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The Alabama TREASURE Forest Association is dedicated to promoting good forest stewardship, educating others about responsible forest management and improving the forests of our state and nation. These lands are managed for many resources, including wildlife habitat, pine and hardwood timber, clean water, recreation opportunities and beautiful scenery. When utilizing a multiple-use management strategy, all of the benefits a forest provides are enhanced.

We are passionate about making our land better for the next generation. In a very real way, the future of Alabama's forests rests in the hands of landowners and like-minded individuals who support good forest stewardship. You can be a part of that effort. Purchase an "I'd rather be in the woods!" tag and support education and outreach efforts to raise awareness about the wonderful possibilities of sustainable land management.





A Publication of the Alabama Forestry Commission

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On the Cover:
Barred owl
perches in a
pine tree.
Photo by Joe Watts

This publication is provided at no charge to the forest landowners of Alabama, with a circulation of approximately 13,000. Published four times each year, the magazine is filled with forestry information and technical assistance designed to assist landowners in making informed decisions about the management practices they apply to their land. Articles and photographs are contributed by AFC employees and other forestry or natural resources professionals.

Alabama's TREASURED Forests magazine is also available on-line! www.forestry.alabama.gov







Good**FIRES**www.goodfires.org/



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The publication of a story or article in this magazine does not constitute the Alabama Forestry Commission's endorsement of that particular practice, product, or company, but is an effort to provide forest landowners of Alabama with information and technical assistance to make informed decisions about the management practices they apply to their land.

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#### Message from the STATE FORESTER

elcome to our 40th anniversary issue of *Alabama's TREASURED Forests* magazine! This Fall 2022 edition marks 40 years of publication – providing landowners with forest management advice and stewardship principles. Hope you will enjoy reading the enclosed stories about Alabama's forest landowners who not only protect our water resources, wildlife, and biodiversity, but also utilize prescribed fire in their pine forests. We're also happy to report the following good news from Ray Metzler, our Certified Wildlife Biologist/Threatened & Endangered Species Specialist . . .

The U.S. Fish and Wildlife Service announced its ruling regarding the listing status of the gopher tortoise on October 12. The portion of the range west of the Tombigbee and Mobile rivers was classified as a Distinct Population Segment (DPS) and will remain "threatened," continuing



Rick Oates, State Forester

to receive protection under the Endangered Species Act. However, tortoises east of these rivers in Alabama were *not* afforded protection under the Endangered Species Act and were removed from the list of candidate species. All tortoises in Alabama receive protection through a state regulation that makes it illegal to possess, take, capture, or kill a gopher tortoise.

Alabama's forestry and natural resources community (including many private land-owners that read this magazine) worked collaboratively to improve habitat, as well as survey gopher tortoise populations on public and private lands for inclusion in the species status assessment. The Alabama Forestry Commission (AFC) and other agency partners were aware of private landowner concerns regarding engagement in threatened or endangered species habitat/survey work because of the fear associated with increased government oversight. The AFC appreciates the cooperation and assistance of Alabama's private forest landowners who actively engaged in tortoise management and survey efforts. The outcome of the listing process may have been different without your cooperation and assistance. A quick google search of "gopher tortoise listing decision" will lead you to a great deal of information regarding the process and decisions.

Highlights of the decision include a) establishment of five analysis units (see map); b) tortoises east of the rivers in Alabama are in Unit 2; c) declines in local populations (smaller acreages with limited populations) in all units are expected in the foresee-

able future; and d) landscape populations within Unit 2 (larger acreages with good populations and habitat) are expected to increase in abundance.

Private forest landowners are encouraged to continue habitat management work, especially longleaf pine restoration and prescribed burning, even though the ruling was to not list the tortoise throughout the Eastern DPS. Additionally, please continue to minimize heavy equipment use within a 13-foot radius of burrows to minimize potential collapse and entombment. AFC staff members are available to assist you in your forest and habitat management efforts.



Approximately 93 percent of Alabama's forestland is privately owned and home to a long list of candidate species for future listing consideration. Needless to say, future listing processes for other species will require private landowners to stay informed and actively engaged! We believe the forestry and natural resources communities benefitted greatly from the collaborative efforts utilized during the gopher tortoise listing process. Hopefully these combined efforts will be utilized in the future and have similar positive results.

Governor Kay Ivev

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The Alabama Forestry Commission supports the Alabama Natural Resources Council's TREASURE Forest program. Alabama's TREASURED Forests magazine, published by the Alabama Forestry Commission, is intended to further encourage participation in and acceptance of this program by landowners in the state, offering valuable insight on forest management according to TREASURE Forest principles. TREASURE is an acronym that stands for Timber, Recreation, Environment, and Aesthetics for a Sustained Usable REsource.

## Civing the Orean Revisiting the Pounders of Franklin County

By Coleen Vansant | Communications & Public Relations Manager | Alabama Forestry Commission

very time I leave a landowner's place after doing an interview for the magazine feature story, many things run through my mind as I drive – things that were said, things I saw, tiny things that really stood out or impressed me. I do this because that's how I learned to pick out my lead when I was training to be a journalist – what one thing stood out the most?

For twins Jeff and Joel Pounders of Franklin County, deciding what stands out most was very easy. It's their enthusiasm! Enthusiasm, passion, excitement, whatever you choose to call it, that's the thing that sweeps over you when you talk to them about their land.

#### Beginning of a Dream

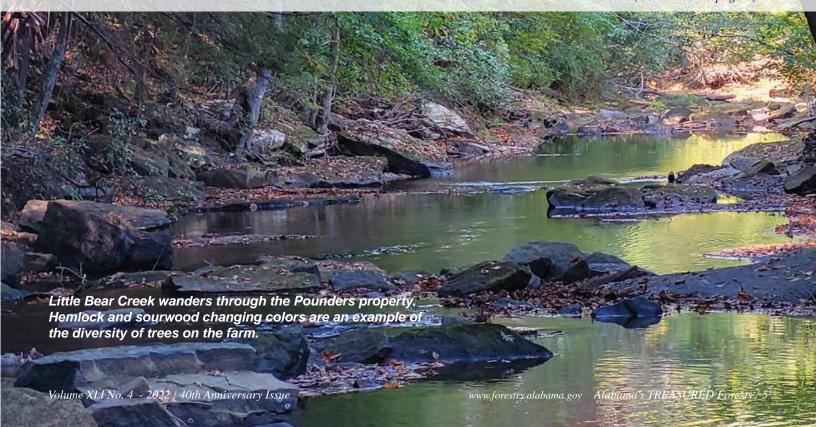
You have to go back a few decades to find where their story begins. The brothers laugh as they reminisce about their child-hood spent roaming the beautiful Little Bear Valley near the Spruce Pine community south of Russellville, Alabama. The youngsters loved the outdoors, and the valley provided everything that inquisitive little boys needed to entertain themselves.

There was Little Bear Creek to splash and wade through, fields to romp across, and hardwood hills to climb. But there was a small problem – their family didn't own the property and the owner kept running them off!

The pair loved the place so much that they told the owner if he ever got ready to sell the property, they wanted to buy it. The man had chuckled at the boys. Years passed and they had forgotten about that conversation until he contacted them in 1997 and asked if they still wanted to purchase his farm.

After being turned down for a loan by five banks, they felt their dream slipping away. Many people in agriculture were getting out of the business or losing their farms during that time. Jeff and Joel were young men just starting out and the banks didn't think they were a good risk. One loan officer asked them why they wanted to take the risk of buying 20 acres. Joel replied, "We couldn't live with ourselves if we weren't willing to try." When another asked why they wanted to purchase this particular 20 acres which was mostly rocks and steep hills, Jeff said, "If you flatten it all out, it's like a thousand."

(Continued on page 6)







### Riving the Tream

(Continued from page 5)

Finally, at the sixth bank, their luck changed when a friend put in a good word, and their loan was approved for those first 20 acres. Over the years, they made other land purchases and were even able to reclaim some family property that their father and grandfather had owned. Today the brothers own and manage approximately 360 acres.

#### Managing for Wildlife

The Pounders' primary forest management objectives are wildlife and biodiversity. Everything they do centers on achieving these goals. Timber is their next objective, managed primarily to enhance their wildlife goal. They have 180 acres of old growth hardwood and 120 acres of what they call "intensively managed pine monoculture." Pines are planted only on the ridges, with stands ranging from seedlings to 24 years of age. On one 33-acre stand, they are in their third cutting. The pines provide deer, turkey, and other wildlife species a habitat necessary to thrive. Different age stands provide many benefits to wildlife including thermal cover (bedding areas) for deer and turkey, as well as safe cover for raising turkey poults.

Establishing and supporting both quality and quantity of game wildlife has always been their top priority, with timber planting and harvests, food plots, and other practices enhancing the population on Pounders Farm. For turkey and other wildlife, native plant species are allowed to grow, along with supplemental planting of oats, clover, chufa, and millet over the years.

Through extensive planning and a lot of hard work, they now harvest 10-12 deer a year, taking five or six of both bucks and does. They harvest only mature white-tails and no bucks under three and a half years. Their turkey harvest is dependent on the reproductive success, but they generally harvest four to six mature birds.

The quality and quantity of both deer and turkey now allow them to host paid hunts on the farm. Jeff and Joel smile as they recall their dad thinking they were crazy for paying \$1,100 an acre for their first 20 acres of rugged, rough property. Then, years later when they told him they were hosting a paid hunt, he nearly choked on a sip of drink he had just taken when he learned they were charging \$2,500!

With cost-share assistance, the Pounders built a shallow water pond, or artificial wetland, that is drained every spring. This has brought many wildlife benefits, including habitat for wood ducks and visits from mallards. In the spring, turkeys also take advantage of the drained pond to forage for insects.

The pair's success with wildlife management has gained them recognition in hunting and fishing circles. The National Wild Turkey Federation has featured Pounders Farm as the setting for both turkey and deer hunting episodes, and Bass Pro Shops "Outdoor World" traveled there for a native stream fishing segment. They've also done television shows on species diversity and conservation.

#### **Managing for Diversity**

With both brothers holding degrees in environmental biology from the University of North Alabama, diversity of plants and animals on their farm is very important to them and a major objective. The existence of a variety of non-game species of wildlife is as important as the game species. "We're big on game, but we're equally as big on non-game," stressed Joel.

At times you can see both golden and bald eagles, swallow tail kites, and river otter play in the creek. They've identified more than 30 species of trees on their place, including individual and small groves of beautiful hemlock. The farm is home to 100 different species of mushroom, and because of this diversity has been included in the Alabama Mushroom Society's newsletter. According to the twins, this diversity of species was not there when they were boys, so it is rewarding to see their efforts pay off.

Little Bear Creek runs all the way through the cove and is the focal point of the farm. Preserving the integrity of this stream is very important to the Pounders. Streamside Management Zones (SMZs) are maintained, and Best Management Practices (BMPs) are applied to all activities on the property to preserve water quality. Diversity is abundant in the creek with many species of small fish including banded, rainbow, and redline darters. When a group



of researchers came to study the cove, they caught a hellbender salamander in the clear waters of the stream.

As young boys and now grown men, the two have enjoyed the creek. Both raised their children on its banks. Joel now has the third generation in his young grandson, and it won't be long until Pawpaw and Uncle Jeff have him fishing and playing in the creek.

#### **Rich in History**

The Pounders' farm is located in a valley rich with local history. It was the original site of the Spruce Pine community, and an old wagon road that led to the settlement is still in use. Over the years they have found a large collection of artifacts, everything from broken bits of miscellaneous pottery to arrowheads. Hidden for thousands of years, primitive tools have been discovered by the brothers inside rock shelters – evidence that this peaceful valley had been a home and refuge to others. There is also a Native American burial mound on the property as well as the lonely grave of an early settler, designated only by a rough hand-hewn marker that reads "Josh Hill – 1814."

Preserving the historical, cultural, and natural heritage of the property is a high priority to both men. Everything they do is carefully planned and development is kept to an absolute minimum.

#### **Conservation Ethic**

The hard work that the Pounders have put into their farm hasn't gone unnoticed. They earned their TREASURE Forest certification in 2000, just three short years after purchasing their first tract of land, and they are a certified Tree Farm. In 2003 they were honored with the Alabama Wildlife Federation's 'Conservationists of the Year Award' and in 2005 were awarded the Helene Mosley Memorial TREASURE Forest award.

Recently I had the wonderful opportunity to sit on the front porch of the rustic cabin they built themselves on a small knoll overlooking Little Bear Creek and listen to the brothers talk about the farm, their conservation ethic, and their shared love of the land. Both are big fans of Aldo Leopold, and each can recite quotes from his book, *A Sand Country Almanac*, as easily as they could say their ABCs.

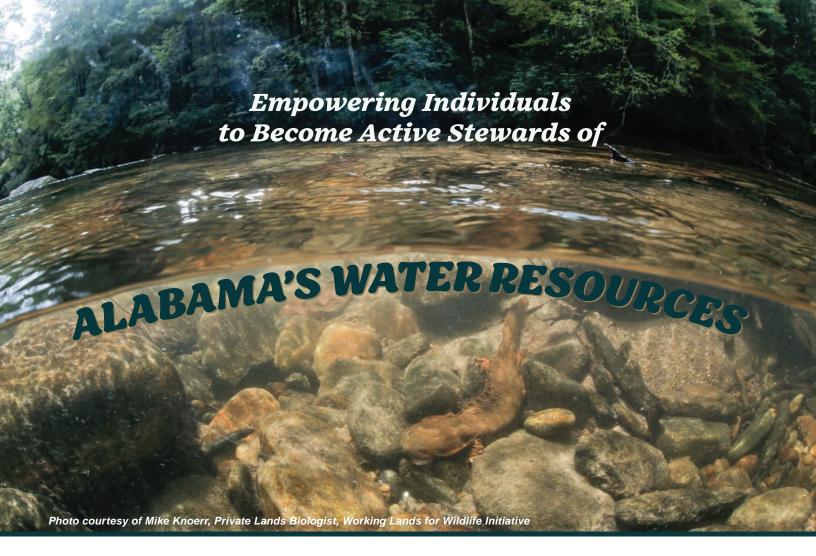
Jeff and Joel both believe it's impossible to put a dollar value on what they receive from this land that they have loved their entire lives. Together they agree that with ownership comes responsibility to care for the land, and they welcome and embrace that concept. They believe in Leopold's philosophy that if you care for and respect the land, it will in turn give back, whether it be aesthetically, financially, spiritually, or in many other ways. They both hold the strong belief that God can clearly be seen in His creation and since He has blessed them with the land of their dreams, it's their responsibility to care for it.



Jeff Pounders, son Ben, and wife Paula sit behind daughters Lily, Maya, and Gracie on the cabin steps.



Joel Pounders and wife Rhonda, with daughter Chloe, son-in-law Isaac, and grandson Koda.



#### By Eve Brantley | PhD., Professor and Director | Auburn University Water Resources Center

labama's forest landowners enjoy the natural ecological functions and benefits that derive from the lands that they own and manage. These benefits are myriad and include water quality enhancement and protection as well as wildlife habitat. Many rural forest landowners also utilize the landscape for sustenance. Below are two programs which may interest Alabama's forest landowners.

#### Alabama Private Well Program

Do you use a private well for drinking water? Did you know that you are responsible for checking for potential water pollution if you use a private well?

It is estimated that 11 percent of Alabama, approximately 500,000 people, rely on private wells for drinking water. The Alabama Private Well Program, developed by the Auburn University Water Resources Center and Alabama Cooperative Extension System (ACES) in partnership with the Alabama Department of Public Health (ADPH) and Geological Survey of Alabama, provides resources to help answer the question, "Do I need to test my water?"

Well water should be tested once a year for coliform and *E. coli* bacteria. Presence of *E. coli* in a water sample is indication that untreated human and animal waste may be entering your well. These bacteria are found in the digestive tracts of people and animals, typically not surviving for long periods of time in the

environment. Pathogens, or disease-causing bacteria and viruses, may cause severe gastrointestinal distress and vomiting. The ADPH offers affordable bacterial water testing. Call your county office for specific information on test kit pick up, drop off, and costs. For more information on taking a sample, visit this step-by-step guide written by ACES and ADPH: https://aub.ie/stepbystep

Nitrate is another important test for private well owners to evaluate annually. Levels of nitrate greater than 10 mg/L can limit the ability of red blood cells to transport oxygen leading to a condition commonly called 'blue baby syndrome.' Nitrate may be introduced to groundwater and wells from fertilizers, animal wastes, and septic systems. Chemical drinking water analyses may be performed by certified laboratories. An interactive map of laboratories that accept private well water samples is available at <a href="https://aub.ie/wellwatertest">https://aub.ie/wellwatertest</a>

The Auburn University Soil, Forage and Water Lab (https://aub.ie/auburnsfw) can provide a screen of 18 parameters including nitrate, pH, and iron. This screen is for informational purposes only and if a concern is suspected, it is suggested to follow up with an EPA certified lab.

For more information on private well maintenance, treatment, common contaminants, groundwater, licensed well drillers, upcoming trainings, and more, visit the Alabama Private Well Program at <a href="https://aub.ie/wellwater">https://aub.ie/wellwater</a> or contact Jessica Curl, Private Well Statewide Coordinator, at <a href="mailto:jcurl@auburn.edu">jcurl@auburn.edu</a>.

#### Working Lands for Wildlife Initiative - Eastern Hellbender: Now in Alabama

If you are lucky enough to have seen an Eastern Hellbender (*Cryptobranchus alleganiensis*, pictured left), then you've seen one of the largest salamanders in North America. This rare salamander, also called mudpuppy and waterdog, has been documented in several Alabama counties in the Tennessee River Basin: Franklin, Colbert, Lauderdale, Limestone, Madison, and Morgan.

Hellbenders are found in clear, fast flowing streams with large rocks that serve as shelter and nesting areas. These amazing creatures may grow to be four or five pounds and two feet long, living as long as 30 years or more. Despite the reputation of chasing away game fish, hellbenders dine on crayfish, salamanders, small fish, and aquatic insects. They may look fearsome, but the hellbender is sensitive to changes in water quality. Increased sediment smothers nesting crevices, eliminating their prey's habitat as well as habitat for their larval life stage. Fortunately, sediment impacts can be reduced, and hellbender habitat improved through strategic implementation of common best management practices.

The USDA Natural Resources Conservation Service (NRCS) in Alabama is a new member of the Working Lands for Wildlife Eastern Hellbender Initiative. Landowners in priority watersheds in Lauderdale and Limestone counties are eligible for Environmental Quality Incentives Program (EQIP) financial assistance to implement practices that are protective of water quality and reduce sediment impacts. These practices include extending or creating streamside management zones (SMZs), streambank stabilization and restoration, cover crops, reduced tillage systems, and livestock exclusion and watering systems.

Are you interested in this program? Contact your local NRCS District Conservationist to learn more about practices and eligibility. Check out this interactive map (https://aub.ie/hellbendermap) that shows regional priority watersheds for the Eastern Hellbender Initiative in Virginia, Tennessee, North Carolina, Georgia, and Alabama.



Alabama Eligible Watersheds: Bluewater Creek, Cypress Creek, Shoal Creek, and Sugar Creek.



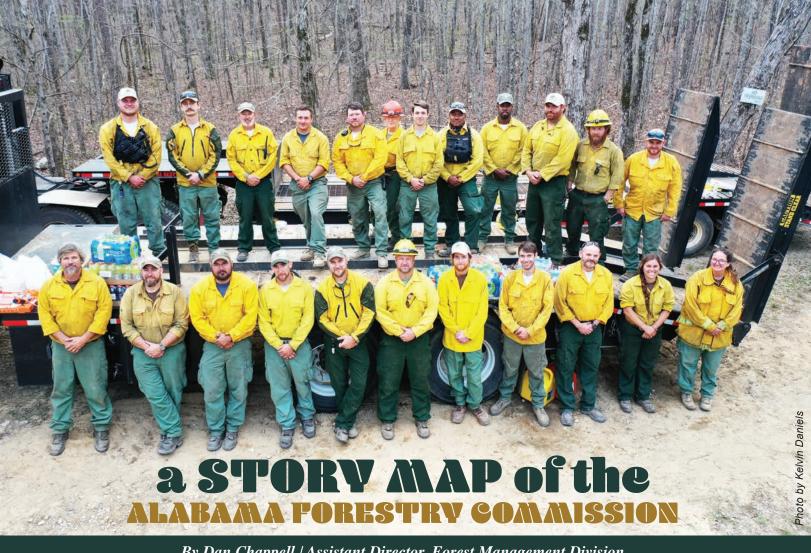
QR Code for interactive map

### GIVING IT YOUR ALL TODAY, DOING IT ALL AGAIN TOMORROW

#### SOME DON'T GET IT, BUT WE DO.

Natural resources sometimes need human resources. That's why since 1916, Alabama Ag Credit has helped timberland owners purchase timber tracts, replant after a harvest, manage their agribusiness, and refinance property. With the financial support for everything from timber processing equipment to general business operations, we can offer you customized long-term or short-term credit options. Call us today about our competitive rates and how our relationship lending can help your timber land business grow.





By Dan Chappell | Assistant Director, Forest Management Division and Abi Dhakal | Geographic Information System (GIS) Manager Alabama Forestry Commission

he Alabama Forestry Commission (AFC) is moving into a new paradigm in terms of sharing its mission and accomplishments relating to forestry. ArcGIS Story Maps is becoming an ever more popular means of digitally publishing information that engages readers in a more meaningful way. The combination of interactive maps, dashboards, multimedia content, and text puts a wealth of information into a web-based application. The tool is designed to hold a person's interest while they explore various elements of AFC activity and gain a full picture of the 'story' of the Alabama Forestry Commission.

The Geographic Information System (GIS) office reached out to AFC staff across the state seeking contributions that showcase how this agency makes Alabama a better place. Wow, did they respond! This story map gives a dynamic account of the AFC's 18 work units using photos, videos, and information collected from work unit managers and forestry specialists from all corners of the state.

To better convey this story, work unit names were developed to replace the work unit numbers which were traditionally used at the AFC. Names such as Mountain Lakes and Tennessee Valley in the northern part of the state, Blackbelt and River Region in the central area of the state, to Coastal and Wiregrass in the

south, all were chosen with an eye toward embodying the state's many unique natural resource characteristics. In a nutshell, these distinctive names make the Commission's story more personal.

As you take the time to explore the story map, you will be drawn in by the large, colorful photographs of presentations being delivered to landowners and videos of mulchers in action. There are also photos and forest stand maps depicting Little River, Geneva, and Choccolocco State Forests. Smokey Bear is there, and so are images of prescribed fires as well as drone footage. There is also a video from Geneva State Forest where a scope is employed to see what is happening deep down inside a gopher tortoise burrow! We won't give anything away, but you might be surprised by what is found in there.

In writing the narrative for the work units, the authors have done their best to share a little bit about what makes each of these areas unique in terms of forest resources and work unit strengths. For example, the story map highlights the North Alabama Metro Work Unit as having an emphasis in urban forestry work in conjunction with traditional forest management activities. Another example would be the Plains Work Unit where the team engages with educational outreach programs and works closely with volunteer fire departments. It also serves as the local liaison to the Auburn University College of Forestry, Wildlife & Environment,

assisting with field laboratory instruction exercises for the students. Each work unit in turn is similarly featured, so by the end of viewing these profiles any reader can feel like they have taken a quick yet highly informative tour of our state as it relates to Alabama's forested landscapes and the work of the Commission.

The AFC's Forestry Academy has also been featured in the Story Map with a panoramic picture of our graduates!

An excellent feature of story maps is that they can be designed to display dynamic information in near real time. In our story map, there is a dashboard that tracks AFC Accomplishments, and these can be filtered in numerous ways, whether you are seeking to learn what projects a work unit's team is most engaged in, or if you are seeking to learn the number of accomplishments being tallied in a specific accomplishment field. Similarly, the Forest Resource Analysis dashboard which is annually updated allows for manipulation of Forest Inventory Analysis (FIA)-supplied data to compare the forest inventory using many metrics and across all work units.

Heat maps for wildfire and southern pine beetle infestation spot occurrence are useful tools for assessing risk based upon location of past incidents, or for probing minds, the ability to look at past year's data to spot changes or trends over time.

Building the story map from the ground up has been no small challenge, and all involved in its creation are now much more knowledgeable because of it. As previously mentioned, an advantage of the story map format is that it can, when properly linked to sources of data and with some technical input, be updated constantly. Photographs, video, and text can be added, edited, and removed as needed. To maximize the use of this tool and the hours of work behind it, the AFC will now begin utilizing this resource as its Annual Report for each fiscal year.

In the past, the agency produced a hard-copy Annual Report that cataloged AFC undertakings and accomplishments each year. Now, that stand-alone Annual Report can be replaced by a QR code linking to the story map. All Accomplishments, such as number of stewardship plans written, or amount of fire breaks constructed, are counted alongside newly updated content such as team photos from events including the Stonegate Fire and Grand Re-Opening of the recently renovated historic Flagg Mountain Fire Tower. Governor Kay Ivey was a keynote speaker at that event, which is certainly a highlight of AFC's story for 2022.

As we move forward, the AFC will continue to tell its story by making the necessary updates as new events occur. The ability to update the story as it is occurring – using heat maps for fire occurrence and dashboards for dynamic accomplishment tracking – will be greatly appreciated by agency leadership and the various program managers, who otherwise invested significant amounts of time and effort in the production of the Annual Report each year. In a gain for efficiency, program managers and others will be spared a great deal of time in assembly of the Annual Report now that the process has been automated.

This exercise has been a great learning tool for exploring an emerging medium for telling a compelling story through many forms of media all at once. There appears to be almost no limit to the possibilities that come with this modern story telling method. Relating the story of natural resources lends itself especially well to the story map format, as bold photos of events and fires display very well on screen. Being able to watch video of a prescribed fire being lit by a torch mounted to an ATV is simply more interesting, captivating, and informative to the reader than a dry presentation of numbers. To its credit, the AFC has not forgotten the number-conscious, with all the figures you could ask for concerning agency activities being both present and filterable.

We encourage all readers of this article to take a few minutes to explore the Alabama Forestry Commission's new Story Map!



After taking a virtual tour of the story map, please let us know what you think. We are eager to hear your thoughts and improve this tool over time so that both internal and external users of the AFC can easily access the story of this agency, communicating it in a way tailored to fit any audience.





## PAIN/ATTHE PUMP

## Soaring Fuel Costs Impact EVERYONE in the Forest Industry

By Coleen Vansant / Communications & Public Information Manager / Alabama Forestry Commission

labamians like the rest of the country have had to deal with soaring fuel prices in 2022. Both gasoline and diesel fuel costs have skyrocketed since the first of the year, reaching all-time highs per gallon across the nation.

According to the American Automobile Association (AAA), for the middle of October this year gasoline prices were averaging \$3.44 per gallon statewide, compared to \$3.02 per gallon in October 2021. Diesel fuel costs have also risen with a \$4.91 state average during October of this year compared to an average of \$3.30 the same time last year.

The experts tell us the cause of the inflated prices is that the supply has decreased while the demand for gasoline and diesel fuel have increased. They have pinned as the culprit everything from COVID 19 to refineries be-

ing closed because of maintenance. Whatever the reason, those working in the forestry sector in Alabama have suffered at the pump this year.

According to Joel Moon, Executive Director of the Alabama Loggers Council with the Alabama Forestry Association, in 2022 Alabama loggers have experienced the "largest increase in the cost of diesel fuel in history coupled with inflation levels not seen in decades."

"Logging is a high volume, low margin business," Joel explained. "Over the years loggers have become more efficient, but high fuel prices and supply chain issues have created higher prices for all consumables and services." He related that other cost increases due to inflation include oil, tires, diesel exhaust fluid (DEF,)

equipment, parts, services, and labor to name a few. "I've heard from loggers who say they are experiencing a 20 to 30 or more percent increase in their costs which further erodes already tight margins." Joel added that most wood-using mills have provided a fuel surcharge, which helps, but even with that, he continued, "some logging companies have gone out of business this year."

"Fuel prices have lowered recently, but future increases are predicted," he said. "So, if you see a logger, shake his hand, and

thank him for continuing to operate in these uncertain times. Logging companies and the jobs they provide are the backbone of many rural communities, and we must work to keep these companies viable and successful."

Landowners have also felt the crunch at the gas pumps, as well as inflation prices on goods and services. For those landowners who are 'do it yourselfers,' fuel prices needed to run farm equipment, along with parts and other expenses, have taken a bite out of the wallet.

Joel also addressed the payments timber owners are receiving for their wood. "Some buyers are reluctant to bid on lump-sum timber sales because there is a lot of uncertainty on the price of diesel fuel," he said. "Timber prices paid to landowners have

definitely been lower, because of the cost of fuel." He added that landowners are also seeing an increased rate for other vendor practices as a result of inflated fuel prices, and that every aspect of the economy is affected.

High fuel prices also had an impact on the Alabama Forestry Commission this year. In April, when fuel prices were soaring almost daily and there was no light at the end of the hose, the Commission made changes to employee work hours to help cut costs. Those in field positions that drive state vehicles went from five 8-hour days to four 10-hour days. State office staff were allowed to work from home one day a week to aid them in cutting their personal fuel expenses by one less day of commuting to the office. According to State Forester Rick Oates, "This move has been a great experiment which I think not only made us more productive, but also lowered fuel costs for the agency."

On Monday, November 7, when we "fall back" and Daylight Savings Time (DST) ends, all AFC personnel resume their normal working hours of five 8-hour days. Because the experiment was so successful, when the clock "springs forward" on Sunday, March 12, 2023, the agency will evaluate changing work hours once again.





## Cultural Burning Practiced in an East-Central Alabama TREASURE forest

By John McGuire |Tall Timbers;

Matt Green | Green Family Dairy Farm;

and John Kush | Tall Timbers and Auburn University School of Forestry & Wildlife Sciences

embers of the Tall Timbers Prescribed Burn Team, in their bright yellow Nomex shirts and shiny helmets, leaned against tens of thousands of dollars of equipment while surveying the open pine forest in Russell County, Alabama. We dialed in expensive Bendix king radios to the desired frequency, then talked about the predicted shift in relative humidity, expected fuel moisture changes in one-hour fuels, and the divisional breakdown of burning operations.

The property owner, a bespectacled cattle farmer, Matt Green, watched the operation with a slightly bemused smirk on his face. His calloused hands hung like a pair of vice grips off sinewy arms, sculpted by immeasurable hours of tending to dairy cattle. He grabbed hold of one of the bright red drip torches that belonged to the crew, turning and examining it from different angles. Perhaps seeing the burn window of opportunity closing, Matt politely spoke up, "You should light this hilltop. It'll stop at the creek and the path the cows have made down there . . .," gesturing, "it always has."

There is a science to prescribed burning. But there is also an art to burning, an art that can on one hand be honed over time, but also an art that can be innate or passed from one generation to the next. Matt is carrying on a tradition of range burning that long predates anyone reading this article. Burning Alabama's native vegetation is absolutely critical to the health of his cattle herd. For Matt and the generations of cow hunters, cracker cowboys, and open range grazers that came before him, burning the woods for his cows came as naturally (but more cheaply) as throwing bales of hay off the back of a pickup truck.

Cultural burning, as it has come to be called outside of the region, is also a rich opportunity to help educate even the most highly-trained burn teams on how to further understand the wide application of fire in Alabama.

Matt raises approximately 100 head of dairy cattle on his 500 acres of loblolly and longleaf pine forests near Fort Mitchell, Alabama. His forests range in age from 10 to 30 years old. The cows' diet is almost exclusively native grasses and forbs found in the woods. To maintain this browse, Matt has largely managed the woods himself with prescribed fire.

Today we define the management activities on Matt Green's property as *silvopasture*, the integration of growing trees and livestock grazing on the same area. This is primarily an economic model of multi-use, multiple income streams that includes timber and grazing lands. Wildlife habitat, other than occasional planted food plots, is often not a management consideration, and many silvopastures are often little more than planted pines and pasture grass such as bahia grass.

Matt's property is different. Few farmers manage cows, timber, and the wide array of native plants so coveted by many native wildlife species such as grassland birds, gopher tortoise, and various sized mammals. Farmers like Matt who use fire to manage for grazing are a rarity, especially in Alabama. Because of this, his cows' milk is labeled as "organic" by a major grocery chain he supplies, and he's working to achieve a carbon neutral business designation over the coming years — as is the desire of the industry.

(Continued on page 14)

#### From a Wisp of Smoke to a Glass of Milk

(Continued from page 13)

Range laws, concern over prescribed burn liability, and a wide array of non-native plant alternatives have all slowly caused an erosion of institutional knowledge of both woods grazing, the nutritional value of native 'piney woods' plants, and how to maintain native range with fire. The decline in use of native range was also due in large part to constrained land use. Cattle forced onto smaller and smaller forest areas still needed the same caloric intake. This constraint reached a point where there were few options but to clearcut the timber and plant a higher calorie food source.

Kudzu was investigated as one of these food sources. In fact, R.Y. "Dick" Bailey was largely credited for bringing kudzu to Alabama at a Soil Conservation Demonstration Project in Dadeville. By the end of 1941, farmers had planted over 100,000 acres of kudzu for (among other reasons) forage for cattle. For this effort, Bailey was named "man of the year" by Progressive Farmer! Although beneficial for cattle and golf courses, such non-native forages unfortunately tend to be planted at the expense of native forest species which provide a wide array of ecosystem services. Some non-native grasses such as cogongrass have even drastically changed the naturally occurring, low-intensity fires of the region, turning them into literal barn burners of exceptionally high intensity fires.

The long history of running cattle in Alabama's woods is well-documented, although vanishing along with the knowledge of how to maintain it. Narratives are abundant, such as the following by William Gregory describing the late 1700s cattle operations in what is now south Alabama: "As far as the eye could see over the beautiful and gently rolling prairies his cattle and horses fed..." During their approximately 20-year occupation of Mobile, the British made the region into a 'cow town.' Agent Benjamin Hawkins makes similar notations of excellent range along the lower Alabama River and between

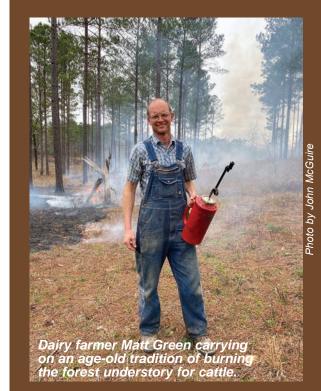
the Flint and Chattahoochee rivers, reporting that cattle herds ranging near Creek Indian villages were commonplace.

Lack of fire causes grass-dominated forests to become more closedcanopy forests. For the same reason that this is not desirable for a range of targeted wildlife species (such as quail, turkey, etc.), it is not desirable for cattle. Though these areas smothered under a bed of pine needles may be beneficial for loafing of the herd, we know well today that burning this pine straw with prescribed fire increases both the abundance, palatability, and nutrition of the many native ground plants.

Research studies more than a halfcentury old showed that burning increased the availability and palatability of many native bunchgrasses (such as wiregrass or dropseed) and bluestems especially during the winter and spring. Crude protein in these grasses was highest immediately following fire (around 13 percent). When not abundant, other forbs were sought after by cattle. Native cane, a fire adapted plant with up to 20 percent crude protein was highly regarded as cattle feed during the lean months of plant growth. Research showed cattle weighed on average 37 percent more on burned areas than unburned areas.

As early as 1920, studies also showed that grazing could be used to create 'fuel breaks,' similar to the observations by Matt today. Though early cattlemen may not have known the science, they recognized that cattle gravitated toward freshly burned areas, and when Mother Nature didn't provide the ignition, the "woods were set on fire."

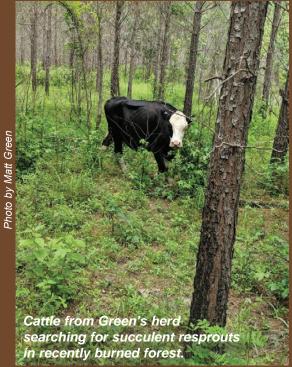
Covington County Extension Agent, Charles Simon, when describing the ancestry of the Southern Piney Wood's Cattle (2006) shared, "the practice of burning off the forests, especially during the winter, caused an explosion of tender forbs to grow in the early spring and summer. Livestock were able to range freely on these food sources and convert this energy into body growth and off-

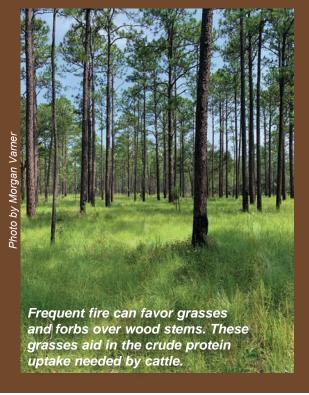












spring." As a young student of range burners, wildlife biologist Herbert Stoddard in his memoirs noted that cattlemen "had used fire liberally for generations . . . setting fires at intervals when conditions were right for light burning, from early fall to late spring. They knew from the way cattle gravitated to the fresh burns that the tender grass would make them grow and fatten."

Regenerative grazing techniques popular today focus on short-term, high animal density grazing events. The native pastures at properties like Matt Green's are divided up in such a way to keep the herd on any one spot for only a day or two at a time. In functional form, it is much like images we might see of bison grazing their way across a prairie. In its native state, the pasture at Matt's property has a tremendous variety of endemic plants growing within that cows eat. Grasses and forbs respond positively to the manure from the cows as well. The soil biology, in turn, flourishes. These grasses and forbs are adapted to grazing and fire. Without both, the ecological system stagnates and biodiversity declines. With both processes in place, the circle of life grows even wider. The open, forested environment increases grassland bird species, as is seen on the abundant quail plantations just to the west of Russell County. Also, at the same time these farms can produce meat (or in Green's case, milk) and timber from acres that would not be helping feed our country otherwise.

"This circle of life is astonishing as I have seen it play out in my work over the last six years." As Matt further describes, "The herd continues its 'work.' All on for a time, then all off. Native plants are built for this activity; it fits with how the life of the pine forest went on for millennia. This circle of life is astonishing to watch in a harmonious chorus – a biodiversity powerhouse, and at the same time, growing bigger and bigger pines for the betterment of all society. Prescribed burning can be done more frequently and safely since brushy species and fuel loads are reduced. The frequent large herd grazing is less selective because regrowth on burned plants is higher in protein and nutrients. The plants can be grazed again in a month's time; this new growth is again palatable and nutritious."

My opening paragraph about our prescribed burn team was somewhat tongue-in-cheek. However, our interaction on the silvopasture of Matt Green's property taught us an important lesson in the fire world. We can never stop learning, and there is so much that can be learned from landowners who have been managing the land themselves without the help of professionals. Matt's economic model is valid and can be replicated. It has already been well documented that landowners can have a diverse economic model raising both cattle and timber. Further, as with the cattle ranchers of yesterday, fire is an integral part of maintaining this range. When done properly, this fire can provide value not only for the trees and cattle, but also a wide array of plants and animals.

Editor's note:

Matt Green's property is a certified TREASURE Forest in Russell County in east Alabama.



## After 40 Years, Still the Same Message!

By Coleen Vansant | Communications & Public Relations Manager Alabama Forestry Commission

"Many landowners in the state are managing their forests well. Many of these are receiving advice and assistance from various government and private sources. We of the Alabama Forestry Commission are providing some help for forest landowners and hope that this publication can further serve to provide information and inspire landowners to implement needed forestry practices."

~ C.W. Moody, State Forester's Message, Volume 1, Number 1, Fall Issue, 1982, Page 3

his Fall 2022 issue of *Alabama's TREASURED Forests* magazine is a milestone for the Alabama Forestry Commission (AFC). It marks the 40<sup>th</sup> Anniversary of our flagship publication. In those four decades, there have been 144 issues printed and more than 2,300 stories written providing private forest landowners with information on how to apply multiple use forest management practices on their forestland. Created in the fall of 1982, the magazine has provided a valuable resource for forest landowners who want to receive the information on issues relating to forestry and natural resources.

According to former Alabama Forestry Commission Information & Education Division Director Cynthia Kenney Page Hinson (the magazine's first editor), the TREASURE Forest program had been going for almost a decade when the idea of publishing a magazine came up. Independent agency members of the Alabama Forestry Planning Committee (now the Alabama Natural Resources Council) had been addressing landowner issues and questions as they carried out their independent work on each individual landowner's property. The AFC, Soil & Water Conservation, Farm Services Agency, Fish & Wildlife, and other agencies spoke to landowners independently when they worked a request. Cynthia recalled that she and then State Forester C. W. (Bill) Moody had been discussing a better way to deliver important and timely information to forest landowners about multiple-use forest management practices. During their discussion she brought up the idea of printing a quarterly magazine to which all members of the Planning Committee could contribute articles pertaining to each agency's area of expertise.

She added that Mr. Moody loved the concept and took it back to the Planning Committee for consideration. They were sold on the concept and the first issue of *Alabama's TREASURED Forests* 

became a reality in the Fall of 1982 with the Alabama Forestry Commission serving as editor. For the inaugural issue, Montgomery artist Freda Groves was commissioned to create the artwork for the cover. The painting depicted a white-tailed buck standing guard over a doe while she drank from a pond. A lone pine towers over the deer and a line of trees frame the horizon of blue sky. The cover was very fitting for a magazine about multiple use forest management.

Cynthia recalled that they had a very limited budget and could only afford to print half of the pages in color for the first issue. However, the magazine was filled with useful articles, instructions, and the latest technical information all collected into one publication. The story authors were people from the cooperating agencies of the Alabama Forestry Planning Committee: foresters, wildlife biologists, soil and water specialists, along with other technical areas and disciplines of forest management. "We had such an overwhelming positive response from landowners," she said. "TREASURE Forest was expedited during that time." She included that there was also an excitement from the participating agencies about the magazine and the overwhelming success of the first issue. Cynthia said their original mailing list was basically only TREASURE Forest owners and agency personnel, but circulation steadily grew as word got around.

The first issue featured landowners Kelly and Helene Mosley's property "Pineland" in Marengo County. This couple held TREA-SURE Forest certificate #1 and are the same Mosleys of the W. Kelly Mosley Environmental Achievement Award given to 'unsung heroes' for their stewardship of Alabama's natural resources, and the Helene Mosley Memorial TREASURE Forest Award, given since 1978 to recognize the most outstanding TREASURE Forest(s) in Alabama. Throughout the years, the coveted feature

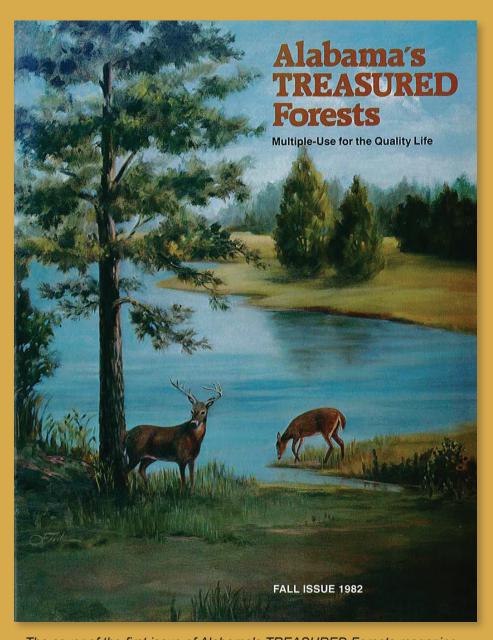
story has been reserved for Helene Mosley Memorial TREA-SURE Forest Award winners.

Going full color in the Summer 2004 issue, the magazine has come a long way in the last 40 years, and the Alabama Forestry Commission takes great pride in being able to provide this glossy, 32-page publication to approximately 13,000 readers. For years it has been considered one of the premier magazines in the nation published by a state forestry agency. In fact, Alabama is the only state in the South with such a magazine. Since day one, the AFC has been able to provide *Alabama's TREASURED Forests* free of charge. We do not charge a subscription fee to receive the magazine! The Winter issue was cut from publication in the early '90s because of our budget situation at the time, but we were able to bring it back to four issues in 2020 by allowing a limited number of advertisements in each issue.

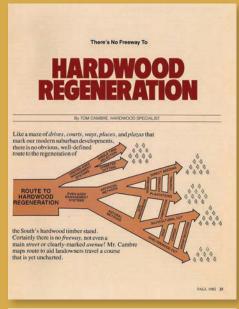
Our mailing list includes forest landowners, forest industry, forestry and natural resource agencies and organizations, edu-

cators at many of our states public and school libraries, and each member of Alabama's legislature. Many copies are mailed outside of the state to our natural resource and forestry partners, and all 50 state foresters receive a copy. *Alabama's TREASURED Forests* also has a large on-line presence, as it is available on our web page for reading or downloading at *www.forestry.alabama. gov.* Every issue since the inaugural Fall 1982 issue is available for download on the AFC website.

Taken from former State Forester C. W. Moody's first "State Foresters Message" in Volume 1, Number 1, Fall Issue, 1982, page 3: "Think of this book as another tool that you can use. Lay it up on the shelf when you have no need for it, but don't forget where you put it – you never know when it might come in handy."



The cover of the first issue of Alabama's TREASURED Forests magazine.





Articles from the first issue of the publication.



## Sweetgum

By Dan Chappell | Assistant Director, Forest Management Division, Gary Faulkner | Economic Development Coordinator, and Michelle Barnett | Creative & Digital Services Alabama Forestry Commission

itting down with Mr. Paul Wellborn, his family, and company associates, you may obtain the immediate impression that one is in the midst of a tremendous success story – and you would be correct. However, he is quick to credit any success to God, family, and company employees. In fact, Mr. Wellborn often says that his company is not only a "family business, but a business of families." If you have the chance to tour this remarkable facility, you will no doubt be struck by the number of husbands and wives, parents, and grown children who work together here at Clay County's largest employer. Nationwide orders of Wellborn's cabinets have never been higher, and the company continues seeking motivated individuals to join the growing Wellborn team. To be sure, Wellborn Cabinet is the quintessential American success story.

#### **OPERATIONS**

Wellborn Cabinet, located amidst the Appalachian hills of Ashland, Alabama, is rather unique in many respects. It is one of the very largest kitchen cabinet manufacturing facilities in the United States and is *the* single largest privately held cabinet manufacturer in the country. The company is the largest vertically integrated solid wood-using manufacturing facility in Alabama, and the only cabinet manufacturer that has its own hardwood sawmill. Wellborn currently employs more than 1,500 employees in a rural community. Many of Wellborn's employees have been with the company for long careers, in some cases, more than 40 years, and multiple generations.

The manufacturing operation starts with logs and continues through lumber, machining, painting, assembly, and packaging for transportation. Wellborn also runs their own fleet coast to coast. The main Ashland facility is located within a footprint that includes a warehouse/showroom of existing cabinetry products. Their goal is to provide kitchen and bath cabinets crafted by their dedicated employees with the utmost quality and care. Today, after 55 years of operation, their product line has broadened to include cabinetry and storage solutions to help customers maximize their total home living space.

#### **HISTORY**

In 1957 Paul and Doug Wellborn built cabinets in the homes constructed by their father, Morgan Wellborn. Later, Paul and Doug built cabinets in a 20x40 building at night for themselves before founding Wellborn Cabinet, Inc., in 1961 in Ashland, Alabama. The company began in a 3,200 square foot building making kitchen and bath cabinets and specializing in contract sales for government-financed housing. The company was tested with major adversity in 1970 when fire destroyed many of the structures on site. Within two weeks, work started back in improvised facilities, a testament to the character of the family and its dedicated employees.

In 1986, Paul Wellborn purchased the company, became sole owner, and changed the company's customer base largely to residential kitchen and bath dealers. Since then, Wellborn Cabinet, Inc., has increased vastly in both size and product selection, to

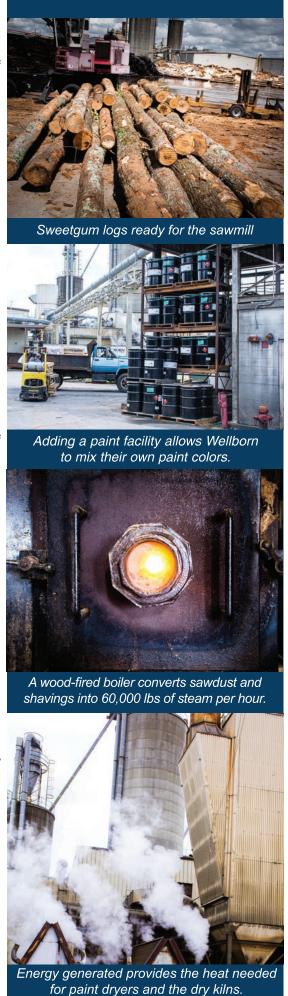
include seven product lines that offer framed and frameless cabinetry for the whole home. Today, owned by Paul Wellborn and the Wellborn family, the company manufactures its kitchen and bath cabinets from start to finish at their facility in Ashland. Maintaining all levels of the cabinet-making process in one facility allows Wellborn to ensure the quality craftsmanship for which the company is known.

#### A SWEET ADDITION - SWEET GUM

Receiving an invitation to visit Wellborn Cabinet means that you can plan on having a very good day at work! Our invitation, interestingly enough, was offered so that we could have a talk about sweetgum (Liquidambar styraciflua). Although not traditionally viewed as a particularly valued species when among forests of mixed hardwoods - more often seen as an outright pest when it attempts, at times very successfully, to outcompete pine in pine stands – sweetgum has its place, and maybe some new admirers. Sweetgum may finally be coming into its own as a cabinetry wood.

Locally and regionally abundant, sweetgum thrives on a wide variety of sites and spreads easily onto sites where it is not yet present. Without being put through a dry kiln at just the right temperature and amount of time after being on the log yard, the wood does not perform well enough to be used by Wellborn. However, a great advantage to having an on-site sawmill, steam plant, and dry kilns is that the business could take the time needed to research and experiment. Mr. Wellborn also credits their success to a little guidance from Gene Wengert, "The Wood Doctor." In time, a perfect treatment regime was arrived at, and now the team at Wellborn is looking to obtain increasing volumes of this wood.

A particular advantage of sweetgum for cabinetry is that it takes paint well. It also takes fasteners well and does not split as easily as some of the other species tend to do when stapled. The wood is one of the most, if not *the* most easily worked of the species utilized at Wellborn. Some species show major quality differences between older heartwood and younger



sapwood, but the sweetgum logs they have been sawing here have proven to be strong all the way to the core. In an era where demand for Wellborn products is high while several elements of supply chains present challenges, the ability to add sweetgum grown locally to their mix of species is certain to provide advantages to both the company and to landowners and loggers seeking additional value from the sale of timber.

It is exciting to know that this under utilized southern species is getting a new lease on value-added product manufacturing. The year 2021 represented the first major uptick in sweetgum utilization at the mill, with demand in 2022 roughly doubling, and with the capacity to mill even more moving forward. When asked for his thoughts on sweetgum, John Wellborn (Paul's son) shared, "Sweetgum has been a major contributor for us. It is easy to sand, competitively priced, locally grown, and stronger than poplar. It grows everywhere."

The company has need for quality logs of 13-inch diameter or greater. Loggers working tracts where loads of good sweetgum can be had should consider talking with Shane Coker at the Wellborn Sawmill and log buyer Daniel Melton for more information.

#### **G**ROWTH

The good news is that Wellborn Cabinet continues to grow, and to grow in Alabama. On the same day as our visit in August, the news broke that the company is set to invest an additional \$17 million in an expansion project that will create 415 jobs over five years. This announcement states their intention to construct and equip a 250,000-square-foot facility in Oxford and begin production of a new kitchen and bath cabinetry product. (Source: Alabama Department of Commerce)

Enthusiasm is understandably running high. Just last year, Wellborn's principal facility announced another expansion including a \$15 million capital investment with 200 additional jobs. The project expanded its manufacturing capabilities in Ashland with the addition of a planer mill and a paint facility. Altogether, the project adds four buildings to its Ashland complex, growing its total size to 2.2 million-square-feet. This expan-

(Continued on page 20)

Photos by Michelle Barnett

#### An Unexpected New 'Star' for Wellborn Cabinet: Sweetgum

(Continued from page 19)



**AN AMERICAN STORY** – Alabama is proud to call Wellborn Cabinet "Made in Alabama." Their success can be summed up by this statement.

sion includes healthcare and daycare facilities for Wellborn's workforce in Clay County. (Source: Alabama Department of Commerce)

While being shown around the expansive grounds we had the good fortune to meet Doug Moody, boiler manager, who shared a little about a past investment in sustainability that continues to pay dividends. As woodworking on the scale of Wellborn produces ample sawdust and shavings, it makes good sense to be able to operate wood-fired boilers that convert potential waste products into 60,000 pounds total of steam per hour. These boilers are permitted as a powerhouse, and the energy generated is able to provide the heat needed for paint dryers and the dry kilns. With the fluctuating cost of natural gas, this investment provides a cost savings while utilizing every bit of the tree used in the manufacturing process. Mr. Moody even showed us where the limited amount of ash produced comes out cool to the touch, proving that all available heat energy has been extracted. A valued member of the Wellborn team, Doug Moody takes pride in his work seeing to it that the boilers run efficiently and that nothing goes to waste.

#### **CONTINUING SUCCESS**

Wellborn Cabinets is a company that seeks to maintain its strength and growth for years to come. To make that happen, the Wellborn family chooses to pay competitive wages with the goal of keeping quality employees for the long term. The number of employees who have been a part of the company for 20+, 30+, and even 40+ years speaks to the accomplishment of creating a family atmosphere that allows employees to grow along with the company – not only right there in Ashland, but also in a facility in Lineville building entry-level products, and soon in the new facility coming to Oxford.

When this company has had needs, it has worked to address them locally. For example, back when other local sawmills lacked dry kilns, Wellborn set up its own sawmill and dry kiln so that it could meet its needs for oak, hickory, maple, and cherry. As previously mentioned, when the opportunity arose to build a large boiler system to transform wood waste into an energy source, this investment was made. In the present, after working to find solutions to the challenges posed by large-scale use of sweetgum for cabinet manufacture, Paul Wellborn and family are looking to ramp up local purchase of this plentiful species that mills so well and lends itself to production of superior finished products. The new plant coming to Oxford will demand its own supply of sweetgum, so the time has come to get the message out about new potential for one of our overlooked hardwoods.



cross the grassy field, retired AFC forester Madeline Hildreth explained to Academy participants how to create a model of a tree by working together to demonstrate the different parts, such as heartwood, roots, xylem, phloem, cambium, and bark. Shortly thereafter, the team assembled their 'tree factory' complete with motion and sound. With uncomplicated preparation and few materials, the tree factory activity covered performing arts, physical education, and science. Tree Factory is one of 50 activities in the new *Explore Your Environment K-8 Activity Guide* by Project Learning Tree.

Project Learning Tree (PLT) is an environmental education initiative designed for teachers and non-formal educators working with youth (PreK – 12<sup>th</sup> grade). PLT advances environmental literacy, stewardship, and career pathways using trees and forests.

Through high-quality professional development and hands-on activities, the multidisciplinary curricu"In the end we will conserve only what we love; we will love only what we understand; and we will understand only what we are taught." (Baba Dioum, 1968)

lum easily integrates into lesson plans for all grades and subject areas to teach youth about trees, forests, and the environment. Activities correlate to national and state teaching standards. PLT develops students' awareness, knowledge, and appreciation of the environment; builds their skills and ability to make informed decisions; and encourages them to take personal responsibility for sustaining the environment and quality of life that depends on it. "PLT provides lesson plans on topics familiar to foresters and rangers, offering an easy framework to follow," says Hildreth.

Both formal and non-formal educators attend PLT workshops to learn how to use the curriculum. Workshops qualify for professional development for educators, foresters, and loggers. Natural resource professionals find PLT activities explain forestry concepts in ways that youth enjoy. Since many activities can be used outdoors, they prove perfect for forestry field events. "I used PLT many times when I worked for the AFC," explains Hildreth. "We participated in forestry field days for students (such as FAWN and Walk in the Forest) and integrated PLT activities into the different stops."

Hildreth kept materials for several activities prepped and ready in case someone requested a classroom program or even a program for adult audiences. She now serves on the Alabama PLT Steering Committee.

> The Sustainable Forestry Initiative (SFI) advances sustainability through forest-focused collaborations, and PLT is an initia-

tive of SFI. Through PLT and other initiatives, SFI supports getting youth outdoors and into nature in ways that inspire them to become environmental stewards and future conservation leaders, and that introduce them to green careers. Available in all 50 states and several countries, Alabama Forestry Foundation sponsors PLT in Alabama. For information on how to become trained in PLT or how to have local educators trained in the resource, email <code>plt@alaforestry.org</code>.



AFC Forest Management Specialist Ed Lewis identifies leaves with participants during a summer PLT workshop.

Photo by Stephanie Fuller, Alabama Forestry Association



Retired AFC Forester Madeline Hildreth explains the Tree Factory PLT activity to 2021 AFC Forestry Academy participants.

Photo by Ashley P. Smith, Alabama Forestry Association any snake stories often begin within an individual stating they recently saw a snake that was "at least 6 feet long" or it "stretched across the road." I typically discount these stories as just that – a story. Just like a good fish story, most stories about snake lengths are exaggerated a little bit.

The Eastern diamondback rattlesnake (*Crotalus adamanteus*) is definitely one of Alabama's largest snake species and is quite often the subject of some of the aforementioned stories. Diamondbacks may reach lengths up to 7 feet, but more often are usually 4-5 feet. However, the prize winner for factual stories regarding Alabama's native snake species goes to the very docile Eastern indigo snake (*Drymarchon couperi*). The Eastern indigo snake is North America's largest native snake with average lengths of 6 to 7 feet. Wikipedia and the U.S. Fish & Wildlife Service report the largest individual was more than 9 feet, 2 inches and 8 feet, 6 inches, respectively. No matter who you believe, that is a long snake!

Indigos are pretty snakes due to their uniform glossy black coloration with some reddish orange to tan on its throat, cheeks, and chin. They often appear to have some blue or purple iridescence under good light conditions. Unlike many other 'black' snakes, indigos are stout bodied and move rather slowly. All critters, especially snakes, play a role in nature. The old adage, "the only good snake is a dead snake" doesn't hold true for indigos (or any other snake) because a primary menu item for them are other snakes, including venomous snakes such as copperheads and Eastern diamondback rattlesnakes. Other prey items for this carnivorous predator include toads, frogs, small tortoises, and small mammals — or just about any other critter they can catch and ingest. It is noted to be at the top of the insect, amphibian, reptile food chain in the sandhills.

Indigos are highly associated with longleaf pine ecosystem sandhill habitats. They are cold blooded and as such rely on their environmental surroundings to heat, cool, and maintain their body temperature. Gopher tortoise burrows are highly utilized for shelter and thermoregulation during winter months. Habitat utilized during warmer time periods is much more diverse and includes bottomlands and swamps where prey items may be more available.

Once reported to occur from South Carolina south into Florida and west to Mississippi, they were thought to be extirpated from Alabama in the 1950s. Urbanization and forest conversion to agriculture and pine monocultures caused habitat fragmentation and population declines. The pet trade industry also had negative impacts on populations, but this activity is now illegal in Alabama. Information from the late 20th century seemed to indicate indigos' natural range was limited to South Georgia and Florida. They were provided protection as a threatened species under the Endangered Species Act in 1978.

There isn't a lot of information published about the breeding habits of Eastern indigo snakes. Data gathered from populations in northern Florida indicate breeding occurs from November to April, with four to twelve eggs typically laid during May or June.

Incubation is about 90 days and hatching typically occurs in August or September. Hatchlings are generally between 17-24 inches in length. Females have the ability to store sperm and delay fertilization if necessary.



#### **Early Assessment and Recovery Efforts**

Dr. Dan Speake, former Auburn University professor and now deceased, was highly engaged in sandhills research and began a captive indigo propagation program in the 1970s running into the late 1980s. The laboratory of the old Cooperative Wildlife Research Unit served as the rearing facility for many of the snakes that were bred. Hatchlings were re-introduced to many sites across the southeast including Alabama. Unfortunately, these efforts were thought to be unsuccessful as no evidence of natural reproduction was observed in the wild or recapturing of a released adult.

Although the project was not considered a success, a great deal about indigo ecology and survey processes were learned. Dr. Speake was probably the first wildlife researcher to use a miniature underground television inspection camera, or MUTVIC for short. He and his researchers worked with the Westinghouse Company in Horsehead, New York to develop a camera attached to a cable with a monitor to look for tortoises and indigo snakes in tortoise burrows. Two three-wheelers were used to carry the equipment in those days. Thank goodness, technology has improved so that one person can now carry all the equipment needed to scope a burrow.

As a side note, the old research unit also served as the office for several graduate students, including myself. The setting was unique, providing an opportunity to interact with personnel directly involved in the indigo propagation and restoration efforts. It was quite entertaining to observe the feeding frenzy when 30 to 40 individually housed captive snakes were fed. Most of the adults would slowly and gently remove a dead mouse from the forceps it was being held in, while a few would aggressively strike at the mouse causing some researchers to flinch just a little. Occasionally, a snake would miss the mouse and get a finger or hand of the person doing the feeding.

#### **Current Population Restoration Efforts**

The Wildlife Section of the Division of Wildlife & Freshwater Fisheries, Alabama Department of Conservation & Natural Resources, began another attempt to bring back indigos to Alabama in 2006 with many partners from across the Southeast. Releases of hatchlings began in 2010 and have been restricted to the Conecuh National Forest. The goal is to rear and release 300 hatchlings. Approximately 227 have been released as of 2022. All captive bred hatchlings were PIT tagged (just like many dogs and cats) so recapture events could be documented. This population restoration project has resulted in untagged hatchlings being discovered in 2020 and 2022. The observation of untagged hatchlings is a good indicator that natural reproduction is occurring and may eventually lead to a self-sustaining population of indigos on the Conecuh National Forest.

The success of the Eastern indigo snake reintroduction program at Conecuh National Forest has led to the implementation of a similar program in the Florida panhandle. Researchers and several partners recently released 12 hatchling indigos at the Apalachicola Bluffs & Ravines Preserve owned by The Nature Conservancy.

Attempting to restore Eastern indigo snakes to the landscape would not be feasible without first providing suitable habitat. A great deal of emphasis has been placed on restoring the longleaf pine ecosystem to southeastern sandhills. The combination of longleaf pine and associated management techniques, including prescribed fire, has changed the flora and fauna, and much of these lands are now representative of what was probably present





Then: Gene Carver and James Altiere, researchers with the Alabama Cooperative Wildlife Research Unit, travel into the field to search for gopher tortoises and indigo snakes in the 1980s.



Now: James
Altiere scopes a
tortoise burrow
more than 35
years later. The
camera and
scoping cable
can be carried by
one person as
opposed to two
three-wheelers.

in colonial days when indigos, gopher tortoises, and many other imperiled species were much more abundant.

#### Will Restoration Efforts Work?

I can remember years ago wondering if the efforts to recover bald eagle populations in Alabama would be fruitful. With time and effort, bald eagles now nest throughout Alabama and are commonly seen on our rivers and waterways. I am hopeful that the indigo snake recovery efforts will be as successful as the bald eagle efforts. Delisting as a threatened species is probably not in the near future, but with continued management and restoration of the longleaf pine ecosystem, eastern indigos may one day increase to a population level at which it may be easier to see Alabama's largest reptilian predator.



By Coleen Vansant / Communications & Public Information Manager / Alabama Forestry Commission

ne of Alabama's least known treasures officially reopened to the public this summer after being closed for more than three decades. The grand reopening of Flagg Mountain Tower in the 240-acre Weogufka State Forest in Coosa County was celebrated on June 15 this year with hundreds attending the ceremony including sponsors, supporters, and other partners. Alabama Governor Kay Ivey was keynote speaker at the event.

Located on the southern tip of the Appalachian Mountain range, Weogufka State Forest was established almost nine decades ago. The stone tower at the apex of Flagg Mountain had last been used as a fire tower by the Alabama Forestry Commission in 1989. Although well known to locals and avid hikers, the new face of the park is receiving state and national attention since renovations to the historical site have taken place and the facilities are open again.

Owned by the State of Alabama, but under the management of the Alabama Forestry Commission (AFC), years of

planning and hard work has led one of the Alabama's smallest state forests to take on a new life. According to AFC Northeast Regional Forester Jason Dockery, funding for repairs was a problem for many years, but restoration and improvements were finally made possible through generous contributions by The Conservation Fund, the Alabama Trails Foundation, and the Alabama Legislature.

Courtesy of Governor's Office/Hal Yeage

A celebration for the grand reopening of the tower site was held June 15 with Governor Kay Ivey serving as keynote speaker for the ceremony. "This tower is a symbol of Alabama's history, her rich natural resources, and her strength," said Gov. Ivey. "It connects us with our past."

Explaining that one of the first accomplishments was replacing the wooden steps inside the tower, Dockery said deterioration of the steps from the base of the tower to the top was the reason it had been closed to the public. The observation cab at the top of the tower was also renovated. A designated parking area was constructed, and a one-half mile American Disabilities Act (ADA) accessible walking trail was designed linking the parking area to the tower site with benches along the way. The Alabama Forestry Commission also cleared trees to enhance visibility from the tower, and installed gravel on the road leading to the tower.

Dockery added that although few people realize it when they visit Weogufka State Forest, the longleaf pines on the site are some of the oldest of their species in the state. Longleaf there range from 100 to more than 400 years of age which means some of them would have been "germinated in the 1600s," Dockery said. He added that the trees are small because of the rocky conditions where they have grown over the centuries.

Because of its historical value and natural aesthetics, the Flagg Mountain tower site was listed as number 250 of 1,000 fire tower lookouts on the National Historic Lookout Register in 1998. However, without President Franklin D. Roosevelt, Flagg Mountain Tower and the cabins that you see today wouldn't have been possible 88 years ago.

President Roosevelt established the Civilian Conservation Corps, or CCC, with an executive order on April 5, 1933. The CCC was part of his 'New Deal' legislation combating high unemployment during the Great Depression. Thousands of young men were employed through the federal relief program to work on environmental conservation projects. CCC crews were instrumental in shaping the modern national and state park systems that we know today. During its nine years of existence, the CCC planted more than three billion trees and constructed trails and shelters in more than 800 parks nationwide. In 1942, the start of World War II forced the end of the CCC program, as funds and human resources were needed for the war effort. However, it was this program that made the treasure of Flagg Mountain Tower and other facilities a reality.

Property for Weogufka State Park was acquired in the 1930s, primarily from the Kaul Lumber Company.

In 1935, CCC Company #260, comprised of 216 young men mostly from New York and New Jersey, constructed the 54-foottall tower from local stone. Unique not only in its location but also its architecture, the tower walls are two to four feet thick. Large longleaf timbers, harvested from surrounding forests, were inlaid in rock in a crisscross pattern around the tower. Over the years those timbers decayed and have now been replaced with stone. In addition to the tower, five cabins were built.

Shortly after construction, the tower site and surrounding 240 acres were placed under the responsibility of the Alabama Forestry Commission (AFC). With the 360-degree view from the 12'x12' tower, the Commission recognized the unique lookout as a powerful tool in spotting forest fires. Located some 1,100 feet above sea level, Flagg Mountain and the tower atop allowed forest rangers and forest fire lookouts to see across seven counties on a clear day. For more than 40 years, the tower was manned by the AFC to spot wildfires and served as a relay for the Commission's radio communications.

Future plans for Flagg Mountain include a municipal water supply at the facilities, a bathhouse at the cabins, and a welcome center at the foot of the mountain.

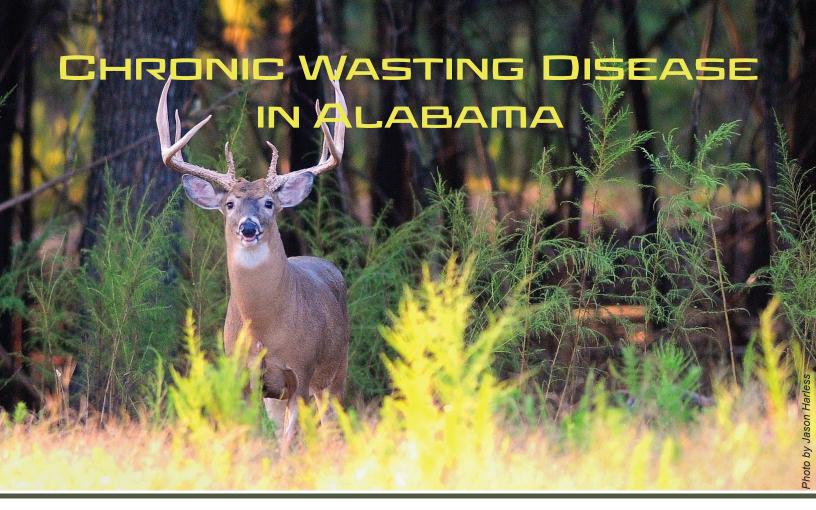
Today, hiking is one of the main draws as the Alabama Pinhoti Trail begins at the base of the tower. Weogufka State Forest also offers sightseeing, primitive camping, and is included as a site on the Alabama Birding Trail. There is a full-time caretaker on the property, and all reservations for use of the facilities must be made in advance through the caretaker. You can do this by texting (256) 223-3990.



In commemoration of the special occasion, the Alabama Wildlife Center released a rehabilitated owl back into the wild from the Flagg Mountain tower site.

Additional partners with the Alabama Forestry Commission for the tower's grand reopening included Alabama Hiking Trail Society, Alabama Power, Alabama Trails Commission, Alabama Trails Foundation, Architecture Works, Birmingham Coca-Cola Bottling Company, The Conservation Fund, **Coosa County Commission**, Coosa County Sheriff's Office, Friends of Flagg Mountain, **Jacksonville State University Center for Economic** Development and Business Research, Macknally Land Design, Stick Architecture, University of Alabama Center for Economic **Development, and University of Alabama Office** 

of Archeological Research.



By Christopher W. Cook | Deer Program Coordinator/Certified Wildlife Biologist, Alabama Division of Wildlife & Freshwater Fisheries | Department of Conservation & Natural Resources

he first case of chronic wasting disease (CWD) was confirmed in a hunter-harvested deer from Lauderdale County on January 6, 2022. While the discovery of CWD in Alabama was unwelcome, it was not unexpected by the Alabama Division of Wildlife & Freshwater Fisheries (ADWFF) or others who have been keeping track of the relatively recent expansion of CWD into the Southeast.

CWD is a fatal neurological disease of some members of the family Cervidae, including but not limited to white-tailed deer, mule deer, elk, moose, and caribou. It has been classified in the group of diseases called transmissible spongiform encephalopathies (TSEs). **CWD is infectious, communicable, and always fatal.** TSEs are believed to be the result of the transformation of normal prions (proteinaceous particles) into infectious, self-propagating, abnormal prions. Their shape is transformed in such a way that they cause disease and become resistant to being broken down by normal means within the deer's body.

CWD was first identified in 1967 at a deer research facility in Colorado. In the 55 years since, the disease has spread through populations of both wild and captive cervids in North America. It is now found in 30 states, including Alabama, as well as four Canadian provinces and four other foreign countries (South Korea, Finland, Norway, and Sweden).

ADWFF first began conducting surveillance for CWD in wild deer during the 2001-02 hunting season following the discovery of the disease in Wisconsin. Since then, over 14,500 samples have been tested from all around the state, including over 3,300

deer between October 2021 and August 2022. Sampling efforts were increased significantly across Alabama, especially in the state's northwestern counties, following the discovery of CWD in northern Mississippi and southwestern Tennessee in 2018.

To improve the efficiency of its CWD surveillance program, ADWFF worked with researchers at Cornell University to develop the current sampling protocol which was adopted in December 2020. The new sampling protocol is geared towards early detection of CWD when it occurs at a low prevalence in new areas, and monitoring to detect a change in prevalence in areas where the disease is known to occur. Various CWD risk factors are weighted under the new protocol and sampling quotas are assigned to each county based on its risk score. More risks mean higher sampling quotas. This approach led ADWFF to finding CWD in Lauderdale County.

After the discovery of this first CWD positive deer in Alabama, ADWFF implemented portions of its CWD response plan. Part of its response included establishing an Emergency Regulation with rules to help increase availability of samples for testing and reduce the likelihood of introducing CWD into unaffected areas.

The Emergency Regulation established the CWD Management Zone (CMZ). The original CMZ included all of Lauderdale and Colbert counties. Within the CMZ, the portion of Lauderdale County west of U.S. Highway 43 was designated as the High-Risk Zone (HRZ). The remaining portion of Lauderdale County east of U.S. Hwy. 43 and all of Colbert County was designated as the Buffer Zone (BZ).

With the immediate need to collect as many samples as possible for testing, the Emergency Regulation liberalized deer hunting opportunities on both public and private lands within the CMZ for the remainder of the 2021-22 deer season. Sampling and testing of hunter-harvested deer within the HRZ was mandatory, and it was strongly encouraged to test all hunter-harvested deer within the BZ as well.

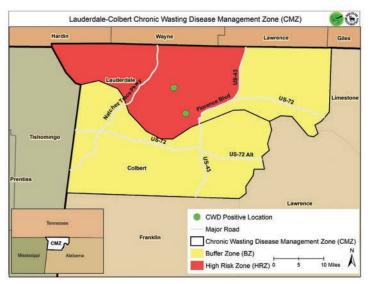
The response from deer hunters within the CMZ was outstanding. Since January 7, 2022, a total of 848 deer from the CMZ (348 from the HRZ, 500 from the BZ) were tested for CWD. Of those 848 samples, only one additional deer was confirmed as CWD positive. It was another adult buck and was killed within the HRZ a few miles from where the initial positive was found. Of all the possible scenarios which could have played out following the initial positive, this was one of the best ADWFF could have hoped for.

In addition to providing increased opportunity for deer harvests and access to samples for testing, the Emergency Regulation also restricted the movement of whole deer carcasses and high-risk parts (e.g., whole heads, brain and spinal cord tissues, large bones, etc.) within and outside of the CMZ. Research suggests CWD can be passed from infected deer to healthy deer through contact with feces, urine, or saliva as well as contact with CWD-infected carcasses or contaminated soil. By limiting the movement of potential reservoirs for CWD-causing prions (i.e., whole carcasses and high-risk parts), this new rule helped reduce the likelihood of CWD being moved unintentionally into previously unaffected areas.

An additional rule change implemented to help minimize the impacts of CWD on the local deer population was a ban on feeding and baiting of wildlife within the CMZ. This became effective on March 7, 2022. By removing practices which tend to concentrate animals at unnatural levels, the rate of spread for the disease in CWD-positive areas can be slowed since the number of interactions between sick and healthy deer are likely reduced.

#### The only exceptions to the ban are:

- Seed or grain used solely for normal agricultural, forest management, or wildlife food plot production purposes;
- Feed solely placed inside an active hog trap; or
- Feed for attracting birds and squirrels with common bird and squirrel feeders within 100 feet of a residence or occupied dwelling.



CWD is not going away. For ADWFF's CWD management efforts to have the best chances of minimizing the future impacts of CWD, deer hunters must keep hunting. Harvesting enough deer to reduce deer densities in areas known to have CWD, such as Lauderdale County, can help slow the spread of CWD within the local deer herd. For this reason, hunters within the CMZ should consider taking an extra deer or two for the freezer this coming season and submitting samples for testing.

Deer hunters also are the key to ADWFF's continued CWD surveillance efforts. Obtaining samples for CWD testing from hunter-harvested deer is the most efficient approach for getting enough samples to meet surveillance goals from all counties. While only two deer have tested positive for CWD so far, ADWFF knows it is extremely unlikely they were the only two deer with CWD in the area. Continued sampling of deer from within the CMZ will provide a clearer picture of not only the current prevalence of CWD among the local population, but also the distribution of the disease within the CMZ. Sampling of deer outside the CMZ also continues to be essential for early detection of the disease in new areas.

Complying with current regulations restricting the movement of deer carcasses and high-risk parts from the HRZ and CMZ, as well as from out of state, can help prevent the introduction of CWD into new areas. This new rule means many hunters will have to change how they handle their deer after harvest. Learning how to debone or even completely process one's own venison will benefit most hunters, whether they hunt in a CWD zone or not. Knowing the venison on the dinner table actually came from a deer they killed and, more importantly, it was properly handled from field to freezer provides peace of mind hunters don't often get when someone else processes their game.

Proper disposal of hides, bones, and other remains from a processed deer also is important in the battle to slow the spread of the disease. For hunters in the CMZ who process their own deer, it is recommended that the remains be buried at least two feet deep on the property where it was killed. While burial does not completely eliminate the risk of spreading CWD, it does greatly reduce the likelihood of other deer coming in contact with the prions that cause CWD. If burying is not an option, the remains can be left aboveground on the property where the deer was harvested. While not ideal, this is a better option for disposal than potentially introducing the CWD prions into new areas.

As mentioned earlier, practices which unnecessarily congregate deer, such as supplemental feeding and baiting, have the potential to increase CWD transmission, as well as transmission of many other diseases and parasites of deer and other wildlife. For that reason, the current feeding ban in the CMZ is likely to remain in place for the foreseeable future. The ban should be a wake-up call for deer managers in the CMZ who have relied on feeding as a crutch to compensate for poor deer herd and habitat management practices in the past. Now is a great time to rethink future plans for managing deer and their habitat inside and outside of the CMZ. A key step for many may be reducing deer numbers to levels that the existing habitat can support in the absence of supplemental feeding. Another important step to consider is implementing additional habitat management practices. Common habitat management practices such as timber harvests and prescribed fire can greatly increase year-round habitat quality for deer and other wildlife but require more planning and effort.

(Continued on page 28)

#### CHRONIC WASTING DISEASE IN ALABAMA

(Continued from page 27)

One final thing everyone can do to help ADWFF's CWD management efforts is to report sick or dead deer. Adult deer exhibiting symptoms that may be related to CWD are the highest priority animals for testing. In other states, the first deer to test positive in many new areas have been deer showing symptoms of neurological distress. Some of these symptoms can include a lack of wariness, wandering aimlessly/walking in circles, a drooping head, difficulty standing, severe emaciation, and excessive drooling. Sick deer can be reported at <a href="https://www.outdooralabama.com/ReportSickDeer">www.outdooralabama.com/ReportSickDeer</a> or by calling the closest ADWFF District Office.

Moving forward, ADWFF's CWD management goals are to keep the number of diseased deer in the CMZ to a minimum, keep CWD from spreading into other areas of the state, and

reduce disease rates in the CMZ where possible. The agency will also continue its CWD surveillance efforts throughout the state to hopefully detect CWD early if and when it shows up in new areas. For this to happen, hunters in the CMZ, as well as hunters in other regions of Alabama, must remain involved and informed. Be sure to check in at <a href="https://www.outdooralabama.com/cwd/cwd-alabama">www.outdooralabama.com/cwd/cwd-alabama</a> to stay up to date on CWD in Alabama.









Photos by Billy Pope, Alabama Department of Conservation & Natural Resources



## AFC DISPATCH CENTERS GROWING TO SERVE FOREST LANDOWNERS

#### By Balsie Butler | Assistant Director | Protection Division | Alabama Forestry Commission

orking as a dispatcher at the Alabama Forestry Commission is a 24/7, 365-days-a-year responsibility not only to provide support for firefighters and officers, but also ensure the public's safety. Day-to-day operations include answering wildfire calls, as well as assisting landowners and foresters with issuing of prescribed burn permits.

To help with costs and operations in 2009, the Alabama Forestry Commission combined all outlying Dispatch Centers across the state into a central location in Montgomery. The new Central Dispatch was moved into the AFC Communication Shop and was updated with some of the latest technology for that time. The center was eventually staffed with 13 dispatchers working three shifts.

An important responsibility of dispatchers is knowing the location of forest rangers and foresters to help guard their safety while battling wildfires. Over the years, magnetic boards and cork boards with pins were used to track personnel. It was soon determined that the Dispatch Center would have to be more innovative on its information gathering and disseminating practices to keep up with the growing demand of data pouring into one location. Today's Dispatch is more technologically advanced and is now fully digital. All reports and personnel tracking are accomplished by a sophisticated system called Phoenix. Finding personnel or researching statistics for a report can now be done in minutes versus hours.

In 2019, Dispatch expanded to partner with another state agency, the Alabama Department of Conservation & Natural Resources (ADCNR). We now dispatch Wildlife & Freshwater Fisheries conservation enforcement officers (commonly known as 'game wardens') in their tasks related to hunting and fishing violations. Dispatchers have the added responsibility of tracking these game and fish officers for their safety, just as they do for forestry personnel.

In 2020, a second dispatch center was opened at the Gardendale office in Jefferson County to help with the growing demand on Central Dispatch and serve as a redundant center in the event the Montgomery location was compromised.

In May of this year, Central Dispatch was relocated from the Communication Shop to the State Office in downtown Montgomery. This gives upper management the ability to have real time awareness of daily activities throughout the state and dispatchers an opportunity to periodically meet AFC county personnel they dispatch daily. Dispatch is staffed by 16 uniquely qualified individuals who take pride in the people they serve and the job they do – helping protect the lives and property of Alabama's forest owners and citizens.

As time passes, our mission is to continue to find better ways to operate in a more timely and efficient manner. Our best is yet to come!





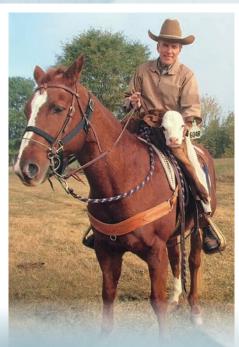
## MEMORIAL

## Ray Jones

March 23, 1935 - July 15, 2022







aymond ("Ray") Bryant Jones, Sr., age 87, passed away on July 15, 2022. He was the son of the late Betty and Carl T. Jones. In 1939, the family moved to Jones Valley Farm. Originally 2,500 acres, it remains one of the largest working urban farms in the United States and one of its most beautiful. Certified as a TREASURE Forest in 1998, this farm located in the Paint Rock Valley of Jackson County won the prestigious Helene Mosley Memorial TREASURE Forest Award for the North Region in 2009. Other honors include being nominated for the Alabama Wildlife Federation's Governor's Conservation Achievement Award in 2006.

Ray Jones graduated from Auburn University and was an avid Auburn fan. He served in the military, and then returned to Huntsville in 1957 to manage the farm. When his father died in 1967, he became president of their local engineering firm. He ran and expanded the family's farming, real estate, and engineering businesses for more than 35 years. Mr. Jones served on the Lipscomb University Board of Trustees, where he played a pivotal role in the founding of the Raymond B. Jones College of Engineering. He also served in a variety of other roles including the UAH Foundation Board and as president of the Huntsville Rotary

Club. He received multiple honors for his leadership in his community, state, and nation.

Ray spent his life in dedicated service to his Lord Jesus Christ and to His Church, serving as a deacon at Mayfair Church of Christ for decades. A dedicated servant to others, he served on multiple mission trips to Cuba and the Baja. He touched people from every walk of life, and his love and legacy are far reaching.

Mr. Jones was a much-loved public speaker and the author of three books. His most popular, *The Farm in Jones Valley*, has sold thousands of copies.

Ray loved all aspects of farming, especially raising cattle. He often shared the farm with others and conducted numerous tours for school children. He enjoyed the outdoors and was an avid hunter. He especially loved turkey hunting and was blessed to have reached his limit this year at 87 years old. Some of his experiences are recorded in his book, *Southern Turkey Hunting*.

Mr. Jones is survived by his wife, Libby; their three children, Lisa (Mark) Yokley, May (Mike) Patterson, and Raymond B. Jones, Jr. (Kristy); seven grandchildren; and five great-grandchildren. He is also survived by his two sisters, Betsy (Peter) Lowe and Carolyn (John) Blue, as well as a host of nieces, nephews, cousins, and friends.



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# By William Webb | FIA Forester | Alabama Forestry Commission

uercus falcata, more commonly known as southern red oak, Spanish oak, bottomland red oak, or three-lobed red oak, is a common hardwood species with a range that blankets most of the southeastern United States. Spreading as far as southern New

York in the North, much of the Atlantic coast in the East, central Florida and the Gulf Coast in the South, and eastern Texas in the West, the southern red oak is a widespread and usual suspect of upland hardwood sites throughout the Southeast.

Most often identified during the leaf-on season by its characteristic leaf pattern which vaguely resembles a bird's foot with three major lobes, it may have more than three lobes, spreading in the general pattern of a bird's three fore-talons, with a rounded, bell-shaped heel at the stem. Falcata is Latin for 'falcon-shaped,' which could reference the characteristic shape of southern red oak leaves. These leaves often have a shiny, dark green appearance on top with a lighter green, hairy bottom in the spring and summer months, turning red and eventually brown in the fall and winter months before falling to the ground.

Its bark is often grey and craggy with numerous shallow furrows running vertically along the main stem, especially in mature specimens. These furrows will often have a light orange color due to an abundance of tannins present in the bark. Tannins are complex acidic chemicals that help protect trees and many other plant species from bacterial infections. They also play a role in interspecies food selection as tannins are responsible for the sourness that anyone who has tasted an unripe piece of fruit will know. This characteristic is useful to the plant because acorns (or fruits) will have higher tannin contents while they are still developing to discourage animals from eating them before the seeds within are mature and ready to be dispersed. As such, tannins are found readily in southern red oak acorns, causing their orange-brown

color. Red oak acorns are often relatively short (less than an inch long) and generally take two years to mature.

Acorns are typically a vital source of mast for a variety of wildlife including deer, turkey, quail, squirrels, and various species of songbirds. Wildlife often select white oak acorns over the acorns of red oaks due to their lower tannin content and sweeter taste. However, some of the tannins in fallen acorns will eventually leech off into the soil and become more palatable. It's important to note that a higher tannin content means an acorn will last longer on the ground because it helps to protect and preserve it. In contrast, white oak acorns may be more palatable, but they germinate shortly after falling while red oak acorns can last on the ground for many months before sprouting. In this way, despite white oak

acorns being preferred, red oak acorns still become an important food source in the winter and spring months.

The southern red oak also has several beneficial uses to humans as well. It can provide wood for a variety of products such as lumber, flooring, furniture, and firewood, and the tannins present in its bark can be used for tanning leather. The trees are also quite tolerant to drought so they can often be found in urban settings and prove useful as a source of shade.

