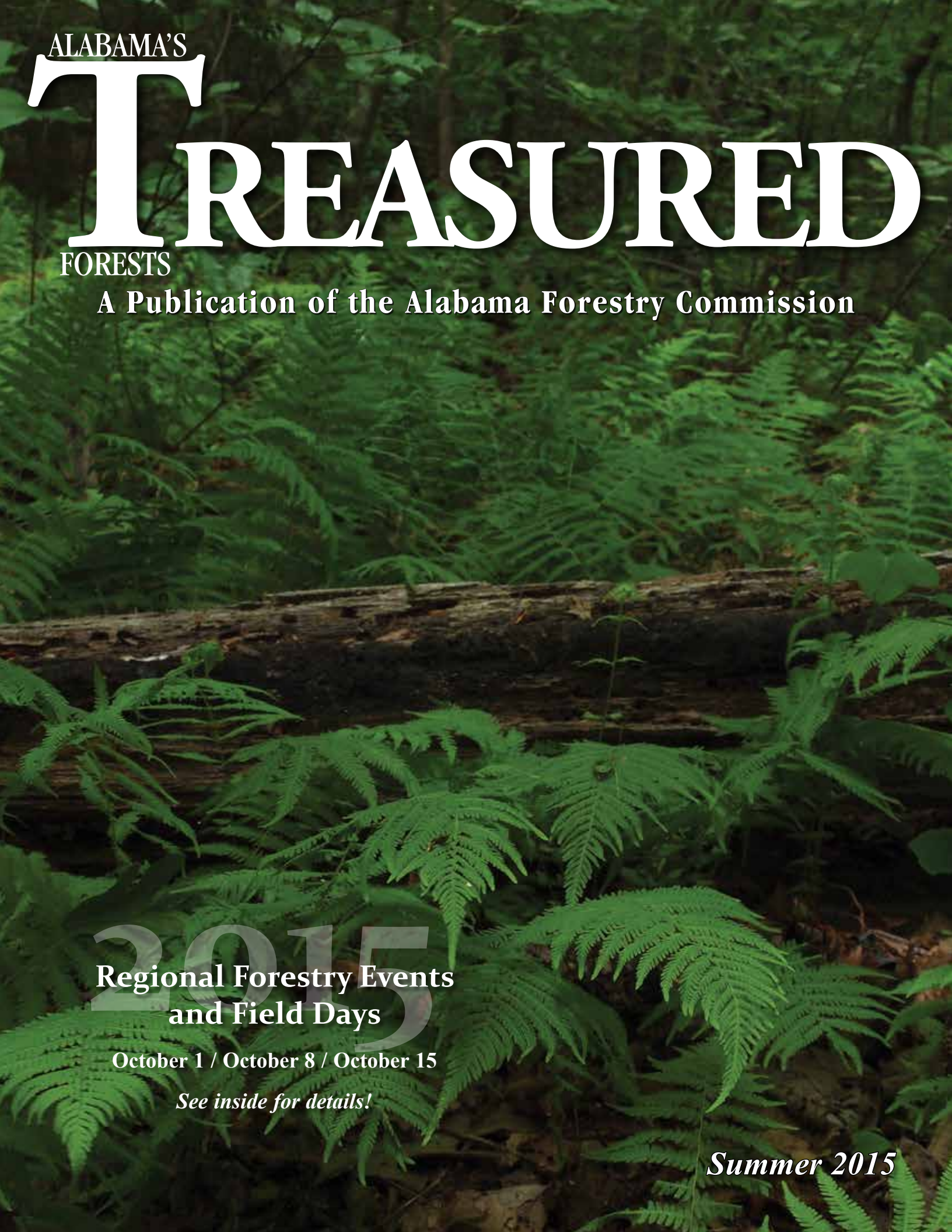

ALABAMA'S TREASURED FORESTS

A Publication of the Alabama Forestry Commission

2015 Regional Forestry Events and Field Days

October 1 / October 8 / October 15

See inside for details!

Summer 2015

2015 Regional Forestry Events and Field Days

Alabama Natural Resources Council

North Region

Thursday, October 8

*Riverwood Farm**
Stan & Suzanne Woods
Cullman County
RSVP: Tony Glover
Phone: (256) 737-9386
Email: cullmancounty@auburn.edu

Topics include:

- *Day-Lighting Hardwoods*
- *Timber Stand Improvement (TSI)*
- *Roadside Management*
- *Wildlife Management & Food Plots*

Central Region

Thursday, October 1

*Sehoy Plantation**
Bullock County
RSVP: George Tabb
Phone: (334) 738-2580
Email: tabbgeo@aces.edu

Topics include:

- *Quail Management*
- *Stream & Wetland Mitigation Bank*
- *Red Cockaded Woodpecker (RCW) Cluster & Management*
- *Live Fire Demonstration*

South Region

Thursday, October 15

*Sid & Vivian Beech Trust**
Washington County
RSVP: Drema Trammell
Phone: (251) 847-6041

Topics include:

- *BMPs: Wetland Roads*
- *Longleaf Pine:Uneven-aged Management*
- *Wildlife Plots*
- *Prescribed Burn Demonstration*
- *Pole Identification*
- *Stumping*

Registration begins at 8:00 am for all events, and lunch is provided.

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Summer 2015

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It's Called "The Pasture"

The SID & VIVIAN BEECH TRUST

By Michael Older, Southeast Regional Forester, Alabama Forestry Commission

"There's a bear in them there woods," I remember my uncle jokingly say when I was a youngster and just beginning to learn about the great outdoors, initially in the form of hunting deer and turkey. Uncle Sid told me this primarily to keep me awake and alert while sitting on a deer stand, although it didn't stop the wiggling. And he was right, black bear have been regular residents on the 1,320 acres in the Sid and Vivian Beech Trust located in Washington County.

Today, there is at least one bear that has taken up residence on a more permanent basis. "The Bear," as he is called, has a sweet tooth, enjoying the honeybuns left for him on occasion as a means to catch him on a game camera. Not only was he captured on camera after demolishing an automatic feeder, he also left claw marks around the area which happens to be my aunt's favorite turkey hunting spot. Now Aunt Vivian is one of the bravest women I know. Once, she single-handedly caught a night hunter who had shot a deer in her front yard . . . she waited until he returned to pick up the dead animal, then she parked her car behind him and waited for the local game warden to arrive! When it comes to this bear, however, she has relinquished her hunting area to reduce the likelihood of meeting him on the way to the turkey blind some dark morning. And yes, at 95 she still hunts!

Always known as "The Pasture," the property contains natural longleaf pine stands of various ages, stocking densities, and species composition. It was here that my first exposure to forestry came in the 1960s when approximately 200 acres of longleaf pine was harvested and replanted in slash pine, the most rec-

ommended pine species at the time. Site preparation consisted of taking a small dozer with an open tree planter and snaking a path between the large longleaf stumps. No chemical, and certainly no fire, was used back then.

In hindsight, the poor site preparation paid off by leaving numerous longleaf pines in the grass stage that now make up some of the best trees in the stands, after two thinnings have taken out the poorer quality trees. What I remember most about this experience was Uncle Sid teaching me about aging trees and tree rings, as well as how to make coffee over an open fire using a five-gallon bucket. Back then, buckets were made of steel instead of plastic. Uncle Sid told me that woods-brewed coffee "would put hair on my chest." I can say that was one of the few times my uncle was wrong.

The Pasture has a rich history. In the early 1900s, the Howard family tried to squeeze out a living on the land. In the 1920s, a boundary dispute arose over having to cross several other landowners in order to go to town. The Howards cleared a field, dug a well, and built a house on what is called the Howard Field. Near the old home site is the Howard Family Cemetery. Only the well and cemetery remain today. The old home site is now used as a gathering place for recreation and for equipment storage.

Other historical features include the earthen remains of an old logging railroad with three switches that crossed the property in several locations. A well on the south end of the property supplied water for the steam engines. The first turpentine still in Washington County was located on the land south of the Howard Field. In the 1930-40s, a sawmill operated by "Baby Boy" Weaver was located on the ridge west of the Howard Field. There is also an old oxen yard and dip vat found on the property.

Ownership of the Pasture changed in the 1970s when Uncle Sid's pole business partner, Bud Dickey, passed away. Jointly owned by the two families until then, the property was divided at that time into two separate ownerships.

Sid and Vivian Beech always had a reverence for nature and especially longleaf pine, thus stewardship was second nature. Being great citizens as well as stewards of the land, their commitment to forestry and natural resources education was forefront when they donated 160 acres of forestland to Mobile College in the 1970s (now the University of Mobile) and another parcel in 2005 to the Washington County School System for a school forest.

Unfortunately, Sid passed away in 2005. Since then, Vivian has been involved in all the decision making, as well as the supervision of all activities on the property. She is very active, present on a daily basis during every silvicultural activity that takes place, whether it is logging, road work, prescribed burning, or planting food plots. If work is performed on her land, she is there. After all, she's the Boss! Her overall management objectives are to continue developing the longleaf pine ecosystem with natural regeneration (where possible) of longleaf pine, and to produce quality wood products while enhancing wildlife habitat for game and non-game species as well as recreational opportunities. Timely thinnings and routine prescribed burning are the primary management practices utilized.

A plan was developed and followed where all the upland pine stands would be thinned over a five-year period from 2006 thru 2010. Each stand was marked to ensure the best trees were retained for merchandizing poles and other products, including Number 1 sawlogs for the export market, as well as the normal sawlogs, peeler logs, chip-n-saw, and pulp. Approximately 640 acres total – 440 acres of natural longleaf pine stands and 200 acres of planted slash pine/natural longleaf pine stands – were thinned to 60-90 square feet of basal area. A final harvest was completed in 2010 on approximately 115 acres comprised of lower stocking and poorer than desired species composition.

With the first thinning operations, fuel breaks of 20-25 feet width were established around the property's upland boundary lines and improved with culverts, rock, and grasses to make them suitable for vehicular traffic. A survey through the swamp re-established property lines and corners.

In memory of Uncle Sid and his love for the look of dense longleaf pine stands with heavy pine litter, one seven-acre longleaf pine stand was left un-thinned to show the original dense stocking level. Even though he understood it would benefit future natural regeneration and enhance wildlife habitat, Sid never wanted to thin the longleaf pine stands.

During the logging operation, all roads were day-lighted with water diversions added and improved as needed. Permanent firelines are maintained, with water diversions cleaned and reopened at least every two to three years in conjunction with prescribed burning.

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It's Called "The Pasture"

(Continued from page 5)

Due to heavy fuel accumulation across all stands on the property, prescribed burning was introduced in early 2004. The initial winter burns were of low intensity to protect the older longleaf pine and the "duff donuts" around their bases. The second round of burning moved into late winter/early spring for a more intense burn and to promote browse, while further reducing the duff donuts with minimum damage to the older longleaf. The last burns were early to mid-growing season burns for better woody control and wildlife browse response.

Continued prescribed burning is conducted on approximately 300-500 acres every year, with burns moving into the growing season as fuel loading is reduced. The latest burn was approximately 50 acres in June 2015, with another planned for September 2015. Future burning will be a combination of early and late growing season burns, with occasional winter burns to keep a variety of species and age distribution of natural vegetation that will be beneficial for wildlife management.

Natural regeneration is the preferred method within the longleaf stands, applying a modified Stoddard-Neal approach. With Stoddard-Neal, trees are selected for harvest creating smaller openings for natural regeneration, versus the three-stage regeneration process using a shelterwood where eventually all the mature overstory is removed once adequate regeneration has been attained. If managed properly, there will always be a mixture of young regeneration through multiple-age classes containing more mature longleaf pine that will provide great turkey roosting across the property.

Limited artificial reforestation has been utilized with 115 acres planted. Approximately 100 acres was planted in containerized longleaf pine under the WHIP/EQIP programs. Chemical site preparation was used, followed by a site-prep prescribed burn. Another 15 acres was planted with slash pine in low areas not best suited for longleaf. This slash pine site was bedded and separated from the upland with a permanent fireline so the young longleaf pine could be burned without impacting the slash pine regeneration.

Armstrong Creek Swamp makes up approximately 500 acres of the property. The swamp is a mixed stand (bay/gum/slash pine) running from the northeast corner to the southeast corner, dividing the property's upland tracts. In 2015 a road crossing was built at the most narrow ridge points on the north side of the property. Previously, all traffic had to go through three other landowners' properties. This road will provide direct access for the planned second round of thinnings to start next year.

Cogongrass is found on the property and has been chemically treated since 2006. The initial spraying was done under the Alabama Forestry Commission's cogongrass cost-share program. New spots are identified and sprayed routinely.

While food plots are planted annually, primary wildlife management is achieved by maintaining an open understory through light thinning and prescribed burning. Hardwood mast trees including oak, dogwood, and hickory are maintained on uplands where fire intensity can be regulated to prevent mortality to the thinner-barked hardwoods. Burning is performed in a manner to provide a checkerboard appearance. Gallberry thickets provide nesting and cover for deer, turkey, and other small game.

In addition to black bear, Mississippi kites, osprey, and even an occasional bald eagle are seen using the swamp as a wildlife corridor. There is also a growing gopher tortoise population that has benefitted from the thinnings and prescribed burning. Despite the 100-year-old longleaf pine stands, no red-cockaded woodpecker habitat has been found on the property, mostly due to the absence of heart rot within the longleaf.

Wild hogs have been a nuisance over the years, but successful hunting and trapping programs have helped reduce their numbers. For several years, the Chatom Unit of the Alabama National Guard enjoyed barbecued wild hog for their annual Christmas dinner.

Hunting has always been the primary recreational use, with deer and turkey as the favored game animals. Many youngsters, including me, and adults alike killed their first buck and/or gobbler on the property over the years. Small game is occasionally hunted also. On several campouts, the Chatom Boy Scout Troup has hunted, prepared, cooked, and eaten squirrel stew for their evening meal.

Approaching soon, the "Pasture" will once again be offering hospitality . . . Vivian Beech is excited to share the woods and welcome everyone to the upcoming forestry field day sponsored by the Alabama Natural Resources Council (ANRC). As one of the winners of the 2014 Helene Mosley Memorial TREASURE Forest Award, the Sid & Vivian Beech Trust property will host the 2015 Southern Region Landowner Tour on October 15, 2015. In Aunt Vivian's words, "This is what Sid and I always wanted to do, share our blessings with others."

HEALTHY FORESTS PROTECT WATER QUALITY AND QUANTITY

Forests play a vital role in providing clean water to us all. More than 50 percent of the nation's freshwater resources originate from forestland, which covers about one-third of the United States. Forests also absorb rainfall, refill groundwater aquifers, slow and filter stormwater runoff, reduce floods, and maintain watershed stability and resilience.

To sustain healthy forests and protect water resources, viable economic markets, wise forest management, and well-targeted forest conservation efforts are critical.

Best Management Practices (BMPs) are the principal means by which water resources are protected during wise forest management. These conservation practices are designed to provide an economical way of protecting soil and water resources – two essentials that are key to growing healthy, sustainable, and productive forests.

The Southern Group of State Foresters and state forestry agencies provide leadership in BMP development, education, training, and monitoring. State forestry agencies and partners **work to prevent water quality problems before they arise.** Each state implements BMP programs according to the nature of its forest industry, landowner characteristics, ecological conditions, and accepted socio-political approaches.

Routine studies show that even though approaches to BMP implementation vary widely from state to state, they are effectively providing protection to our water supplies:

- National implementation rates average 91 percent;
- In the South, implementation rates average 92 percent;
- In Alabama, implementation rates average 97.75 percent.

BMP monitoring is recognized as the most reliable source for calculating interaction between forest management and water quality. This has increased the demand for data collection and analysis by states. Unfortunately, federal **resources to support state BMP programs have not kept pace with greater demands on these programs.** For decades, forest agencies have proven their dedication to meticulous practices that protect waters of the South.

With support from elected leaders and people who call the South their home, clean water and the forests that safeguard them will remain steadfast for generations to come.

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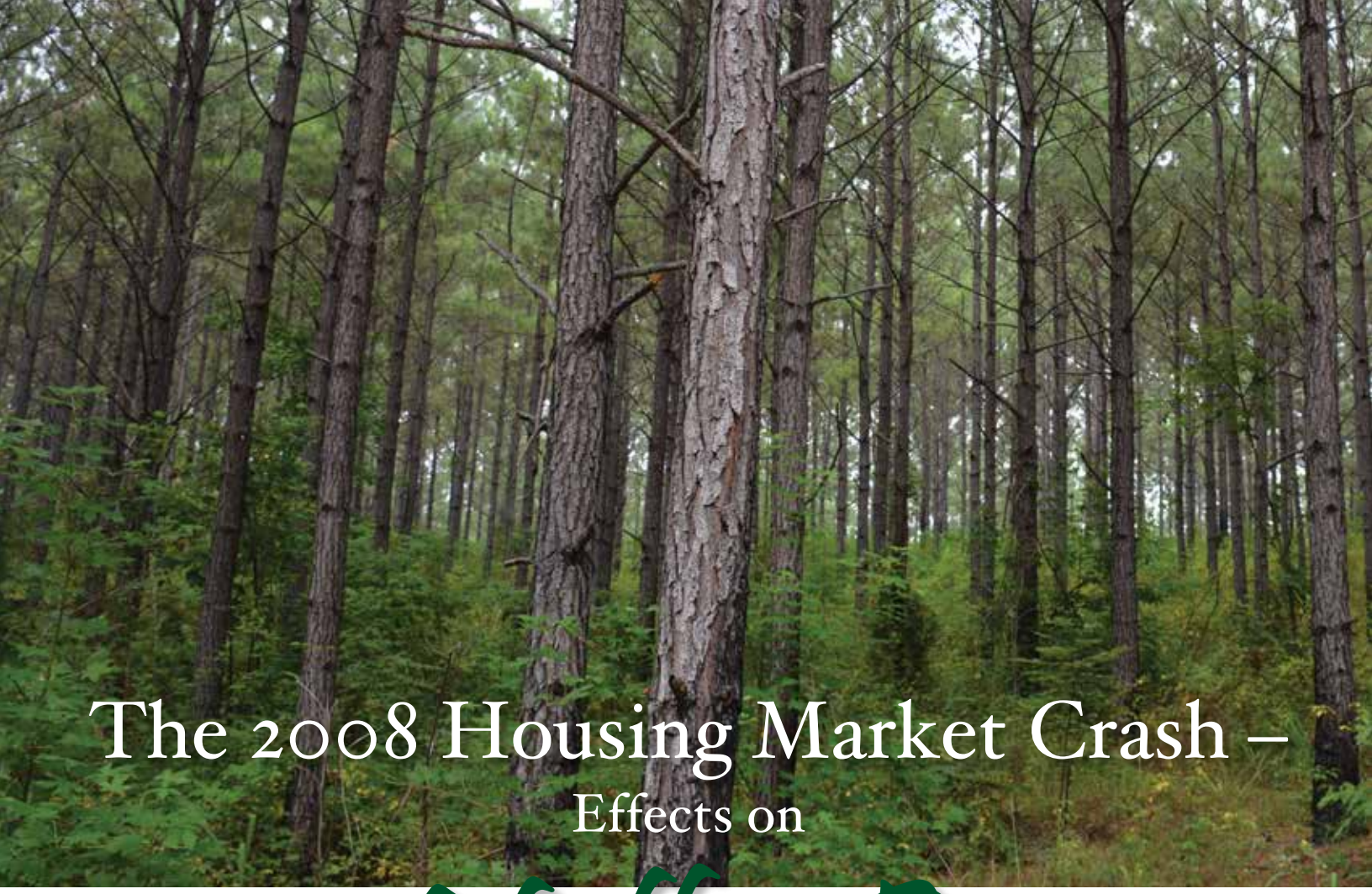


The 2008 Housing Market Crash – Effects on Loblolly Pine

By Brian Hendricks, Forester/ Forest Inventory & Analysis (FIA) Coordinator, Alabama Forestry Commission

It's been seven years since the "housing market crash;" a primary contributor to the nation's economic downturn that began in 2008. Many people have been negatively impacted by the poor economic conditions of the past several years, including forest landowners, some of whom depend on timber sales for a large portion of their income. Since the vast majority of houses built in the United States are constructed primarily of wood, it should be no surprise that sawtimber harvests have decreased dating back to the housing market crash.

If you've noticed fewer log trucks on the road hauling large pine logs over the last seven years compared to the time prior to 2008, there is a reason for that. Between 2007 and 2009, housing starts in the Southern region of the United States decreased by an astounding 59 percent to a record low of 278,200 in 2009. Since 2009, housing starts in the U.S. South have crept upwards, and in 2014 starts were back up to 496,300. However, despite the recovery in the housing market, 2014 housing starts were still 27 percent less than the number of starts in 2007, and 50 percent less than the record high number of housing starts in 2005.

So, based on the statistics listed above, one might wonder how Alabama's sawtimber supply has been affected by the housing market crash. Because houses in the Southern U.S. are constructed primarily from species of "southern yellow pine," it would be interesting to know how Alabama's southern yellow pine (SYP) has been impacted. SYP is a common generic term which includes six major species of pine trees native to Alabama: loblolly, longleaf, shortleaf, slash, spruce, and Virginia.

Loblolly pine accounts for the vast majority of SYP found in Alabama, and for that reason I'm going to focus on the impacts that the housing market crash has had on it. The loblolly pine

forest type is by far the most prevalent single forest type (including hardwoods) in the state, accounting for 37 percent of all timberland acres. Of the 9.9 million acres comprised of various pine forest types in Alabama, 8.5 million acres are comprised of loblolly pine stands (85 percent). Because sawtimber harvests have decreased since 2008, it stands to reason that the number of loblolly pine sawtimber-sized trees, and the amount of loblolly pine sawtimber volume has increased in our timberlands; and it has. Since 2008 the number of loblolly pine trees that have a DBH of 9" or greater (sawtimber) have increased by 26.5 percent to a total of 427.3 million. Similarly, the amount of loblolly pine volume of sawtimber-sized trees has increased by 32.6 percent to 45.2 billion board feet (International 1/4-inch log rule).

Another consequence of reduced sawtimber harvesting is fewer final harvests, which results in fewer acres requiring re-planting. This is evident by the fact that the number of loblolly pine stand acres in the "seedling/sapling" stand size class has decreased by 15.6 percent since 2008, while sawtimber stand size acres have increased by 25.7 percent.

So the "trickle down" effect resulting from the housing market crash is quite obvious: fewer houses being built = less demand for pine lumber = pine trees being allowed to grow in the forest and become larger.

FIA Report: Alabama's Timberland Acreage Increases to 23 Million Acres

By Brian Hendricks

All it takes is a drive down virtually any road in Alabama for one to come to the conclusion that there is an abundance of timberland – commercial forestland – in the state. This conclusion is substantiated by 2014 Forest Inventory & Analysis (FIA) data which shows that the amount of timberland in Alabama has increased to an all-time high of 23 million acres. The only states in the nation having more timberland than Alabama are Georgia and Oregon. These 23 million acres of timberland account for 69 percent of Alabama's total area, an increase of 360,000 acres since the year 2000.

"There has been a lot of concern the last several years that forestland would be converted to non-forest uses, but so far that is not the case. In 2008 there were approximately 22.7 million acres and in 2014 there are 23.0 million acres."

Despite the perception of some that trees and forests are vanishing, FIA data also shows an increase in timber volume over previous years. The fact is that the amount of timber growth exceeds the amount of timber being harvested annually. More specifically, for every ton of timber harvested, 1.55 tons of new growth are added to our forests each year. Total timber volume has increased 18.7 percent since 2000 to a total of 1.17 billion tons. Softwood timber volume (primarily pine species) has increased 31.1 percent, while hardwood timber volume has increased 7.6 percent.

"The annualized inventory of Alabama's forests continues to show that all the benefits we derive from our vast forests – wood products, clean water, clean air, wildlife habitat, and recreational opportunities – can be managed in a sustainable way. The fact that more land is being put into timberland is icing on the cake," says State Forester Greg Pate.

Another common misperception is that Alabama's timberland is dominated by pine trees. Yes, there are a considerable number of pines in the state, but the number of timberland acres comprised of hardwood stands is virtually identical to the number of acres composed of pine stands. Currently, there are 9.87 million acres of timberland inhabited predominantly by hardwood tree species, while another 9.90 million acres are comprised primarily of pine tree species. The remaining 3.23 million acres are home to a mixture of hardwood and softwood tree species.

For the full report pertaining to the current status of Alabama's forest resources, visit the Alabama Forestry Commission's website at **www.forestry.alabama.gov/PDFs/alabamaForestResourceReport.pdf**.

Photo by Luke Mercker

It's YOUR Woods

(So know your AGS and UGS)

By David Mercker, Ph.D.,
University of Tennessee Extension Forester
(Reprinted with permission from
Kentucky Woodlands Magazine – Vol. 8, Issue 3)

As a young forester trundling through the woods nearly 30 years ago, there are three memories that vividly stand out: 1) only a brisk cadence allows one to keep pace with the forest supervisor, 2) property lines aren't always accurate, and 3) forest management *begins* with defining the "AGS and UGS."

Forests, and trees in particular, are often classified, grouped, evaluated, and judged based on many characteristics. These characteristics, in the simplest sense, can be either acceptable or unacceptable. Professional foresters are complete with their own vocabulary, and quickly refer to those trees with favorable qualities as AGS, short for "Acceptable Growing Stock." Trees that don't meet forest ownership objectives are termed UGS, or "Unacceptable Growing Stock." So AGS are good; UGS are not so good (or so it may seem).

In your woods, there are many AGS and UGS. Knowing the difference and taking the time to separate them can be challenging. In order to create a clear picture, let's begin by explaining the term "growing stock" and how growing stock can be either acceptable or unacceptable.

Growing Stock

We've all been taught that when the meaning of a phrase is not understood, first break it into its parts. The word "growing" needs no explanation, but "stock" might. Think of stock as the amount of something held in reserve for future use. So in the cattle industry, livestock are not yet ready for market. As consumers, we stock our cupboard for future consumption. Retailers make sure that they are well-stocked with salt prior to an anticipated ice storm, and so on. In forestry, we refer to live standing trees in a forest as growing stock. Growing stock is acceptable when it meets the landownership objectives. Typically AGS includes trees that are not yet ripe for picking and that are still

adding wood volume. These trees are retained for future benefit or sale.

That's the simple part. The picture becomes a bit foggier when we seek to describe what constitutes the word *acceptable*. How is acceptable classified? Says who? When left to our own training, knowledge, and experience, foresters typically refer to AGS as follows:

- desirable species (such as oaks, walnut, maple, poplar, cherry, hickory, etc.)
- that are with good form (relative straightness) and grade (few defects)
- vigorously growing with expanding crowns
- of the right size
- found on the appropriate site
- meeting the demands of the local wood industry.

Table 1. Determination of Acceptable Growing Stock (AGS) based on Ownership Objectives

Ownership Objective	AGS - Trees to Favor
Wildlife Diversity *Wildlife dens can be AGS.*	Wildlife diversity requires habitat diversity, so aside from hard mast fruit producers such as oaks and hickories, AGS can include soft mast such as blackgum, persimmon, dogwood, etc. Trees classified as culls, dens, and perching can be AGS, as well as understory trees that are important for nesting and browse. A forest that is too well-manicured often is not preferred for wildlife. Example of wildlife AGS: a large hollow beech, complete with many den holes and producing nuts.
Aesthetics *Trees with special shapes may be AGS for their aesthetic value.*	Referred to as "look-em-at-em" trees, trees with aesthetic appeal are as varied as the ones doing the looking. AGS can include crooked and forked trees, those that are hollow and with den holes, those with pleasing flowers or fall color. Although such AGS may not have much monetary value, their intrinsic value can be priceless. Example of aesthetics AGS: two trees that have fused together creating a contorted form.

Sumac can be AGS by meeting both aesthetic and wildlife objectives.

Photos by David Mercker

There's a lot to consider. Defining AGS is complicated, especially when the above considerations are melded together. For instance, white oak (*Quercus alba*) is commonly considered AGS. However, if a certain white oak tree is deformed, or suppressed from overhead competition, or was damaged or hollowed-out by previous abuses (such as fire or livestock), or growing off-site (for instance on a site that is too wet), then that tree is tallied as an UGS. So, a would-be AGS can be relegated to UGS. The environment and human interaction can be tough on trees!

Of course calling out AGS vs. UGS depends on the standards by which the trees are judged. And who's the judge?

Who's the Judge?

One of most fascinating features of our grand democratic experiment is that individuals, not just governments, have the pleasure of owning land. Private family-owned woodlands are the largest ownership class in the United States. Landowners, much like the woodlands they own, are a diverse group. Ultimately it is the *owner* of the trees who has the say on which trees are acceptable and which ones aren't.

The previous criteria that foresters use to constitute AGS is only a template. It assumes that the primary ownership objective is to grow top quality trees, of high value, as rapidly as possible, to meet the demand of the local wood industry. Many landowners embrace these criteria, but some do not, and that's okay. In fact, reports have continuously showed that woodland owners often place wildlife and non-consumptive uses of their forest higher than monetary return. Non-consumptive uses can include: aesthetics, recreation, mental restoration, heritage, etc. Consider Table 1 and how the determination of AGS varies according to the alternative wildlife and aesthetic objectives.

Inventory Your Growing Stock

By now you are likely beginning to imagine your own woodland, what it presently looks like, and what it could become. Perhaps your ownership objectives are more in focus, too. But

(Continued on page 12)

Photo by David Mercker

A typical upland hardwood stand with both AGS and UGS.

It's YOUR Woods

(Continued from page 11)

before you can achieve your objectives, you must know what your woodland currently contains. What do you have to work with? So let's return to the example of "stock," specifically the metaphor on stocking your cupboards. Before you can properly stock your cupboards, you must first know what is already there. You could say that you inventory your cupboards before making a list of wares that are needed. The same is true of your woodland. A timber inventory, like any inventory, involves taking stock of what is already available.

The process of conducting an inventory of your woodland is very involved; professionals are needed and recommended. But private woodland owners can conduct a cursory inventory to help take stock of what is present by following these steps:

1. Establish your AGS and UGS criteria and have a tally sheet.
2. Randomly traverse your woodland and measure 1/10-acre plots; these are circle plots with a 37-foot radius.
3. Record your AGS trees and UGS trees using a simple slash-tally; each tree tallied represents 10 trees per acre.
4. Add up all your plots, then divide by the number of plots taken. Do this for both the AGS and UGS. The results will give you some baseline information that will aid in achieving your objectives.

To learn more about timber inventories, you are encouraged to read the following publication:

Conducting a Simple Timber Inventory, by J. Henning and D. Mercker, published by The University of Tennessee Institute of Agriculture, 2009, available at utextension.tennessee.edu/publications/documents/PB1780.pdf.

Often It's Not "Either/Or"

There is a tendency (and it is a misconception) to think that woodlands are managed solely for crop trees – or for wildlife – or for aesthetics. But these objectives are not mutually exclusive. Indeed they can occur at the same time. More often than not, that is the case for most small landowners. For instance, even the most hard-core timber producers can leave occasional UGS to benefit wildlife and aesthetics.

And the opposite can be true too for those landowners whose objectives focus primarily on non-timber uses. With this option, often the AGS favored are the lower value "D" trees: defective, dying, deformed, diseased, damaged, or just duds. Beware though. Not having some higher value crop trees could limit the utility for future generations and even lead to woodland conversion to non-forest uses. In other words, if the woodland has such poor quality trees that it can't pay its way, it may be converted to a use that will. And that defeats our purpose.

So, for a more holistic, stewardship-centered focus, the criteria for AGS and UGS could be broadened.

Photo by David Mercker

Hidden treasure!

A Woodland Example

To help you visualize some of what has been discussed, the following is an example of AGS and UGS as it relates to a typical forest. This assumes that all the trees tallied are on a 1/10-acre plot (37-foot radius) located in the hardwood region. Note: this example only includes one inventory plot. For a more accurate representation, several plots would be required.

Example
Objective: Grow top-quality hardwood timber to produce periodic income

Species	Diameter (in.)	Condition	AGS	UGS
White oak	14	Excellent	x	
Elm	20	Cull		x
Red oak	12	Excellent	x	
Hickory	10	Average	x	
Box elder	14	Cull		x
Tulip tree	18	Excellent	x	
Tulip tree	8	Average	x	
White oak	8	Crooked, broken top		x
Red oak	14	Average	x	
Beech	30	Cull (hollow)		x
Beech	14	Excellent	x	
		Totals	7 (or 70 per acre)	4 (or 40 per acre)

Condition and Recommendation: Seven of the 11 trees are considered AGS and since this is a 1/10-acre plot, that would yield approximately 70 AGS trees per acre. This is a very favorable stocking level of AGS. However, the 40 UGS trees per acre are competing with the AGS and to enhance the vigor and ensure the survival of the AGS, timber stand improvement (TSI) is recommended. With TSI, the UGS trees should be harvested (if possible) or deadened (if not).

The reason the UGS trees did not meet the ownership objectives are as follows:

- 20-inch elm – Subject to Dutch elm disease; low monetary value; produces little wildlife mast.
- 14-inch box elder – Very low market value; produces little wildlife mast; growing off-site.

Photo by David Mercker

- 8-inch white oak – A stunted (over-topped tree) that is dying due to broken top.
- 30-inch beech – Although potentially a good wildlife tree, it is so massive that it is competing heavily with the AGS; plus, other excellent quality beech trees exist on the site to produce wildlife mast.

Photo by Allan Houston

An AGS tree based on aesthetic objectives.

Where to Go from Here

Feeling a bit overwhelmed? That's not necessary . . . there's help. Foresters often say that forestry is not rocket science. It's more complicated than that! Sure, there is much to be known, but that's why professional foresters exist. *Trained broadly in the natural resources disciplines, forest professionals can help you establish your objectives. From the objectives, comes the inventory. The inventory determines the AGS. Then from your AGS, action steps are established. Action steps ultimately help you achieve your objectives.* Just like putting one foot in front of the other. Take a moment to read that again. It summarizes what this is all about.

Finding a professional forester isn't that difficult. Foresters are either publically or privately employed. Each state has a forestry agency whereby public foresters administer conservation programs, fight wildfires, and, to limited extent, assist landowners in the development of forest stewardship plans. The plans

Photo by Jeff Lannom

A timber inventory helps evaluate the AGS and UGS in the stand.

contain steps to help achieve objectives. Normally landowners are then turned over to private foresters to assist in carrying out the stewardship plan. Private foresters are either independently employed consultants or are employed by forest industry. As always, it is beneficial to seek the counsel of many.

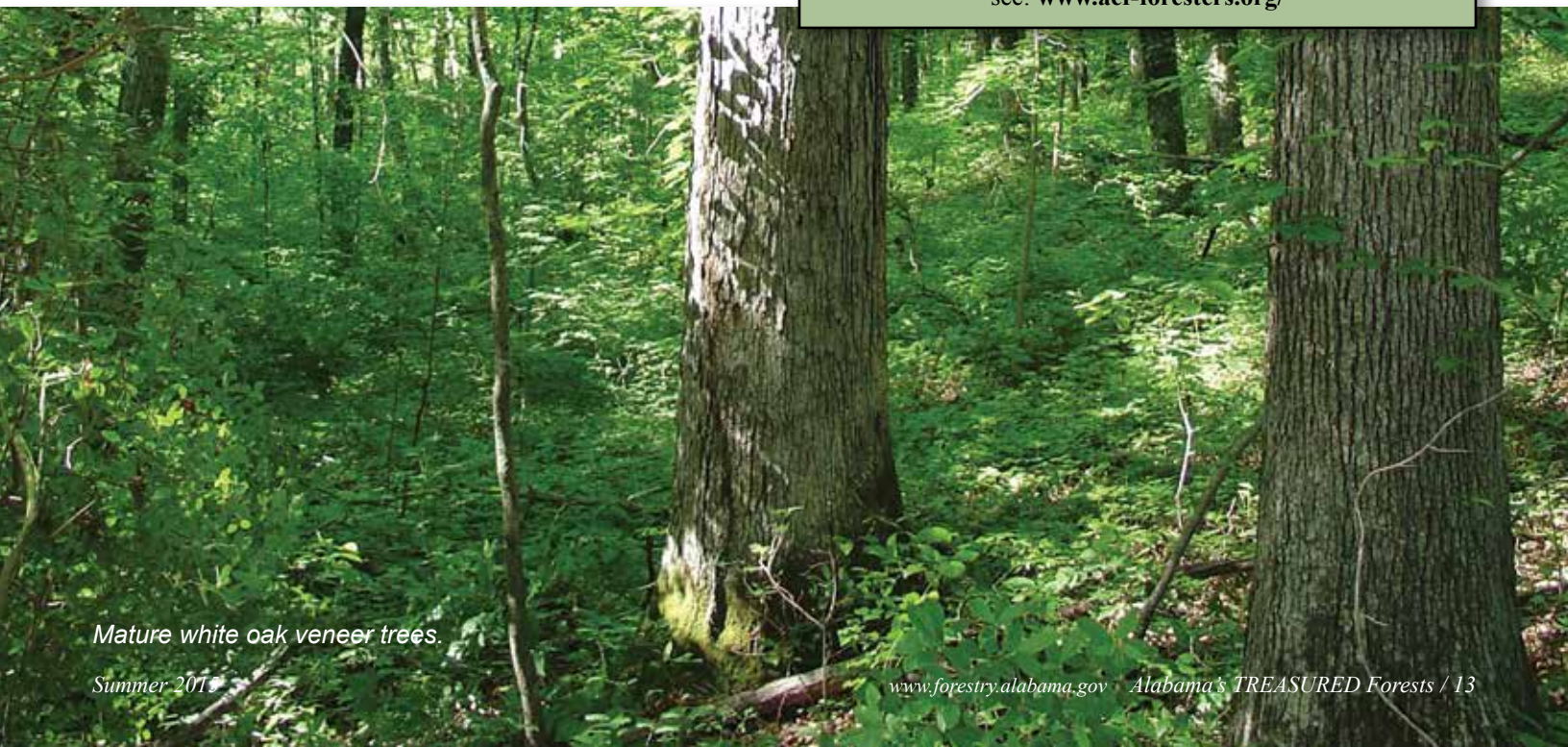
Conclusion

Some days, if you stop, attentive and listening real close, you can hear the sounds of foresters way off in the woods, their tools rattling, their persistence as they scurry across the hills, and the thunder as they sound off trees in their plots:

"Give me a white oak, 22" x 3 logs, AGS . . . a sourwood, 16" x 2 logs, UGS . . . a red oak, 18" x 2.5 logs, AGS . . ."

It's the way of woods people. And as a private landowner, you are a woods person, too. It's your woods; get to know them. The privilege of woodland ownership also carries the responsibility of stewardship. Forest management begins by defining your AGS and UGS. Without this knowledge, you're just another landowner. With it, you're one step closer to becoming a steward.

To locate a state agency forester, see: **www.forestry.alabama.gov or forestry.about.com/od/stateforestry/State_Forestry_Agencies.htm** To locate a private consulting forester, see: **www.acf-foresters.org/**



Mature white oak veneer trees.

Practice What You Preach

Life on the Ponderosa II

By Walter E. Cartwright, Forest Management Division Director, Alabama Forestry Commission

As a Registered Forester with a Bachelor of Science degree in Forest Management from Auburn University, for years I have been giving management advice to landowners, writing management plans, conducting understory and site preparation prescribed burns, planting trees, controlling invasives, and much more. Although my wife and I had not owned property, we were in the market, looking at many tracts priced too high to be affordable. Then we were told of a tract for sale and went to look. I called the landowner, got the price, and told him we were interested. The rest is history, and I finally had the opportunity to "practice what I had been teaching" others my entire career.

In May 2013, my wife, Annette Stewart Cartwright, and I bought our first property in southwest Butler County, Alabama. Consisting of 60.5 acres of young timberland, the property was part of an old estate. The previous owner told us that he and many other neighbors had been born and grew up on the old home place once located there . . . Dr. Watson drove a horse and buggy all the way from Georgiana (about 12 miles) to deliver babies, and he was often paid with produce or canned goods. The old house had burned a few years back, leaving only two chimney monuments to mark its spot. An old cotton shed was also burned by a wildfire just one month before we closed on the property, but the old cannery survived which is located north of the old home place about 30 feet. Cleaning and weather-proofing this structure to a degree, we can use it as a check-in stand for hunters and guests on the property. We've decorated the front with antlers from deer harvested in past hunting seasons, and plan to add a double-insulated window for ventilation.

Our forest management objectives for the property are timber production, hunting, recreation, and aesthetics. We plan to later build some sort of house or cabin and may eventually live there.

In the meantime, the property is transected by a gravel road and power line that provides rural power to an old camper located next to the old home place. Rural water is also connected to the camper, so it is livable in its present condition. There is also an old open well with curbing and good water, which can be used if the rural water is not available. A metal carport located on the old home site allows us to park our vehicles out of the sun and weather.

Needing equipment to work on the property as well as maintain fire lines and roads, we purchased a 58 hp John Deere tractor with a Rhino front-end loader, bush hog, and disk harrow. We have since replaced the old equipment, buying a brand new 6 foot bush hog and 6 foot Tufline disk harrow. Added to that was a used Kawasaki Mule and trailer for quick and easy access to all parts of the farm.

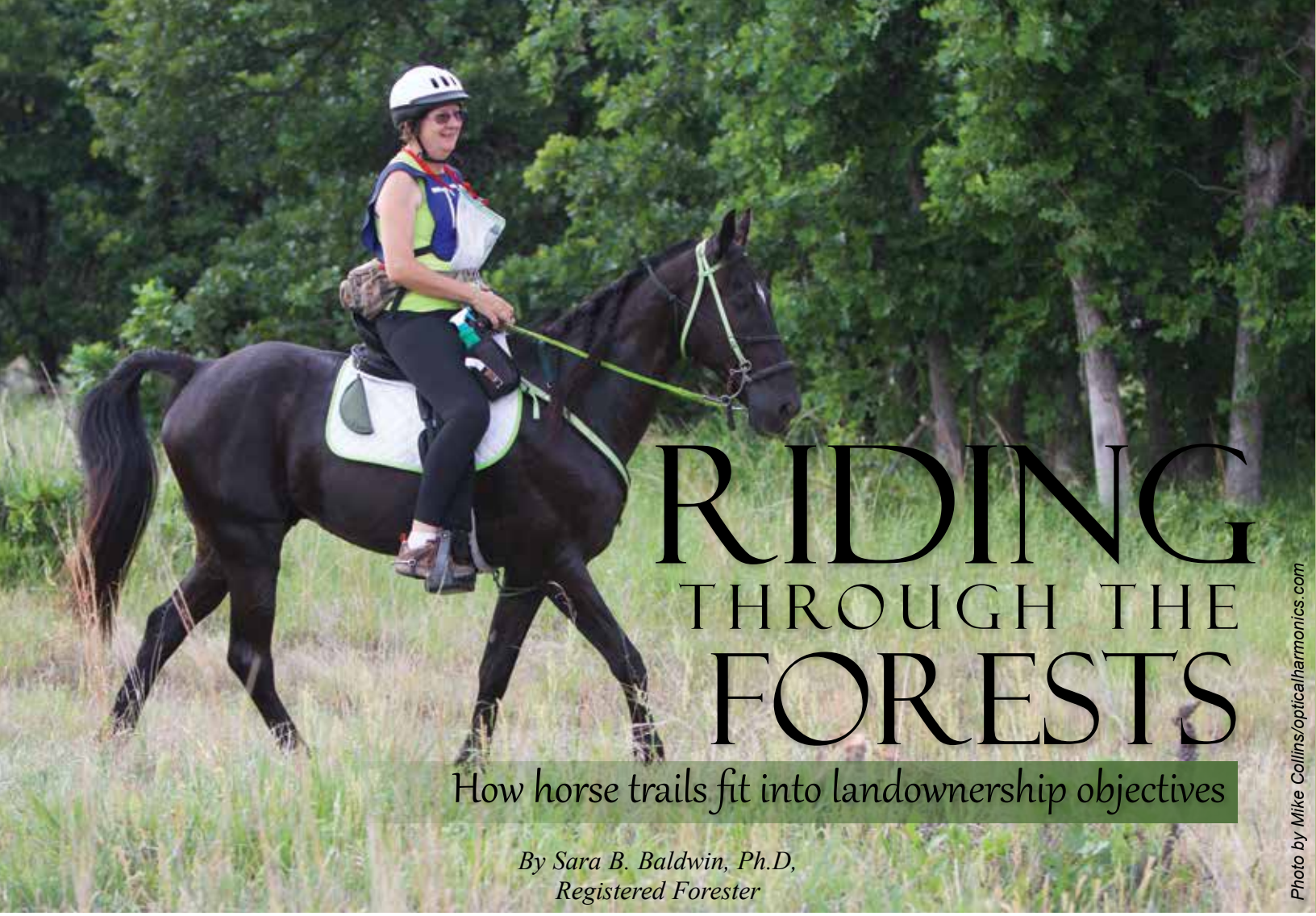
Our first timber harvest was in October 2013 when we solicited bids and thinned 30 acres of a 13-year old loblolly pine plantation, recovering about half of the timber value. As rows could not be defined, we asked the logger to cut corridors parallel to the road. This worked out great not only opening up the stand, but also providing hunting corridors across it. After the thinning, we hired the Alabama Forestry Commission to clear two food plots next to two existing hunting houses. We later planted the food plots with a variety of seed from Whitetail Institute and also planted the few existing roads.

We signed up for cost-share on fire breaks, which were installed in March 2014 and planted with leftover seed from Whitetail Institute. Obtaining a burn permit later in March, we conducted a prescribed burn in the plantation by lighting a backfire on the north line with a 5 mph southeast wind. After about two hours, we slowly ignited flanking fires that burned well and consumed most of the fuel except for small piles of debris. The stand looks great and we experienced a successful hunting season, harvesting seven deer and one coyote.

In addition to hunting, we've already found other means of recreation on the property. In May of 2014, we held a family gathering to celebrate the return of our nephew from Afghanistan. In addition to grilling hamburgers, hotdogs, and sausage, we ate other dishes brought by the family. We set up a

shooting range with targets and shot clay targets thrown with a spring-loaded thrower, with all the family bringing guns and participating. Everyone also enjoyed riding around the farm with two UTVs, an off-road golf cart, and a 4-wheeler. Arriving at 8:00 am and leaving at 5:30 pm, 20 family members just had a wonderful time.

The Alabama Forestry Commission completed our forest Stewardship management plan in April of this year, and we have recently received certifications for Stewardship Forest, Tree Farm, and TREASURE Forest. Annette and I go out to the farm almost every weekend so we can continue to improve the place and add value, working as a team on every project such as cutting, splitting, and hauling firewood. We are methodically removing and treating privet, cogongrass, and eastern baccharis. Again, we hired the Alabama Forestry Commission to push fire lanes around all exterior boundary lines, push two additional interior roads, and create three additional food plots. These improvements have now given us full access to all parts of our property . . . Mrs. Cartwright and I have found a native chinquapin tree, as well as a few honey locust trees and at least one big leaf magnolia tree. Every discovery is another adventure on the farm we fondly call the Ponderosa II!



RIDING THROUGH THE FORESTS

How horse trails fit into landownership objectives

By Sara B. Baldwin, Ph.D, Registered Forester

Photo by Mike Collins/opticalharmonics.com

Traveling the country with my horse and dog in order to ride through the forest is something I enjoy. So do so many other people – I am not alone in this hobby. Trail riding is an increasingly popular sport that rivals hiking, biking, and hunting as a recreational use of forests.

Twenty years ago I wrote an article for this magazine about developing horse trail systems on TREASURE Forests (see "A TREASURE Teaches Lessons," *Alabama's TREASURED Forests*, Spring 1995, p. 4). Since then, we have continued to host trail rides and manage the trail system on the McConnell and Willis family TREASURE Forests, but two big changes have come along the way.

First, I have become addictively involved in competitive trail riding. A competitive trail ride is a long-distance, time-paced event with both a veterinary judge that scores the horses and a horsemanship judge that scores the riders. These events are sanctioned by a national organization, the North American Trail Ride Conference (NATRC). I got started by hosting and managing NATRC- sanctioned rides here at our forest, then raising and training horses for this little-known sport. I now have a 1,000-mile champion horse as well as a 2,000-mile champion horse, while I have also competed others' horses, personally logging nearly 4,000 miles in sanctioned competitions. I have ridden in 87 events in 16 different states. Last year, we reached the pinnacle of our sport when my horse Loco Motion won the NATRC "President's Cup" as the top scoring horse.

The numbers indicate the second big change in the last 20 years: trail riding is growing! In Kentucky, horse racing capital of the world, they've recognized the sport's growth. In a 2012 article of a leading horse enthusiast publication, the executive director of the Kentucky Horse Council was quoted, "It is our suspicion that there are more horses used for trail riding than any other use." **(http://horsetalk.co.nz/2012/05/30/could-trail-riding-lead-kentucky/#ixzz3ZrRiP9VU)**.

Former 'Trails' chairman of the Alabama Horse Council, Sandy Pegram, agrees, "...the popularity of trail riding is growing and outshines other horse industries like racing and showing. It helps families connect to nature."

With these growing numbers, riders and their horses are always looking for new places to ride. In response, the number of trails on public and private land is increasing. Each year more agencies, local governments, and private ownerships are looking into the feasibility of adding trails.

Most of these rides occur in forests. Some are held in prairies and desert areas, but all are in managed wildlands. It takes a lot of land and a lot of trail to host an NATRC event – top riders ride a minimum of 50 miles in a weekend, while novices ride 35 to 40 miles. Trail rides occur on a variety of ownerships, both public (federal, state, and county-managed areas) and private family-operated forests and leased lands. Because I am first a forester, I pay attention to who owns the land and how trail riding fits into the management scheme.

Photo by Katrina Casey, kcasey design

Pursuing an avocation in competitive trail riding, Sara Baldwin has ridden in 87 events in 16 different states, personally logging nearly 4,000 miles in sanctioned competitions. Her horse "Loco Motion" (pictured left) won the NATRC "President's Cup" as the top scoring horse in 2014. Recently appearing on the cover of HoofPrints, the magazine of the North American Trail Ride Conference, this photo was taken during the Indian Territory Competitive Trail Ride (CTR) at the John Zink Ranch near Tulsa. While this 30,000-acre private ownership is a functioning ranch producing cattle and oil, its primary use is as an exclusive nature facility for scouting and conservation groups. The CTR is the only equestrian event allowed on the property.

Federal lands tend to have the oldest and largest trail systems. Recreation areas such as the National Park Service's "Big South Fork" in northern Tennessee become vacation destinations for trail riders. In Kentucky, the "Land Between the Lakes" National Recreation Area (managed by the USDA Forest Service) has a horse campground with 400 sites. National Forests belong to all of the people, and must include recreation in their management plans; most include horse trails. Large forests in the southern Appalachians, such as the Jefferson National Forest in Virginia and the Chattahoochee National Forest in north Georgia, have hundreds of miles of horse trails. In Alabama, there are horse trails on the Bankhead National Forest, the Tuskegee National Forest, and all three ranger districts of the Talladega National Forest.

There are not nearly as many state forests, but I have attended NATRC rides at the Blackwater State Forest in Florida and the Appomattox-Buckingham State Forest in Virginia. On both these forests, trail riding is an established use that complements other management objectives: longleaf pine restoration on the former, and timber production for revenue on the latter.

Sara and Loco Motion lead friends to finish a ride at "Heart of Dixie," a family-operated forest, farm, and camping facility near Troy, Alabama.

Dominoes at dawn: black and white horses line up at "Mingo Trails," a family forest leased by a saddle club near Toomsboro, Georgia.

State and county parks are numerous and exist to provide recreation for the public. Oklahoma, Kansas, and Nebraska don't have very much of what we Alabamians would call 'forests,' but they do have a lot of reservoirs for water supply. These reservoirs have wooded areas protecting the watershed, and a surprising (to me) number include horse trails. Kansas has 25 public horse trails with over 300 miles of trails! Perched high on bluffs overlooking the Missouri River, "Indian Cave" State Park in Nebraska is rich in local history and contains beautiful wooded horse trails. Annual NATRC rides take place there each October when the park is very crowded with all kinds of recreational users. One year at this park, I recall some hikers who had mistakenly camped on the horse trail – they were still in their tents and sleeping bags at 9:00 am when we rode through!

Trails on private properties are special to me, as I can empathize with the owners and managers. I have ridden on five ranches in Texas, and they're all run differently. Some allow riding to supplement their cattle operations, while others only own a few cattle for tax purposes (Texas law protects cattle ranching) so that they can keep their land open for riding. There's the huge John Zink Ranch and Nature Preserve near Tulsa, Oklahoma, which only allows one horse event each year, an NATRC ride. On the other hand, the posh Biltmore Estate in North Carolina allows regular horse use, and charges handsomely for same. Last summer, I rode at the "Flying R" Ranch deep in the Missouri Ozarks. Since there was not enough trail mileage on the family property, we rode down the highway a few miles and did a trail loop on the Mark Twain National Forest.

In 1993, my husband and I started the first company in Alabama offering trail rides on private forestland. Now, many family forests have adopted this recreational use, and some small businesses combine camping, riding, and access to trails on public land. All of this means more places to ride and more forests for all to enjoy throughout the state.

Editor's Note: A good listing of Alabama trails is available under the 'links and resources' tab on the Alabama Horse Council website at: www.alabamahorsecouncil.org. For more information on forest trail riding, contact the author at forestowners@wildblue.net.

By James P. Jeter, BMP Forester/Hardwood Specialist,
Alabama Forestry Commission

In a continuing effort to promote upland and bottomland hardwood management, the spirit of cooperation lives on. May 5, 2015, marked another opportunity for staff from several state and federal agencies, as well as some private landowners, to meet, discuss, and learn more about upland hardwood management. Landowner Steve Rice hosted the event on his property located in Marshall County in north Alabama.

One of a series of trainings that takes place every two years or so, the original workshop was the brainchild of Natural Resources Conservation Service (NRCS) State Staff Forester, Tim Albritton. With his guidance and suggestions, a group of us has held together over the years to keep this course alive, demonstrating the true spirit of cooperation between agencies. Those involved through the years, and presently, are:

- Dr. Callie Schweitzer / USDA Forest Service
- Jim Schrenkel / Wildlife Biologist / Alabama Department of Conservation and Natural Resources
- Dr. David Mercker / University of Tennessee Extension Service
- Tim Albritton / USDA Natural Resources Conservation Service
- Jeff Thurman / USDA Natural Resources Conservation Service
- Lynn Washington / Alabama Forestry Commission
- Jim Jeter / Alabama Forestry Commission

This year's training, as in the past, was primarily targeted to help agency personnel who work with private landowners. The goal was to provide management recommendations as well as a better understanding of how to direct the landowner through the process of cost-share assistance while meeting their specific management objectives.

Is Your Hardwood Stand Ready to Thin?
An Example of Calculating Basal Area
Dr. David Mercker, University of Tennessee Extension Forester

As forest stands develop, they become overstocked. Overstocking leads to reduced growth rate, mortality, susceptibility to diseases and insects and lowers the return on investment. Thinning is a forest management practice that removes some trees while redistributing growth and maintaining proper stocking.

Stocking = amount of anything relative to what is considered optimum; in forestry, it is an indication of growing space.

Basal Area (BA) = one measure of stocking, it is the surface area of a tree stump measured in square feet at 4.5' above the ground
= can be measured as an individual tree or as a group of trees

Ex.

Diameter	BA (sq. ft.)
8"	0.35
14"	1.07
20"	2.18
28"	4.28

For simplicity, think of basal area this way. Pretend that an acre of land is delineated and every tree located on that acre is cut off at 4.5 feet above the ground level. Then the stump surfaces are measured to determine their area (as in the area of a circle).

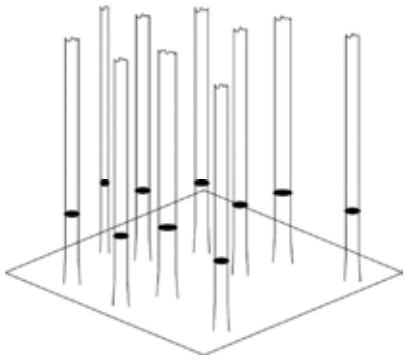


Figure 1

Measuring Basal Area *Figure 2*

Angle Gauge = a tool used by foresters to determine which trees are to be included in a forest inventory; prisms are also commonly used

Procedure = in a circle plot, all trees that are larger than the width of the angle gauge are counted in the inventory. Trees are measured at a height of 4.5 feet. This In today's example, the width of the gauge is .75" (or 19mm) and is held 25" from the eye. This is equivalent to a 10 factor prism, meaning that each tree tallied is equivalent to 10 square feet of basal area per acre. The eye must remain over the plot center. Trees are either out, in, or borderline. For a cursory inventory, count every other "borderline tree" as in.

Stand Basal Area = $\left(\frac{total\ \#\ trees\ tallied}{\#\ Plots\ taken}\right) x\ 10$

So when using a 10 factor gauge, 8 trees tallied is 80 sq. feet of basal area; 12 trees tallied is 120 sq. feet of basal area, and so forth.

Take Home Message - When the average number of trees tallied is 11 or more (110 sq. ft. of basal area), it is near time to thin. So see a Forester.

Relation of basal area, number of trees, and average tree diameter to stocking percent for upland central hardwoods. Tree-diameter range 7-15 (left), 3-7 (right). The area between curves A and B indicates the range of stocking where

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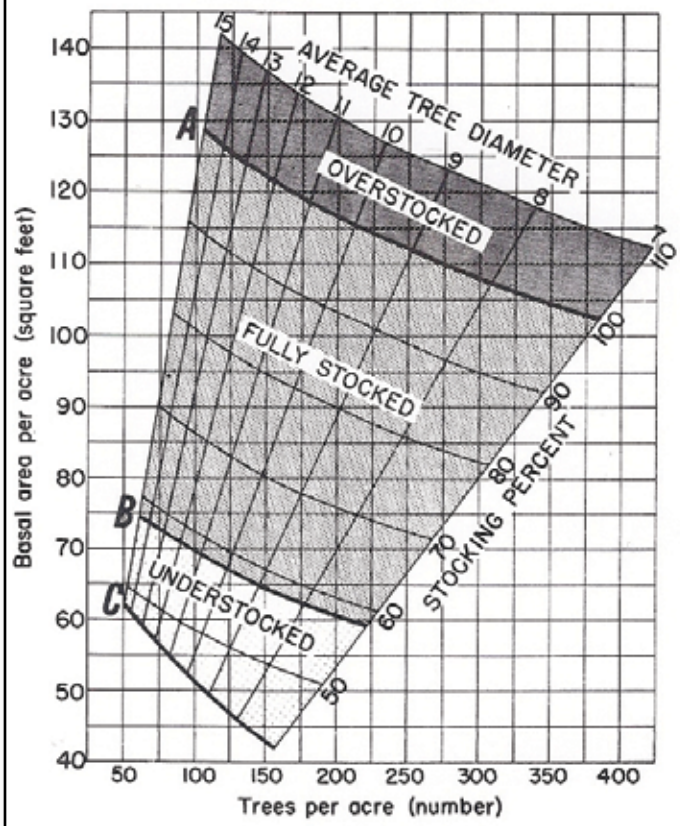


USDA, Forest Service Ag. handbook 355 *Figure 3*

Located in a very nice 23-year-old, multi-species, hardwood plantation established by the landowner and family, the first tour stop topic was titled, "Is Your Hardwood Stand Ready to Thin?" Dr. David Mercker conducted a lively discussion about seedling survival, stocking rates, form class, grade, landowner objectives, and what to consider in making the management decisions to move forward. He presented us with four very good, simplistic handouts [figures 1-4] that should help the average landowner make decisions by providing methods to figure stocking rates and determine growth.

Taking place in a much older natural stand of hardwood located on the transitional slope of the Cumberland Plateau, the second tour stop was led by Dr. Callie Schweitzer. Again, the discussion was lively and very informative. She asked us many questions regarding how to regenerate this particular stand. Did it need regenerating, or should it be left alone to grow? We talked about how to look at the growing stock and the terms used [figure 5], and she explained how naturally regenerated red oak seedlings react/survive when under a shaded canopy vs. being in a disturbed (thinned) stand [figure 6]. Last but not least, we discussed the process of decision making [figure 7].

At this same station, Jim Schrenkel talked about wildlife needs and how this particular stand varied from the earlier stand. He also

(Continued on page 20)

RATE OF GROWTH *Figure 4*
(GROWTH FACTOR TABLE)

DBH	Rings Per Inch											
	4	5	6	7	8	9	10	11	12	13	14	15
4"	.282	.225	.188	.161	.141	.125	.113	.102	.094	.087	.080	.075
5"	.220	.177	.147	.126	.110	.098	.088	.080	.073	.068	.063	.059
6"	.181	.145	.121	.103	.091	.080	.072	.065	.060	.056	.052	.048
7"	.153	.123	.103	.088	.077	.068	.061	.056	.051	.047	.044	.041
8"	.133	.106	.089	.076	.067	.059	.053	.048	.044	.041	.038	.035
9"	.116	.093	.078	.067	.058	.052	.047	.042	.039	.036	.033	.031
10"	.105	.084	.070	.060	.053	.047	.042	.038	.035	.032	.030	.028
11"	.095	.076	.063	.054	.047	.042	.038	.034	.032	.029	.027	.025
12"	.087	.070	.058	.050	.044	.039	.035	.032	.029	.027	.025	.023
13"	.080	.064	.053	.046	.040	.035	.032	.029	.027	.025	.023	.021
14"	.074	.059	.049	.042	.037	.033	.030	.027	.025	.024	.021	.020
15"	.069	.055	.046	.039	.034	.031	.028	.025	.023	.021	.020	.018
16"	.064	.052	.043	.037	.032	.029	.026	.023	.021	.020	.018	.017
17"	.061	.048	.040	.035	.030	.027	.024	.022	.020	.019	.017	.016
18"	.057	.046	.038	.033	.029	.025	.023	.021	.019	.018	.016	.015
19"	.054	.043	.036	.031	.027	.024	.022	.020	.018	.017	.015	.014
20"	.051	.041	.034	.029	.025	.023	.020	.019	.017	.016	.015	.014
21"	.049	.039	.033	.028	.024	.022	.020	.018	.016	.015	.014	.013
22"	.046	.037	.031	.027	.023	.021	.019	.017	.015	.014	.013	.012

Procedure

1. Determine GROWTH FACTOR by applying average d.b.h. and average rings per inch to above table.
2. Compute annual rate of growth of BASAL AREA, CORDS, TONS, BOARD FEET (International), or CUBIC FEET by multiplying amount of good growing stock in each category by the GROWTH FACTOR.

Hardwood Corner

(Continued from page 19)

discussed managing for target wildlife species based on specific landowner objectives, the differences of hard-mast species and soft-mast species, and their benefits to different animal species.

As always, the topic of burning in hardwood stands came up. I am biased, but I think we all agreed that if a landowner is growing hardwood for timber production, fire has no place in timber stand improvement (TSI) activities of a hardwood stand. On the other hand, if the total objective is for wildlife management and there is no desire to grow quality sawtimber – burn away! Jim has completed many acres of prescribed burns in upland hardwoods and will be happy to talk to anyone about the results.

After lunch, Tim Albritton led a discussion about NRCS cost/share programs that deal with hardwood establishment or wetland restoration. [To get further details about these programs, please visit or call your local NRCS field office.]

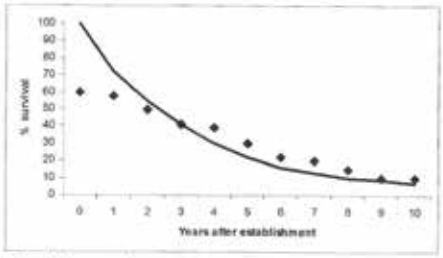
As always, it was a pleasure to be a part of this group, and I think all 35 participants should have been able to take home some new thoughts about hardwood management. As with any event, it takes many people working behind the scenes to make it successful. Thanks to consulting forester Brian Bradley and all the folks that helped him, and thanks to Lynn Washington and his staff of Alabama Forestry Commission folks as well. Without the knowledge of how to make workshops such as this happen, they would not take place.

It's always interesting to see who will show up at these training events. One landowner who resides in Autauga County, Alabama, and also owns land in Kentucky, attended in preparation for a meeting with a forestry consultant in Kentucky. You just never know how far reaching these events will be!

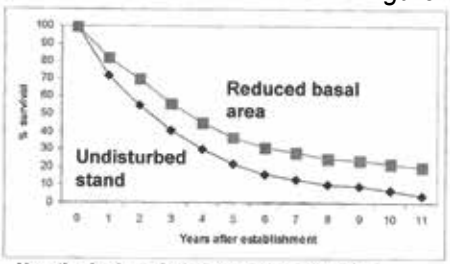
Figure 5

Preferred Growing Stock	
1	Trees in good condition
2	Trees of desirable species for the site and for management objectives
3	Trees with dominant or codominant crowns
4	Tree which can be left indefinitely as long as in good condition
5	Trees of a minimum grade or potential grade for site goals
Reserve Growing Stock	
1	Trees in good condition, do not qualify for preferred GS
2	To leave one for one or more cutting cycles would not risk merchantability or survival
Cutting Stock	
1	Poor condition, risk of mortality or degrade in merchantability
2	Species unsuitable for site
Cull Stock	
1	Sound cull stock-never sawlogs, have usable fiber
2	Unsound cull stock-no merchantable fiber

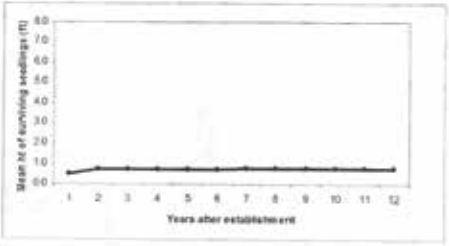
Figure 6



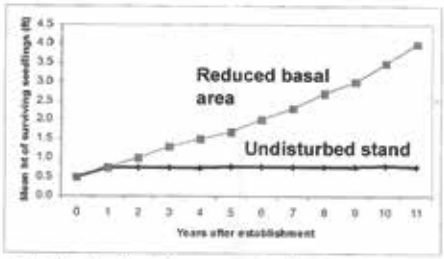
Survival curve for a cohort of red oak seedlings growing under undisturbed conditions. Oak seedlings arrive in waves (a cohort) but expire steadily beneath dense canopies.



Hypothesized survival response to a basal area reduction. Reducing canopy density increases seedling survival.

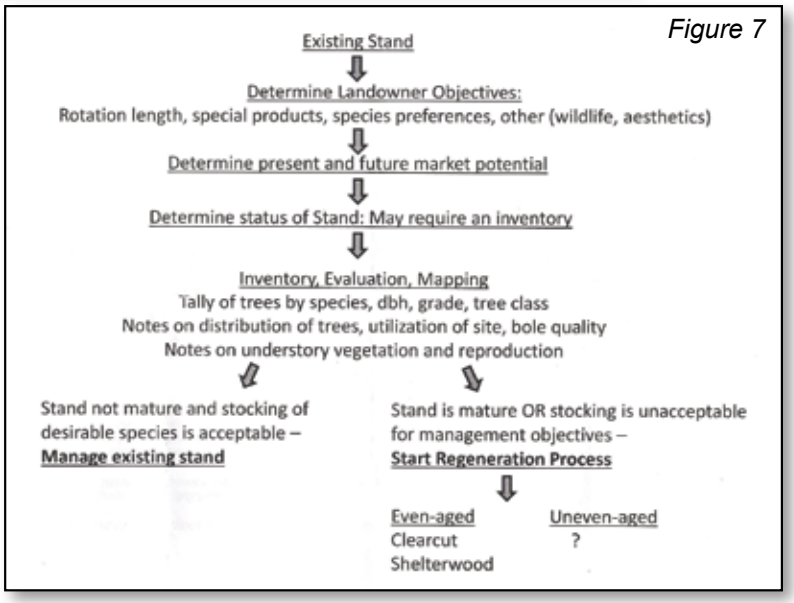


Mean ht obtained over time by a cohort of red oak seedlings growing under undisturbed conditions. These seedlings generally do not grow taller than one foot.



Hypothesized height response to a basal area reduction; allows oak seedlings to grow in height, but also allows the competition to respond.

Figure 7



Lone star tick (Credit: Gerald Holmes, California Polytechnic State Univ at San Luis Obispo, Bugwood.org)

UGA Research Links Prescribed Burning to Reduced Tick Populations

By Molly Berg

In the spring, summer, and early fall months, lone star ticks, the most common type of tick in the Southeast, spike in activity and may transmit pathogens that could cause disease in humans. According to newly-published University of Georgia (UGA) research, tick populations can be managed through a technique called prescribed burning.

Elizabeth Gleim, a former graduate student in the Warnell School of Forestry and Natural Resources (UGA), performed the research over several years. During that time, she visited 21 plots in Georgia and Florida to collect tick samples monthly. Most of those plots had been subjected to long-term prescribed burning, a way to manage and control the growth of plant and animal species on a specific area of land.

Gleim, now a visiting assistant professor at Emory University's Oxford College, found that prescribed burning over a long period of time effectively reduced tick populations and changed the landscape of the burned areas. "At the end of the day, prescribed fire on a long-term basis decimated tick populations," Gleim stated. "It's exciting because by reducing tick populations, the technique indicated that it was reducing risk of tick-borne disease in humans while also enhancing ecosystem health."

Lone star ticks are known for transmitting a number of human pathogens that can cause disease. They include southern tick associated rash illness, known as "STARI," and ehrlichiosis. Although ticks are present in Georgia and Florida year-round, they are a greater danger in the spring, summer, and early fall when they are active.

Roy Berghaus, an epidemiologist in the UGA School of Veterinary Medicine, helped analyze the data on the ticks Gleim collected. "Any of the burned sites they looked at had a dramatic reduction in the number of ticks they were able to collect," said Berghaus. "Those tick sites that they couldn't do prescribed burning on had dramatic increases compared to the other burning sites."

At plots where there was no burning, tick counts were 10 times greater in the warm season than sites where prescribed burning occurred. In total, over 47,000 ticks were collected among the 21 sites over two years. The most prominent of the ticks was the lone star tick.

Gleim stresses that repeat, not singular, prescribed burns will decrease tick populations. "If you are in a fire-dependent or -tolerant ecosystem, then prescribed fire would be an effective way to deal with tick populations." She continued, "It needs to be done on a long-term basis. Doing it once or twice would not permanently reduce tick populations. Prescribed fire needs to alter the vegetative structure of the forest in order to maintain the initial reduction of tick populations immediately following a fire. We were seeing that it was permanently decimating tick populations."

However, prescribed burning may not be an ideal solution if the land cannot support it. "There are some limitations when it comes to prescribed burning," Berghaus noted. "The land may be near a major highway, and it could cause an accident. In cases like that, there are some landscape and wildlife areas that need to take different measures."

Aside from prescribed burning, there are ways individuals can keep safe from ticks year-round. "The number one thing is to perform prompt, careful, full body checks after a visit into the forest," Gleim said. "While preventative measures such as wearing insect repellents with DEET or permethrin are wise, chances are some ticks will get past these defenses. The good news for most tick-borne pathogens is that it takes a tick several hours to transmit a pathogen. If you can remove the tick in that time, you'll be safe."

This research was funded by the Centers for Disease Control and Prevention and UGA collaborative grant. Additional funding was provided by the Joseph W. Jones Ecological Research Center at Ichauway, the Warnell School of Forestry and Natural Resources, and the Southeastern Cooperative Wildlife Disease Study in the UGA College of Veterinary Medicine. Study co-authors include Mike Conner of the Joseph W. Jones Ecological Research Center, Michael Levin and Galina Zemtsova of the CDC and Michael Yabsley of Warnell and SCWDS at UGA. The study is available online at ***http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0112174****.*

The "Well" Hidden Danger

By Tony Avery, Forester/Work Unit Manager, Colbert, Franklin, Marion & Winston Counties, Alabama Forestry Commission

Wildland firefighters face many potential hazards while doing their jobs. As the state agency tasked with protecting the vast forestland of Alabama, the Alabama Forestry Commission is a safety-conscious organization that provides extensive safety training for its personnel, accident reviews, and annual fire refresher classes, as well as personal protective clothing for wildland firefighting. New employees must attend various training courses before they can engage on a wildfire. All of this is done to instill situational awareness in wildland firefighters so they can recognize and avoid unnecessary risks while completing an inherently dangerous task.

Some hazards, however, are not as obvious as the wildfire that you're trying to suppress. We encounter snakes, yellow jackets, hornets, barbed wire fences, underground gas lines, guy wires, bluffs, mining high walls, mine shafts, hazardous flumes, burning snags, and even inebriated individuals – not to mention lots and lots of smoke. (With respect to my colleagues, I do realize this is not a complete list.) There are other perils, but the one that got me was the well.

Several years ago, retired and now deceased AFC associate Vernon Tucker and I were dispatched late one afternoon to a wildfire which was burning in a pine stand. We met at the fire and got in one vehicle to discuss our plan of attack, as it was becoming dark and beginning to sprinkle rain. We were hoping the rain would increase and extinguish the blaze so we could go home. After a while, we decided that instead of waiting to see what the weather would do, we would each use a rake or shovel to put out the remaining fire so we could be on our way.

Picking up our equipment, we walked into the forest and began using our hand tools to suppress the fire. I moved away from the area where Vernon was working to extinguish flames in another location. It was at this other location that I took a step and suddenly began a fast vertical descent, straight down. I reached out my hands, but it seemed there was nothing to grab onto to break the fall. Landing feet first, I realized I was in a well. Fortunately, there was no water at the bottom, but it was very dark. Assessing my condition, amazingly, I had come out pretty much unscathed. The challenge now was how to get out.

The wall of the well was completely vertical, so climbing out without help presented a big problem. I knew my best chance of being rescued quickly was to see if I could holler loud enough so that Vernon could hear and locate me. After a bit of hollering, there was just enough light in the sky to see the silhouette of a man's torso appear over the well hole at the top . . . I had been found.

Vernon had heard my call for help, but was wondering how I had gotten so far from where he was working in such a short period of time, not realizing I was hollering from the bottom of a well. We began a discussion on how to get me out. We consid-

ered calling the rescue squad, but decided against that as I did not want to panic my family who was probably listening to the scanner. Then we thought of using a log chain that we kept on hand for those occasions when our dozer got stuck. Vernon retrieved the chain from the dozer, securing one end around a pine tree and lowering the other end down into the well. Using the chain, I quickly pulled myself out.

Later, I measured the depth of the well at 14.5 feet. It had probably been filled in years ago and had sunk over the years. Luckily, it wasn't 80 feet deep with water at the bottom.

Yet again, I had another close encounter with a well while battling a wildfire. One night while carrying a back-pack water pump on a fire, I walked right up to the edge of a well. But this time, I saw the hole from the light of the fire.

Based on Alabama law (Alabama Code section 13A-11-220 (a) (2)), it is a Class B misdemeanor to have an abandoned well that is not protected in order to prevent someone from falling in. The law states that a person commits the crime of creating a hazard if:

> *"Being the owner or otherwise having possession of land upon which there is an abandoned well, cistern or cesspool of a depth of four feet or more and a top width of 12 inches or more, he fails to fill, cover or fence it with a suitable protective construction."*

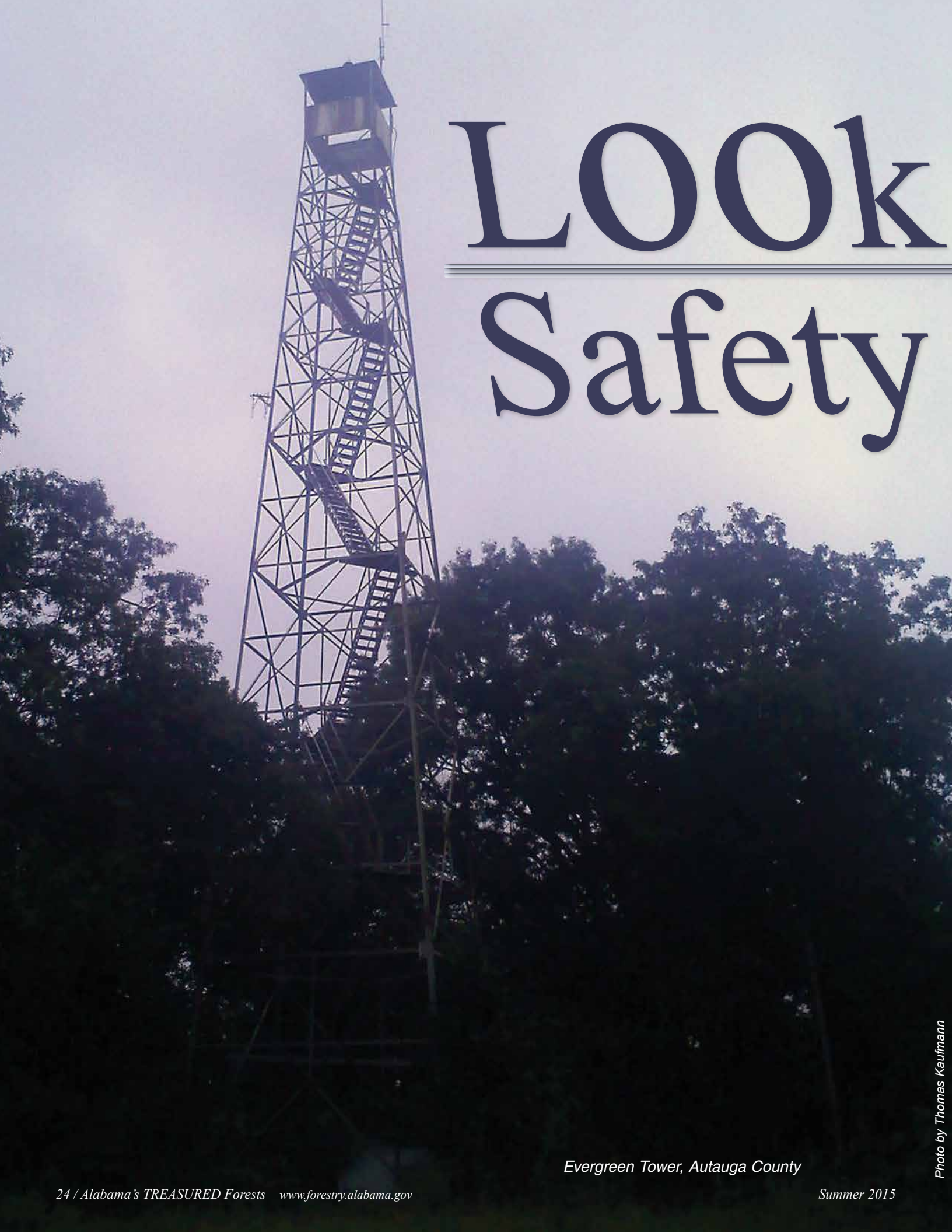
The law does not state that the landowner or person having possession must have knowledge of the hazard. Landowners should be knowledgeable enough about their property to know if they have a hazard on their land and make suitable protective construction to neutralize the hazard.

Trespassers are not generally afforded the same degree of protection as invited guests or someone paying a fee to use your property, such as with a hunting lease. Young or inexperienced hunters could become lost and wander onto your property as unintentional trespassers. The law does not state that you are exempted from additional charges or civil liability should someone, even a trespasser, fall into a well and be injured or killed. This could open the door for more serious charges such as reckless endangerment, criminally negligent homicide, and the possibility of a civil suit.

Additionally, some government officials, under certain circumstances, have the statutory authority to enter forestland without first notifying the landowner. For example, the Alabama Forestry Commission has the authority to suppress wildfires on private property without prior notification of the landowner. This is necessary so suppression action can be implemented quickly to save as much property for the landowner as possible and prevent the spread of the wildfire to adjoining landowners.

Being a forest landowner provides many rewards for enjoyment and financial gain, but it also entails some legal responsibilities. If you have an abandoned well on your property and you take the necessary action to protect others, you are also protecting yourself from possible criminal charges and lawsuits.

Photos by Johnna Franks



LOOk Safety

Evergreen Tower, Autauga County

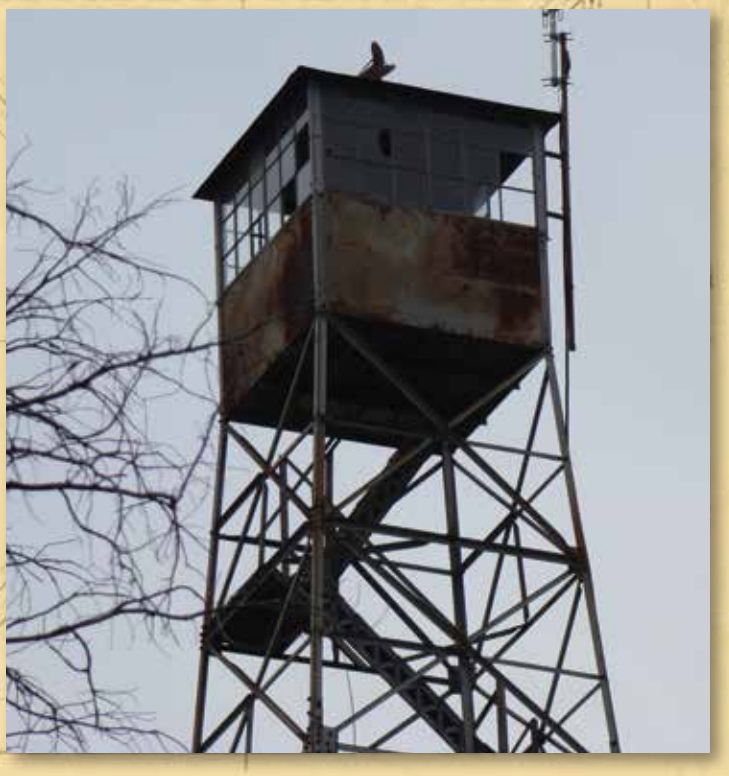
Photo by Thomas Kaufmann

out Tower

By Thomas Kaufmann, Architectural Historian and Preservationist

You are hiking in the woods, or possibly, driving in your car on an old dirt road, when suddenly, ahead in the distance you see it – a real lookout tower – standing in the middle of nowhere, all alone, and so beautiful in its forest setting. It dominates and commands the terrain in every way, and is irresistible to stay away from, especially to climb. No one is around . . . you draw nearer to it, hoping, wondering, if just by chance you might be able to . . .

Sound familiar? It is a very familiar scenario to me, because I have done it – way back in 1980 or '81, and yes, the 'NO TREPASSING' signs were in place, and the driveway-gate to the tower was closed, barred, and locked. Yet I still did it in good company, climbing all the way to the top of the tower frame under the ranger's observation cab – and scared to death! Well, for a few minutes anyway.



Supulga Tower, Conecuh County

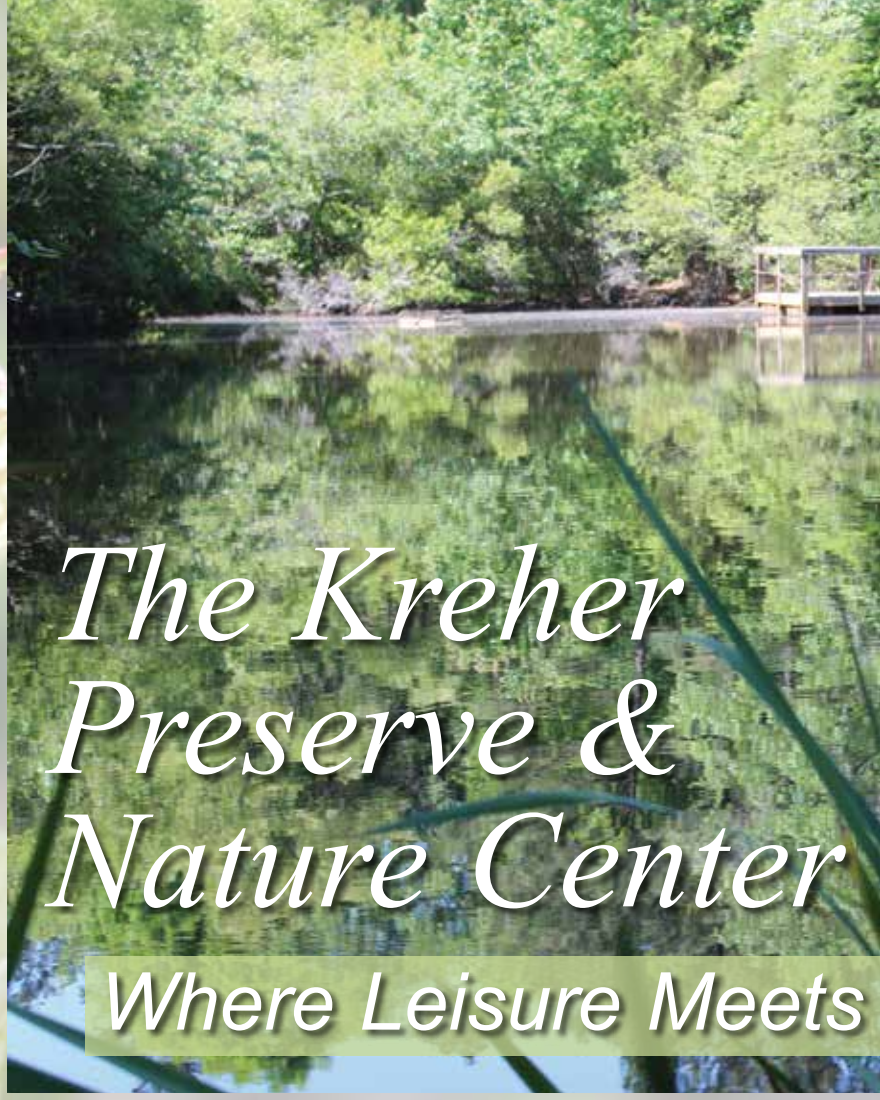
A few years ago, I had the opportunity to speak with the Forest Ranger of that post, now retired, and confess to him that I had climbed the tower. He was very gracious, and I believe I did receive pardon from him for my 'transgression,' but before I said anything else, I had to tell him the most honest truth from my heart – "that I did not regret doing it."

I believe I will go to my grave still feeling the same way; that will never change. I think what I 'did not regret' was having an adventure; however, upon later reflection, I would rather have done it when it was permissible, not harming anyone in the process, especially if something went wrong. Years of experience in working with and learning from architects, structural engineers, preservation specialists, and general contractors has served me well in knowing how to do my research and documentation on historic structures, including lookouts. At times, climbing up into difficult and hard-to-reach places involves making judgment calls – and I can tell you that I don't take unnecessary risks. It's not worth it.

My advice? If you want to climb a tower, find those that you can climb – as often and as much as you like! There are lookouts which have been restored for climbing . . . Smith Mountain Tower on Lake Martin is one, **www.cherokeeridgealpinetrail.org/trails.htm**, operated by the Cherokee Ridge Alpine Trail Association and the AU Rural Studio Birding Tower at Perry Lakes Park **perrylakes.org/perrylakes/tower.htm** near Marion, Alabama, is another. The Alabama Forestry Commission's Butler County Office gives tours of their Chapman Tower (by appointment), and also, the prospect of the Wharton Tower at Ruffner Mountain Nature Preserve **ruffnermountain.org/** in Birmingham as a future climbing tower looks to be very promising.

Still, whenever you come upon an Alabama Forestry Commission (AFC) tower or a US Forest Service tower in the woods, admire it, take photographs of it, and appreciate the tower as a most important artifact of forest service history. Feel free to inquire from the AFC or Forest Service about the tower if you like. But do resist the temptation to climb the tower, for your own safety's sake, and also for the sake of honoring our treasured and valued forest personnel and policy.

Thomas Kaufmann teaches design studio, architectural history, and historic preservation at the Robert R. Taylor School of Architecture and Construction Science at Tuskegee University, and was formerly the Designer of the Alabama Main Street Program at the Alabama Historical Commission. He may be contacted at artisthistorian@gmail.com.



The Kreher Preserve & Nature Center

Where Leisure Meets

By Ivy Sibley, Communication &

The Louise Kreher Forest Ecology Preserve and Nature Center is a 120-acre forest located in Auburn, Alabama. Established in 1993 when Dr. Louise Kreher Turner and her husband, Frank Allen Turner, endowed the property to the Auburn University School of Forestry and Wildlife Sciences, it's more casually known as the Kreher Preserve & Nature Center. Once home to Creek Indians, this acreage was later used as a cotton farm by the Carter and Cooper families, who inhabited the homestead which still remains on the property. It was from the Cooper family that Dr. and Mr. Turner bought the land, using it for their cattle before allowing the forest to go back to its natural state. The Turners envisioned that their former farm could be used for educational purposes by Auburn University and the surrounding community.

Dr. Louise Kreher Turner realized that preserving the forest while enhancing the land for public use would provide a haven where visitors could learn about and appreciate the world around them. She believed that the City of Auburn was developing at such a fast rate that in a short time, no green spaces would be left for people to enjoy. Dr. Turner wanted to guarantee that her forest preserve would be used for the purpose she envisioned. The Turners' vision provided the foundation for the Kreher Preserve and Nature Center's mission, which is "to provide programs, experiences, nature trails, and natural habitats for education, study, and relaxation for students and people of all ages while creating an atmosphere of discovery and stewardship toward our natural world." This mission is the compass that guides all the environmental education and outreach programs offered through the Kreher Preserve and Nature Center (KPNC). From sunrise to sunset, seven days a week, visitors have open access to enjoy nature at the preserve.

Since its endowment, every aspect of the 120 acres has been improved to enrich visitors' experiences with trails and interpretive features, while preserving the beauty and environmental integrity of natural habitats found within the nature preserve. Throughout the property, informational kiosks and demonstration areas allow visitors to learn about the local environment, conservation, and wildlife. Over 30 of these features were created as Eagle Scout projects, or by Boy Scout and Girl Scout troops to enable others to enjoy the outdoors. There are over five miles of walking trails, with eight natural habitats that include pine, hardwood, mixed pine and hardwood, meadow, natural creeks (both spring and waterfall), pond, rocky hillside, and a butterfly garden. Additional features include a nature playground, Big Oak and Longleaf outdoor classrooms, a vegetable garden, the old homestead site, a turtle pond and habitat area, Hidden Falls, a bog garden, bird observation areas, conservation and wildlife viewing areas, a honey bee demonstration site, a soil education site, and more. Visitors who enjoy "geocaching" can explore the nature preserve while searching for 15 geocaches hidden throughout the acreage.

As an outreach program of the School of Forestry and Wildlife Sciences, the KPNC is maintained largely by a small staff, volunteers, and service groups. A not-for-profit organization, the KPNC is dependent on community grants, private donations, membership, and fundraising events to fund its operations. This revenue allows the nature center to provide free to low-cost programs, maintain the grounds and facilities, and serve the needs of the community. With every program that they host, the KPNC staff strives to create an atmosphere that is both inspiring

Learning . . .

Marketing Intern, Auburn University

Photos by Ivy Sibley

and engaging so that more community members will see the value of the world around them.

"The KPNC is a tremendous asset to our community for visitors and locals alike. It provides an additional opportunity for our visitors to experience all the Auburn-Opelika area has to offer in a unique and natural setting . . . to explore a part of the community that they might never have known otherwise," commented John Wild, President of the Auburn Opelika Tourism Bureau and KPNC advisory board member.

It is estimated that the Kreher Preserve and Nature Center welcomes over 25,000 visitors each year, including 3,000 who attend programs and over 5,000 children from surrounding schools who visit for field trips and environmental education programs.

Jennifer Lolley, Outreach Administrator for KPNC, and the nature center staff create and present environmental education programs that engage and captivate people of all ages throughout the year in an enriching outdoor learning environment. Designed to serve a broad audience, these programs include monthly guided nature walks for adults and families, science and hobby programs, arts and cultural activities, trail runs, workshops, special events, and birthday parties. The KPNC also offers field trips for local schools, camps, and programs for pre-school through high school ages, which

(Continued on page 30)

In Their Own Words...

14 January 2015

To Greg Pate
Montgomery, Alabama:

I would like to thank you for providing the Fire in the Field wildfire training to the Vestavia Hills Fire Department. Your team successfully trained 44 of our firefighters over the last few months. As a result of the training, we have a better understanding of wildfire behavior and how it affects our operations in the steep terrain and wilderness interface areas that make up much of our city.

Your cadre of instructors was very knowledgeable, professional and accommodating. It was a pleasure to deal with your staff, and we look forward to working with them in the future to train the rest of our members. I would like to share my gratitude to the following for their great work on this training opportunity: Ethan Barrett, Joel Bartlett, Jeff Bradford, Karl Byrd, Jason Dockery, Eddie Dozier, Doug Fulgham, Scott Hallman, Brad Lang, Albert Mayo, Jessie McDonald, Hank McKinley, Stanley Oden, Amy Smith, Ronnie Turner, and Coleen Vansant.

Sincerely,
James R. St. John
Fire Chief, City of Vestavia Hills Fire Department

14 January 2015

To Dale Dickens
Montgomery, Alabama:

Thank you [and Cary Rhodes] so much for your informative and fun program, "Storm Resistant Trees." Looking around, I could tell our group thoroughly enjoyed every minute!

We are blessed to have people like you helping our planet.

Sincerely,
Shelby County Master Gardeners (SCMG)
Sunshine Committee

3 February 2015

To the Editor:

I wanted to let you know how much I appreciate your mailing me your Alabama's TREASURED Forests magazine. I always read the entire publication "cover to cover" and recently shared the Fall issue with a co-worker who mentioned building wood duck boxes. I love the magazine and would like to send him a subscription . . .

Thank you!
Diane Simpson
Pleasant Hill Farm
Huntsville, Alabama

11 February 2015

To Brad Lang,
Northport, Alabama:

I wanted to take a moment to thank you for the services provided by your firefighters last night. Their prompt response to the fire on my sister-in-law's property, as well as their "take-charge" attitude and professional manner, gave us much needed relief.

Despite working well into the night, Ethan [Barrett] and Doug [Fulgham] never indicated they'd rather be somewhere else, such as asleep in their own beds. Their attitudes, along with that of Heath [Dorman] who was there as backup, is worth noting. As a resident of Alabama (Greene County), it is reassuring to know that these men are prepared to risk their lives for property owners.

On behalf of my sister-in-law, Sue S. Vance, let me thank you again. Please let these men know how appreciative we are.

Respectfully submitted,
Joseph (Joe) W. Fricks, Jr.
Eutaw, Alabama

15 February 2015

To Jim Junkin
Northport, Alabama:

Allen and I want to thank you for everything you, your rangers, and staff have done to assist us as we take on this new venture. We are moving ahead with implementation of the plan you outlined for us, have ordered trees for replanting, and are coordinating this action with Ernie Spiller.

Your assistance and the information you have provided have been more than we could have imagined. Everyone has been exceptional and so willing to help us to become good and wise caretakers of our property.

We look forward to continuing working with you. Thank you.

Very truly yours,
Allen W. and Nancy S. Brooks
Vestavia Hills, Alabama

26 March 2015

To the Editor:

While researching information about the Civilian Conservation Corps (my father worked for CCC during mid-1930s), I came across the Fall 2009 edition of [Alabama's] TREASURED Forests. The first page of the article has a photo that I think has my dad in it. The caption under the photo says "Veteran Company 2420 (Camp P-60) at the Fairfield Fire Tower in Washington County, 1934" and is attributed to Alabama Forestry Commission. Is there any way I can obtain a good copy of the photo? . . .

My dad has been dead 50 years and I now regret not asking him more about his experiences in the CCC. My siblings have told me that he was a medic in the CCC, just as he was in WWI. He always wore white shirts and, in the summer, a "dress" straw hat. I will show this picture to my only surviving sister, who is in her early 80s, to see if she can confirm. The thought that the man in the picture might be my dad is very exciting.

I would certainly appreciate your help.

Gypsy Helmers
Reform, Alabama

Letters to the AFC

28 April 2015

To Lauderdale County AFC (and others)
Florence, Alabama:

First, please let me know of any outreach opportunities. As we move into the final stretch of the planning process, we need to continue to get the word out about the plan and various opportunities to do work in the Second Creek Watershed in the future. With that in mind, I am looking for opportunities to communicate with the general public through newsletters, Facebook accounts, email distribution lists, or other means to reach out. Please send me any ideas that you may have regarding resources you may have at your disposal or may have knowledge of that could get information out, particularly to residents. This outreach will lead to our final push for public involvement, including an invitation to our final meeting, which will be scheduled to coordinate with any publications that might be available.

Second, thanks to everyone for continuing to offer feedback and participate in the planning for the Second Creek Watershed. We had almost as many attend our second meeting as our first, which is impressive. Equally important, we had several property owners attend and express an interest in helping to implement the plan. That's critical! Thank you!

Finally, thanks to Renea Dyer, NRCS, and Steve McEachron, Alabama Forestry, for their presentations on BMPs. I think they did an amazing job illustrating what can be accomplished with the resources that we have available to us through this plan and beyond.

All the best,
Nathan Willingham
Director of Planning and Transportation,
Northwest Alabama Council of Local Governments
Muscle Shoals, Alabama

16 May 2015

To the Editor:

I really enjoyed the Spring issue of Alabama's Treasured Forests. Thank you so much for printing Thomas Kaufmann's article on the need to preserve Alabama's fire lookout towers. For many years we were blessed here in Elmore County to have Mr. Ray Carpenter manning the lookout tower on Firetower Road. Ray was a fine man and such a wonderful help to those of us who were in the forestry and wildlife programs in 4-H Club and FFA during the 1970s. I have such fond memories of the tours that he gave of our local tower and he was a great influence on my deciding to pursue degrees in wildlife science. Also, my cousin, Kate Prater, manned the stone lookout tower in Coosa County for many years and we used to visit her there during the summers.

Mr. Kaufmann is right in saying that these landmarks are an important part of our communities' cultural heritage, and I hope that all parties concerned can find a way to ensure that we don't lose these valuable icons of Alabama's forest history.

Lenela Glass-Godwin, M.S.
Elmore County

16 May 2015

To Dan Jackson
Montgomery, Alabama:

Wanted to tell you how much we enjoyed the spring issue of the Alabama's TREASURED Forests. We especially liked the articles on the red and white oaks. We didn't know about the length of time for acorns to grow. Of course, since our home is named the Aerie, we liked the piece on eagles. Eagles and wolves are my favorite animals in the wild, so I like learning a lot about them. I know no one in our family is an Auburn fan, but was glad to see the oak trees were replaced. It was an all-around good issue, and appreciate getting a copy!

Thanks,
Susan and Gene Pelham
New Market, Tennessee

4 June 2015

To Jim Jeter
Northport, Alabama:

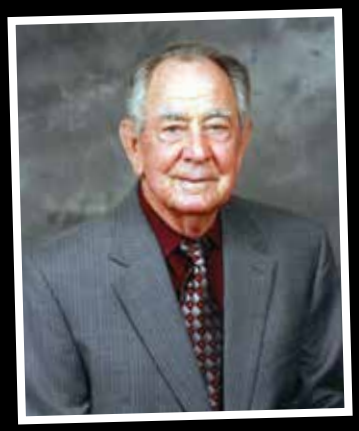
I was a member of Mrs. Pitts' Watershed Management class this past semester, and I wanted to thank you for taking time out of your day to show us the aspects of forestry within the state of Alabama. Before your instruction, I had very little knowledge of forestry, especially how detailed the processes are for protecting water resources; I now have a much clearer perspective of forestry and I have taken an interest into the science of forestry as well. I have a particular interest in the way brush is piled to prevent water runoff and erosion. In the past, I thought this was leftover brush from the operation, but now I have a clear understanding of its purpose.

After graduation, I hope to one day work in forestry or in conjunction with it to provide a continued sustainable approach with the environment.

Thank you again,
Joseph Fields
University of Alabama

MEMORIAL

Bob Erskin Blanks 1929-2015



Lauderdale County TREASURE Forest landowner Bob Blanks passed away on April 11, 2015, at the age of 85. Originally from Marion County, he and his wife, Tincy (also deceased), had moved to Rogersville, Alabama, living along the banks of the Tennessee River for over half a century. Here he quietly went about living and leading by example, serving and helping others all along the way.

Following his service in the U.S. armed forces during the Korean conflict, Mr. Blanks had been employed many years with Sears in Florence. Upon retiring, he volunteered his time and carpentry/woodcraft skills in numerous special construction projects throughout the community. An active member of Rogersville United Methodist Church, he was also a member of the Rogersville Civitan Club and the Rogersville Area Chamber of Commerce, as well as a 50-year member of the Masonic Lodge 147 of Rogersville. In addition to leading his neighborhood watch for several years, Mr. Blanks was instrumental in the development and construction of the Rogersville Volunteer Fire Department's second fire station. For this lifetime of community service, he was recognized by induction into the Rogersville Hall of Honor.

Mr. Blanks also leaves a legacy of stewardship in the Tennessee Valley. Owning forestland in both Lauderdale and Marion counties, he practiced conservation and encouraged preservation of natural resources. He was a charter member of the Alabama TREASURE Forest Association (ATFA), remaining very active in the statewide landowners' organization and in all forestry issues in general.

Forest landowner Bob Blanks (center) proudly displaying his TREASURE Forest, Stewardship Forest, and Tree Farm certification signs at his Lauderdale County property with grandson John Patterson (left) and AFC Lauderdale County Forester Steve McEachron (right).

Kreher Preserve

(Continued from page 27)

provide hands-on learning experiences, live animal encounters, and educational activities. "Nature centers are important components of every community. They provide not only a way to teach children to learn and appreciate nature in a fun and engaging environment, but also a place for the residents to hike and enjoy the great outdoors," said Lolley.

Along with the native species of plants and wildlife found within the preserve, there is a live animal collection known as the "Critter Caravan" that is a key component of the environmental education programs. Staff naturalists are also available to take their "Critter Caravan" to homes, businesses, schools, and other public facilities to provide educational programs.

The Frank Allen Turner Amphitheatre is utilized to host the "Music in the Forest" outdoor concert series, which was created recently to attract a part of the community that might not have previously visited the KPNC. Many of the other programs are held under a covered pavilion which was financed with a grant from the Alabama Forests Forever Foundation. The amphitheater and nature center pavilion also offer a unique and desirable location for private events such as weddings and corporate outings. The rental of these facilities helps to supplement income needed for operating the preserve.

In addition to its educational programs and features, the nature center offers convenient access to restroom facilities, shaded benches, and drinking fountains. The KPNC protects the natural flora and fauna of the preserve with a "Leave No Trace" policy that prohibits littering, smoking, pets, and biking throughout the acreage.

According to Lolley, "There is really so much here for the community, no matter their interests or fitness level. Whether they are looking for a peaceful place to have lunch, do some birdwatching, run a 5k race, or attend one of the many programs we offer, the KPNC is here for the public's use and enjoyment. Our goal is that everyone knows that this is available to them."

Located at 2222 North College Street in Auburn, the Kreher Preserve and Nature Center is truly a place "Where Leisure Meets Learning." For more information on upcoming programs and events, visit the KPNC's website at **http://auburn.edu/preserve**.

TREASURE FOREST TAG FUNDS PLANT SEEDS OF EDUCATION FOR TOMORROW

By Boyd Christenberry,
Alabama TREASURE Forest Association

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I'd Rather Be in the Woods." Wouldn't you? This is a phrase all can relate to and that likely crosses minds on a daily basis. Whether it be roaming pastures, tilling the earth, clearing brush, or just sitting and enjoying the stillness, there is something special about spending time exploring God's creation. If everyone were able to experience this tranquility, the world would be a better place. One of our goals is to help people achieve this right here in their own backyard, and we can do this by spreading the word to everyone in the state!

As many know, the Alabama TREASURE Forest Association (ATFA) boasts its own specialized license plate. What you may not be aware of are the unseen benefits that this tag brings to the citizens of our state. Aside from advertising our organization, it also funds field trips for Alabama's youth so they can have a day in the great outdoors. The program is called "Forest in the Classroom, Classroom in the Forest" (CIF) and many of you have probably had the pleasure of attending one. CIF is a two-day program designed to educate fifth-grade students from Alabama about the value of our forests. On the first day, lessons are delivered in a classroom setting; while on the second day, the children are bussed to a local landowner's property to get a more hands-on experience. This is possible through parents, teachers, and volunteers from all walks of life, working together.

Billy Joe Johnson and his wife, Jan, have hosted six Classroom in the Forest events on their property in Piedmont, with more than 1,000 fifth-graders. Most recently they hosted nearly 140 students from Center Middle School and Spring Garden High School. During the day, the students rotated between five stations that included education on water oxygen levels, "skins and skulls," tree thinning, and more. "We most

Tag money goes toward educational programs such as "Classroom in the Forest" and other events sponsored and hosted by the Alabama TREASURE Forest Association throughout the year. It all goes to educate kids, the general public, and forest landowners about the importance of forestry and how to better manage their land.

enjoy seeing the excitement and the wonder in the kids' eyes as they visit the different stations and learn about private land ownership, conservation, water quality, gun safety, the environment, and wildlife," Billy Joe Johnson said. "In our opinion, this activity is probably the most important part of ATFA since it touches the lives of our young people and makes them hands-on aware of the goals the landowners are trying to accomplish."

If you haven't had the opportunity to participate in a Classroom in the Forest, look at the "Upcoming Events" page at www.TreasureForest.org for details on the next event. Also, look for our ad in the upcoming edition of Alabama Hunting and Fishing Digest. President Franklin Delano Roosevelt once said, "We cannot always build the future for our youth, but we can build our youth for the future." So, buy your plate today and help us to strengthen the youth of Alabama for their future! Remember . . . we'll pay you back the $50 for the first year, too! For more details, go to TreasureForest.org.

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Plants of Alabama

Resurrection Fern

Pleopeltis michauxiana (Polypodium polypodioides)

By Fred Nation, Environmental Services, Baldwin County

One of the most frequent and widespread ferns in the eastern United States, resurrection fern is aptly named. During times of drought, the fronds (leaves) turn brown, wither, curl-up, and appear to be dry and quite dead. When rain finally arrives, the fronds magically unfurl, straighten, and in a matter of hours they regain their flexible, leathery texture and bright color. They certainly do seem to have been "resurrected." Unlike most southeastern ferns, with ample water the fronds are actually evergreen!

Photos by Fred Nation

The huge natural range of the resurrection fern is from Missouri and southern Illinois to Delaware, south to Florida, and west to Oklahoma and Texas. It also occurs in southern Africa and through much of South America. We are fortunate that this interesting fern, with several remarkable properties, is also native to the entire state of Alabama.

Another noteworthy characteristic of resurrection ferns is *where* they choose to grow. They are "epiphytes," a term from two Greek words which mean "upon a plant." They are occasionally found growing on rocks, and can persist for a time on the ground, but most often they are seen, sometimes in sizeable "mats," growing on the large forks and leaning limbs of hardwood trees. On the Gulf Coast they have a particular fondness for live oak, *Quercus virginiana*. They are often found high up in those big trees in the company of other epiphytic plants, including green fly orchid, *Epidendrum magnoliae* and Spanish moss, *Tillandsia usneoides*. It is important to note that epiphytes are not parasites. They have no biological connection to the trees which they use only for support. Their water and nutrients are collected directly from the air.

Even the anatomy of resurrection fern has surprises to reveal to those who take the time to look closely. The bright green fronds (when hydrated) are rather small, up to about eight inches long, and they appear at first glance to be compound. Actually they are deeply-cleft simple leaves, with about two dozen long, straight lobes which extend nearly to the midvein. The undersides are densely covered with small, teardrop-shaped scales which can easily be seen with a hand lens. Instead of producing flowers, fruits, and seeds, ferns employ spores, which are part of a very different reproductive strategy. Circular groups of spore-cases, called "sori" can easily be seen on the backs of the fronds, in two rows along the edges of the lobes.

Ferns in the genus *Pleopeltis* (formerly *Polypodium*) have been widely used by North and South American Indians to treat an amazing array of afflictions. The Aztecs used them as a diuretic, to treat liver infections, cystitis, and kidney stones. The Houmas of Louisiana made a tea to treat dizziness, headaches, fever, and bleeding gums. It should be noted that apparently these pharmacological applications have not been verified.

Maybe someday resurrection fern will become yet another gift from the plant kingdom to treat our aches, pains, and diseases. Until then, as we pass by, we can admire our interesting fellow Alabamian, the little fern that grows on big trees.