

ALABAMA'S
TREASURED
FORESTS

A Publication of the Alabama Forestry Commission

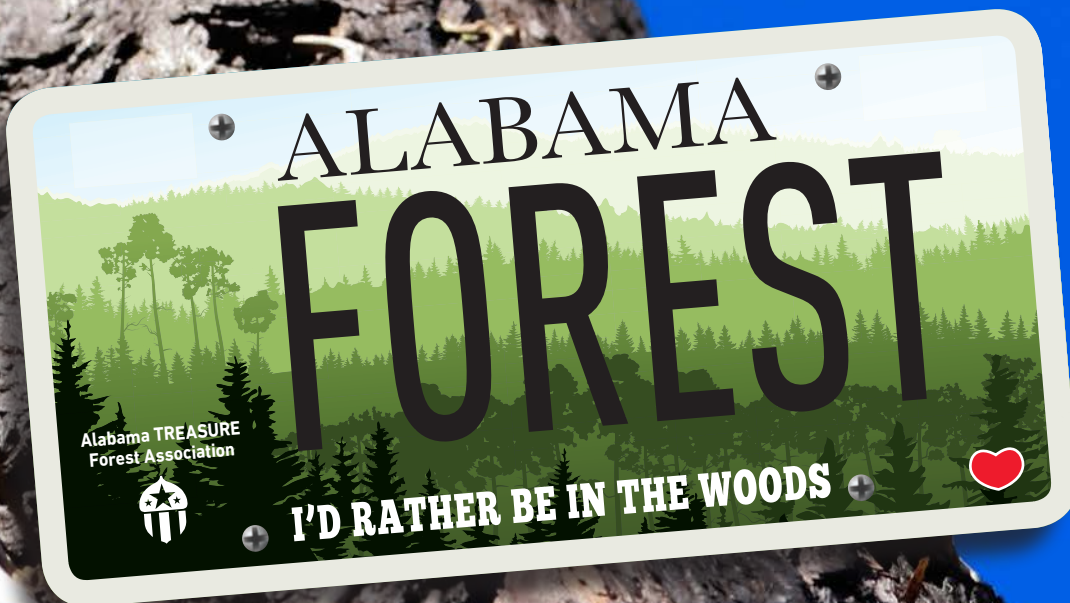
Winter 2021



Building a TREASURE for tomorrow.

Timber, Recreation, Environment, and Aesthetics for a Sustainable, Usable Resource (TREASURE) are the ideals that guide the Alabama TREASURE Forest Program and the Alabama TREASURE Forest Association — like-minded individuals who know that owning land means more than just acreage. It is a passion to make the land better for the next generation. You can be a part of that effort.

Purchase a tag and support education and outreach efforts to raise awareness about the wonderful possibilities of sustainable land management.



TREASUREforest.org

ALABAMA'S
**TREASURED
FORESTS**

A Publication of the Alabama Forestry Commission

- 2 MESSAGE FROM THE STATE FORESTER
- 8 New TREASURE Forest Certifications
- 9 A Walk in the Woods: No Mask Required
by Juan Merriweather
- 11 Alabama CARES: How the Forestry Financial Assistance Program Came to Be *by Ryan Peek*
- 14 AFC SUCCESS STORY
Gulf State Park: Fire Management Within a Coastal Paradise *by Rickey Fields*
- 19 The AFC's Educational Mission
by Bruce Springer and Darci DeBrunner
- 22 An Amazing Alabama Asset
by Gary Faulkner, Dan Chappell, and Jennifer Green
- 30 MEMORIAL: Bolling P. Starke Jr.
- 31 The AFC Mailbox
- 31 Help Us, Help You! 2020 Costs and Trends of Southern Forestry Practices Survey



On the Cover:
A cold winter day in the forests of Winston County.
Photo by Johnna Franks

This publication is provided at no charge to the forest landowners of Alabama, with a circulation of approximately 14,000. 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



GoodFIRES
www.goodfires.org/

VISIT MY FOREST
www.visitmyforest.org/

table of CONTENTS

Vol. XXXX, No. 1 Winter 2021



- ◀ 5
'Home' Made from a Hollow Log
by Ray Metzler



- ◀ 12
Western Fires VS. Southern Fires
by Rance Neighbors
with contributions from John Goff



- ◀ 16
Back from the Brink of Extinction:
Red-Cockaded Woodpecker
by Mercedes Bartkovich



- ◀ 24
Bringing Science to People
and People to Science: Auburn
University Water Resources Center
by Eve Brantley



- ◀ 26
Russell Cave National Monument:
a 12,000-year Journey Back in Time
by Coleen Vansant

Alabama's TREASURED Forests (ISSN 0894-9654) is published by the Alabama Forestry Commission, 513 Madison Avenue, Montgomery, Alabama. Telephone (334) 315-8019.

For address changes/new subscriptions,
email: tfmag@forestry.alabama.gov

Bulk rate postage paid at Montgomery, Alabama.
POSTMASTER: Send address changes to: Alabama's TREASURED Forests,
P.O. Box 302550, Montgomery, AL 36130-2550.

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.

The Alabama Forestry Commission is an equal opportunity employer and provider.

Message from the *STATE FORESTER*

The State of Alabama and the United States Department of Agriculture (USDA) recently entered into a historic agreement to improve forest conditions on public and private lands. On January 12, 2021, USDA Under Secretary of Agriculture James Hubbard and Governor Kay Ivey ‘virtually’ signed the ‘Shared Stewardship’ agreement. This memorandum of understanding is between two federal agencies and two state agencies: the USDA Forest Service, USDA Natural Resources Conservation Service (NRCS), the Alabama Department of Conservation & Natural Resources, and the Alabama Forestry Commission.

Shared Stewardship is all about working together in an integrated way to make decisions and take actions on forest land. Such agreements establish a framework for federal and state agencies to collaborate better, focus on accomplishing mutual goals, further common interests, and effectively respond to the increasing ecological challenges and natural resource concerns. This new memorandum of understanding centers on the USDA’s commitment to work with states and other partners to use the best available science to identify high-priority forests that need treatment and to ensure the long-term sustainability of public and private lands.

Federal and state resource managers have been working together to conserve Alabama’s natural resources since 1918 with the founding of the Alabama National Forests. From restoration of wildlife populations to protection of communities from wildfires, partners in Alabama have a history of uniting to accomplish forestry goals and connecting people to the land.

As State Forester, I’m excited for the Alabama Forestry Commission to formalize our working arrangement with those federal and state partners who help us accomplish our mission. This Shared Stewardship agreement will provide the framework for us at the state level to work with the Forest Service and NRCS as we strive to implement good forestry practices across Alabama.

I am not the only one that is excited about our new collaboration. Under Secretary James Hubbard said, “Shared stewardship provides an incredible opportunity to work with the state of Alabama to set stewardship priorities together. We will combine our mutual skills and assets to achieve cross-boundary outcomes desired by all.”

Gov. Ivey commented, “From our rolling mountains to our sparkling coast, the world can understand why they call it ‘Alabama the Beautiful.’ I am pleased that we can build on the conservation efforts already happening through these strong federal and state partnerships. I look forward to our state continually working for the good of the people as well as our natural resources and to preserve our beautiful state for generations to come.”

Alabama became the 7th state in the South and 23rd in the nation to sign such a memorandum of understanding to strengthen partnerships within the state to increase the scope and scale of critical forest treatments that support communities and improve forest conditions. The Shared Stewardship agreement can be found at <https://www.fs.usda.gov/managing-land/shared-stewardship>.



*Rick Oates,
State Forester*

A handwritten signature in black ink that reads "Rick Oates". The signature is written in a cursive, slightly slanted style.

GOVERNOR
Kay Ivey

ALABAMA FORESTRY COMMISSION
Joseph Twardy, Chairman
Dr. Bill Sudduth, Vice Chair
Katrenia Kier
Chris Langley
Jane T. Russell
Robert P. Sharp
Robert N. Turner

STATE FORESTER
Rick Oates

ASSISTANT STATE FORESTER
William H. Brantley, Jr.

MANAGEMENT DIVISION DIRECTOR
Dana Stone

PROTECTION DIVISION DIRECTOR
John Goff

REGIONAL FORESTERS
Northwest.....Terry Ezzell
Northeast.....Jason Dockery
Southeast.....Andy Guy
Southwest.....Benji Elmore

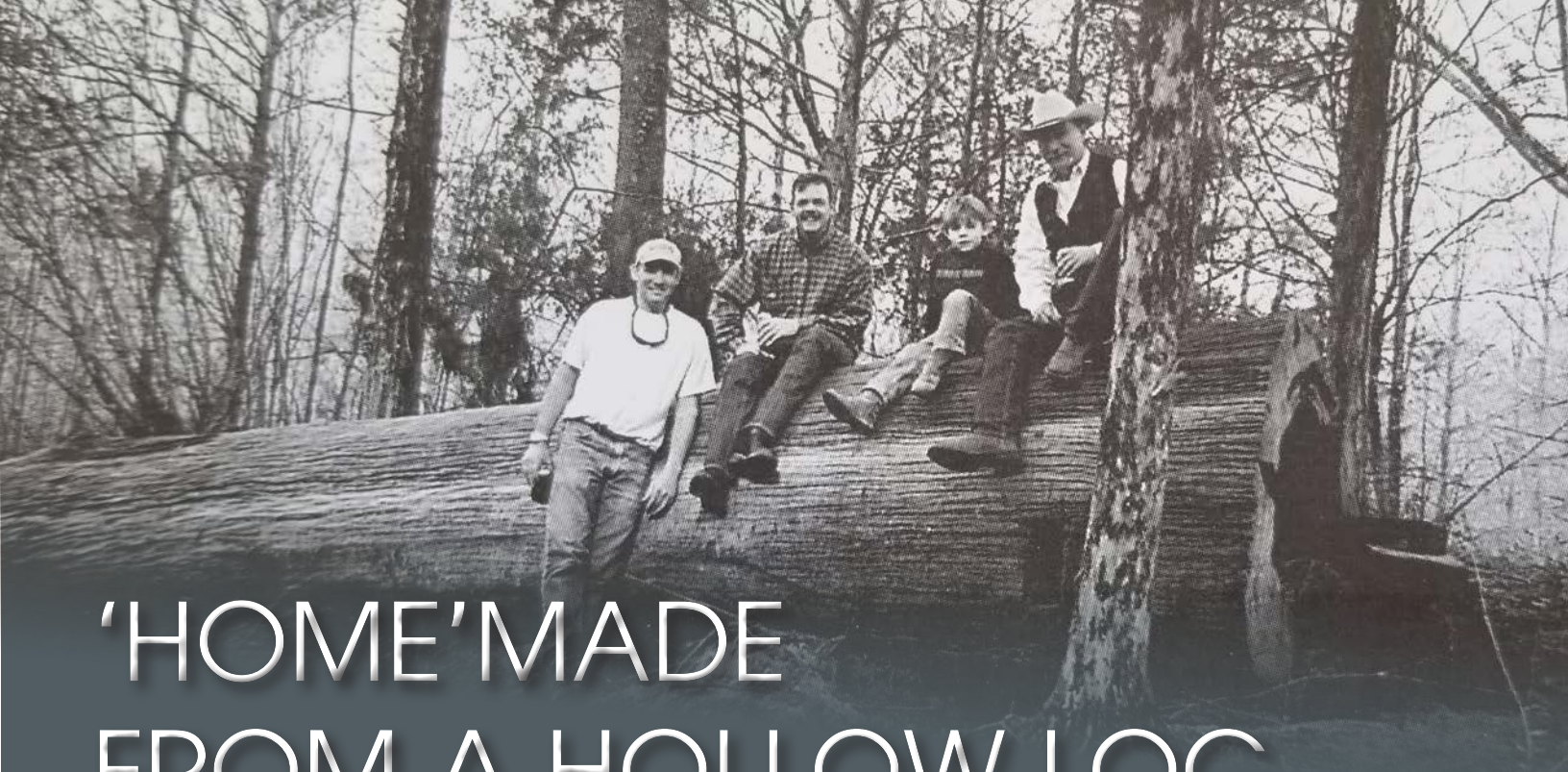
EDITOR
Elishia Ballentine

LAYOUT & DESIGN
Cole Sikes

EDITORIAL BOARD
Joel Bartlett
William H. Brantley Jr.
Billy Carlisle
Benji Elmore
Terry Ezzell
John Goff
William Green
Matthew McCollough
Juan Merriweather
Rick Oates
Coleen Vansant



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 land-owners in the state, offering valuable insight on forest management according to TREASURE Forest principles. TREASURE is an acronym that stands for **T**imber, **R**ecreation, **E**nvironment, and **A**esthetics for a **S**ustained **U**sable **R**esource.



'HOME'MADE FROM A HOLLOW LOG

*By Ray Metzler, Certified Wildlife Biologist, Threatened & Endangered Species Specialist,
Alabama Forestry Commission*

Located in Geneva County, the 'Down-Home Plantation' is an 800-acre tract of land that sits on the Choctawhatchee River west of Hartford. Certified as a TREASURE Forest in 2004, it also holds Tree Farm certification. The owner, Mr. Bill Church, is an avid reader of this magazine and he called on Chris Cotton (AFC Work Unit Manager for Coffee, Covington, and Geneva counties) for some advice and to request a site visit to discuss forest management activities and gopher tortoises. Mr. Church knew his property was home to several gopher tortoises and he wanted a survey completed for inclusion in the species status assessment. When Chris met with the landowner to provide the requested information regarding his forest management questions, he also informed Mr. Church that he was quite sure that I too would want to visit to assess what he considered to be a healthy gopher tortoise population on a fairly small parcel of suitable habitat.

While Mr. Church showed me around the Down-Home Plantation on our scheduled date, it was obvious that he was extremely proud of his land, and rightfully so. Owning the place for more than 30 years, he built his home with pine and cypress lumber that was cut on his property. The flooring was recycled from a cotton mill in Memphis, Tennessee. In fact, the roof trusses were the only new lumber products purchased for the structural components of the house. Having a great porch for relaxing, the home sits atop a hill overlooking a pasture with a great view of the sun setting over the river to the west. In addition to the house, a woodshop and barn are also located on the property.

A Real Cypress Log Story

Mr. Church has been an avid woodworker since his teenage days. In 2007, he was extremely interested when his sons told him about a cypress log they discovered while duck hunting in the swamp. The 63-foot-long log was about 4 feet in diameter. Mr. Church believed it may have been left in the swamp years ago as a result of operations of a former shingle mill. The log was hollow for its entire length and he assumed that was the reason it was not taken to the shingle mill after being felled.

Needless to say, his love of woodworking and the potential for making beautiful furniture prompted him and the family to move the log to high ground for storage and future projects. This task required a bulldozer and a portable sawmill. The tree was

(Continued on page 6)



'HOME'MADE FROM A HOLLOW LOG

(Continued from page 5)

estimated to be over 300 years old at the time of felling in the early to mid-20th century. Mr. Church created a number of family heirlooms from the cypress log and donated several pieces of furniture to the Wesley Chapel United Methodist Church.

Land Features

The land features two ponds, a cypress swamp, pastures, longleaf pine plantations, bottomland hardwoods, various stands of mixed pine-hardwoods, and a mature loblolly stand. Mr. Church maintains an excellent road system that made traversing his property easy. Pastures are leased to a local farmer that grazes cows. The four longleaf pine plantations appeared to be approximately 30 years old and are currently managed for pine straw production. Hunting of waterfowl, deer, and turkey is one of the primary recreational activities on the land. I was able to quickly document at least 25 tortoise burrows while riding through the place with Mr. Church.

Gopher Tortoise Survey Results

A gopher tortoise survey crew returned to the Down-Home Plantation in early January 2021 to formally survey for gopher tortoises. The survey was limited to approximately 177 acres (primarily longleaf stands and associated edges) with highly suitable soils and habitat that might hold gopher tortoises. There is no need to survey lands with poor soils or habitat conditions. The survey crew was very excited to document 72 burrows occupied by 36 tortoises – most of which were on about 30 acres. Tortoises of all age classes were documented. A unique find was the presence of two very small tortoises in the same burrow along with what appeared to be a black widow spider. The majority of tortoises were found on the edge of the raked longleaf stands or in an opening around a hunting cabin located on Mr. Church's property.

My past experience with raked longleaf stands has indicated that most tortoises are associated with the edge or openings in the canopy, where grasses may be more prevalent, than the interior of the stand where sunlight is limited. Longleaf stands man-

A beautiful cypress swamp adds character to Mr. Church's property.

aged for pine straw production receive herbicide applications to minimize herbaceous competition and are not quite as diverse as stands managed with prescribed fire. However, there are potential financial advantages for some landowners who choose to rake pine straw. Mr. Church has been able to provide gopher tortoise habitat around his longleaf stands by maintaining edges and small forest openings in herbaceous plants and early successional habitat.

The Alabama Forestry Commission and other natural resources agencies and organizations appreciate the cooperation and assistance of Mr. Church, as well as the many other landowners who have already allowed gopher tortoise surveys to be conducted on their property. These efforts have allowed Alabama to provide tortoise population information to the U.S. Fish and Wildlife Service in a manner that protects the identity and location of our cooperating private landowners. We expect a decision to be made on the gopher tortoise listing status in 2022. Partnerships developed during the past couple of years will hopefully continue to be mutually beneficial to private landowners and efforts to fairly implement the Endangered Species Act through the best available science and data regarding species of concern.

Private forest landowners interested in conducting a gopher tortoise survey should contact Ericha Shelton-Nix, nongame wildlife biologist with DCNR (Ericha.shelton-nix@dcnr.alabama.gov) or the author at ray.metzler@forestry.alabama.gov. 🏠



(Above): Mr. Church sits at the desk he made from the hollow cypress log.

(Right): A broad road system winds through the Down-Home Plantation.



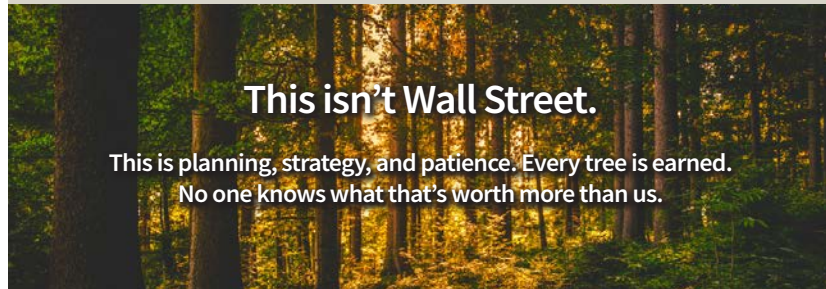
New TREASURE Forest Certifications

Created in 1974 by members of the Alabama Natural Resources Council, TREASURE Forest designation is earned by private forest landowners who affirm the principles of multiple-use forest management. It is this forest landowner recognition program that inspired the national Forest Stewardship Program which began in 1991. TREASURE is an acronym for Timber, Recreation, Environment, and Aesthetics for a Sustained Usable Resource.

Congratulations to these landowners who recently earned their TREASURE Forest certifications! Alabama currently has 1,852 landowners with a total of 1,730,318 certified acres being managed under the AFC's TREASURE Forest Program. 🌲



Landowner	County	Acres
Tommy Anderson	Houston	122
Stephen Hester	Escambia	32
Ron Hilyer	Elmore	67
Frazier Jones	Lee	160
Donna Marrero	Tuscaloosa	100
Sharmon Meigs	Monroe	1,425
Roger Mickelson	Covington	260
Robert Mohon	Madison	366
Carolyn Normand	Escambia	41
Randy Roach	Mobile	180
Mark Robbins	Colbert	35
Tommy Robinson	Coosa	649
Johnathan Taylor	Etowah	21
John Wade Therrell	Monroe	145
Brandon Slagley	Butler	73
	Total	3,676



Trusted Experience

Our team gives you confidence in knowing that your land asset is being managed properly.



Modern Processes

Landowners work differently today than they have in the past. We adapt to work with your business practices.



Investment to Service

We provide a range of services with a goal to maximize the value of your forest land.



Full Commitment

No matter the size of the forest land, our team is fully dedicated to your investment.

ABOUT LARSON & MCGOWIN

Larson & McGowin provides a full range of land management and on-demand decision support and consulting services to a diverse group of clients.

MAIN OFFICE

10 N. Florida Street
Mobile, AL 36607
Tel: 251.438.4581
Fax: 251.438.4604

LOCATIONS WE SERVE

We have operations in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, Tennessee and Texas.

www.LarsonMcgowin.com



A WALK IN THE WOODS: *no mask* required

By Juan N. Merriweather, Forester/Work Unit Manager,
Alabama Forestry Commission

Alabama is the fifth most obese state in this country, right behind Mississippi. In Alabama, 16.1 percent of youth (ages 10 to 17) are reported with obesity, giving Alabama a ranking of 16 out of 50 for this age group. Alabamians love football and we love Southern barbeque, but we haven't always been the healthiest state. We participate in numerous activities such as fishing and hunting, but not too many aerobic exercises.

This past year simply did not allow recreation to happen; 2020 was a roller-coaster. Beginning in March, restaurants, movie theaters, and indoor recreation centers were closed. We were stuck inside with not much to do. Kids started online classes and a lot of parents worked from home. That 'Freshman 15' turned into the 'Quarantine 20.' So, a lot of people around the country looked for alternatives outside of the home.

They eventually turned to nature. State and national parks were just about the only places – other than grocery stores – that were open during the months of April and May. 'Social distances' were required, and the perfect place to create space is in nature, not in confined indoor establishments. State and local parks in Jefferson County such as Oak Mountain and Red Mountain saw an increased number of visitors during the shutdown. Bicycles, kayaks, and exercise equipment sales increased by 130 percent since the start of the pandemic. A lot of these items are still on back order in 2021.

I believe the major benefit to visiting the forests and nature trails is well being. Forests and nature, in general, have been known to boost the immune system, increase serotonin in the brain, and yield better cognitive function. Hiking and biking help relieve stress, lower blood pressure, and increase oxygen intake. Kids who spend at least 20 minutes of time outdoors are more attentive and do better in school.

These uncertain times will eventually end, but they will never be forgotten. We have had to wear gloves and masks, sanitize our hands, and constantly disinfect our surroundings. However, there is one place that we can take all these items off and be ourselves. That old Huffy bike which was left in the garage or those old boots have become our new best friends. So, let's continue to enjoy this open space that God has made. No mask required. 🏡





The *smartest way* through the woods

HARD IRON THAT THINKS HARD.

You know better than anyone that your iron needs to be both hard and smart to keep the timber moving. John Deere forestry technologies offer fast, accurate diagnosis of machine issues, rapid service response, and production tracking to maximize your efficiency and productivity. With real-time mapping, jobsite machine management, and more, we know the smartest way through the woods. **To learn more, contact us today.**



6801 McFarland Blvd West
Northport, AL 35476
205/339-0300

2149 Pelham Parkway
Pelham, AL 35124
205/988-4474

66 Industrial Park Dr.
Monroeville, AL 36460
251/575-7111

4308 Water Trail
Graysville, AL 35073
205/988-4472

2255 Hwy 21 South
Oxford, AL 35203
256/831-0921

25135 One Aviation Way SW
Madison, AL 35756
256/233-1914

3540 Wetumpka Hwy
Montgomery, AL 36110
334/277-7260

www.warriortractor.com

Alabama

CARES

How the Forestry Financial Assistance Program Came to Be

By *Ryan T. Peek, Registered Forester,
AFC Coastal Program Manager*

As everyone knows, 2020 was quite the roller coaster with the COVID-19 pandemic, multiple hurricanes, and a presidential election. The COVID-19 pandemic has certainly been disruptive. In an effort to mitigate the financial disruption, the U.S. Congress passed the ‘Coronavirus Aid, Relief, and Economic Security’ Act (CARES Act). It was signed by President Trump on March 27, 2020. The CARES Act established the Coronavirus Relief Fund, which provided the State of Alabama with \$1.9 billion to assist citizens of Alabama who had been negatively affected by the pandemic. The Alabama Department of Finance was charged with administering these funds.

In early August, the Alabama Forestry Commission (AFC) received an inquiry about whether the agency could administer a forestry financial assistance program funded with Coronavirus Relief Funds. The catch was that a decision had to be made and a program proposal sent to the Alabama Department of Finance within 48 hours. With this in mind, the State Forester put together a team of foresters and program managers, the CARES team, to assess the feasibility of executing this kind of program. The AFC had never developed or executed such a program before.

The CARES team’s initial thoughts were that it seemed feasible to create the program, but they needed some insight on what timber owners were expecting to get out of such a program. A few phone calls were made, and a conference call with several timber owners and landowner representatives was scheduled. During the call, the timber owners indicated that they had received reduced payment for their timber as a result of the COVID-19 pandemic. After hearing from these timber owners, the team came away with a better understanding of how to frame the program proposal.

Having decided to move forward with the program, the CARES team set out to validate that timber payments had in fact decreased during the initial months of COVID-19. After looking through the available timber pricing data on Timber Mart South, the second quarter 2020 data indicated that wood prices were down on average, across all product classes, about one dollar per ton during the first three months of COVID-19. This validated the timber owners claim that they had received reduced prices for their timber. With the claim validated, the next step was to create a program proposal and deliver it to the Alabama Department of Finance. The team developed and submitted a proposal focusing on a financial assistance payment based upon timber volumes harvested or, if the timber was sold lump-sum, based as a percentage of the lump-sum sale amount. The following week the AFC was notified that the program proposal had been accepted and it would take about ten days for final approval to be awarded.

With the program proposal accepted, the CARES Forestry Financial Assistance Program was now a reality. The team knew the work had only just begun and set out to draft the program guidelines and create an application that would be easy for applicants to navigate. Originally they anticipated having everything ready to go by September 12, 2020. In retrospect, that was overly ambitious as there was a lot of fine tuning that needed to be done to get the program where it needed to be. With feedback from consultant foresters, landowners, and forest industry, the program guidelines were revised six times before the team was satisfied with them.

The guidelines were posted on the AFC website prior to the application portal opening so that timber owners could familiarize themselves with the program and begin compiling and preparing their documents. The only means to apply for the program would be through an online portal, so the team took extra care in making sure the application would be as user-friendly as possible, while still collecting all the required information. They designed a flow chart that would assist timber owners in determining their eligibility and in completing the application. In preparation of the portal opening, the team also created a program-specific email and designated telephone number for timber owners to contact. Multiple mass email updates were sent out to any applicant who provided their email address to a team member.

Now satisfied that the program was ready, they set the date to open the application portal for September 22, 2020. However, Mother Nature had other plans. On September 16, Hurricane Sally made landfall near Gulf Shores, Alabama, causing massive destruction along the Gulf Coast. Due to the hurricane, the team opted to move the portal opening date back a few days. The application portal was open from noon on September 29 till noon on October 29.

Leading up to the portal opening, the CARES team had already fielded over 1,000 emails and received and returned over 500 telephone calls. In the first two days the portal was open, 297 applications were received. The team continued to respond to emails and telephone calls throughout and after the application period. One of their goals was to provide good ‘customer service.’ When the program was completed, the AFC had received a total of 802 applications. Each application took 30-45 minutes to review on average, and if there were issues with the application, the processing time increased drastically. Approximately 94 percent of the applications were approved, with the program distributing \$2,610,315.58 of CARES funding.

The CARES team set out to create a program to assist Alabama timber owners that were negatively impacted by the COVID-19 pandemic when harvesting timber, and has succeeded in this endeavor. Let us hope 2021 will be less of a roller coaster ride. 🙏

STATE FORESTER’S NOTE:

The CARES program took a lot of work on the part of our AFC staff. I want to recognize these team members that devoted countless hours to make it happen. This list includes Shannon Anderson, Brett Boyd, Will Brantley, Dan Chappell, Gary Faulkner, Nicole Horn, David Kelley, Hunter Moncrief, Drew Nix, Ryan Peek, and Scott Rouse.

Western Fires

*By Rance Neighbors, Assistant Fire Management Officer, Bureau of Land Management,
Wyoming Wind River/Bighorn Basin District*

“**T**here it is; you see it?” my dad would ask me as he pointed out the sun’s glare off the top of the Garrett Coliseum in Montgomery. No, we were not driving down the highway, we were sitting in the fire tower on Flagg Mountain in Coosa County some 40 miles away. That was how I spent some of my Saturdays as a kid, sitting in a fire tower all day looking for smoke and listening for Dadeville 9 to enter Coosa County on his detection flights.

Those are some of my fondest childhood memories. I was one of them – Coosa 10, Coosa 11 (also known as Dad), Coosa 12, Kate Prater, Jim Spradley (Dadeville 9) and others who followed in their footsteps. Sometimes I would get to go to the wildfires with my dad and if I was really lucky, they would let me drag the drip torch along the firebreak behind the dozer, burning out the unburned fuels between me and the fire. I have so many memories of growing up within the Commission, some I best not share, even though the characters that they involve have long since retired or passed away. I will tell you that Ralph Woolley gave me my first taste of tobacco standing in the dogtrot of one of the CCC buildings on Flagg Mountain, and to this day, it’s only one of two that I have had. I am sure that in today’s environment, most of this is no longer acceptable, and perhaps it wasn’t even back then, but I am so thankful for those individuals who allowed me to create those childhood memories that I will forever hold dear and never forget.

Today I am the Assistant Fire Management Officer for the Bureau of Land Management, Wind River/Bighorn Basin District, located in northwest Wyoming. My primary duties involve hazardous fuels management through prescribed burning, mechanical removal, and herbicide treatments for an area that encompasses approximately 7 million acres, or about one quarter the size of Alabama. I received my bachelor’s degree in forestry from Auburn University and for two years was the Forester for Chambers County with the Alabama Forestry Commission.

To date, I have fought fire in 16 different states and in January 2020, I had the opportunity to spend 30 days in Australia assisting with their devastating wildfires. My first assignment in Australia was dragging a drip torch behind a dozer. It was a Caterpillar, not a John Deere, and the name on the dozer was Tallangatta, not Talladega, but you get the picture.

There are lots of differences between fighting fire in the West versus the South. At first you try to figure out why you are

breathing so hard just walking around, then realize the elevation is anywhere from 4,000-10,000 feet higher than Alabama. After a while you get acclimated to walking around on flat surfaces, then you start hiking the mountains and the process starts over. I have hiked some of the hill country in Alabama and it can be steep, just not quite as long. The fuel type out West is different, especially in the lower elevations where there is cheatgrass and sagebrush. These fuels are light and flashy, and fire moves very rapidly, especially with 40 mph winds, 100 degree temperatures, and 8 percent humidity (yes, humidity can get that low). The fire behavior in these fuels would compare to a broom sage field burning in spring in Alabama.

Timber fires can see rapid rates of spread with crown-driven runs when slope and winds align. Once these fires get going, you must start thinking ‘big box.’ You begin to plan out several operational periods, pick a ridge, and put lots of heavy equipment on it. Things start to look and sound more like a logging operation than firefighting. Every time I hear the unmistakable sound of a hot saw hitting a tree, I am reminded of spring in Alabama and wonder if a turkey just gobbled somewhere.

In the West, there tends to be a heavier presence of aerial resources including helicopters, single engine air tankers (crop dusters), very large air tankers, scoopers, etc. The aerial coordination that takes place among these resources when flying in the same airspace is incredible. At first it can be intimidating to communicate your needs and priorities with the pilots of the aircraft, but with time, that becomes normal and I usually find myself managing two or more radios. It’s just easier than switching channels all the time.

There are other differences and nuances in firefighting within all geographical areas throughout the country and world that I cannot begin to capture. There are also lots of similarities. Regardless of where I find myself, the basic concepts are the same: create an anchor point and flank the fire. Whether that is with a dozer, hand crew, engine (brush truck, tanker) or leaf blower, to put the fire out you remove the fuel. However, the most common denominator, regardless of where you are, is people and relationships.

Firefighting and fire suppression responsibilities fall under the jurisdiction of many different agencies and organizations throughout the country. Whether you work for one of the federal agencies, a state agency, a full-time municipal fire department, or

Southern Fires

volunteer fire department, the end goal is the same: public service. Relationships established on the line are invaluable. In our daily jobs we wear many different colors of uniforms—white, tan, green, red, etc.—which represent the organization. On the fire line, we all wear yellow Nomex shirts. Our agencies and organizations may have different mission statements, but time and time again it has been proven that working together during stressful situations establishes bonds and relationships that will last a lifetime. This does not just occur on the fire line. While we are seeing longer-lasting fire seasons and very destructive ‘mega fires’ in the West, we are also seeing other natural disasters and we need these relationships to overcome them. Last year, Alabama experienced unprecedented storms that impacted local communities, counties, and towns, and the economic strains they caused are enormous.

When I am asked how work is going, I sometimes respond by saying work is easy, people are hard. When we have separate goals personally and professionally, hidden agendas, differing political views, and varied backgrounds, that response applies. However, when we are all working toward a common objective and have the same end state in mind – in this case protecting lives and property – by developing and fostering cooperater relationships, we are most definitely better together. 🙏



A common misunderstanding on western firelines versus southern firelines is the term "tanker." In the South, if you ask for a tanker, you will most likely get a type 6 engine with water on the back of it. On the western front, you would get this, a commercial-size jetliner with a 12,000-gallon payload.

Postscript

By John Goff, Forest Protection Division Director

Timing and relationships are everything. I grew up on nearly 900 acres in Coosa County, one of the most rural areas of the state, then and still now. Our family farm was practically in the shadow of Flagg Mountain, a mere 4 miles away as the crow flies to the north. It also bordered Hatchet Creek to the south, and was only 1.5 miles east of the 35,000-acre Coosa Wildlife Management Area. You may think...well, that's why John became a forester. While it certainly helped, I don't think it was the biggest reason. I was just lucky! Our closest neighbor (less than a mile away) and adjoining landowner to the southeast was Blake Kelley, the now-retired Coosa County Forester for the AFC. He happened to have two daughters, one that was two years older than me, and the other two years younger than me. Blake's Forest Ranger was Joel Neighbors, whose son is Rance, the author of this story. He and I are the same age. The stage was set. At that time, Coosa County had a very active 4-H program led by Melinda Luker and Roger Vines. Got lucky again! I also happened to be close to the same age as these extension agents' children. My timing was right. I was coming up at the same time as all these natural resource professionals' children, so I fell in line and developed a love of the outdoors through 4-H and Scouts.

Rance and I became fast friends. We played baseball together from second grade through our senior year. After that we both enrolled at Central Alabama Community College (CACC) and then later were roommates at Auburn, where we both received forestry degrees. You may ask . . . how did Rance end up out West? Well, no shock there, a girl was involved. Between our junior and senior years at Auburn, it was customary for everyone to get summer jobs related to forestry. I served as a Teaching Assistant at Solon Dixon Forestry Education Center in Andalusia, while Rance jumped on a fire crew out West. (No doubt the trips his dad had taken out West to fight fire with the AFC had planted the seeds that drove him to go out West as well.) That summer, Rance met Kami and the rest is history. Today, he and I still talk a great deal about work, life, and turkeys. We have turkey hunted every spring together that we can remember, with the exception of 2020.

I look back on the kids I grew up with, and how several of us ended up in the natural resources field. There is no doubt that our career paths were inspired by people such as Blake, Joel, Roger, and Melinda. If you are in a position that has influence over outdoor programs for kids, it does make a difference. 🙏



SUCCESS STORY

Gulf State Park: Fire Management Within a Coastal Paradise

By Rickey Fields, Baldwin County Forester, Alabama Forestry Commission

This summer will mark the 10-year anniversary of the infamous Gulf State Park Wildfire that ripped through Gulf State Park and the surrounding areas. For eight long days, state and local first responders battled this blaze in merciless heat and difficult terrain. The fire erupted just days before the July 4th holiday, a time when the park campground and surrounding homes and condominiums were at full occupancy. Officials had no choice but to evacuate nearby homes and businesses as well. The flames were moving with such intensity that evacuees were forced to leave most of their personal belongings behind. In the end, the wildfire burned over 1,000 acres. Thanks to the hard work and efforts of the first responders, no lives or structures were lost. In my honest opinion, I feel we were extremely lucky.

Soon after the smoke cleared, it was obvious to State Park officials that something had to be done to prevent a wildfire of this magnitude from happening again. They knew they had to take the initiative: it was time to fight fire with fire, literally. Working in collaboration with the Alabama Forestry Commission (AFC), a master plan was created over the next few months. This plan consisted of implementing prescribed burning, a forest management tool that had long been forgotten at Gulf State Park due to the extremely high population density and other outside influences.

Several key locations were identified within the park with a high risk of wildfire potential, and the early stages of the pre-

scribed burning progress began. Unlike a typical prescribed burn, there are many additional variables that go into burning an area such as the Gulf State Park. Factors such as public awareness, advertising, education, and political concerns are just a few items that must be addressed before the first match is struck.

In November 2012, the AFC implemented the initial prescribed burn at Gulf State Park, the first fire introduced at the park since it was evacuated the previous year due to the wildfire. It was an extremely tense day, especially for me as the burn manager, but in the end, it was a success. Since then, our agency has conducted prescribed burns every year throughout the park. We have also utilized these burns to create a 'real life' training opportunity for several state and local entities. Alabama Law Enforcement Agency's Aviation Division, as well as local fire departments, have assisted the AFC on several occasions. This process has allowed first responders from outside our agency to familiarize themselves with natural disasters, as well as the organizational process involved for a successful outcome.

While the majority of our burns at Gulf State Park have all gone as planned, my most recent burn in August of 2020 did involve a 'slight setback.' Even with careful planning and preparation, I managed to burn up roughly 120 feet of elevated boardwalk in a remote area of the park. Despite that, I still consider it a success as we provided for public safety, in addition to improving overall forest health and native wildlife habitat! It was a humbling experience, and I have certainly learned from my mis-

takes. I am also aware that my co-workers will have plenty of jokes about my ‘Boardwalk Burn’ for many years to come.

The re-implementation of burning has also accomplished much more than simply reducing the probability of wildfires. Not only has it provided for native plants and wildlife to return to areas of the park that were previously inundated with dense vegetation, it has also allowed the expansion of walking and biking trails (including more wooded boardwalks) throughout the park.

Additionally, the public’s perception of prescribed burning has become much more positive than in the past. I feel this is due to the fact that people can see firsthand the ‘before and after’ effects of prescribed fire in their community. People that were once fearful of burning now stop and ask us what areas of the park we are going to burn next.

I urge everyone to visit Gulf State Park and witness the positive impact prescribed burning has made on the park’s visitors, as well as the native wildlife that make their home in the park. 🏡

Prescribed burning at Gulf State Park has proven to yield multiple benefits to its forest. Some of these benefits include the reduction of resource competition, a healthier understory, and improved aesthetics for all who enjoy visiting the park.





Back from the Brink of Extinction:

Red-Cockaded Woodpecker

*By Mercedes Bartkovich, Nongame Wildlife Biologist,
Alabama Department of Conservation & Natural
Resources, Division of Wildlife & Freshwater Fisheries*

In late September, the U.S. Fish & Wildlife Service (USFWS) proposed down-listing the red-cockaded woodpecker from endangered to threatened under the Endangered Species Act (ESA). This is a feat that many did not expect to happen for another 30 years. However, due to countless efforts of biologists, foresters, private landowners, and numerous private, state and federal partners, this accomplishment came sooner rather than later.

Red-cockaded woodpeckers (RCW) were once considered common throughout much of the longleaf pine ecosystem, inhabiting open pine forests from New Jersey to Florida, and west to Texas. These robin-sized birds with white cheek patches are social birds that live in cooperative social family structures called 'groups.' The groups typically consist of two to four birds that include a breeding pair as well as up to two male offspring that stay to help raise the next clutch of chicks. The collection of cavity trees used by a group is referred to as a 'cluster' and can range from one to numerous cavity trees. A unique RCW trait is that it is the only woodpecker species that excavates its cavities in living pine trees [versus dead trees]. Although this behavior was an evolutionary strategy, it became the RCW's Achilles heel as many of the old-growth 80-year-old pine stands disappeared. Logging became more prevalent in the 1700s, while commercial tree farming, urbanization, and agriculture further contributed to declines during the early to mid-1900s.

The RCW also evolved in a fire-dominated system. The natural frequent fires that swept through during the spring and summer growing season would clear most standing dead trees and mid-story vegetation, giving way to diverse herbaceous ground-cover that increased foraging habitat. Due to an increase in fire suppression [and lack of prescribed burning], many of the for-

ests the species once inhabited are now too densely vegetated. Because of their strict habitat requirements of old growth and open pine habitat which had been reduced to 3 percent of its former size, the RCW population declined by approximately 97 percent and was placed on the USFWS endangered species list on October 13, 1970. Since its listing, the Alabama Department of Conservation & Natural Resources (ADCNR) has been working tirelessly with partners, including the U.S. Forest Service (USFS), USFWS, Alabama Forestry Commission, Alabama Power, Longleaf Alliance, private landowners, and many others, to continue habitat management, monitor populations, install artificial cavities, initiate translocations, and support and expand 'Safe Harbor' agreements.

Public Lands

Nationwide, millions of acres of national forests, national wildlife refuges, military installations, and state lands are being managed for the benefit of RCWs. Prescribed burning continues to be a highly effective management tool responsible for restoring those southern open pine ecosystems. The ADCNR Wildlife & Freshwater Fisheries Division manages 75,000 to 80,000 acres of state public land for open pine habitat using prescribed burning, creating more suitable habitat for RCWs as their populations expand. The Forest Service also utilizes prescribed fire on the four Alabama USFS ranger districts with RCW populations. They



burn a total of 90,000 to 100,000 acres annually and conduct timber management of pine thinning and/or restoring longleaf on the national forest landscapes.

Outside of habitat management, monitoring populations on both public and private land is an extensive process that lasts multiple months. In Alabama, there are six known RCW populations; four on national forests, one that is spread between both state and private land, and one on private land. Biologists begin checking trees in the winter to ensure there are still enough suitable cavities for birds to use during the nesting season. Once nesting season begins in the spring, clusters are checked frequently to count the number of eggs, and later, the number of nestlings. Before the newly-hatched birds leave the cavity, they are banded with unique color bands to allow biologists to track them and document survivorship, movement patterns, and demographics of the population.

Artificial nest cavities and translocation were introduced in the 1990s and continue to be critical in increasing RCW populations. Artificial nest cavities are used in areas where the number of birds exceeds the number of available cavities. While it can take RCWs one to six years to excavate a cavity, a biologist only needs 45 minutes to install one. These cavities can be drilled holes that mimic natural cavities, or boxes that are installed into suitable trees. Statewide, biologists and foresters install or replace approximately 400 artificial nest boxes every year on both public and private land. As artificial cavities help populations grow and expand, biologists can also translocate birds from larger 'donor' populations to provide a boost for critically small RCW populations. This helps to prevent small populations from disappearing and increases reestablishment in their historic range. In 2020, the Talladega Ranger District population was the only population in Alabama to receive birds, but in the past, translocation has occurred on both national forest land and private land to increase RCW numbers within the state.

Private Lands

The RCW Safe Harbor Program was introduced by the USFWS in 1998, allowing private landowners to manage their land with minimal regulatory oversight. The program encourages land practices that benefit RCWs such as prescribed burning and longleaf pine restoration, while safeguarding the landowner if more RCWs move onto their property. In the state, there are two known populations of RCWs that fall on private lands, and those landowners are enrolled in the Safe Harbor Program allowing them to continue to manage their property as they desire. Often in Alabama, enrolled properties have a baseline of zero with no birds present on their land, but potential habitat is present. Potential habitat is defined as any pine forest managed with periodic fire for mature, open stands, including longleaf, loblolly, slash, and shortleaf pine, which can often be found if the landowner is already managing for bobwhite quail, deer, or turkey. Since the program's inception in Alabama, the number of active clusters on private land has increased from 11 to 46, and over 40,000 open pine acres of potential RCW habitat has been successfully protected. With this potential habitat residing on both public and private land, continued collaboration with landowners is integral in the species recovery.

(Continued on page 18)

Returning from the Brink of Extinction: *Red-Cockaded Woodpecker*

(Continued from page 17)

It has taken decades for the red-cockaded woodpecker to recover to the point where it is no longer in imminent danger of extinction and does not meet the definition of 'endangered' under the Endangered Species Act. Even though it is being down-listed to 'threatened,' the RCW will still be protected under the ESA with tailored protections needed for further recovery of the species. At the time the species was listed, it was estimated that there were fewer than 10,000 RCWs throughout its range in fewer than 4,000 active clusters. By 1993, the number of active clusters had increased to 4,694, and today the conservative range-wide estimate is approximately 7,800 clusters. Alabama's management efforts have led to a statewide RCW increase of approximately 379 active clusters split between six populations. To further that accomplishment, the Conecuh National Forest recently hit a milestone of reaching 100 active clusters, leaving them one-third of the way to their property goal as outlined in the USFWS RCW recovery plan.

As these victories are celebrated, biologists, foresters, and many others are lacing up their work boots to begin preparing for another season of management and monitoring to ensure the red-cockaded woodpecker population continues to thrive in Alabama. ♣



USFWS Non-game Wildlife Biologist Mercedes Bartkovich successfully captures a red-cockaded woodpecker for banding.

Artificial nest boxes are installed by hand to serve as a safe habitat for red-cockaded woodpeckers.



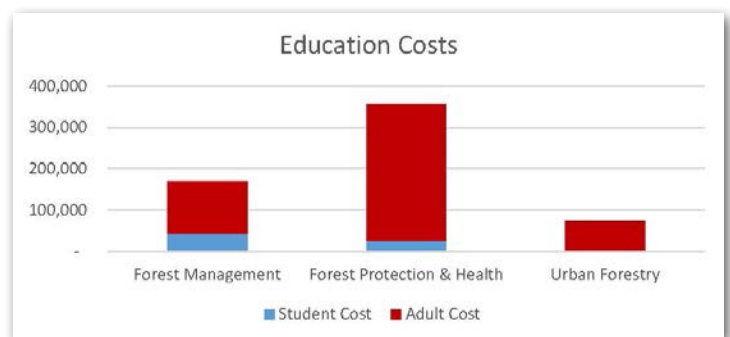


The AFC's Educational Mission

*By Bruce Springer, Assistant State Forester, Retired
and Darci DeBrunner, Stewardship Coordinator, Alabama Forestry Commission*

The Alabama Forestry Commission (AFC) has a three-fold mission: to protect our forests, to manage our forests, and to educate people about our forests. Because education is such an important part of our mandate, almost everything the AFC does has an educational component. Therefore, a great deal of agency time is devoted to educating school children, volunteer firefighters, landowners, and industry professionals about the importance of forestry to the state.

Shown below are the Commission's Education Hours and Costs for three categories in 2020: Forest Management, Forest Protection & Health, and Urban Forestry. *Note: student numbers were lower than an average year due to COVID-19.*

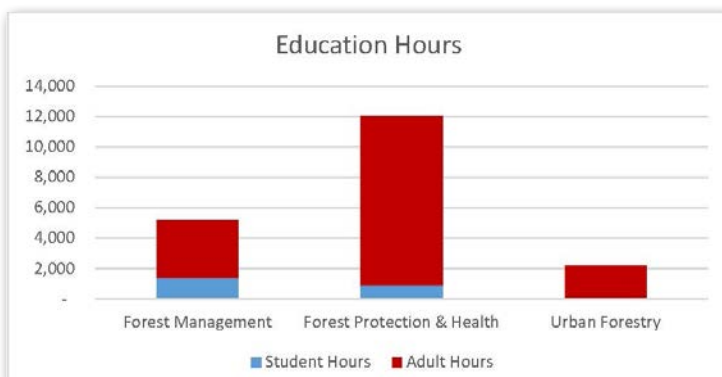


Forest Management Education

Educating landowners and the public on how to better manage natural resources helps ensure the sustainability of 23 million acres of forests in Alabama, so that this vast resource continues to provide clean water, wildlife habitat, and timber to help grow the state's economy. It also includes teaching K-12 students about the importance of Alabama's forests.

Landowner tours and workshops reach approximately 3,000 individuals annually. At the same time, agency professionals provide more than 2,300 forest management recommendations to

(Continued on page 20)



The AFC's Educational Mission

(Continued from page 19)

landowners. These activities help educate landowners on the best current science available for managing their land.

'Classroom in the Forest' and 'FAWN' (Forestry Awareness Week Now) are two programs AFC employees conduct annually which introduce approximately 24,000 students in grades 4-5 to forest management by bringing them to the woods and teaching them about water quality, forest management, forestry careers, wildlife habitat management, and many other topics.



A junior forest ranger flaps out a fire at a FAWN program.

The Commission has been instrumental in educating landowners and loggers in effective ways to reduce the impacts of forestry operations on streams, ponds, and lakes. Because of voluntary implementation of practices taught by the agency such as constructing roads across streams, installing water bars on dirt roads, and setting aside buffers along streams, the cleanest water in Alabama comes from our forests.

AFC personnel inspect approximately 256 logging jobs every year to ensure compliance with our Best Management Practices for Forestry. These efforts are designed to educate landowners and loggers while correcting any deficiencies that exist on the ground. Without our programs, the burden to teach about water quality in forestry would fall entirely to the Alabama Department of Environmental Management, the Alabama Cooperative Extension System, or our universities.

Forest Protection & Forest Health Education

The Alabama Forestry Commission works with volunteer fire departments to educate members on efficient and safe methods to suppress wildland fires. Not only does this partnership minimize damage to forests, but it also reduces the risks to homes and communities.

The agency has great success working with the nation's highly recognized wildfire prevention ambassador, Smokey Bear. Through this program, AFC employees educate approximately 20,000 K-12 students about being careful with fire. Commission professionals expand on the fire prevention message to teach the importance of controlled burning (prescribed fire) as a tool to prevent wildfires by reducing disastrous fuel buildup.

The AFC goes a step further to teach and certify adults as trained prescribed burners. The science of controlled burning is

presented in several educational workshops each year, with professional foresters and landowners being trained as Certified Prescribed Burn Managers. Promoting and implementing prescribed fire is one reason Alabama doesn't have the catastrophic wildfires seen in the Western states. There are approximately 1,100 certified prescribed burn managers in Alabama.

Many years during southern pine beetle infestations, forest loss from insect damage is greater than from destructive wildfires. The AFC also educates landowners on the most effective methods to control insects, diseases, and invasive species on their property. Agency employees work directly with landowners affected by these beetles until the threat diminishes.



Smokey Bear embraces a future firefighter.

Urban Forestry Education

One of the most important aspects of forestry is the urban component. Urban tree canopies provide clean air, clean water, more pleasing aesthetics, and many other benefits to the citizens of Alabama. Trees make cities more livable.

The Alabama Forestry Commission's educational efforts through Arbor Week and Tree City USA programs provide a tremendous benefit to the state, as well as teaching homeowners and city officials how to care for their trees.

Even while living in a city environment, people want to feel they are part of nature, and our urban forests provide that sensation. Teaching people which trees to plant and where to plant them (with considerations for soil preparation) ensures that our urban forests are healthy. These urban forests provide multiple benefits to those who live in municipalities willing to invest in them. 🌲



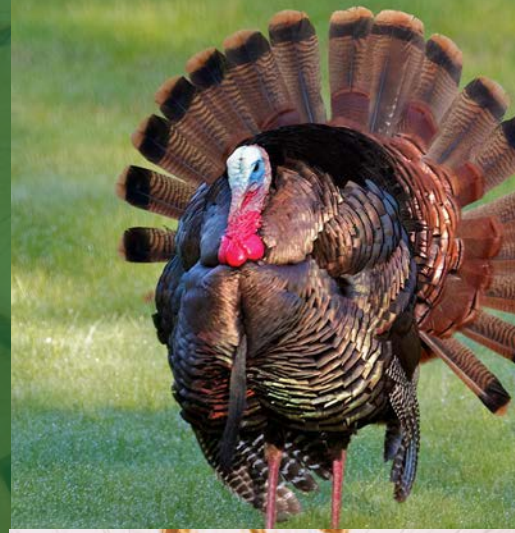
Boy Scout Troop 11 in Auburn received their forestry merit badge with the help of Urban Forestry Coordinator Dale Dickens.



ALABAMA FARMERS COOPERATIVE

From large-scale
production to outdoor
hobbies and everything in
between, your local Co-op
is there for you!

Visit our website
www.alafarm.com/locations to find your
locally owned and operated Co-op



An Amazing Alabama Asset

By Gary Faulkner, Economic Development Coordinator, Alabama Forestry Commission,
Dan Chappell, FIA & Marketing, Alabama Forestry Commission;
and Jennifer Green, Director, Center for Economic Development & Business Research,
Jacksonville State University

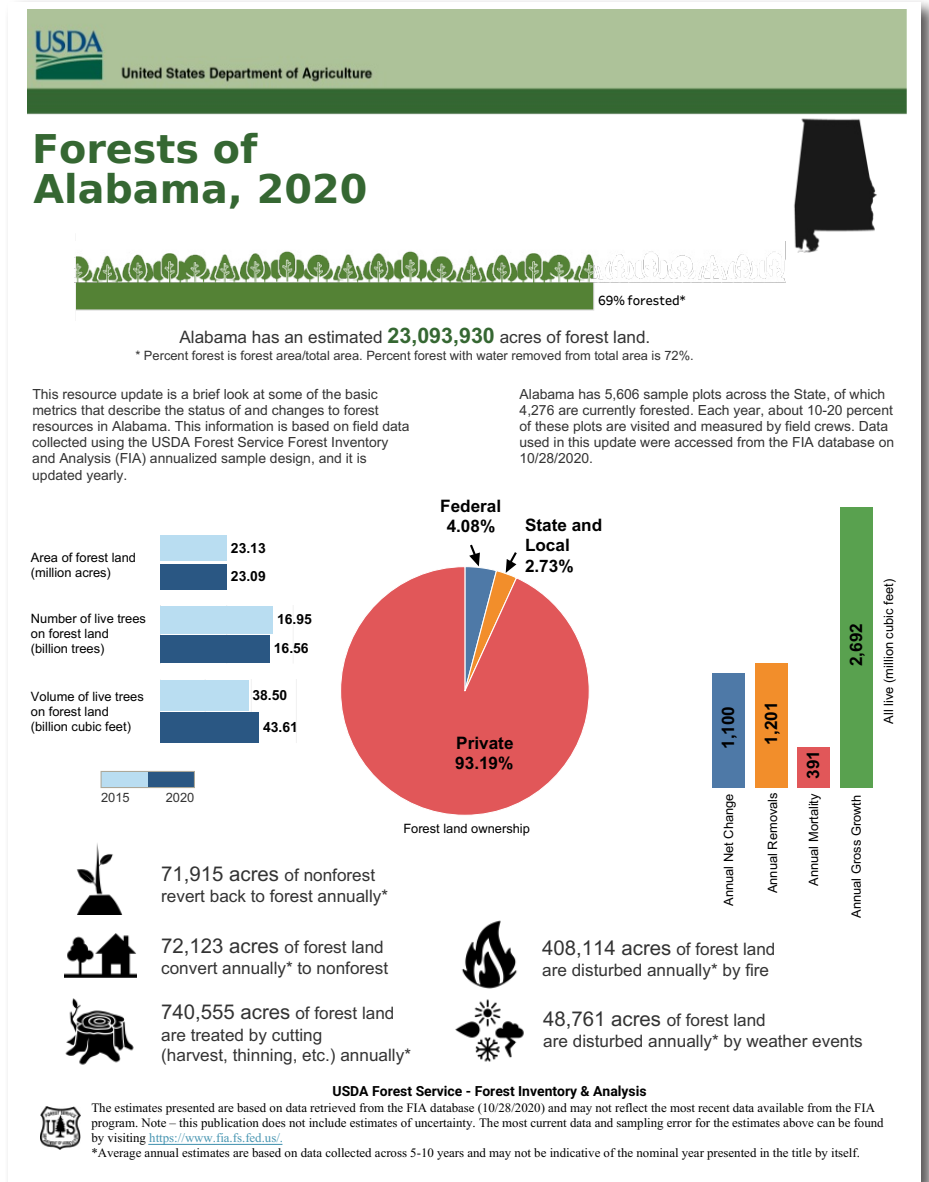
“Asset – A useful or valuable thing”

As a romantic, if one were flying over Alabama, you would observe a sea of emerald green, bathed in sunlight from border to border, with more than 70 percent of the state’s land covered by forest. Public and private timberland owners and forest industry in Alabama have heard and understood the description of this amazing natural resource time and again by many articles, presentations, evaluations, and discussions. However, sometimes we need another or broader perspective of our amazing asset growing within the state’s borders.

Recently, in with collaboration with the Forest Landowners Association and the Southern Regional Extension Forestry, an exercise was conducted to illustrate the vast contributions our timber resource has provided Alabama compared with other southern states. Among others, these facts, figures, and illustrations were sourced from the Alabama Forestry Commission’s Forest Inventory Analysis, Jacksonville State University Center for Economic Development & Business Research utilizing IMPLAN (2018 data), the Alabama Department of Commerce, Alabama Industrial Development Training (AIDT)/Economic Modeling Specialists, Inc. (Emsi), Alabama Department of Labor, Alabama Power Company, U.S. Forest Service, and local economic development organizations. Obviously, many of these facts and figures are evolving targets and changing as time moves forward. Collectively, through these entities, we have attempted to illustrate an amazing asset Alabama has provided to her citizens, that timberland owners have managed, and industry has utilized for economic benefits. Enjoy the following facts:

- Total Direct Job Output – 49,769 jobs (*Jacksonville State University, IMPLAN*)
- Total Direct Labor Income - \$3.3 billion (*Jacksonville State University, IMPLAN*)
- Total Job Output (Direct, Indirect, Induced) – 123,477 jobs (*Jacksonville State University IMPLAN*)
- Total Labor Income – \$6.6 billion (*Jacksonville State University, IMPLAN*)
- Total Value Added (Direct, Indirect, Induced) – \$11.1 billion (*Jacksonville State University, IMPLAN*)
- Total Economic Output (Direct, Indirect, Induced) – \$27.7 billion (*Jacksonville State University, IMPLAN*)
- Exports – \$1.3 billion in forest products (*Alabama Department of Commerce, International Trade Division*)
- Concentration – Alabama has 153 percent more forest industry jobs than you would expect to find in a typical forested U.S. region. (*AIDT/Emsi*)
- Total Tax Output – \$2.2 billion (*Jacksonville State University, IMPLAN*)
- New and Expanding Capital Investment – \$6.7 billion in last decade (*Alabama Department of Commerce*)
- Payrolled Forest Industry Businesses – 1,486 (*AIDT/Emsi*)
- Earnings Per Job - \$64.3K (*AIDT/Emsi*)
- Manufacturing Diversity – Sawmills, pulp & paper, furniture, cabinetry, oriented strand board, medium density fiberboard, plywood, veneer, laminated veneer lumber, glulam, poles & pilings, pellets, cross laminated timber, converted paper, flooring, preservative treating, millwork, containers, trusses, and a plethora of other wood-based products (*Alabama Forestry Commission Industry Directory*)

- Forest Industry Ranking – Alabama ranks in the top ten production within the U.S. for lumber, pulp, paper/paperboard, and wood panels, and top five in several categories. (*AIDT/Forest Product Development Center*)
- Industry Size – Wood products and pulp & paper manufacturing sectors combined provide almost two times as many direct jobs (29,520) as original equipment manufacturer (OEM) automakers (16,100) located at the combined campuses of Mercedes Benz, Honda, Hyundai, Autocar, Toyota, Heil, Tiffin Motor Homes, and New Flyer. (*AIDT/Emsi, EDPA, Chmura JobsEQ, Q1, and local economic development organizations*)
- Industry Jobs – Forestry and its industry provides more jobs (direct and indirect) than people employed by the state’s bioscience industry by almost a factor of two (91,000 vs 48,000 respectively). (*Jacksonville State University and Alabama Department of Commerce, Bioscience Industry Impact*)
- Manufacturing Size – Alabama’s combined forest industrial sectors of lumber, furniture, pulp & paper, and paperboard are the third largest manufacturing sector within the state; the combined sectors of fabricated metal product manufacturing/primary metal manufacturing/and machinery manufacturing are second; and transportation equipment manufacturing is the number one sector. (*Alabama Department of Labor*)
- New and Expanding Industry – The forest industry has invested approximately \$6.6 billion and created 10,000 jobs in the period from 2010 to 2019. (*Alabama Department of Commerce/Forest Product Development Center*)
- Energy – Fifth largest producer of electricity from biomass in the nation. (*U.S. Energy Information Services*)
- Flora & Fauna – Alabama is the fifth most biologically diverse state in the United States in terms of overall species richness. California, Texas, Arizona, and New Mexico are the top four biologically diverse states, but also have two to five times more land mass than Alabama. (*Alabama’s Forest Road Map, Alabama Forestry Commission*)
- Carbon – Alabama’s forests are estimated to have a ‘sea’ of stored carbon with approximately 1.16 billion metric tons. (*Alabama Forestry Commission, 2019 FIA Data*)
- Forests & Water Quality – Alabama’s forests are a vital factor in maintaining and improving water quality. Approximately 850,000,000 gallons of water each day are taken from ground and surface sources, treated, and made available to the citizens of the state. (*Southern Regional Extension Forestry*)



- Water – Alabamians obtain more than half their public drinking water from private forests; the forests filter rainfall. (*Southern Regional Extension Forestry*)
- Oxygen – Thank a forest landowner for the oxygen you breathe, as Alabama’s forests produce enough oxygen for 214 million residents to breathe every year. (*Southern Regional Extension Forestry*)
- TREASURED Forests – 1,800 farms with approximately 1.7 million acres. (*Alabama Forestry Commission*)
- Alabama Tree Farm System – 4,000 farms with approximately 2.2 million acres. (*Alabama Forestry Association*)

Whether you care about drinking water, clean air, or economic benefits, we must understand the role of the forest landowner to sustain these benefits, and the importance of harvesting timber to provide income for the caretakers of the forests. 🌲



Bringing **Science** to People and People to **Science**:

Auburn University Water Resources Center

*By Eve Brantley, PhD, Professor and Director, AU Water Resources Center
and Rachel McGuire, Programs & Communications Coordinator, AU Water Resources Center*

The unquity and importance of Alabama's water resources have been well documented by teams of researchers from around the world, explored and enjoyed by homegrown enthusiasts and visiting tourists, and serve as an economic engine for transportation, power supply, and industry. Water touches every part of our lives, from tangible drinking water or our favorite fishing hole, to hidden water in our food, clothes, and other consumer products. The Auburn University Water Resources Center (AUWRC) serves as a point of contact for water research, education, Extension, outreach, as well as a beacon to raise awareness of science-based management and protection of water resources.

Housed in the AU College of Agriculture, the AUWRC is part of a national network of 54 Water Resources Research Institutes (WRRIs) funded, in part, by the US Geological Survey – one in each state and the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam. The WRRIs are federal-state partnerships charged with facilitating research to assist with state and

regional water problems, share research findings to promote science-based decision making, train future scientists and engineers, and provide competitive grant funds for innovative research. The Alabama Agricultural Experiment Station and Alabama Cooperative Extension System have invested in the AUWRC with funding and support to expand the land grant mission of research, instruction, and Extension. This strong commitment to water resources at Auburn University has allowed us to promote and connect interdisciplinary research, implement world-renowned citizen science programs, and extend our impact across the state, region, and world.

To better understand the many ways water flows through our days and landscapes, the AUWRC promotes interdisciplinary collaboration for innovative research to solve current and future water concerns. Each year, the AUWRC funds relevant and timely research at universities across Alabama to address state and regional needs. Research projects may provide the 'jump start' needed to propel a research idea into a larger funded initiative.

Oftentimes, research projects support graduate students, helping to train the next generation of scientists and engineers. The diversity of water concerns is reflected in the diversity of funded research including municipal source water protection and drinking water quality, harmful algal blooms, reservoir sediment and nutrient dynamics, private well water contamination, septic system failure, microbial source tracking, stormwater management, and more.

Although Alabama receives an average of 55 inches of rain annually, records from the Geological Survey of Alabama remind us that severe drought occurs on average every 12 years and may last from one to seven years. You may remember recent drought years and the corresponding negative impacts on agriculture, silviculture, urban and suburban centers, and ecosystems. The AUWRC partners with the National Integrated Drought Information System to host a monthly drought webinar for the Apalachicola-Chattahoochee-Flint River Basin that includes Alabama, Georgia, and Florida. These free webinars address local and regional weather, climate forecasts, as well as surface and groundwater conditions. To register for future webinars or view the archives, visit <https://aaes.auburn.edu/wrc/extension-outreach/droughtwebinar/>

During this time of limited in-person communication, the AUWRC holds monthly 'Water Webinars' the second Wednesday of each month that feature research from across Auburn University. The 2020 highlights included AU School of Forestry and Wildlife Sciences' Dr. Soledad Peresin's nanocellulose research on forestry biomass products and water remediation (check out her research here: <https://sfws.auburn.edu/profile/maria-soledad-peresin/>).

Extending research conducted at Auburn University and the WRRRI to stakeholders is a core mission of the AUWRC. The annual statewide Alabama Water Resources Conference is a forum for all members of the water community to connect and share research, Extension programs, and network on the many facets of water resources. This event is attended by representatives from academia, state and federal agencies, Extension, local and state government, private industry, non-profit groups, and interested citizens. The diversity of attendees benefits the networking and partnership-building opportunities to learn from each other and seek creative solutions to complicated water resources questions. We look forward to getting back together in



Photo by Dr. Carol Johnston, Auburn University

person for September 2021 (fingers crossed) to continue our work in water resources.

Engaging the public in their role in water resources protection and management is the center of the successful citizen science program, Alabama Water Watch. This program educates citizens in Alabama (and around the region and world) on water issues, provides training to collect credible water data, and empowers positive impacts in watersheds. The AUWRC is partnering with the Alabama Cooperative Extension System Water Program in the development of an Alabama Private Well Water Program and the delivery of the Alabama Watershed Stewards course, a program funded by the Alabama Department of Environmental Management Section 319

Program. Each of these Extension programs provides research-based information to increase awareness of personal water stewardship opportunities to protect our state's waters.

Visit the Auburn University Water Resources Center website for more information and to access resources at aaes.auburn.edu/wrc/

An easy way to stay up to date on events sponsored by the AUWRC is to follow us on Twitter (@AuburnWater) or Facebook (<https://www.facebook.com/auwrc>). 📱

Photo by Dr. Eve Brantley, Auburn University





RUSSELL CAVE NATIONAL MONUMENT:

a 12,000-year journey back in time

By Coleen Vansant, Public Information Manager, Alabama Forestry Commission

Russell Cave National Monument in Jackson County is Alabama's only national monument. It is considered the oldest regularly used rock shelter in the eastern United States. Archeological evidence discovered on the site indicates that prehistoric man used the cave and shelter for thousands of years.

Although a relatively small cave, it records approximately 12,000 years of history (roughly 10,000 B.C. to A.D. 1650) and includes all Southeastern prehistoric cultures including Paleo, Archaic, Woodland, and Mississippian periods. Russell Cave holds one of the most complete records of all four archeological periods in one place.

Russell Cave was formed around 9,000 to 12,000 years ago when an underground cavern roof beneath the mountain collapsed, creating a sinkhole and exposing the cave. Originally, there was a double entrance separated by a rock column. The right cave had a debris field of rock in front of the entrance and over time was filled in with silt and falling debris from the cave's own roof, eventually raising the floor approximately 30 feet. Excavations over the years have reached the original rock-fall level and artifacts indicate prehistoric man began using the cave as soon as the cave floor had leveled. The entrance to the cave and shelter faces east which helps to block the cold winter winds blowing from the north and northeast. This feature probably made sheltering there much more inviting to early man.

The cave is named after Revolutionary War veteran, Col. Thomas Russell, who at one time owned the property. Excavations of the site began in 1952 when four amateur archeologists with the Tennessee Archeological Society and the University of Chattanooga conducted the first dig to a depth of six feet. Quickly realizing the extent and significance of the site, they contacted the Smithsonian Institution. In conjunction with the National Geographic Society, Smithsonian archeologists conducted three seasons of digs between 1956 and 1958. They reached a depth of more than 32 feet. In 1962, the National Park Service performed an excavation to a depth of 10.5 feet. The final excavation is said to have completed the archeological record.

In 1956 the land was purchased by the National Geographic Society and it was donated to the American people. Russell Cave and a 310-acre tract of land surrounding it was designated as a National Monument in 1961 by President John F. Kennedy. The site achieved National Register of Historic Places distinction in 1966. The Russell Cave National Monument now falls under the administration and maintenance of the National Park Service.

Russell Cave provides the most thorough artifact records of any prehistoric culture in the Southeast. The life of early man has been recorded in the cave and adjoining shelter through the chronological layering of artifacts from before history was recorded to the modern era. Although some groups would have used the cave year after year, varying styles of projectile points indicate that it was inhabited by different bands.

Approximately two tons of artifacts have been recovered from the area. Objects include charcoal from fires, bones of animals which were hunted for food and toolmaking, spear and arrow points, hide scrapers, and shards of pottery. Archeological excavations have also revealed some of the oldest evidence of weaving: a woven grass or reed basket and the imprint of a woven mat left in a layer of clay beneath the surface of the cave shelter. In addition, some of the oldest domesticated grains have been discovered at Russell Cave National Monument, as well as some of the oldest bone fishhooks in the Southeast, one being a two-piece hook.

Paleo Period (from 10,000 B.C. to about 7000 B.C.)

Russell Cave became habitable 9,000 to 11,000 years ago after the collapse of the cavern and the filling in of the floor with silt, which gradually raised the floor above flood level. It is believed prehistoric man used the cave as a winter shelter as he followed wild game. The site provided an ample water supply

Photo courtesy of
Encyclopedia of
Alabama/Russell
Cave National
Monument

Russell Cave Point
ca. 9500 B.C.
to 6000 B.C.



This projectile point was found during one of the excavations of the site and is on display in the visitor center at Russell Cave National Monument. Because it had never been found elsewhere, it was named 'Russell Cave Point.' It's made from chert, a type of stone common in regions that were once ancient sea floor.

and local resources with which to fashion weapons and tools. Archaeologists determine that the cave shelter was used by 15–30 people at a time during the fall and winter months. The groups were probably related or extended family.

A handful of stone spear points, fashioned from stone quarried nearby, have been found from this time period.

Archaic Period (from about 7000 B.C. to 1000 B.C.)

Early man from this period were hunters and gatherers with few social divisions. They survived by hunting wild game, harvesting local nuts and berries, and fishing and gathering shellfish from nearby creeks and rivers. During this time the shelter was still used as a seasonal dwelling.

More artifacts were found from this period than any of the others, with the greatest concentration being spear points. One type of spear point has never been seen outside of this site, so it was named 'Russell Cave Point.' Dated between 8,000 to 11,500 years old (9500 B.C. to 6000 B.C.), an example is on exhibit at the visitor center.

Bones from *Mylohyus*, an extinct genus of peccary (wild pig), date from this period and give evidence that the animals in this genus survived beyond the Ice Age and were hunted by the early residents of Russell Cave.

Artifacts found from this era include some of the earliest bone fishhooks (some of a type never seen before), other types of bone and antler tools and utensils, ceramics, evidence of basketry and weaving, and food crop production.

Woodland Period (from about 1000 B.C. to A.D. 800)

This period represents a transitional time for Native Americans between their hunter/gatherer ancestors and their sophisticated mound builder forefathers. A significant cultural change took place as more permanent villages and settlements started to appear, as well as trade between peoples. Populations were growing and society was becoming more complex. It is

(Continued on page 28)

A look at a section of the inside of the shelter shows where an archeological excavation is taking place. You can see the smoke stains on the limestone ceiling from thousands of years of cooking and warming fires. The cave was originally much deeper, but ceiling cave-ins have contributed to a shallower shelter today.





RUSSELL CAVE NATIONAL MONUMENT:

a 12,000-year journey back in time

(Continued from page 27)

believed they still used the cave in fall and winter when they broke up into smaller groups.

With the invention of the bow and arrow, the making of pottery, and the use of agricultural crops, this was a time of technological advancement for the Indians. Projectile points and bone fishhooks, antler and bone tools and utensils were also excavated from this period.

Mississippian Period

(from about A.D. 800 to A.D. 1500)

When the early European explorers arrived in Southeastern North America, they were met by the complex Indian villages and settlements of the Mississippian Period. Known as the 'Mound Builders,' the people of this era established large permanent towns featuring, in many cases, huge earthen mounds used for burial, residential, and ceremonial purposes.

They had learned to utilize the land for growing crops. Corn, beans, and squash (the 'Three Sisters') were some of the staple crops enabling larger settlements to thrive. Pottery was now made in a variety of shapes and sizes, and many pieces were decorated with intricate designs. They had complex social structures, religion, and culture. The cave shelter was still used during this time primarily by hunting parties and trading parties. Stone tools and weapons from this period have been excavated from the cave floor.

Since 1500

By the time Europeans began settling in the area in the late eighteenth century, the region was occupied by the peoples of the Cherokee Nation who used the cave infrequently. Artifacts from after the 1500s indicate that it saw only sporadic use as a hunting

camp before becoming private property in 1817. Ceramics from A.D. 1540 have been found along with a dated metal fishhook.

A journey through time

Although the natural setting around Russell Cave National Monument has changed since 10,000 B.C., the site of the cave itself has remained relatively unaltered. Although small in size, visiting the cave makes a lasting impression because you have just taken a journey through more than 12,000 years of history of the earliest inhabitants of our state and nation.

Interesting Facts

- Russell Cave was relatively the first complete site dug after the invention of Carbon-14 dating in 1950.
- The limestone from which Russell Cave was carved contains nodules of chert, a type of rock that is easily worked into tools and projectile points. This resource of natural material may have been a feature that made the shelter attractive to its early inhabitants.
- Russell Cave National Monument is Number 44 on the North Alabama Birding Trail. More than 130 different species of birds have been identified there. Around 50 percent of Alabama's birding population can be seen at the park.
- In some of the outlying archeological areas around the cave, seed evidence remains of the maize and other crops cultivated as early as 500 B.C.
- One of the most extensive cave systems in the state, Russell Cave is the third-longest mapped cave in Alabama with more than 7.5 miles of passageways. The cave has a total of six entrances.
- Russell Cave ranks 90 on the United States 'Long Cave' list, and 314 on the world 'Long Cave' list.

- Alabama's Jackson County, in which Russell Cave is located, is home to more than 1,500 explored caves, and thus is considered to have more caves per square mile than anywhere else in America.
- The State Champion blue ash tree makes its home adjacent to the boardwalk to the cave shelter.
- For the more adventurous, there is a 1.2-mile asphalt hiking trail just off the boardwalk to the cave shelter. The trail is steep and can be strenuous, so wear appropriate shoes and carry water.
- The cave boardwalk makes the short trip to the cave shelter handicap accessible.

Visitor Center and programs

The visitor center presents actual artifacts and reproductions of artifacts that have been excavated from the cave shelter. Also available is a seven-minute film about Russell Cave National Monument and the history of the people that used the cave shelter and surrounding area. (I strongly recommend beginning in the visitor center and watching the film before seeing the cave shelter. You may need to return to the visitor center after seeing the cave shelter to make it all fit together. I did!) A picnic area is available near the visitor center.

Tours and ranger-guided field trips

A variety of educational programs and materials for both students and teachers are available. Self-guided or ranger-guided field trips allow students to explore local and national history. Options include hands-on archeology lessons, a guided walk out to the cave shelter, or demonstrations of prehistoric weapons. Due to staffing limitations, ranger-guided programs are only available on certain days of the week for no more than 35 students. If your group is larger, you may have to make special arrangements with the ranger staff.

Due to COVID-19, field trips may be subject to group-specific alterations.

Russell Cave National Monument and visitor center are open daily from 8 a.m. to 4:30 p.m. (CT), except for New Years, Thanksgiving, and Christmas. It's located at 3729 County Road 98 near Bridgeport, Alabama. Admission is free. If you cannot make it to the monument, they have several resources to bring the history of Russell Cave to your classroom. To make arrangements for this service or for more information, visit the National Park Service Russell Cave National Monument website or call (256) 495-2672. 📍

Photos by Coleen Vansant



State Champion Blue Ash on left of boardwalk

References

- *Investigations in Russell Cave National Monument, Alabama*, Publication in Archaeology, National Park Service 1974.
- *Ancient America: Russell Cave, Alabama*, Keith Dotson, June 20, 2019.
- *National Park Service, Alabama: Russell Cave National Monument*.
- *National Park Service: The First Settlers of Russell Cave*, April 14, 2915.
- *Thrive Regional Partnership, Experience Ancient Wonders at Secluded Russell National Monument*, Rhett Bentley, March 12, 2020.
- *Alabama News Center, Uncovering the history of Russell Cave National Monument*, Erin Harney, November 25, 2018.
- *Encyclopedia of Alabama, Russell Cave*, Jessica Fordham Kidd, University of Alabama, May 14, 2019.
- *Life at Russell Cave*, Dorothy Marsh. 1980.

MEMORIAL

BOLLING P. STARKE JR.

JANUARY 19, 1938 – OCTOBER 19, 2020

Mr. Bolling Powell Starke, Jr., of Montgomery, Alabama, died on Monday, October 19, 2020. Without question, Bo Starke was a man of love, loyalty, and immense integrity. He had a generous spirit and a larger-than-life personality with a great smile and laugh to go along with it. He was a true believer of living life to the fullest. He never met a stranger and always had a great story to tell you each time you would see him. An avid outdoorsman, he was a TREASURE Forest landowner and was deeply devoted to the Alabama Wildlife Federation and supported programs teaching children the beauty of nature.

Mr. Starke was also very involved in many local charitable and civic activities. He was a great family man and a loving father. He does not leave us behind because his heart and spirit will always be with his wife of 60 years, Sheila Rogers Starke, his son, Bolling Powell Starke, III; his daughter, Elizabeth Starke Clements and her husband, Tripp Clements; and his sister, Harriet Starke Bryan. He will always be looking over his eight grandchildren and one great-grandchild.

At Bo's request, the family held a public service on October 22, 2020, at the Lanark Outdoor Pavilion of the Alabama Wildlife Federation in Millbrook. A private family graveside service was held at Grace Episcopal Church in Pike Road. Donations can be made in his memory to either of the following: The Alabama Wildlife Federation, 3050 Lanark Rd, Millbrook, AL 36054, or Christchurch, 8800 Vaughn Road, Montgomery, AL 36117. 🕊



(Left to Right): Bolling P. Starke Jr., Elizabeth Stark Clements, and Bolling P. Starke, III.



It's About
LAND



Let's finance yours.

If land ownership or refinancing your land is what's next in your story, let First South guide you through financing the next chapter.

 **First South**
Farm Credit

Let's talk



662-234-5015 | FIRSTSOUTHLAND.COM

The AFC Mailbox



To the Alabama Forestry Commission:

I wanted to take the time to thank you and your agency for your article on my grandfather, Charles Pigg [Alabama's TREASURED Forests magazine, Winter 2020]. Those that knew him dearly greatly appreciated it. He was one heck of a man, stern but fair, as those who knew him at work attested to in the article. Although I mainly knew the softer side of him as a grandfather, he still expected the best of his children and grandchildren.

I have many great memories of him, and he instilled in me a love for learning and nature. I remember being 6 or 7 and him teaching me how to know which way a tree would fall when cut using his military-issued compass. Most who knew him know that he had a workshop at home to do projects in. In his workshop, the walls were surrounded with peg boards with labels for each tool as well as an outline of the tool that went there. Everything had its proper place and that's where it belonged. There are so many more memories and lessons learned that I could recount, but that would be an incredibly long story. I'll simply leave you with a favorite quote of his: "Self-discipline begins with the mastery of your thoughts. If you don't control what you think, you can't control what you do." - Napoleon Hill

From my family and me, thank you from the bottom of our hearts for the memoir of Mr. Charles Pigg. There will surely never be another like him.

Respectfully,
Brittany Richardson

To the Editor:

Thank you for a great magazine. It is a joy to receive it and enjoy the many fine and wonderful articles about our state. Please keep up the good work!

Rita Franklin
Birmingham, Alabama

Winter 2021

CHANGE OF ADDRESS & NEW SUBSCRIPTION FORM

Are you receiving Alabama's TREASURED Forests at the correct address?

If not, please complete this form and return to:
Alabama's TREASURED Forests Magazine
P.O. Box 302550 Montgomery, AL 36130-2550

New Address:

Name: _____
Address: _____
City: _____ State: _____ Zip: _____

Old Address as it appears on mailing label:

Name: _____
Address: _____
City: _____ State: _____ Zip: _____

**Please check here if receiving duplicate copies and enclose both mailing labels.
E-mail changes of address to: tfmag@forestry.alabama.gov**

Help Us , Help You!



If you own forestland in Southern states (AL, AR, FL, GA, KY, LA, MS, MO, NC, OK, SC, TN, TX, VA), please help us improve information for forest landowners by participating in the 2020 Costs and Trends of Southern Forestry Practices Survey.

2020 Costs and Trends of Southern Forestry Practices Information

This questionnaire is used not only to better understand the cost of current forestry practices but also as a long-term study about how costs and management practices have changed over time and what influenced those changes. The responses from this survey are important in shaping the narrative of forestry practices in the South and influencing policy decisions that affect private forest landowners. However, this questionnaire, which has been historically distributed via paper mail, has seen decreased participation in recent years. To streamline this process and increase participation, the format for the 2020 questionnaire provides:

- Easy to use, web-based format
- Breakdown of each table into separate, more easily digestible questions
- Questions that include example text to streamline user answers
- The opportunity to skip certain sections if they are not applicable to the user, which will minimize the time and effort that the original version required

Accessing The Questionnaire

To fill out the questionnaire reporting the costs of forestry practices in your area, please use the following link:

https://auburn.qualtrics.com/jfe/form/SV_3dX4e17uwg4FYsA

Your total time commitment will be approximately 45 minutes depending on the availability of your information. If you do not manage or own any forestland in the states mentioned above, please disregard this notice.

Deadline March 31, 2021

Questions?

Contact Adam Maggard, Ph.D., Alabama Cooperative Extension Specialist and Assistant Professor, School of Wildlife Sciences, Auburn University, by email: adam0074@auburn.edu or by phone: 334.844.2401.



Alabama's *TREASURED Forests*
513 Madison Avenue
P.O. Box 302550
Montgomery, Alabama 36130-2550

CHANGE SERVICE REQUESTED

PRESORTED
STANDARD
U.S. POSTAGE PAID
MONTGOMERY AL
PERMIT NO 109

AGRICULTURE IS ESSENTIAL, *and we have the loans to keep you growing.*



**ALABAMA
FARM CREDIT**

ALBERTVILLE
(256) 878-2631
(888) 305-0093

ATHENS
(256) 232-0344
(888) 305-0091

CULLMAN
(256) 734-0132
(888) 305-0074

TALLADEGA
(256) 362-0507
(888) 305-0098

TUSCUMBIA
(256) 381-5512
(888) 305-0081

www.AlabamaFarmCredit.com

© 2020 ALABAMA FARM CREDIT. ALL RIGHTS RESERVED.

