

Message from the STATE FORESTER

s I write this, the weather has finally turned warm in Montgomery. Spring is my favorite time of the year with buds breaking on trees and new growth beginning. Birds are singing the praises of warm weather, and the earth seems to come to life again after the chill of winter. What a time to enjoy God's glorious creation. If you listen, you may even here one or two gobblers in Alabama. Many folks hope at least five!

However, spring also brings with it the threat of wildfires. As the temperatures rise, the relative humidity drops, and the winds blow, fires can grow out of control and spread very quickly. Last state fiscal year (October 1, 2013 - September 30, 2014), the Alabama Forestry Commission (AFC) responded to 1,485 wildfires



Greg Pate, State Forester

burning a total of 26,619 acres. Our volunteer fire department partners responded to many others, but were able to control these without our assistance. We have been lucky in Alabama for the wetter-than-normal conditions over the last few years that have kept our wildfire numbers low.

As I have stated to many of you since becoming your state forester a little over a year ago, my biggest concern is the lack of resources available to suppress wildfires in the state. The reduction in personnel tied to budgets cuts in 2010-11 left each two-person AFC initial attack fire crew responsible for wildfire protection across 275,000 acres of Alabama's 23 million acres of timberland, while the average amount of acres protected per two-person fire crew across the remaining Southeastern states is 110,000 acres. As you can see, our folks have their work cut out for them. Unfortunately, there's more to the story. Since these staffing reductions took place, the average size of a wildfire in Alabama has increased by 51 percent. According to AFC statistics for fiscal years 2007-2010, the average wildfire size was 12.1 acres. For the period 2011-2014, the average wildfire size was 18.3 acres. Fewer personnel equals a longer response time, which leads to larger wildfires.

However, we are not being complacent in reacting to this issue. The AFC has been working in five areas to improve our ability to protect your forests. 1) Increased training: With limited personnel, it is imperative that firefighters be very well trained for their own safety in doing this dangerous job; 2) Partnerships: Strengthening our partnerships with the 992 volunteer fire departments across the state plus the few public and private entities with wildfire-fighting capability, as well as developing new partnerships to add resources to our effort; 3) Obtaining better equipment: Whether through excess federal property or limited purchases with state funds, updating our aging dozer fleet and adding new resources to supplement our wildfire response; 4) Improved wildfire intelligence: Weather prediction and computer software have come a long way in helping model the positioning of resources for wildfire response; and 5) Increased prescribed burning: Each acre in Alabama on which a prescribed burn is conducted is one less acre we have to be concerned about for wildfire season. We are also increasing our number of "Certified Prescribed Burn Manager" courses in the state.

The Alabama Forestry Commission is charged with protecting your forestland from wildfire. There are fewer of us to do this job than in the past. So enjoy the beautiful spring weather, but please be careful with fire.

my the

Governor Robert Bentley

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Cover: A true Southern gem, this live oak, also featured on the back cover, was photographed at Historic Blakeley State Park in Spanish Fort.

Photo by Fred Nation







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It's All about Family at the Old Place, Barkers' Cane Creek Farm

By Allen Varner, Stewardship Forester, Alabama Forestry Commission

amily. That one word says a lot about James, Joyce, and Bradley Barker – part of six generations that have enjoyed this TREASURE Forest since 1839! Although the Cleburne County property has seen many changes throughout the years, the one thing that has remained constant over time is the family's passion for the land.

The early generations farmed the land raising cattle, hogs, and chickens for personal consumption and "peddling" some of the harvest for income. Later, bottomland fields were rented out for a short time to supplement income. In general, the landowners tried to make a living off the land until 1959, when James Barker's grandparents, the third generation, moved off the property to pursue other income opportunities.

For the next 32 years, the appearance of the land changed as no one was actively managing it. Then in the 1980s, James's father started planting corn for cattle feed. It was during this time that James's personal interest for the land began to develop. As a teenager, he plowed his first piece of ground, sparking a growing fascination with wildlife. Seeing the property differently, he was not interested solely in making money from it.

As understanding of the needs and management of wildlife took root in James, and he established the first wildlife food plot on the farm. This "planting for nothing," meaning not as a source of income, was not a popular thing to do in the early 80s. But his strong passion for wildlife was growing, and James has been

quoted as saying, "the big bucks or turkeys that could be harvested is payment enough!"

In 1986 the first forest management plan was written for James's grandmother, owner of the property. This plan was implemented by Kenneth and James Barker, father and son. TREASURE Forest certification followed a year later after completion of a number of accomplishments such as road maintenance, broad-base dip construction, boundary line establishment, and wildlife food plot planting.

At this point in his life, James knew he wanted to call this place home. To that

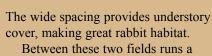
end, he and his wife, Joyce, purchased 60 acres from his grand-mother in 1991. An Alabama Forestry Commission employee, he knew that he could use his training and knowledge to achieve his vision for the property. The 60-acre portion was re-certified in 1994 under the management of James and Joyce. Not long after this, his father, Kenneth, purchased the remaining 140 acres, ensuring that all of the property remained in the Barker family. As James and Joyce surveyed the property, they realized the best home site was where the old farm house stood. Since it was no longer habitable, it was torn down so they could build their home.

Ownership increased the land ethic for the Barkers, as well as their sense of pride in accomplishment. James hopes that what was instilled in him at an early age has also been instilled in their own son, Bradley, the fourth generation of the family to have been raised on the farm.



The Barkers' primary objective is wildlife management, and you can be assured, any deer, turkey, quail, or other small game that comes onto this property will not lack for habitat, food or water! With nine distinct food plots, finding food is not a problem.

There are 15 acres in the bottomland along Cane Creek that consist of two separate fields. Each season they are planted in *Roundup Ready*® corn and soybeans, which is left for wildlife. The fields are divided by planted rows of sawtooth oaks, white oaks, water oaks, and swamp chestnut oaks on a 15x15 spacing.



Between these two fields runs a 30-foot wide green field planted in wheat, oats, clover, and chicory, as well as turnips and radishes. Sixty-foot wide Cane Creek connects the fields and is the east border for three-quarters of a mile. On a hillside of mature hardwoods mixed with pine just up from the creek sits a 5x8 shooting house. It is nestled in the woods, providing a clear view of the fields. Nearby there are two acres planted in brown top millet making for a small dove field that is enjoyed by family and friends each season.

Early on, James realized that wildlife management actually begins with purposeful timber management. Over the past 20 plus years, understory pines and non-mast producing hardwoods have been gradually removed from a 25-acre mature hardwood stand to allow younger oaks to grow. The older mature hardwoods are over 60 years old. A checker board pattern – made up of small stands of planted longleaf pines, planted loblolly pines of varying age classes, and naturally regenerated upland hardwoods – enhances the edge effect and is designed to complement the primary wildlife management objective. To promote native forbs and grasses throughout the property, prescribed fire is utilized routinely on a three-to-five-year cycle, depending on the stand.

Because of poor production, 20 acres of mixed pine was clear cut in 1992 and reforested in loblolly pine. Then Hurricane Opal blew through, loosening many of the planted trees. James and his family painstakingly went through the stand, tightening many of the loose pines by hand. Thanks to such tender loving care, today, the surviving trees are healthy. A prescribed burn was per-

formed at age 10, and now the pines have undergone a third row thinning with the harvesting debris scattered back within the stand.

Another 35-acre area damaged by southern pine beetle in 1995 was harvested, mechanically site prepared in 2000, and planted with 605 trees to the acre. It was broken into six individual blocks by fire breaks and roads to facilitate a threeyear prescribed burning rotation, with the goal to minimize fire stress on the crop trees.

(Continued on page 6)



Bairkers' Caine Creek Fairini

(Continued from page 5)

With the purchase of the remaining 140 acres from his father in 2009, a dream was fulfilled. Since then, fences have been built, property lines surveyed and painted, and corners marked. All timber stands have permanent fire breaks which have been planted in native grasses for erosion control. All roads are approximately 20 feet wide, with the main roads topped in gravel. Secondary woods roads are crowned and water barred with proper turn-outs. Along these firebreaks and roads, "daylighting" has been accomplished by trimming overhanging vegetation to 12 to 14 feet in height, permitting the sun to shine on the roads so they can dry quickly.

A common occurrence with many TREASURE Forest landowners is the incorporation of multiple uses, eventually embracing all five of the TREASURE Forest objectives: Timber, Wildlife, Recreation, Aesthetics, and

Education. As stated earlier, wildlife management and timber management were originally the primary objectives for the Barker property. However, as knowledge of multiple-use concepts was gained over time, a shift towards wildlife habitat management and aesthetics took place.

What set these TREASURE Forest landowners apart and qualified them for the 2012 North Region Helene Mosley



Memorial Award is their commitment to education. The desire to share knowledge and property, providing others with a natural resource experience, is unique to TREASURE Forest landowners. The Barkers not only share, but are often active participants in the learning process. Educational activities at Cane Creek Farm include training of the local high school 4-H Forestry Judging Team of which Bradley is a member, and hosting Classroom in the Forest/ Forest in the Classroom for

all fifth grade students in Cleburne County for three years in a row. This particular educational activity is a cooperative effort between Farm Services Agency, Natural Resources Conservation Service, Soil & Water Conservation District, the Cleburne County Forestry Planning Committee, and the Alabama Forestry Commission.

In addition to school students, adults have also received training at Cane Creek Farm. The Barker family hosted the Agricultural Explosives Class on Beaver Dam Control where representatives were in attendance from the Forest Service, Soil & Water Conservation, *Progressive Farmer* magazine, as well as ten private landowners. Several tree identification training ses-



sions for new employees of the Alabama Forestry Commission have also been conducted at the farm.

While it is apparent that the Old Place, Barkers' Cane Creek Farm is special to all the present-day family members, it can actually still be called home for the first four generations . . . dating back to 1870, the family cemetery is still in use, providing the final resting place not only for James's ancestors, but also his father who passed away as recently as 2010.

Whether it is remembering the past generations that have been a part of its history, or the current generation that enjoys the abundant wildlife on the Old Place, home and family are recurring themes at Cane Creek Farm. The principles of TREASURE Forest are strong in the hearts of James, Joyce, and Bradley Barker. Their commitment to the land, along with their willingness to share their "TREASURED" forest for the benefit of others, is why they are truly deserving of the designation of Helene Mosley Memorial TREASURE Forest.



New Year Brings Changes in

Law Enforcement

By Scott L. Rouse, General Counsel/Deputy Attorney General, Alabama Forestry Commission

n January 1, 2015, when most were ringing in the New Year, the Alabama Forestry Commission was quietly changed in a fundamental way. For the first time in its long history as an independent agency, dating back to 1969, the Commission was no longer a law enforcement entity.

Consolidation. That was a major focus of the 2013 Regular Session of the Alabama Legislature. Touted as a way to reduce costs and improve efficiency in government, the Legislature passed Alabama Act 2013-67, which was soon signed into law by Governor Robert Bentley. This measure effectively merged the law enforcement functions of 12 separate state agencies — including the Alabama Forestry Commission — into the newly-formed Alabama Law Enforcement Agency ("ALEA"). This merger was fully implemented on January 1, 2015.

In the past, the Alabama Forestry Commission had literally dozens of sworn law enforcement officers. All across the state, the vast majority of the Forestry Commission's foresters and rangers carried a badge and a gun. While they fought wildland fires and helped manage timber assets for forest landowners, they also responded to and investigated situations involving wildland arson and other unlawful burning, as well as cases of timber and logging equipment theft. For Alabamians, the Forestry Commission served as the single agency for forestry-related matters.

In 2007 and 2008, state budget cuts and the resulting restructuring of the Forestry Commission brought about a smaller, dedicated unit of forest investigators. By 2014, the Forestry Commission had seven full-time forest investigators and two arson-trained bloodhounds, Blaze and Ember. On January 1, 2015, however, all of this was lost to the newly formed ALEA.

When it comes to law enforcement needs, things are now quite different for Alabama's forest landowners. For a long time, a single phone call to the local county forester or the Commission's dispatch center could initiate a response to an ongoing fire, a report of arson or other illegal burning, or a report of timber theft. All of these functions were handled by the Forestry Commission in-house, and landowners had little reason to go elsewhere for fire or law enforcement assistance.

Ironically, state agency consolidation will now require landowners to call three different agencies to obtain the services previously offered solely by the Alabama Forestry Commission. These services are now broken into three areas: (1) wildland fire suppression, (2) wildland arson investigation, and (3) other forestry-related crimes. Respectively, these areas will be served by the Forestry Commission, the State Fire Marshal, and ALEA.

One thing that has not changed is the Forestry Commission's primary responsibility to protect Alabama's forests, which includes the suppression of wildland fires. To report an ongoing forest fire, call 911 or 1-800-392-5679.



All wildland arson and other unlawful burning investigations will now be handled by the State Fire Marshal Office. Its arson tip line is 1-800-654-0775, and the State Fire Marshal's main number is (334) 241-4166. Of note, the Forestry Commission's own arson tip line (1-800-222-2927) has been routed to the State Fire Marshal, but this number will be discontinued in mid-2015.

Timber thefts, logging equipment thefts, and similar forestry-related crimes will now be investigated by the Alabama Agricultural & Rural Crime Unit (ARCU), which is a unit within ALEA that includes many of the Forestry Commission's former forest investigators. ARCU's number is 1-855-75CRIME. Reports can also be made through ARCU's website at http://arcu.alabama.gov/.

As always, even though the Alabama Forestry Commission is no longer a law enforcement agency, it nonetheless stands ready to continue serving the state's forest landowners in any way that it can. If you have questions concerning these important changes, feel free to contact the Forestry Commission.

Alabama Forestry Commission

By Dale Dickens, Urban Forestry Coordinator,

or Auburn fans around the world, few stories could top the state's number one urban forestry project: the transplanting of two, 35-foot-tall live oaks (*Quercus virginiana Mill.*) at the northeast edge of Auburn University's campus, known to the faithful as Toomer's Corner. The fouryear, \$900,000 project culminated on Saturday, February 14, 2015, over four chilly hours with the placement of the trees on either side of what is considered the entry way to the campus of "the Loveliest Village on the Plains." Approximately a thousand cheering fans watched as Huntsman Tree Installation swung each oak, in its turn, from the deck of flatbed trailers which had delivered them over 300 miles from their original home in Mead-Westvaco's nursery in Ehrhardt, South Carolina.

Planting began shortly after 8:00 a.m. CDT with the College Street oak first, and then the Magnolia Avenue tree. Tarps were removed from the tops and then from the root ball of each. Limbs were carefully spread to their 30-foot span as the straps were gently removed by hand. A mobile crane cautiously lifted the tree vertically and the trailer pulled from beneath the swinging tree. Slowly the hanging tree was moved over the hole and lowered several times as adjustments were made. Finally the tree was oriented as close to vertical as possible and the last limbs freed of any remaining binding points. Guy wires and soaker hoses were added at a later time to finish the placement.

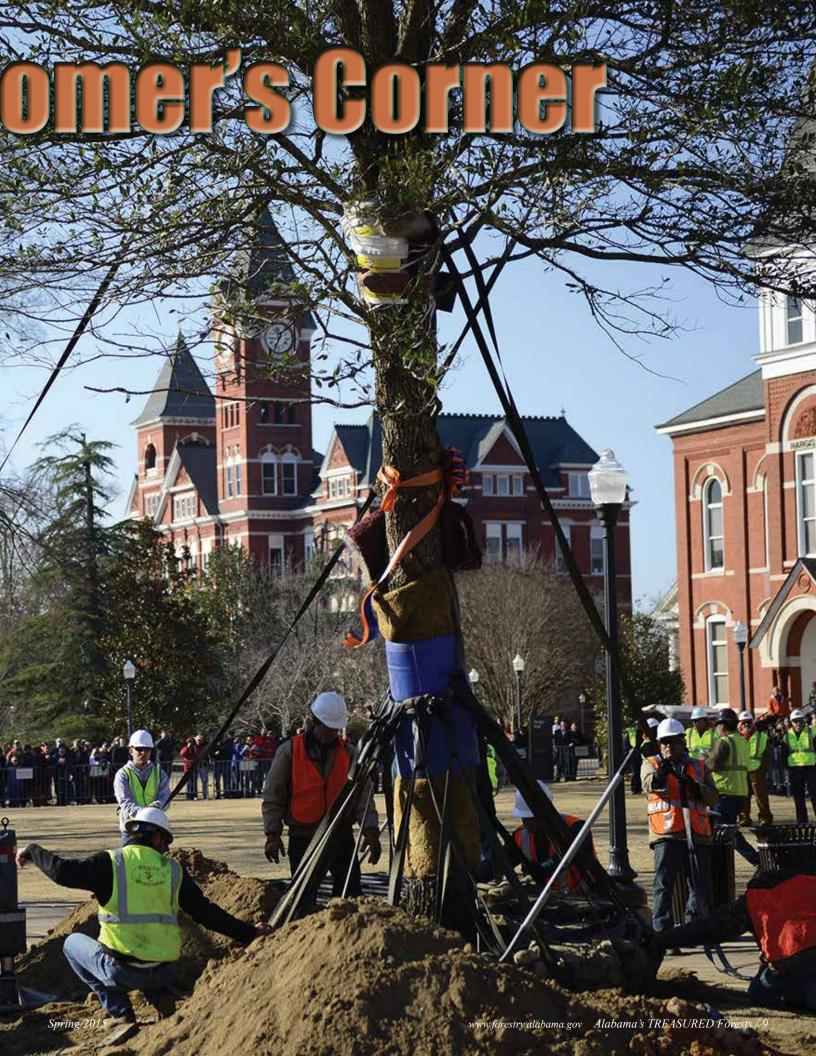
While installation of the oaks progressed slowly and carefully, much of the work had been accomplished prior to Saturday's planting. Soil contaminated with tebuthiuron, the active ingredient in Spike herbicide, was dug out and carried to a hazardous waste facility. Specialized blocks, called Silva Cells by DeepRoot Green Infrastructure, were used to provide more suitable rooting space for the new trees while giving a platform for stable walkways. Finally, holes were dug larger than the expected root balls, ready to receive the new oaks.

With all this care, it would be a shame to harm the new plantings. The public is therefore asked to delay the traditional "rolling of the trees" until fall of 2016 to allow them to acclimate to their new environment and rebuild their root system. As much as 95 percent of a large tree's root system is lost during the lifting and preparations for moving it.

The planting of the oaks completes Phase I of the redesign for Toomer's Corner. The second phase will involve planting of live oaks, grown from acorns collected from the original Toomer's Oaks, along the walkway leading from the corner to Samford Hall . . . iconic oak progeny leading to Auburn University's most recognized icon.

To date, not a single day has passed without admiring fans walking by, admiring, photographing, and touching the revered oaks. Truly if these great plants hold the spirit of Auburn, then the spirit has roared back to life in these lovely live oaks.







The Hard Decision about Managing Hardwoods

By Tim Albritton, State Staff Forester, Natural Resources Conservation Service

he hardwood forest type is a tremendous resource across the South. The Southern hardwood forest provides for an abundant wildlife habitat. Many species, both game and non-game, depend on hardwood forests for their growth and survival. A few of these are wild turkey, squirrel, wood duck, raccoon, and several species of songbirds.

The Southern hardwood forest also provides a multitude of benefits to society that we often take for granted. Some of these benefits include clean water filtered from thousands of acres of riparian forest, fall color providing natural beauty that supports tourism, and recreational opportunities such as camping and hiking.

Diverse is a word that describes the Southern hardwood forest. There are approximately 200 species of hardwoods native to Alabama, as compared to only 13 species of native conifers.

Regardless of the hardwood stumpage prices, timber owners might be wise to consider hardwood management. But before converting a pine plantation to hardwoods or beginning an extensive afforestation practice, you might want to consider a few questions.

Is my land classified as one of the three broad groups suitable for hardwoods?

In a previous article in Alabama's TREASURED Forest magazine, Hardwood Specialist Tom Cambre identified three broad groups of land: major bottomland sites, minor bottomland sites, and upland hardwood sites. If you can answer "yes" to this question, then keep moving forward. You might need to consult with your local forester to get a definitive answer.

Ok, let's say you passed the initial test. You own some land that is classified in one of the three broad groups suitable for hardwood timber, and there is timber on the site. Let's consider the next important question.

What is the current stand condition?

Is the current stand in a degraded state, commonly called high-graded? Assessing the current species composition, quality, and stocking level will help you determine if you should attempt to manage what you have or consider some other options for treatment of a degraded stand. Dr. Wayne Clatterbuck with the University of Tennessee has developed a technical publication entitled, "Treatments for Improving Degraded Hardwood Stands," which is available online at: utextension.tennessee. edu/publications/Documents/SP680.pdf

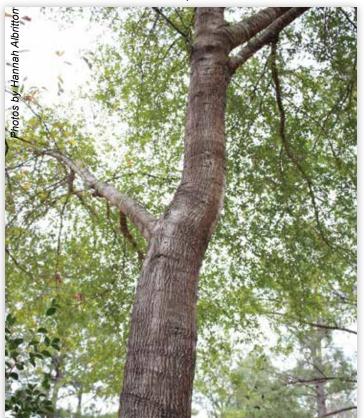
If your hardwood stand is fully stocked and contains desirable species (mainly red oak and white oak) then a practice called Crop Tree Release (CTR) should be considered. CTR is the practice of deadening selected trees in younger, overstocked forests for the benefit of releasing desirable crop trees. The CTR publication, written by David Mercker, Ph.D., CF, Extension Forester, University of Tennessee, is also available online at: utextension. tennessee.edu/publications/Documents/SP559.pdf

I cannot stress enough the importance of getting an accurate assessment of the current condition before making a decision to cut, thin, or treat the stand. There are many treatment options. Far too often, landowners are only given a few options and they usually focus on *clear-cut it now, or leave it alone and let it grow for another ten years*.

The last and most difficult question to answer is this: **Am I** ready to take on the challenge of managing hardwoods?

Managing hardwoods is difficult. It is a technical process that requires an acute understanding of soil types, site quality, species characteristics, and the interaction of all of these variables and the combination of multiple species.

Example of a poor quality red oak with defects and poor form.



Answering "yes" to this question can be a hard decision to make. Often it is easier to decide to clear-cut, spray, and plant pines.

Conifer or pine management is usually best achieved with intensive chemical site preparation to remove competition, followed by artificial regeneration or tree planting. Hardwood management is best achieved by managing existing stands of hardwoods, and planning for natural regeneration. That is not to say that planting hardwood seedlings is not feasible; it often is. We recommend it on thousands of acres each year, but this is usually successful in open fields, idle pastures, and agricultural lands where no trees are present.

Planting hardwood seedlings in a cutover situation is usually not very successful due to the intense competition from seed, advanced regeneration, and stump sprouts. In short, natural regeneration is the best method for regenerating hardwoods, but years of planning are sometimes required to achieve the desired results. Very few landowners are pleased with a privet jungle or a sweet gum thicket which can occur without proper planning.

However, with proper planning, existing hardwood stands can be improved even if they are in a degraded state. Quality stands can be improved to increase productivity of the desired species, and mature stands can be prepared for natural regeneration.

Managing hardwoods is not for the casual land manager. It requires a determination and dedication to learning new things about soils, site selection, species composition, and new timber stand improvement practices. This is a hard decision to make, but if you make it, you will probably not regret it.

Example of a quality cherrybark oak with a straight bole and good form.



FORTY YEARS OF "SNL"

Saturday Night Live vs. Southern Nostalgic Logging

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

sually in this column, I try to relate what is in the present with what may happen in the future. However, in this article I want to talk about the past and what is happening now dealing with forestry in general, not just hardwoods or BMPs.

My wife and I were watching the 40-year celebration of *Saturday Night Live* the other night, and it brought back some fond memories of my early career. As a fresh forestry graduate of Auburn University in the mid-1970s, rooming in downtown Tuscaloosa with a friend who was in law school, we began to

watch a new comedy show — "Saturday Night Live." There were folks on there we had never heard of: Dan Aykroyd, John Belushi, Chevy Case, Steve Martin, as well as many others. Like a few of my fellow forester friends, some have passed on, some have retired. Most of the rest of us have become a little heavier around the waist, with graying or no hair. I fit three out of those five.

Logging in the 1970s consisted of a less complicated world, except for inventory and quotas; that never changes. Markets consisted of pine sawtimber, hardwood sawtimber, and the king: pine pulpwood. This pine pulpwood was hauled as "shortwood," not tree length. We really had some producers that could test the mill scales – if they weighed. Some folks were still stick-scaling the wood. Many foresters today cannot imagine dealing with that.

Most pulpwood crews consisted of a twoman operation, a bobtail truck with a big-stick loader, a power saw or two, and even a pint of gin on Friday. They would handcut and stack the wood, drive the truck close enough for the cable to reach, and repeat until they filled the truck. Some were even hand loading at that time.

Today's operations are all mechanized and the average startup cost is between \$1 to 1.5 million. Most operations today do not have a single person on the ground. My! How things have changed!

I also remember, before I graduated, picking green pine cones off of felled wolf trees to be sold, dried, and seed collected for newly established seed orchards.

Where are we today? "USDA moving toward less oversight, regulation regarding new genetically-engineered trees." (*The e-Forester*, an online publication of the Society of American Foresters, February 20, 2015) The U.S. Department of Agriculture has given the go-ahead to ArborGen to start intro-

ducing a genetically-engineered (GE) pine tree it has developed. I am assuming this is the new denser-wood pine because they already have advanced seed orchard stock; elite seed orchard stock; mass control pollinated stock; as well as mass control pollinated advanced, elite, and clonal stock.

What happened to simplicity? Open grown or 1st cycle (generation)? Things get complicated, but markets make you wonder. Pine pulpwood was king, then came chip and saw; hardwood pulpwood utilization was non-existent. I have a good friend (yes, I do have at least one) who owns several acres of land and asked

me just the other day, "Would you have ever believed that a naturally-grown sweetgum would bring more stumpage than a 23-year-old intensively-managed pine?" How do you answer that? How are we to project the future? All we can do is look at the past.

Not only has the size of land ownership also changed with more much smaller acreages, but attitudes have changed today as well. Auburn used to teach pine economics – specifically loblolly pine. Now we have longleaf pine and shortleaf pine incentives to re-establish lost ecosystems.

Landowners now want big deer, lots of turkeys, and a big bass lake. Good timber management will get you the deer and turkey, but you better consult the U. S. Army Corps of Engineers about that bass lake. Squeezing every penny out of the timber is no longer the

penny out of the timber is no longer the main driving force behind owning land. I guess that is why pure forestry schools are falling to the wayside, being replaced by "natural resource management" schools. For over 40 years, I've actually thought that was my trade.

In fact, we all do have a common goal . . . to be good stewards of God's creation. I know very few that intentionally destroy what we try to manage; however, we are continually besieged by lawsuits and extremists.

In the 1970s, forestry and forest products helped carry Alabama's economy. Today, forestry and forest products are still contributing \$11.2 billion in sales to the state's economy. Alabama has 22.9 million acres of timberland, the third most in the U.S. We have 650 forest products manufacturing companies and 46,800 Alabamians directly employed in the forest industry. Can we afford to lose this economic engine? I hope someone can say 40 years from now, "No, we did not lose the fight."



Jim Jeter with Jake, mid 1970s.

You May Need a Permit for This

Water Quality in Alabama and Assorted Topics of Interest

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

ave you ever heard of the acronym MS4 . . . Municipal Separate Storm Sewer System? What in the world is this, and why does it involve me as a landowner?

Polluted stormwater runoff is commonly transported through Municipal Separate Storm Sewer Systems (MS4s), from which it is often discharged untreated into local water bodies. To prevent harmful pollutants from being washed or dumped into an MS4, operators must obtain an NPDES (National Pollutant Discharge Elimination System) permit and develop a stormwater management program.

Phase I, issued in 1990, requires medium and large cities – or certain counties with populations of 100,000 or more – to obtain NPDES permit coverage for their stormwater discharges.

Phase II, issued in 1999, requires regulated small MS4s in urbanized areas to obtain NPDES permit coverage for their stormwater discharges, as well as small MS4s outside the urbanized areas that are designated by the permitting authority, the Alabama Department of Environmental Management (ADEM).

Usually, Phase I MS4s are covered by individual permits, and Phase II MS4s are covered by a general permit. Each regulated MS4 is required to develop and implement a stormwater management program (SWMP) to reduce the contamination of stormwater runoff and prohibit illicit discharges.

One of the main control measures is "Construction Site Runoff Control." How does this affect the private forest owner and logging? ADEM rules require some specific silvicultural-related activities/operations to obtain permit coverage.

Additionally, normal silvicultural timber harvesting (logging) conducted in advance of, or in support of, a planned construction activity is regulated as a pre-construction activity that requires permit coverage prior to timber harvesting commencing. Timber harvesting sites and small construction stormwater sites that do not implement and maintain appropriate, effective best management practices (BMPs) to treat/control pollutant discharges (thereby resulting in unpermitted discharges of pollutants) are in violation of ADEM regulations and/or the Alabama Water Pollution Control Act, regardless of specific permit coverage requirements/exemptions.

Construction, as defined, means any land disturbance or discharges of pollutants associated with, or the result of: building; excavation; land clearing; grubbing; placement of fill; grading; blasting; reclamation; areas in which construction materials are stored in association with a land disturbance, or handled above ground; and other associated areas including, but not limited to, construction site vehicle parking, equipment or supply storage areas, material stockpiles, temporary office areas, and access roads. Construction also means significant pre-construction land

disturbance activities performed in support, or in advance, of NPDES construction activity including, but not limited to, land clearing, dewatering, and geological testing.

This is of particular interest if your land is located within the boundaries of an MS4. The NPDES-implementing regulations reference that certain normal silvicultural practices are not required to obtain NPDES permit coverage provided that (1) they are normal silvicultural practices, (2) the practices do not cause or contribute to a violation of water quality standards, (3) the discharges do not constitute a significant discharge of pollutants, and (4) effective best management practices (BMPs) are implemented and maintained to prevent/minimize pollutant discharges (see the AFC publication Alabama's BMPs for Forestry manual).

As you can see, water quality protection is not voluntary; it is the law. The practices you choose to implement water quality protection are for you to voluntarily choose between.

If you are implementing silvicultural practices within an MS4, you may be asked to prove your activity is part of a normal, ongoing silvicultural activity – not construction – to keep from having to obtain an NPDES permit. This can also apply outside of an MS4 area.

And another permit for that . . .

Do you own timberland that is adjacent to a state highway/right-of-way (ROW)? If so, did you know that if you need to access your property with a new entrance such as a new logging road, and you are entering from the state highway and crossing the state ROW, you need to get a permit from the state department of transportation (ALDOT)? Do you also know where the property line for the state ROW is located? Do not assume that the entire ROW has been cleared! (You know what ASSUME stands for.)

The reason I bring this to your attention is the fact that I have received numerous calls from logging crews that were told that they needed to stop working to obtain a permit – which usually takes several days. The entrance must be of a specific design and in a safe location. I also know of a couple instances where ALDOT timber was harvested by mistake and restitution is being sought. If you are not sure about your particular situation, please consult your area ALDOT office/engineer.

If I have completely confused you on either of these topics, please call me at (205) 333-1590, ext. 19, or write to me with your questions at James.Jeter@forestry.alabama.gov or the AFC's Northwest Regional Office, 8135 McFarland Boulevard, Northport 35476.

Sources: water.epa.gov/polwaste/npdes/stormwater/Municipal-Separate-Storm-Sewer-System-MS4-Main-Page.cfm www.adem.state.al.us/alEnviroRegLaws/default.cnt

WHY PROTECT RESOURCESP

By Dr. Patrick O'Neil, Geological Survey of Alabama

Reprinted with permission from the North River Watershed Project Courtesy of Black Warrior Clean Water Partnership, Cawaco RC&D

ith increasing population growth and associated water needs in Alabama, as well as the region's susceptibility to extreme drought events, there exists a real possibility in the future of depleting surface and groundwater supplies if they are not managed in a holistic and reasonable way. Depletion of water resources has major implications beyond fulfilling the needs for humans.

Protection of water resources for the long term is much like saving for retirement; it takes a sustained effort of saving, investing, and managing to acquire sufficient financial resources to retire adequately. Securing water resources, both quality and quantity, is no different. Investment of time, action, and resources to maintain and improve current water resources assures water for the future. Good stewardship, through (1) reducing pollution, (2) using water efficiently for agricultural, commercial, and

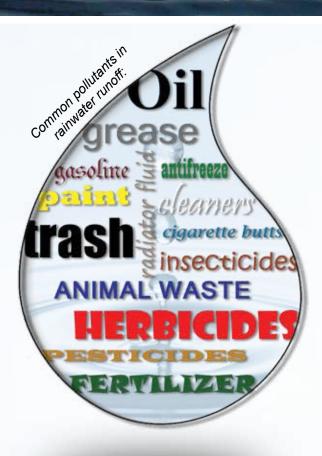
domestic purposes, and (3) assuring that aquatic habitat is sufficient to sustain fish and wildlife, passes on a reliable water resource to future generations.

Management of water resources is best accomplished holistically across an entire watershed or drainage basin due to the complex relationship of natural and human processes and activities that impact each other, in some cases from a great distance. This includes both land and water resources, since land use can have significant impacts on water resources and related ecosystems.

In the final analysis, it is up to us as individuals to do our part to assure that water resources are managed properly through our individual and collective actions locally, in industrial processes, on the farm, in our timberlands, and in our communities.

Oftentimes people pollute water and don't know they are doing it. Here are some things you can do to help:

- Wash the family car on the lawn, not on the road or driveway.
- Perform regular maintenance on your car.
- Never dump anything down the storm drain! It is meant only for rainwater.
- Only use the amount of fertilizer and pesticides recommended by the manufacturer.
- · Don't litter!
- Maintain your septic system.
- · Don't pour grease down the drain.
- · Use drought-tolerant plants for landscaping.
- Use water wisely, and encourage others to do the same. This will conserve water, as well as the size of the water bill!



Goal of the North River Watershed Project: Improvement of water quality for the benefit of drinking water, habitat, recreation and commercial uses and avoid over-regulation through proactive activities.

For information about the North River Watershed, events, volunteer opportunities, or other ways to help,

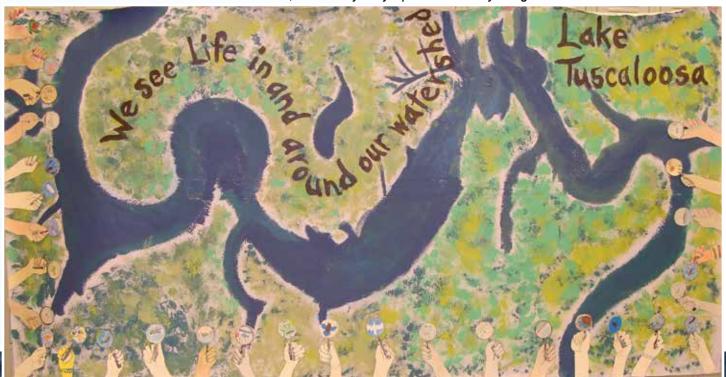
- visit www.northriverwatershed.org
- Send an email to northriverwatershed@hotmail.com
- Or write to
 North River Watershed Project
 c/o Cawaco RC&D
 2112 11th Avenue South, Suite 541
 Birmingham, AL 35205

Visit Cawaco Resource, Conservation & Development Council (RC&D) at **www.cawaco.org**

Clean Water Partnership

Visit the Alabama Clean Water Partnership at www.cleanwaterpartnership.org

Mural of the North River Watershed, created by Holy Spirit Elementary 4th grade class in 2013.







By Johnnie Everitt, Colbert County Forestry Management Specialist, Alabama Forestry Commission

or those of us living in the 1960s and '70s, the count-down, "ten . . . nine . . . eight . . . seven . . . six . . . five . . . four . . . three . . . two . . . one . . . Houston, we have lift-off," will always remind us of the United States of America's Apollo Space Program. Who among us was not in awe of the towering Saturn V rockets which were engineered and tested at Marshall Space Flight Center in Huntsville, Alabama, propelling men into space with a moon-landing objective? Television pictures were as not clear in those days as they are today. Rabbit ears and roof-top antennas were no match for today's cable or satellite systems. Fortunately, we had Walter Cronkite with CBS News describing what was going on as the rockets climbed into the sky.

The Apollo program lasted a little over a decade. In that time, the U.S. launched several successful Apollo missions, but the program was not without its trials and tribulations. During a practice launch on Apollo 1, a fire tragically resulted in the loss of three astronauts' lives. A second incident was depicted by the movie Apollo 13, where the mission to the moon was aborted in order to safely bring the crew home following an explosion in space. The cost of space exploration was high. However, the benefits – ranging from scientific breakthroughs to national pride – are still with us today.

In fact, one unusual experiment involved pairing North American Space Administration (NASA) with the United States Forest Service (USFS), through a former forest firefighter named Stuart Roosa. Born August 16, 1933, in Durango, Colorado, Roosa grew up in Claremore, Oklahoma. As a young man in the early 1950s, he took a job with the U.S. Forest Service as a "smoke jumper" based in Oregon, parachuting into wildfires to put them out. Roosa never forgot his roots in forestry or the U.S. Forest Service when he later graduated college, joined the U.S. Air Force, and earned his pilot's wings. His flight experience and aeronautical engineering background led him to become a test pilot at Edwards Air Force Base, California. Made famous by the movie The Right Stuff, this base produced many of our nation's first astronauts. Joining NASA's elite corps of astronauts in 1966, Roosa would remain with NASA and the U.S. Air Force until his retirement in 1976 at the rank of colonel. During his career, he made one space flight on Apollo 14 and was backup command pilot for Apollo 16 and 17. It was on the Apollo 14 mission that forest history was made.

On January 31, 1971, Apollo 14 lifted off the ground from Kennedy Space Center in Florida for a scheduled landing on the moon. On board for what would be our country's historic third

(Continued on page 18)

America's Moon Trees

(Continued from page 17)

lunar landing were astronauts Stuart Roosa, Alan Shepard, Jr., and Edgar Mitchell. Traveling in space along with these three men were 400 to 500 tree seeds, carried by Roosa through his continued connections with Ed Cliff, Chief of the U.S. Forest Service. The objective was to see if weightlessness would affect successful seed germination. FSFS geneticist Stan Krugman was placed in charge of this project, and his team chose various types of seeds for the experiment including loblolly pine, American sycamore, sweetgum, redwood, and Douglas fir.

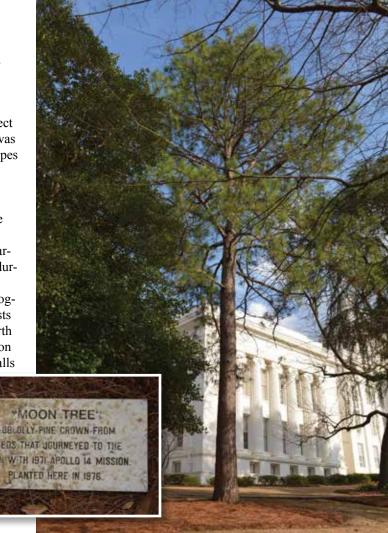
Five days after liftoff, Commander Shepard and Lunar Module Pilot Mitchell successfully landed on the moon, while Command Module Pilot Roosa orbited the moon 34 times in command and service module "Kitty Hawk" with the seeds carried in his personal kit. Several mission objectives were met during the flight in addition to the U.S. Forest Service project, including collecting moon rock samples, high resolution photography, and moon surface mapping. It was said that the scientists on the ground were as excited about the seeds returning to earth as they were moon rocks! A side note: this was also the mission in which Commander Alan Shepard, Jr. hit a couple of golf balls

prior to leaving the moon surface. Apollo 14 splashed down in the Pacific Ocean on February 9, 1971, completing its ten-day mission.

Upon splashdown back on earth, the seeds were returned to the U.S. Forest Service. Krugman sent them to USFS stations for germination in Gulfport, Mississippi, and Placerville, California. Surprisingly, a majority of the seeds successfully

germinated. In fact, in comparison to their earthbound seed counterparts, no major differences were

noted. A sampling of the trees was checked 20 years later with



This Moon Tree, a loblolly pine, stands on the west grounds of the Alabama State Capitol building in Montgomery.

no major growth or survival differences. Once germinated, these seedlings became known as the "Moon Trees."

The majority of the Moon Trees were given to several state forestry agencies for tree planting ceremonies in 1975 and 1976 as part of our country's bicentennial celebration.

Colonel Roosa was on hand to help plant the first Moon Tree in Washington Square in Philadelphia,

Pennsylvania. Several other trees of varying species were planted throughout the United States at places of historic significance, including a loblolly pine at the White House in Washington, D.C. Moon Trees were also given to other countries such as Japan, Switzerland, and Brazil as good will gestures.

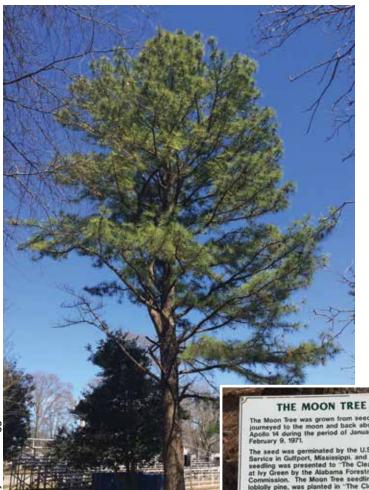
On a personal note, while my family was on vacation a couple of years ago, we visited Old Washington Historic State Park in Washington, Arkansas. A guide giving a group tour of the park came across a rather large loblolly pine tree and asked if anyone knew its particular significance. Much to our surprise, the kids answered that it was a Moon Tree. The tour guide congratulated them, saying that was the first time anyone correctly answered the question. As a registered forester, I was proud. As parents, we were happy to see that they had actually

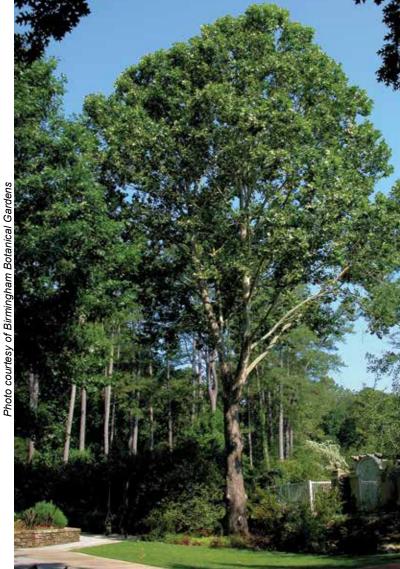


paid attention to another Moon Tree seen in Alabama on an earlier outing.

Records indicate that several Moon Trees were planted in our state during 1976 with the assistance of the Alabama Forestry Commission: seven loblolly pines and seven American sycamore trees. Today, the only three surviving pines trees are located at Ivy Green in Tuscumbia, the Alabama State Capitol building in Montgomery, and the Pioneer Museum of Alabama in Troy. The last known surviving American sycamore is in Birmingham at the Botanical Gardens. A clone of this tree was presented to Huntsville Botanical Gardens two years ago by Henry Hughes, Director of Education with Birmingham Botanical Gardens. Each of the remaining trees has a plaque giving a brief history of the famous tree.

One problem with the Moon Tree project was in the record-keeping area. It appears that no one really kept a complete list of where the original seedlings went. Perhaps the best records have been compiled by Dr. Dave Williams, a curator at NASA's Goddard Space Flight Center in Greenbelt, Maryland. Dr. Williams is asking for the public's assistance in tracking down whereabouts of these trees. If you are interested in this project and happen to know the location of an unlisted original Moon Tree, a second generation "Half-Moon Tree," or a cloned Moon Tree, Dr. Williams would like to hear from you. Send him an online message from either of these websites: nssdc.gsfc.nasa.gov/planetary/lunar/moon_tree.html or science.nasa.gov/science-news/science-at-nasa/2002/13aug moontrees/





Above: The lone surviving hardwood Moon Tree in Alabama, an American sycamore, is located at the Birmingham Botanical Gardens.

In conclusion, these trees serve as a reminder of our nation's resolve to carry out President John F. Kennedy's desire to put a man on the moon. They stand as a testament to the men and women who worked on the Apollo program – including my father, a former NASA engineer, as well as some of our very own TREASURE Forest landowners. Unfortunately, Colonel Roosa passed away in 1994. In an interview conducted in 2003, his son, Jack Roosa, stated, "I think my father always knew these trees would serve as a long-lasting, living reminder of mankind's greatest achievement – the manned missions to the moon."

Do yourself a favor while time permits and visit one of Alabama's lesser known treasures, our state's Moon Trees. Over 40 years old now, a few of these trees have already succumbed to weather and disease-related problems. It is certainly a trip

worth taking. After all, how many people can say they have actually seen and touched a living space voyager?

The author would like to thank Patsy Thompson for her assistance in researching this article.

Left: Another loblolly pine Moon Tree can be found at Ivy Green, the birthplace of Helen Keller, in Tuscumbia.



Is that an Eagle I See?

By Carrie Threadgill, Nongame Wildlife Biologist
Wildlife and Freshwater Fisheries Division, Alabama Department of Conservation and Natural Resources

wenty years ago, if someone were to tell me they saw an eagle in Alabama, I would have guessed that it was probably just a vulture. Now, when someone tells me they saw an eagle in the winter, I ask them, "Which species?" While we have an increasing number of bald eagles year-round across the state, we are actually discovering a small wintering population of golden eagles in Alabama as well.

The story of the bald eagle recovery is one of the greatest wildlife success stories to date. In the 1950s and '60s, the well-known pesticide DDT caused eggshell thinning, devastating bald eagle numbers. Shells became so thin that they would not hatch, or would



break when adult birds would sit to incubate them. After DDT was banned in 1972, eagles began to rebound slowly, but still could not be found breeding in Alabama.

By 1984, the Alabama Division of Wildlife and Freshwater Fisheries (WFF) began a "hacking" program with juvenile eagles at six different locations in the state, with the hope that they would establish nesting territories. Hacking involves releasing the young birds at towers in certain locations to imprint them, so they will return to those areas to breed as adults. During a seven-year period, 91 juvenile eagles were released resulting in increased nesting activity in Alabama. Thanks to the success of this program, eagles can



This golden eagle was captured, banded, and measured as part of a research study.

viewing after seeing both in flight and learning the differences in coloration.

Because eagle populations are doing so well, WFF does not conduct an annual statewide survey of eagle nests. However, if you have information or questions about nesting eagles or sightings of golden eagles, please contact Nongame Wildlife Biologist Carrie Threadgill at carrie.threadgill@dcnr.alabama.gov or (334) 242-3469.

During the winter, it is possible to see both golden and bald eagles . . . while it is most likely a bald eagle, either way, spotting an eagle in Alabama is always a treat!

now be found nesting across the state. Most often, bald eagles are seen along large bodies of water, such as lakes and rivers, but it is not uncommon to observe them soaring over open land or nesting away from water as well.

Although bald eagles (*Haliaeetus leucocephalus*) are now a common sight year-round, people may not realize that we also have golden eagles in Alabama during the winter months. Golden eagles (*Aquila chrysaetos*) tend to be more secretive than bald eagles, making it harder to locate those birds. More of a forest species, they stay closer to the forest and are often found near ridge tops in forested areas. In the western United States, a substantial golden eagle population is already in existence. New evidence suggests that a separate eastern population breeds in eastern Canada and winters along the Appalachian Mountains and down into Alabama.

To gain a better knowledge about this separate eastern population of golden eagles, WFF has been conducting winter camera surveys through a collaborative effort with other agencies in 15 eastern states. Over the last few years, we have photographed numerous golden eagles in north Alabama and gained valuable information. Also, five adult birds have been trapped and radio transmitters attached to them to find out where they breed and migrate. Through these camera surveys and radio tracking, we hope to learn more about golden eagles so that we can manage public lands to provide wintering habitat for them, as well as all species found in the state.

WFF often receives calls about possible golden eagle sightings. They usually turn out to be immature bald eagles, as most people do not realize that it takes five years for bald eagles to obtain the distinct white head and tail. Immature bald eagles are mostly dark brown overall with white mottling under their wings, and they have thick black bills. They are often confused with golden eagles, but lack the distinct gold nape. Adult golden eagles do not have any white on the undersides of wings, while juveniles have two distinct, small white patches visible when seen soaring overhead. While confusing the two birds is understandable, it is easier to distinguish which kind of eagle you are





By Chas Moore, Wildlife Biologist,
Wildlife and Freshwater Fisheries Division, Alabama Department of Conservation and Natural Resources

lanting for wildlife is often seen as simply planting a green field with cool-season crops – such as wheat, oats, and clover – in the fall just prior to the opening of deer season. These plots are easy to plant and maintain, and do a great job of easing the stresses of food shortages after the fall mast is essentially gone. They also serve as great areas for attracting wildlife for harvest opportunities during hunting season. However, these plots typically do very little to aid in the overall growth and development of wildlife on a given property.

In the South, the most stressful time of the year for most wildlife is the hot, dry period of late summer through early fall. This also is when many species are actively growing, raising young, and most in need of the benefits of good nutrition. Availability of quality native browse is limited this time of year on most properties, especially areas dominated by closed canopy forests.

Landowners and wildlife managers interested in minimizing the negative impacts of these seasonal highs and lows in food availability and quality should focus their efforts on management of the native food plants. Well-managed pine stands, which are adequately thinned and burned on a three- to five-year rotation, provide great forage and nesting opportunities for many species. Bottomland hardwood forests should be protected from fire and maintained for mast production in the fall and winter months. Less desirable trees within these stands, such as maple, yellow poplar, sweetgum, and unproductive oaks, can be removed to

allow more sunlight to reach the forest floor. Removing this competing vegetation frees up resources for the more desirable trees in the stand and increases the site's potential for browse production.

Besides forested stands, a very important component to consider when managing wildlife habitat is wildlife openings. For deer and turkey management, having at least one to five percent of a property's total acreage in wildlife openings should be a goal. The openings should be well distributed on the property and can be managed to increase available natural forage and plant diversity by disking, mowing, and burning, or they can be planted with agricultural crops as part of an overall habitat management plan.

Wildlife openings planted with warm-season crops can provide high-quality forage during the most stressful and beneficial period of summer. Many of the commonly planted warm-season crops can last through early fall, which can provide hunting opportunities as well. However, planting and maintaining warm-season crops often presents several hurdles and challenges that cool-season crops do not.

In most areas of the Southeast, especially where deer numbers are high, openings of less than 3 acres should not be planted with warm-season crops. Deer will overbrowse the crops before they are able to produce enough forage or seed to justify the expense of planting. Most warm-season crops are used by a variety of

game species, such as deer, turkey, dove, quail, and rabbits, as well as a host of non-game species. Planting at least one 3- to 5-acre plot per 100 to 200 acres of total acreage should provide a significant amount of supplemental forage and/or seed production.

The following table can be used as a warm-season crop-planting guide for several wildlife species. Soil from all areas to be planted should be tested well before planting. The recommended levels of lime and fertilizer should be applied according to the test results. Sites should also be well-tilled prior to planting.

Another issue not often encountered with cool-season plantings that usually needs addressing in warm-season plantings is weed and grass competition. Using the right herbicide or combination of herbicides before and after planting can resolve most problems with unwanted weeds and grasses. A selective herbicide should be used for specific crops unless you are planting some of the *Roundup Ready*® crops. A non-specific herbicide, such as glyphosate, can be applied over the field prior to planting

to eliminate some unwanted weeds and grasses. Allow all vegetation to brown before tilling the opening. This post-planting application can help to some degree, but it will not address the grass and weed seeds still present in the soil. Utilizing an appropriate pre-emergent herbicide before or immediately after planting can be very effective at combating the unwanted grass and weed seeds that have not germinated. This will allow the crop to get a jump-start over the competition, but may not be all that is needed.

If weeds and grasses are still a problem after the crops are established, a selective herbicide may be needed. A grass-specific herbicide, such as sethoxydim or clethodim, can eliminate most grasses in non-grass crops, such as soybeans, lablab, and sunflowers. They should never be used on fields planted with millets, sorghum, or corn. These crops are species of grass and these herbicides will kill them. For these crops, several broadleaf specific herbicides are available to control weed competition. When using any herbicide, carefully follow all labeling instructions.

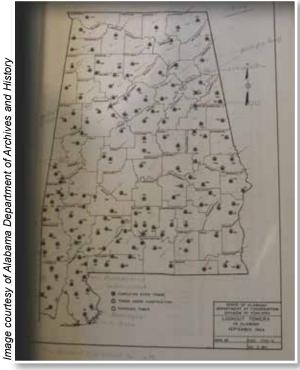
Warm-Season Crop Planting Guide

Species	Crop	Planting Dates	Seeding Rates	Planting Depth
	aoyymana	May 1 - July 15	Broadcast = 45 lbs./acre	1 in.
White-tailed Deer	cowpeas	May 1 - July 13	Drill = 15 lbs./acre	1 111,
	lablab	April 20 - June 30	Broadcast = 20 lbs./acre Drill = 10 lbs./acre	1 in.
	soybeans	April 20 - June 30	Broadcast = 60 lbs./acre Drill = 30 lbs./acre	1 in.
Wild Turkeys	chufa	May 1 - June 30	Broadcast = 40 lbs./acre Drill = 25 lbs./acre	1 in.
	corn	March 15 - May 1	Broadcast = 15 lbs./acre Drill = 12 lbs./acre	1 in.
Mourning Doves –	browntop millet	April 1 - August 15	Broadcast = 25 lbs./acre Drill = 15 lbs./acre	½ in.
	proso millet	May 1 - June 15	Broadcast = 30 lbs./acre Drill = 15 lbs./acre	⅓ in.
	sunflowers	April 1 - June 30	Broadcast = 15 lbs./acre Drill = 4 lbs./acre	½ in.
	grain sorghum	April 15 - June 30	Broadcast = 15 lbs./acre Drill = 8 lbs./acre	½ in.

Keeping It at 100

By Thomas Kaufmann, Architectural and Historic Preservationist

labama is very blessed to still have a plentiful roster of existing forest observation towers within our domain, otherwise known as lookout towers, lookouts, or fire towers. A survey of the total tally of standing lookout towers in each of the 50 states across the U.S. will reveal a varying number per state. Until fairly recently there was one state which had either none, or only one, but a lookout was erected so it could join the ranks of other states which have them.



This 1964 Alabama Lookout Tower Map depicts not only completed towers, but also towers under construction and proposed sites of future towers across the state.

It appears that Alabama, once the proud possessor of more than 200 lookouts statewide at one time, currently has around half of that number left standing today. Most of those towers are in need of repairs and rehabilitation for sustained performance and use.

A look back in time will reveal that each county in Alabama had at least one of these grand sentinels keeping watch over the state's forests and timberlands, with some counties having more, creating those incredible and efficient 'triangulated watch zones' for fire protection – an ingenious use of geometry overlaid upon the landscape for the maximum public safety and land protection benefit.

Today, modern surveillance methods have practically replaced the old 'Towerman' system, yet the towers themselves remain as icons of a bygone, nostalgic 'golden era' of Alabama's state and federal forest service. Without a doubt, they are, and always will be, an immediate symbol of our state and national forests, rivaled only by Smokey Bear.

In seeking answers for what to do with these wonderful structures – so very critical to the historical narrative of our state forests and forestry service – discouragement, anxiety, and fear quickly set in, due to the ominous threat of legal liability in our time. The simple liability-avoidance method is to totally dismantle a lookout altogether, leaving only the foundation below grade. Yet this method is expensive to undertake, as is commonly reported.

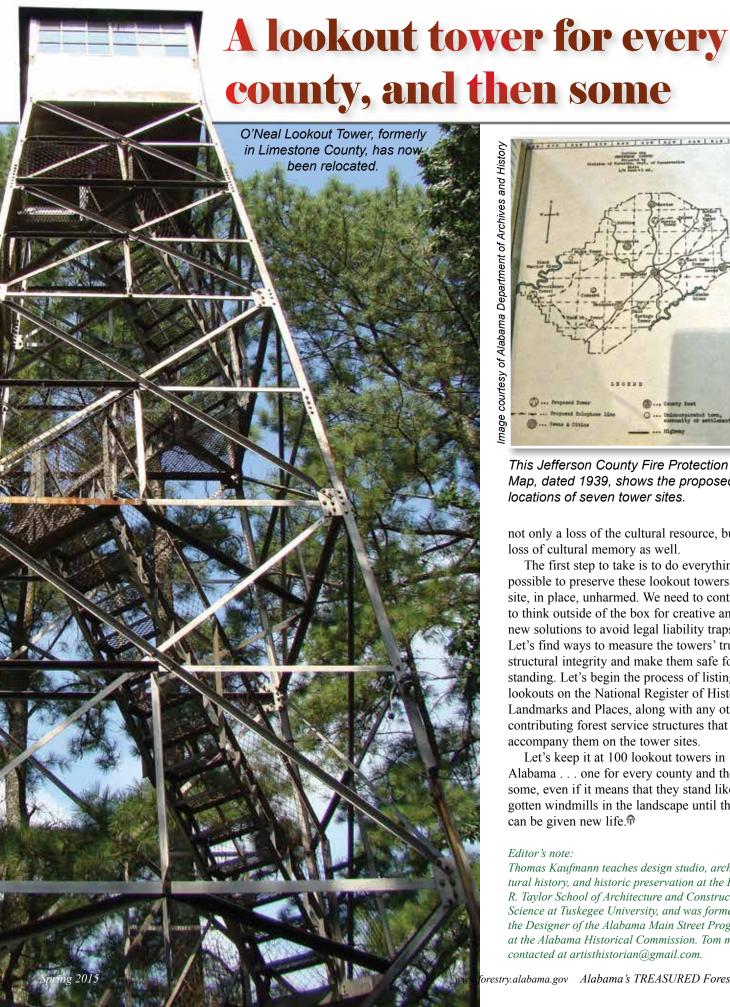
The regretful thought afterwards always seems to be one of remorse among those who remember the lookout. Reports of gladness for a tower being taken down appear to be rare to non-existent among tower-site community members, and the public-at-large. Still, the nagging issue of legal liability remains. What's to be done?

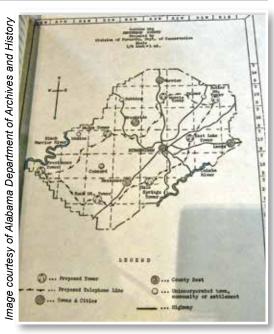
One very positive action, which has already been achieved in a few instances, is making the firetowers available for sale for new uses in new locations within the state of Alabama and beyond. This may seem like the best course of action to take, as the tower is taken down with care, refurbished, and recrected in a different location for a new use. In fact, the lookout towers were originally designed for 'relocation,' so this is in keeping with a basic premise of the structures' intrinsic concept.

Next to preserving a lookout tower in its original setting, saving it intact for adaptive re-use in new locations is highly commendable, and would be considered the next 'best practices' step in the school of historic preservation thought. The ideas for adaptive re-uses for lookout towers are unlimited.

Still, there is a downside to this type of initiative, which is that our state's fire protection history goes away with the relocated tower. In the event that a county's lone lookout tower is sold and relocated, the largest contributor to the area's forest service history is gone forever. These lookouts are not being manufactured anymore, so the loss of the history is dual in terms of replacing the original article. It is







This Jefferson County Fire Protection Map, dated 1939, shows the proposed locations of seven tower sites.

not only a loss of the cultural resource, but a loss of cultural memory as well.

The first step to take is to do everything possible to preserve these lookout towers onsite, in place, unharmed. We need to continue to think outside of the box for creative and new solutions to avoid legal liability traps. Let's find ways to measure the towers' true structural integrity and make them safe for standing. Let's begin the process of listing the lookouts on the National Register of Historic Landmarks and Places, along with any other contributing forest service structures that accompany them on the tower sites.

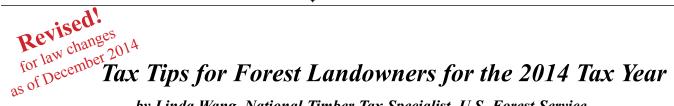
Let's keep it at 100 lookout towers in Alabama . . . one for every county and then some, even if it means that they stand like forgotten windmills in the landscape until they can be given new life.

Editor's note:

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. Tom may be contacted at artisthistorian@gmail.com.







by Linda Wang, National Timber Tax Specialist, U.S. Forest Service

ax laws on timber transactions are very specialized knowledge that are not commonly known. Yet they are important to timber owners in terms of the ongoing cost of owning and managing timber, forest stewardship and compliance to the tax law. This bulletin reviews the major federal income tax laws to help forest owners in filing their 2014 income tax returns. The information presented here is current as of September 30, 2014.

Timber Property

There are three basic types of timber ownerships: investment, business, or personal-use property. The tax rules vary considerably with each classification. For each tax year, you must determine your woodland property's tax classification based on your purpose of ownership, your use, and activities on the property.

Timber property held for an *income-producing* purpose may be an investment; it may rise to a business if you regularly and continuously engage in the timber activity to make a profit. Legal entities such as LLC, sole proprietor, partnership, corporation (S or C corporations), estate, or trust may own the property. It is a good practice to document your profit motive in a written forest management plan. You must *materially participate* in a business in order to avoid the restrictions on loss deductions *(passive loss rules)*. If your primary purpose of owning the property is personal use (vs. profit making), the property is personal use property, which is subject to limitations on deductions.

Example 1: A woodland owner grows timber for profit and documents the income production in her forest management plan. She claims the property as investment property and deducts qualified expenses on Schedule A, subject to 2 percent adjusted gross income limitation. (As a contrast, expenses are fully deductible for materially participating business owners.)

Timber Basis and Depletion

Timber basis may be deducted from timber sales, which reduces the tax due on the sales. If you purchased the timber property, the timber basis is the amount you paid for it. If you inherited the property, the basis of timber is its fair market value (FMV) on the decedent's date of death. If you receive the timber as a gift, the timber basis is the lower of its FMV or the donor's basis.

Example 2: You inherited forest land on June 1, 2010. Your consulting forester gave you a professional estimate on the fair market value of the timber on June 1, 2010. The timber was valued to be \$32,000 (\$27,000 pine sawtimber, \$3,000 pine pulpwood, and \$2,000 hardwood pulpwood), which is your timber basis.

If you didn't establish the basis at the time of acquisition, a consulting forester can determine it retroactively, but you should weigh the cost of doing so against the potential tax savings.

Dividing your timber basis by the total volume of timber gives you the *depletion unit*; multiplying it by the units of timber sold gives you the depletion amount.

Example 3: You sold 300 MBF of sawtimber, out of a total of 1,000 MBF on your property, for \$250 per MBF. The total basis of your 1,000 MBF of sawtimber was \$40,000. The depletion unit is therefore \$40 (\$40,000 / 1,000 MBF) and the depletion is \$12,000 (\$40 / MBF x 300 MBF). You can deduct \$12,000 from your sale proceeds of \$75,000 (\$250 / MBF x 300 MBF).

Timber Sales

Sale of standing timber. Sale of investment timber "on the stump" generally is taxed as capital gains. If you hold the investment timber for more than one year before the sale, the sale qualifies for long-term capital gain, which is taxed at advantageous lower tax rates than ordinary income. Sale of inherited timber is considered long term. Report the sale of standing timber held as an investment on Form 8949 and Schedule D.

To be eligible for long-term capital gains (Sec. 1231 gains) for sale of timber held in business, you must own the timber for more than one year in the business. Both outright sales and payas-cut sales of standing timber by a timber business qualify after the timber has been held for more than one year. Report the sale of standing timber held for business use on Form 4797 and Schedule D. If you sell timber outright in a business, you also are required to file Form T unless you only have an occasional timber sale (see below).

Example 4: You sold your standing timber that you inherited for \$9,000. The timber is an investment property for you. You paid \$1,900 in hiring a consulting forester and legal fees (writing the sale contract). Assuming a depletion deduction of \$1,330, your net long-term capital gain is \$5,770 (\$9,000 - \$1,900 - \$1,330).

Sale of products cut from timber held for use in a business. If you cut your own timber or have it cut by a contractor working at your direction, either for sale or for use in your business, the gains are ordinary income unless you elect to use sec. 631(a) on Form T, Part II.

Example 5: You paid a contractor \$2,000 to cut standing timber held for business use for over one year into logs, and sold the cut logs to a mill for \$30,000. The FMV of the standing timber was \$23,000 on Jan. 1 and your basis in it was \$1,000. If you elect to use sec. 631(a) on Form T, report

a \$22,000 long-term capital gain (\$23,000 - \$1,000) on Form 4797 and Schedule D, and \$5,000 of ordinary income (\$30,000 - \$23,000 - \$2,000) on Schedule C. If you fail to make the election, all \$27,000 is ordinary income.

On top of the capital gain tax, for taxpayers meeting income threshold, an additional **3.8 percent tax** on net investment income applies to investment timber sales and passive business timber sales, effective January 1, 2013. This 3.8 percent tax, enacted as part of the 2010 healthcare reform law, applies *only* to single taxpayers with adjusted gross income ("AGI") over \$200,000 or couples with over \$250,000 AGI.

Example 6: You sold your investment timber for a gain of \$30,000. Your adjusted gross income is \$230,000 and you file as single taxpayer. Because your income is above the \$200,000 individual threshold, the \$30,000 capital gains are subject to the 3.8 percent tax, in addition to the long-term capital gain tax.

Installment Sales

An installment sale involves receiving one or more payments after the year of sale, allowing you to defer tax by spreading your gain over two or more years. Interest is charged on deferred payments.

Example 7: You sold timber for \$10,000 (\$8,000 after deducting timber depletion and sale expenses) in 2013. The buyer paid you \$5,000 in 2013 and will pay the remaining \$5,000, plus interest, in 2014. Your gross profit percentage is 80 percent ($$8,000 \div $10,000$). Report a \$4,000 gain for 2013 ($$5,000 \times 80\%$), using Form 6252.

Timber Management Expenses

If you hold your forest land to grow timber for profit, you can deduct ordinary and necessary timber management expenses, such as the cost to protect the timber from insects, disease, or fire; control brush; do a pre-commercial thinning or mid-rotation fertilization; or maintain firebreaks. If you qualify as an investor, deduct these expenses on Schedule A, where they are subject to a 2 percent of adjusted gross income reduction; if you qualify as a material participant in a business, deduct them on Schedule C.

Reforestation Costs

All taxpayers, except trusts, may deduct up to \$10,000 (\$5,000 for married couples filing separately) per year of reforestation costs per *qualified timber property* (QTP). Qualifying costs include the direct costs to establish or reestablish a stand of timber by planting, seeding, or natural regeneration. Any amount over \$10,000 per year per QTP may be deducted over 84 months *(amortized)*.

Example 8: You spent \$17,000 to reforest after a harvest. Deduct \$10,000, plus 1/14th of the remaining \$7,000 (\$500) on your 2014 tax return. Deduct 1/7th of the \$7,000 (\$1,000) on your returns for 2015–2020 and the last 1/14th (\$500) on your 2021 return. If you qualify as an investor, take the \$10,000 deduction as an adjustment to gross income on the front of Form 1040; if you hold your forest land for business use, take it on Schedule C. Elect to amortize and take amortization deductions on Form 4562, Part VI.

Depreciation and Sec. 179 Expensing

You may depreciate capital expenditures, such as for logging equipment, bridges, culverts, fences, temporary roads, or the surfaces of permanent roads over a set number of years. For example, light-duty trucks and logging equipment are depreciated over five years. If you hold your forest land for business use, you may expense up to \$500,000 in qualifying property (generally tangible personal property) in 2014, subject to a \$2 million phase-out and business taxable income limitation (sec. 179 expensing). In addition, a 50-percent additional depreciation deduction is allowed for qualified property ("bonus depreciation") in 2014.

Cost-share Payments on Form 1099-G

If you receive a cost-share payment from a qualified government program, you may exclude part or all of the payment from your income if the cost-share is used in capital expenditure. Qualified federal programs include the Forest Health Protection Program (for southern pine beetle and mountain pine beetle), Conservation Reserve Program, Environmental Quality Incentives Program, Wildlife Habitat Incentives Program, and Wetlands Reserve Program (discontinued Feb. 7, 2014).

Several state programs also qualify for exclusion. The excludable amount is the *present value* of the greater of \$2.50 per acre or 10 percent of the average annual income from the affected acres over the last three years. You cannot exclude part or all of a cost-share payment from your income and also claim a deduction for the expense reimbursed by the payment.

Example 9: You received a \$3,900 cost-share payment from the Conservation Reserve Program and used it as capital expenditure for your 100-acre woodland. If you had no income from the property in the last three years, you could exclude up to \$4,725 ((\$2.50 x 100 acres) \div 5.29%). The interest rate is from the Farm Credit System Bank. If you had \$6,600 of income from the property, you could exclude the entire payment: $(10\% x (\$6,600 \div 3)) \div 5.29\% = \$4,158 > \$4,000$. Attach a statement to your tax return describing the program and your calculations.

Timber Casualty and Theft Losses

Loss of timber from a casualty — a sudden, unexpected, and unusual event such as a fire or severe storm — may be deductible from your taxes. The deduction is the *lesser* of the decrease in FMV caused by the casualty or your basis in the timber block (the area you use to keep track of your basis). Similarly, a theft loss deduction is limited to the *lesser* of the decrease in FMV or your basis in the stolen timber. A competent appraisal usually is required.

Filing Form T (Timber)

You must file Form T (Timber), Forest Activities Schedule, if you claim a timber depletion deduction, sell cut products in a business (under sec. 631(a)), or sell outright timber held for business use. There is an exception for owners who only have an occasional timber sale, defined as one or two sales every three or four years.

USDA is an equal opportunity provider and employer.

In Their Own Words: Letters to the AFC

To Bullock County AFC Union Springs, Alabama:

We were fortunate enough to have the Alabama Forestry Commission come to our "Summer Reading" entertainment and teaching program. We wish to thank them for their investment in our children learning about fire safety. We had 15 adults and 45 children.

Francis Brown Director, Bullock County Library Union Springs, Alabama

To Greg Pate Montgomery, Alabama:

I want to share appreciation on behalf of the Clay County Forestry Planning Committee for the assistance that Nick Jordan and Josh Benefield have given the Committee with our Forest Resources Auto Tour plus other events and programs. They had a major role in coordinating the Arbor Day Seedling Giveaway event. They also assisted with our self-directed Forest Resources Auto Tour when they GPSed locations for the signs, then obtained and installed the signs.

We appreciate the Alabama Forestry commission's shared interest in continued forest management and improving/enhancing opportunities for landowners and local residents.

Sincerely, Norphlet McCollum President, Clay County Forestry Planning Committee Lineville, Alabama

To Greg Pate Montgomery, Alabama:

I wanted to send you a quick note to thank you for allowing your employees to help us on our recent Commodity Tour in North Alabama. We could not have had a successful trip without their help. As you know they were instrumental in rounding up four trailers to move people around Mr. Jack McQuinn's property in Jackson County.

As it turns out, even though Jack had hosted tours with large busses before, our drivers did not feel they could safely get the busses down the driveway to his property. So, without the trailers we would have had to make a mile walk to get to the beginning of the tour. Then, it started pouring rain and without the trailers we would have been stuck making a mile trek out of the woods, in the rain.

However, despite the weather, our people really enjoyed the tour and getting to see a portion of Jack's property. It's a beautiful place. If your travels take you through the Paint Rock Valley in Jackson County, I urge you to schedule a visit to see his place.

The AFC employees [listed] below went out of their way to help make our tour possible and enjoyable. I want to personally thank you for allowing their participation and thank them for their willingness to help out on the tour. They did a great job.

David Kelly, Tallapoosa County
Robert Ellington, Coosa County
Blake Kelley, Coosa County
James Yarbrough, Tallapoosa County
Jeff Keener, DeKalb County
Lynn Washington, Jackson County

I look forward to a strong partnership between the Alabama Forestry Commission and the Alabama Farmers Federation. If we can ever be of assistance, please don't hesitate to give me a call. Thanks again for all of your help.

> Sincerely, Rick Oates Alabama Farmers Federation Montgomery, Alabama

To Ken Leslie Semmes, Alabama: THANKS, THANKS, THANKS!!!

On behalf of the Mobile Police Department-community Services Section, we would like to "Thank You" for your participation in our 31st Annual National Night Out that was held at the Bel Air Mall.

You helped make this event a huge success with over 200 people attending. National Night Out (www. nationalnightout.org) is an annual event held on the first Tuesday of August, so please mark your calendar to assist next year, if possible.

Again, we are truly grateful and if there is anything the Mobile Police Department-Community Services Section can assist you with, please do not hesitate to contact

Sincerely, Officer Gary Owens Chairperson, National Night Out Mobile Police Department Mobile, Alabama

To Brad Lang
Northport, Alabama:

Just a word of thanks for the excellent work of Brad Fite and Jim Junkin. Not only did they perform their work in an excellent manner, they were very courteous and helpful.

Our property has been in our family four or five generations and has never had any professional management. The land, other than row crops, was simply known as the woods. In the late 90s we began clear cutting and replanting. After about 15 years, we realized the land was slowing getting in the condition as before.

We contacted Jim and Brad through AFC. In the spring of 2014 they performed a controlled burn on approximately 30 acres of longleaf pines. It is amazing the amount of underbrush it destroyed. Now you can walk through the area with no problem.

Not only did Jim and Brad perform excellent and professional work in the field, they also provided my brother and me with a "Stewardship Management Plan" that will be beneficial to our families hopefully for the next four generations.

Thanks again to AFC and Jim and Brad.
Joe Leatherwood
Lewis Leatherwod
Northport, Alabama

(Continued on page 31)

UAH celebrates



By Diana LaChance | UAH

Reprinted with permission of the University of Alabama in Huntsville

he University of Alabama in Huntsville (UAH) celebrated receiving Tree Campus USA® recognition on October 1 with a short ceremony that included James Bolte, President of Toyota Manufacturing, Alabama, Inc.; Jen Svendsen, Tree Campus USA Project Manager for the Arbor Day Foundation; Denise Taylor, Coordinator of Huntsville's Operation Green Team; and Clifford Hawkins, [Alabama Forestry Commission] Coordinator of the state's Urban & Community Forestry Program, who presented a recognition plaque to UAH President Dr. Robert Altenkirch. The event was a component of the Tree Campus USA program, which is funded by Toyota and administered by the non-profit Arbor Day Foundation.

In his remarks to the audience, Dr. Altenkirch noted the university's ongoing commitment to sustainability through a variety of initiatives. "UAH has a rich tree canopy that we work to enhance annually," he said. "The effort is part of our overall efforts in sustainability from LEED [Leadership in Energy and Environmental Design] certification to developing pedestrianfriendly pathways such as the greenway to the campus bike-sharing

Celebrating

program. Many of these efforts are coordinated through Chargers for Sustainability, a network of organizations and individuals at UAH focused on bettering campus sustainability."

The occasion was also marked by the donation of 26 trees to the university from Toyota and the Arbor Foundation, all of which were planted along the university's greenway following the ceremony. Bolte offered his "sincere congratulations" along with the trees, and praised UAH for its achievements. "We are inspired by the success of your dedicated efforts to actively engage students in tree-related sustainability initiatives, such as your campus forest cleanup day and seedling giveaway held last spring in celebration of Arbor Day," he said, adding that Toyota was "delighted to partner with the Arbor Day Foundation on the Tree Campus USA program in worthy support of the next generation of environmental leaders."

Launched in 2008 by the Arbor Day Foundation and supported by a generous grant from Toyota, Tree Campus USA is a national program that honors colleges and universities and their leaders for promoting healthy trees and engaging students and

staff in the spirit of conservation. Five core standards for sustainable campus forestry must be met in return for recognition: a tree advisory committee, a campus tree-care plan, dedicated annual expenditures to their campus tree program, an Arbor Day observance and student service-learning projects.

Currently, 237 schools in 44 states, Washington D.C., and Puerto Rico meet these criteria. And each year, the Arbor Day Foundation and Toyota sponsor tree plantings to support forward-thinking sustainable campus communities. "Students throughout the country are looking for opportunities to give back to their campus community and become better stewards of the environment," said Matt Harris, chief executive of the Arbor Day Foundation.

"Tree Campus USA gives students that chance and sets a terrific example for other colleges and universities."

Haley Hix, UAH's Sustainability Coordinator, agrees, adding that the 26 trees planted at today's ceremony will undoubtedly bolster the university's commitment going forward. "These trees will serve as a means of offsetting our greenhouse gas emissions and will help us meet our goal of reaching 6 percent campus tree canopy coverage by 2015," she says. "But just as important, they are a reminder to our students and community that we are investing in a sustainable future."

Photos by Kimberly Fuller | UAH

MEMORIAIS

Samuel Mark Wylie, Jr. 1924-2014



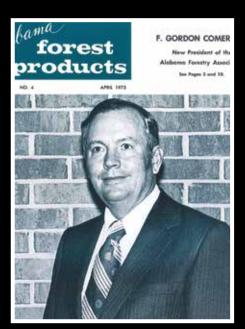
andolph County TREASURE Forest landowner, Samuel Mark Wylie, Jr. passed away on December 23, 2014 at the age of 90. A native of Camp Hill, Alabama, Sam moved to Randolph County as a child with his family when his father started a lumber company in 1927, the S.M. Wylie Company. Following service to his country in the U.S. Army during World War II in the European theatre, Mr.

Wylie came home, met and married his wife, Leonette. Both graduated from Alabama Polytechnic Institute (Auburn University) in 1950. Serving as president of the S. M. Wylie Company, Mr. Wylie became a leader in the forestry industry. After retiring from the family lumber business, his forestry interests continued with a Christmas tree farm and participation in the TREASURE Forest Association. Mr. Wylie was also a charter member of the Randolph County Forestry Planning Committee which was established back in the early 1980s. His property was awarded TREASURE Forest status in December 2000 (certification number 1712). Sam Wylie was a mentor to numerous young people over his career by providing summer and Saturday jobs. Many high school students planted trees during the winter which now cover Randolph County and are over 30 years old.



Photos courtesy of Jan Wylie Plagens

F. Gordon Comer, Jr. 1922-2015



lay County TREASURE Forest landowner, Gordon Comer, Jr. passed away on January 18, 2015, in Sylacauga, Alabama, at the age of 92. A graduate of Anniston High School, Mr. Comer served in the U.S. Army during the occupation of Japan under General Douglas MacArthur in World War II. Following service to his country, he received his Bachelor of Science and Master of Science degrees in Forestry from Colorado State University in Fort Collins, Colorado. Upon graduation, he returned to Alabama and was employed for 38 years

he returned to Alabama and was employed for 38 years by what became the Kimberly Clark Corporation's Coosa Pines Division, retiring as Vice President of Woodlands Operations in 1988. Mr. Comer owned tree farms in Clay, Tallapoosa, Coosa, and Baldwin counties in Alabama. He hosted the Colorado State University forestry camp for many years and advocated the planting of longleaf pine. In addition to serving on the Alabama Forestry Commission, he also served as President of the Alabama Forestry Association. Mr. Comer's contributions to the forest industry were widely recognized and acclaimed. His accomplishments included being inducted into the Alabama Forester Hall of Fame in 1983, and being named Colorado State University's Honor Alumnus in 1985.

Photos courtesy of Thomas Comer



Letters to the AFC

(Continued from page 28)

To James Jeter Northport, Alabama:

I just read the article in the summer edition of Alabama's TREASURED Forests magazine. Good article.

I just wanted to say thanks for carrying the torch to woodland landowners. These folks are the answer to the majority of resource concerns we have in Alabama including water quality and quantity. We have got to find more ways to engage our private landowners or we are destined to fail as conservationists.

Eric Spadgenske State Coordinator, Partners for Fish and Wildlife US Fish & Wildlife Service Daphne, Alabama

To Alabama Forestry Commission (Baldwin County office),

Thank you so much for attending the 2014 Annual Safety Kids Workshop at the Home Depot. We all really appreciate everything your department does for our community. You are the BEST!! The kids really love to see Smokey too.

Chellee Burns, Kids Workshop Captain & Angela Mullek, Project Specialist The Home Depot Foley, Alabama

To James Jeter Northport, Alabama:

Just read your article in Alabama's TREASURED Forests on BMPs and it was excellent, as usual. You may have missed your calling – a writer.

Ed Cain TREASURE Forest landowner, Greene and Shelby counties

To Jake Brown Grove Hill, Alabama:

I want to thank you for the excellent manner in which you prepared our timber management plan. You were excellent to work with and I appreciate the outcome so much. As we discussed, since we started on the plan, the co-owner and

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I have decided to attempt to divide the property so that each of us would have single ownership. We are in the process of working on that. When we reach a resolution, I will let you know what it is and will plan to sign for certification of my ownership at that time.

Thank you again for your help.

John P. ("Pat") Kelly Clarke County

To Greg Pate Montgomery, Alabama:

I had the opportunity to work alongside Steve McEachron and Chris Brewer at a private landowner's property last week. The experience was educational and enjoyable. Their interaction with the landowner was first class and she demonstrated trust and confidence in their recommendations. All the best,

> Chris Erwin American Forest Foundation Wetumpka, Alabama

To Jim Jeter Northport, Alabama:

Thanks so much for taking time out of your schedule on a Saturday to speak at the Alabama Loggers Council Annual Meeting in Prattville. You have certainly earned the respect of the guys – they listen to what you have to say and hopefully take action! Thanks for ALL of the many ways you Promote and Protect Forestry in Alabama, Jim! Let me know if I can ever

be helpful to you! Thanks,

> Ashley Smith Alabama Forestry Association Montgomery, Alabama

To Jim Jeter Northport, Alabama:

Thank you for taking the time to travel and speak at our PLM course. As always, you did a great job making BMPs interesting and relevant to your audience. Technical difficulties with the Powerpoint couldn't even slow you down. Thanks again and please let me know if I can ever do anything for you.

Tyler Brannon International Paper Prattville, Alabama

To Greg Pate Montgomery, Alabama:

I want to thank you and your organization for the assistance in planning the future use of my forest property. I especially want to thank Dan Green for his personal assistance in the comprehensive planning of my property. The management plan he provided will be of great use to me as I continue to develop my forest lands.

Again, I want to thank you and your department for the help.

Peter Wood Mentone, Alabama



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(Quercus virginiana)

By Fred Nation, Environmental Services, Baldwin County

ur regal, enormous live oaks are familiar, beloved emblems of the American South. Superlatives abound: they can become huge, among the most massive native plants east of the Mississippi River. According to the formula used by the Alabama Forestry Commission to determine champion trees, a live oak in Mobile, which is 82 feet tall, with a trunk circumference of 30 feet and a crown spread of 136 feet, is the largest of Alabama's 146 state champion trees.

Along with yellow pines, live oaks are also among our most historic Southern trees, with dozens of important uses that began with the earliest prehistoric Americans.

A cold-limited, Southern species, live oak is native from southeastern Virginia, along the Atlantic coast, through Florida and the central Gulf coast, into coastal and central Texas. When planted much north of its native range, cold damage can occur.

Live oaks are certainly distinctive. When they occur as large, solitary trees, particularly on open, sandy sites, they are impressive landmarks. Typically the trunks are short and they can become immense, with thick, dark brown, deeply furrowed bark. The crowns are broad, spreading and rounded. The enormous limbs often sweep downward and then arch upward near the tips. Even the evergreen leaves are interesting and unusual. Dark green, to about 4 inches long and 2 inches wide, they are shiny on top, pale gray-green below, with tiny grayish, star-shaped hairs. The leaves are thick, stiff, and brittle, prone to break if bent, and they are somewhat "boat-shaped," with the margins turned downward.

Oaks fall into two groups: the white oaks that produce acorns in one growing season, and the red oak group that ripens fruit over two years. White oaks typically produce acorns with less tannin, and they are therefore less bitter than acorns produced by red oak species. Live oak trees are in the relatively palatable white oak group, and since prehistoric times their acorns have been gathered and used as a nutritious food staple. The acorns are shiny, dark brown, about one inch long, rather slender, with

the scaly cup enclosing one-third or more of the nut. Live oaks produce large acorn "mast" crops during the fall, which provide an important food source for many mammals and birds.

Historic uses of live oak are numerous and well-documented. The tannin-rich bark was frequently used as a tanning agent for deer hides and as a mordant for dying fabrics; Louisiana's Houma Indians made a tea from the inner bark to treat dysentery; leaf and stem galls from live oaks and other oak species were mashed and mixed with iron sulfate or iron filings to make blue-black "gallotannic ink," widely used in eighteenth and nineteenth century documents, including the Constitution of the United States!

In the days of fighting sail, our stately live oaks had a distinguished career in the fledgling American Navy. The wood, which is heavy and immensely strong, with an irregular grain, was in great demand for hull planking and framing members for warships. The USS *Constitution* was built with a 24-inch triple-layered hull made of white oak with a live oak core. In 1812, during an engagement with the British warship HMS *Guerriere*, 18-pound cannonballs bounced off Constitution's hull, and a British sailor was heard to exclaim, "Her sides are made of iron!" Not iron . . . "Old Ironsides" was built with good, strong Southern live oak!

