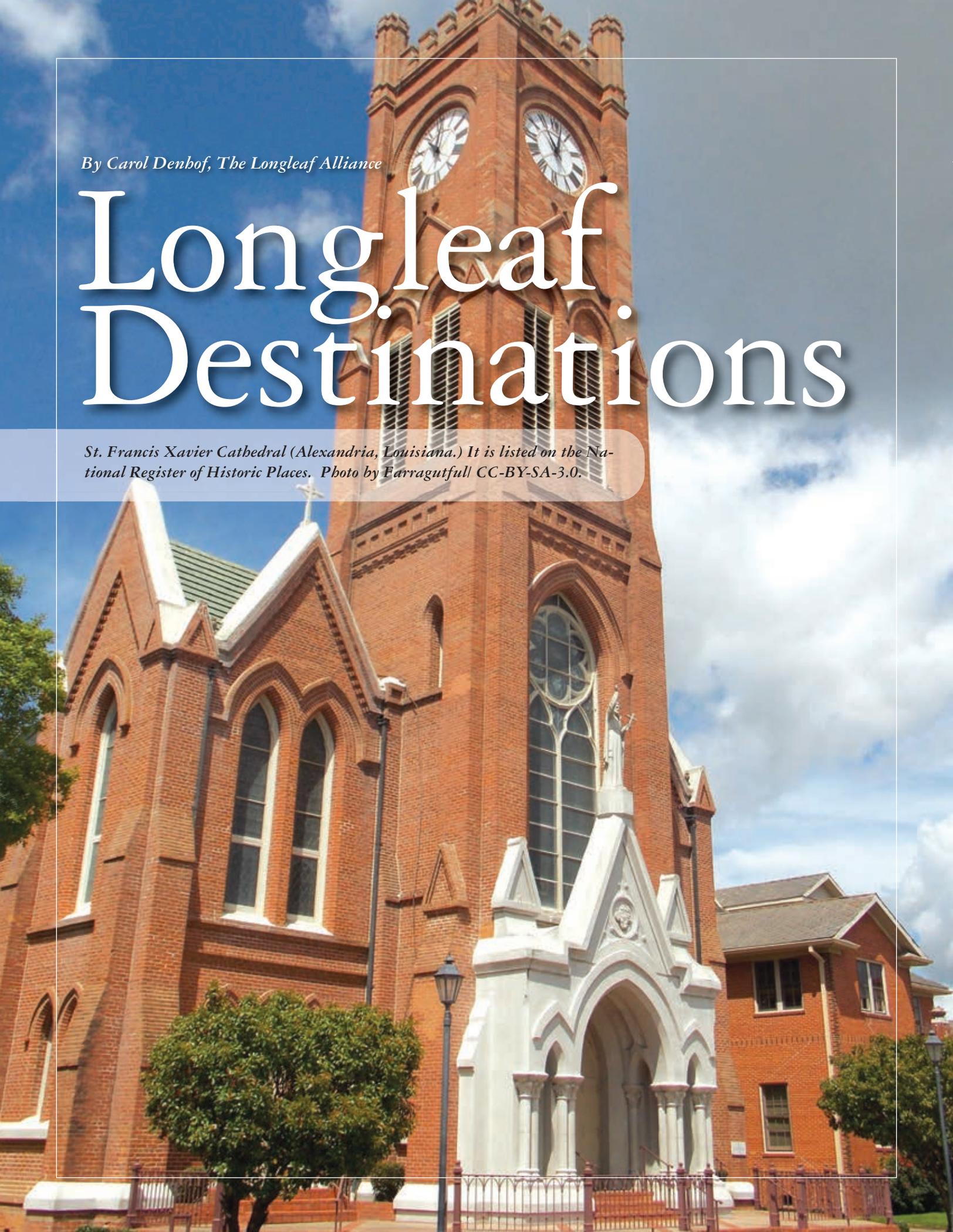
VISIT US ONLINE

[INTERNATIONALFOREST.CO](http://INTERNATIONALFOREST.CO)

*By Carol Denbof, The Longleaf Alliance*

# Longleaf Destinations

*St. Francis Xavier Cathedral (Alexandria, Louisiana.) It is listed on the National Register of Historic Places. Photo by Farragutfull CC-BY-SA-3.0.*





*Red River Amphitheatre. Photo by Slab rider45 at English Wikipedia - Transferred from en.wikipedia to Commons.*

*A longleaf stand in the Kisatchie National Forest that contains a red cockaded woodpecker colony. Photo by Rick Jacob.*

# The Kisatchie National Forest and Surrounding Areas



*Historic drawing of the sawmill in Longleaf, LA. Courtesy of Southern Forest Heritage Museum.*

In the late 1800s virgin forests covered 85 percent of Louisiana. Not only was most of the land in timber, much of it was in pure stands of magnificent yellow pine. During the years of longleaf's drastic deforestation, this state actually led the nation in lumber production in 1914 and ranked second for several years thereafter. The result was denuded lands that bore little resemblance to the virgin stands that previously covered the landscape. However, thanks in part to two key figures from the central pine woods of Louisiana, Henry Hardtner and Caroline Dormon, hope for longleaf reforestation in Louisiana was revived. Henry Hardtner made significant contributions in the area of reforestation and southern yellow pine research and reforestation. The fact that Louisianans can enjoy the Kisatchie National Forest today is attributed largely to the perseverance and dedication of botanist Caroline Dormon.

The Kisatchie National Forest is the only national forest in Louisiana, but covers more than 604,000 acres, is spread across seven parishes in Louisiana and is divided into five managed Ranger Districts. These districts include the Calcasieu, Caney, Catahoula, Kisatchie, and Winn. All five areas provide the opportunity to see a variety of habitats including significant longleaf forests. Get ready to experience natural beauty, excitement, learning, recreation, resources and wildlife in their purest form. The central office is in Pineville, LA and more information about the forest can be found on their website <http://www.fs.usda.gov/main/kisatchie/home>.

The history of the timber industry in Louisiana is interwoven with the culture of the state. In order to further understand its impact, include a stop at The Southern Forest Heritage Museum (<http://www.forestheritagemuseum.org/>), located in Long Leaf, Louisiana. It is the oldest complete sawmill facility in the South. This complex is unique in that it is a complete sawmill complex dating from the early 20th century, and that it has the most complete collection of steam-powered logging and milling equipment known to exist.

The Alexandria/Pineville area is a great place to stay while in the region. This area offers other cultural diversions such as the Arna Bontemps African American Museum & Cultural Arts Center and Alexandria Museum of Art. A wide range of hotel options are available as well. In addition to the usual national hotel chains, several local establishments to consider include the Alexandria Inn, Loyd Hall Plantation Bed & Breakfast, and the Inn at MacArthur. Don't pass up the opportunity to sample the local Cajun cuisine. Try Quebedeaux's Boudin & Cracklins, Robbie G's or Swamp Daddy's.

Our professional staff can assist you in your turn-key Silvicultural Programs:

**PRESCRIPTIONS**

**FERTILIZATION • TREE PLANTING**

**HERBICIDE APPLICATIONS**

(including Site Prep, Release and Herbaceous Weed Control)



**CPS offers customized services to facilitate the management of your forest in an environmentally responsible manner, utilizing the concepts of sustainability and "Best Management Practices".**



Arkansas/Oklahoma  
Greg Hay: (501) 908-2255

North Carolina  
Jeff Tapley: (804) 514-7546

Coastal Georgia  
Freddy Dennis: (912) 565-7777

North Mississippi  
Nathan Traywick: (601) 503-6080

Florida  
Jeremy Miller: (386) 623-0754

South Alabama  
Randy Rilling: (251) 363-2173

Georgia/ East Tennessee  
John Wood: (706) 224-4240

South Carolina  
Greg Boozer: (803) 351-2768

Mississippi/ East Louisiana  
Lendel Schutzman: (318) 680-5866

Texas/West Louisiana  
Jon Lunsford: (936) 433-5460

North Alabama  
Dean Gillespie: (334) 322-7849

Virginia  
Doug Pond: (804) 241-8118

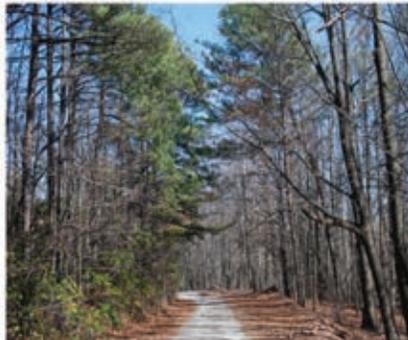


### **Forest Legacy Program**

***Protecting Forests through Partnership***

***The Forest Legacy Program protects private, working forests and provides multiple public benefits.***

The majority of the nations' forests are in private ownership and they are trending toward some type of non-forest conversion. These forests are key to providing timber products, wildlife habitat, scenic views and recreation. They help to protect soils and provide clean water.



To confront this problem the Forest Legacy Program was started with a mission to protect privately held forests. Administered by the USDA Forest Service, the Forest Legacy Program uses primarily conservation easements to ensure that protected forests will continue to provide their array of public benefits.

State agencies throughout the nation assist the Forest Service in locating land owners interested in protecting their forests for generations to come.

You can learn more about this program at our website

<http://www.fs.fed.us/spf/coop/programs/loa/flp.shtml> which also contains a link to federal and state personnel (Federal and State Coordinators List) who could answer specific questions about participating in this program.

***Protecting Private Forest Lands from Conversion to Non-Forest Uses***



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

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

Lesson Sixteen: Similar to how maple is tapped from maple trees in the Northeastern United States, thick sticky resin was also drawn from the longleaf pine tree. However, unlike sweet maple syrup, the resins scraped off the longleaf pine tree were used in thousands of inedible products from waterproofing ships, to medicines, or as paint thinner. Use Lesson Sixteen found on our website ([www.longleafalliance.org/next-generation](http://www.longleafalliance.org/next-generation)) to fill in the blanks and find the answers in the puzzle. Answers can be found below the picture, at the bottom of the page.

### Fallen Phrases Instructions:

A fallen phrase is a puzzle in which a sentence is listed, and all of the letters that go into a particular column are listed below that column. The challenge of the puzzle is to 'unscramble' the sentence to reveal the original sentence. For example, the first letter in the sentence is I. Hint: There are three sentences!

Answer  
 In the early twentieth century,  
 seventy percent of the world's naval  
 store supply was produced in the  
 longleaf pine region. Naval stores  
 originally applied to the pitch and  
 tar used to caulk wooden ships.  
 Later the industry shifted to  
 processing pine gum.

## HELICOPTER VICTIM MEMORIAL

*By Karen Zilliox and Bob Wilkin, The Longleaf Alliance*

The Longleaf Alliance extends its deepest sympathies to the families, friends, and colleagues of Steve Cobb and Brandon Ricks. These men lost their lives on a prescribed burn at the DeSoto National Forest outside of Saucier, Mississippi. Another firefighter, Brendan Mullen, was badly injured when the helicopter they were using crashed towards the end of the burning operation.

Brandon Ricks, the pilot for the operation, was employed by T&M Aviation and contracted to assist in prescribed burning on the DeSoto. Steve Cobb was a U.S. Forest Service engineer who frequently participated in burning; on this day he served as firing boss, directing the manner in which the unit was ignited from the air. Brendan Mullen, a U.S. Forest Service firefighter from Montana, was working on the DeSoto on a temporary assignment and was tasked with operating the aerial ignition device from the backseat of the helicopter.

On March 30, 2015, the National Forest sought to burn about 800 acres of longleaf. Aerial ignition is customarily used for large tracts, or inaccessible or otherwise sensitive areas. This technique can reduce costs and risks associated with prescribed fire on some landscapes. Despite abundant precautions, the fire

aviation community also recognizes it as an inherently risky endeavor. We mourn their loss and honor the fallen by learning from the tragedy.

We join with the community of wildland fire, aviation, and range-wide longleaf restoration community to celebrate the lives and contributions these men made throughout their careers in fire management.

The Brandon Ricks Memorial Fund has been established in care of the Pleasant Hill Baptist Church, P.O. Box 238, Blanchard, OK 73010.

Condolences and support may be sent to the family of Steve Cobbs through the Baptist Children's Village at First Baptist Church, 219 Second Street, Wiggins, MS 39577.

Brendan Mullen is recovering at the University of South Alabama Medical Center. He has requested that all financial support be directed to the families of the deceased. The Wildland Firefighter Foundation provides immediate support to firefighters injured on the job and the bereaved families when fatalities occur. To learn more or to support the Foundation, please visit [wffoundation.org](http://wffoundation.org)

## REMEMBERING DR. DOUGLAS (DOUG) TAPPAN 1949-2015 *By Ad Platt, The Longleaf Alliance with the Tappan Family*

We have a long tradition of honoring longleaf landowners in the “Landowner Spotlight” feature. But we worry that we might be omitting other folks that have played a major role in advancing longleaf. Some of those who care most passionately about longleaf do not own any land at all but have made a big impact in other ways.

We lost a good friend with the premature passing of Dr. Douglas Tappan of Pensacola, Florida. He was 65. Doug was born and raised in Mobile, Alabama, and attended Vanderbilt University, where he enjoyed pulling pranks as a member of Delta Kappa Epsilon. After graduating in 1971, he returned to Mobile to attend medical school at the University of South Alabama, and then continued his medical education in Louisville, Kentucky and Birmingham, Alabama. Along the way he met and married his spirited wife Cynthia, and with the birth of their two daughters, Brinkley and Kay, he was officially in the minority. Despite his daughters' disappointing lack of interest in throwing a softball or camping, he was the best father two girls could wish for and spent many happy days riding bikes with them, reading to them and teaching them to sail (or trying). In 1983, the family settled in Pensacola, where Doug founded his medical practice, Gulf Coast Orthopedics. Doug was beloved by his patients, and the feeling was mutual.

Doug loved to be outside, and spent much of his time riding his bike, walking his dog, canoeing or hiking. He was a

staunch supporter of environmental causes, and if he didn't ride his bike to work, he could be seen behind the wheel of a compact car plastered in "green" bumper stickers. His love for longleaf probably started so early that it was simply natural, like loving home. But it became a primary interest for Doug through field trips to some of the region's outstanding natural areas and from the opportunity to hear Rhett speak. Longleaf brought together his interests in history, southern culture, wildlife, and forests, and as a result, Doug sought ways to contribute to the effort. His passion for longleaf, and his gentle personality, made him an effective ambassador. In March he asked me two questions that were on his mind: “Are we making progress? Will we be successful?” I assured him that indeed we are. And we will, thanks to people like him.

Doug was a collector of many things—leaf specimens, history books, shells, and best of all, friends. He remained close to those he met during childhood, and befriended many more throughout his life. His thoughtful and kind approach to people inspired love and loyalty in return. His family wishes to thank all of his friends, whose cards, visits and expressions of support eased him through his last weeks.

In lieu of flowers, the family suggested two environmental causes for memorial donations: The Longleaf Alliance and Mobile BayKeeper. Many have since responded to this invitation to provide a lasting tribute to a very good friend.

## LYNNSEY BASALA JOINS THE LONGLEAF ALLIANCE TEAM *By Robert Abernethy, The Longleaf Alliance*



*New Development Director Lynnsey Basala. Photo courtesy of Lynnsey Basala.*

Lynnsey Basala recently joined The Longleaf Alliance Team as Development Director. Working out of her home in Summerville, South Carolina, Lynnsey is responsible for managing our annual contribution campaign, major gifts, organizing fund-raising events, and writing grants. As we all know, without sufficient funds we cannot achieve our goal of 8 million acres of longleaf by 2024, and Lynnsey is an essential member of the team tasked with raising those funds. Lynnsey comes to us from the Ronald McDonald House Charities of Wichita, Kansas where she filled the role of Development Manager and was responsible for the annual special appeals and events as well as overseeing the advancement of major gifts, planned giving, mail appeals, sponsorships, and McDonald's related giving initiatives. We are very excited to have Lynnsey on board and encourage everyone with an interest in increasing their sponsorship or in planned giving to contact Lynnsey at [Lynnsey@longleafalliance.org](mailto:Lynnsey@longleafalliance.org) with your thoughts, questions and ideas. Lynnsey, welcome to the South Carolina Low Country and The Longleaf Alliance!

# Support The Alliance

By Robert Abernethy, *The Longleaf Alliance*

If you could double your money, would you do it? What about tripling your money? There is an easy way for you to double or even triple your donation to The Longleaf Alliance through your employer's matching gifts program. Many companies will match your donation if The Alliance is registered with your company as an eligible 501(c)(3) nonprofit organization. If you are already involved in this simple way to double your money, thank you. If not, please take a moment to contact your Human Resources Department and learn how easy it is to have The Longleaf Alliance approved for your program.

This simple act will double your donation to The Alliance. But, did you know that some companies will triple the donation if you give on "Giving Tuesday"?

December 1, 2015 is "Giving Tuesday." GivingTuesday was founded in 2012 by New York's 92nd Street Y in partnership with the United Nations Foundation. In the past two and a half years, this global movement has engaged over 10,000

organizations worldwide. The concept is simple. After the excesses of Thanksgiving Day feasts and the mad merchandising sales of Black Friday, Giving Tuesday is a time to slow down and give to a nonprofit of your choice. We hope you choose The Longleaf Alliance. We became involved in 2014 when a member told us they could triple their donation if they gave on Giving Tuesday. That simple inquiry turned a generous \$100 donation into a \$300 donation with very little effort from the member.

We are a long way from Thanksgiving, but please take a moment to check with your employer and see if they have a program that could significantly help The Alliance reach our goals of expanding the restoration and management of the longleaf ecosystem.

For more information on how you can increase the power of your gift, please contact our new Director of Development, Lynnsey Basala, at [lynnsey@longleafalliance.org](mailto:lynnsey@longleafalliance.org). Thank you for caring about The Longleaf Alliance and the longleaf ecosystem.

## Welcome to our Newest Supporters!

D.L. Willett  
Joyce Klaus  
Joel Wernick  
Burbage Grandchildren  
Max & Marie Smith  
Joe Webb  
Mary Sims  
James & Susan McCracken  
Marcus Early  
David & Gisela Weiss  
David Hayden  
DW Ivans  
Graham Simmons  
Carl Stearns

William and Vicky Parker  
Vaughan Hedrick  
Green Assets  
Michael McEnany  
R. Barry Lurate  
Trey Whitley  
Bob Glenn  
David Koch  
White Oak Forestry Corporation  
Davis Easterling  
Andrew Easterling  
Construction Supplies of New Orleans, Inc.  
American Forest Management

SC Wildlife Federation  
Melanie Krebs  
David Woodmansee  
Daniel Davison Jr.  
Keri Teal  
Doug Hornbeck  
Keith Tribble  
Sherri & Eric Amundson  
Larson & McGowin, LLC  
George Simmons  
Mississippi Fish & Wildlife Foundation  
Dale Caldwell

By Mark Hains

**On October 27th, I set out with a backpack from International Mile Marker #1 in El Paso, Texas. My route led south and east for 1,010 miles, following, as closely as possible, the Rio Grande, which is the border between Texas and Mexico.**

The trek was filmed by Rex Jones and supported by the Tex-Mex Compadres. We reached Boca Chica Beach at the Gulf of Mexico on December 21st, 2014. The largest portions of time and distance were spent in the Chihuahuan Desert.

Two botanists in El Paso familiarized me with the flora of the Chihuahuan Desert. Dr. Sproul guided us through a wetland restoration project at the Rio Bosque; and Dr. Wynn Anderson showed me the Chihuahuan Desert Garden.

Further down the road, I met with Michael Eason on Chispa Road, and an extension specialist from the Borderland Research Institute in Study Butte.

Most of the Chihuahuan Desert was as barren as one would expect a desert to be. But then we spent a day on the Red Rock Ranch around Van Horn. The landowners pulled their cattle off Red Rock in 1992. In November, 2014, an abundance of grass covered this private property stretching across 27 sections. The restored herbaceous layer gave the landscape a healthier, vibrant feel that was absent from lands west and east of the Red Rock Ranch. Gambel's and blue/scaled quail were present in numbers that were only matched at the ungrazed Rio Bosque Park.

We saw our first groups of javelina. Mule deer sign was abundant. I observed my first tracks from bighorn sheep. The Red Rock Ranch was awash with wildlife.

Less than a week later I was sitting on Chispa Road with Michael Eason. We looked out at a landscape dominated by cactus, mesquite, and creosote bush. Michael said, "The first settlers described riding their horses through belly-deep grass here. But they brought in sheep and goats, and now it is cattle." The land had never been allowed to recover.

Further east, the average annual rainfall increased and we entered the Marfa Grasslands. Behind us, around El Paso and Hudspeth Counties, I was told the land supported four cows per section (640 acres), but the land around Marfa supported about ten times that number.

Mesquite and creosote now dominate lands to the west but red cedar is invading prairies between Marfa and Alpine. Except... where wildfires had jumped off the highway, running into the hills. Years after the wildfires, their paths were marked by red cedar skeletons and lush grass.

One constant for virtually all grasslands, is the necessity of fire, and the longleaf ecosystem has been described as "a prairie with trees."

Overgrazing removed necessary fuels from the western portion of the borderlands, thus favoring mesquite and creosote bush. Further east, red cedar blankets the landscape. Back in the longleaf forests of the southeast, we fight hollies, oaks, and a

myriad of other shrubs and hardwoods. All of these woody plants are kept in check by fire.

The extension specialist at Study Butte said, "People want to know why they don't have quail – and they don't have nesting habitat (overgrazing and no fire). They want to know why they don't have pronghorn or mule deer, and they don't have forbs (overgrazing and no fire)." I told him, "You are describing the deficiencies of our longleaf forests."

It was unusually wet during my walk, meaning - it rained more than once over the seven week trek. I remember approaching a sign marking another West Texas county in a misting rain. A smaller sign on the same post read, "Burn Ban in Effect." I am pretty sure that sign stayed up 12 months out of the year.

Back in the Southeast, there are many threats to the continuing existence of the longleaf ecosystem, but most of these threats fall under the same theme – the absence of fire.

Some State Forestry Commissions and Prescribed Fire Associations are doing yeoman's work promoting fire: billboards in Florida, certification programs across the south for Rx burn managers, and legislation to protect applicators of Rx fire.

Other states are less enthusiastic about promoting longleaf and prescribed fire. Some agencies are at best, lackadaisical.

Two developing threats to the integrity of our remaining longleaf ecosystems are the use of herbicides in the place of fire, and intensive pine straw harvesting on native ground cover. Both practices lead to reduced fire and species diversity.

We need fire to successfully restore the tall grass prairies of the Midwest, the grasslands of the Southwest, and the longleaf ecosystems of the Southeast.

If we love longleaf for something beyond economic reasons, as many of us do, then we need advocates for fire at every level of government, especially with state and federal agencies that have the personnel and resources to affect public attitude towards fire. As long as fire is viewed as a threat to be banned under virtually all circumstances, we will not restore healthy native ecosystems, and this is true all over North America.

A couple of years from now, I hope to retrace my route along the Texas-Mexico Border with a published accounting in hand. I want to see a bear, a mountain lion, and a bighorn sheep in the mountains. There are so many kind people to visit, and there are still scores of cactus species I hope to find in bloom.

This won't happen before my book tour, but someday, I hope to see those "Burn Ban in Effect" signs removed and replaced with signs that read, "Burn Like Hell."

