

ALABAMA'S

TREASURED FORESTS

A Publication of the Alabama Forestry Commission

Issue No. 2 - 2023



ALABAMA
FOREST

Alabama TREASURE Forest Association

I'D RATHER BE IN THE WOODS

TIMBER, RECREATION, ENVIRONMENT, AESTHETICS, SUSTAINABLE, USABLE, RESOURCE

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.



TREASUREForest.org

ALABAMA'S
**TREASURED
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On the Cover:
Pink dogwood, one of the most popular spring flowering trees in Alabama.

Photo by LExie Blessing
www.pexels.com

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



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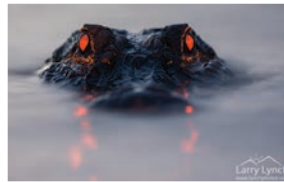
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The publication of a story or article in this magazine does not constitute the Alabama Forestry Commission's endorsement of that particular practice, product, or company, but is an effort to provide forest landowners of Alabama with information and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

Message from the STATE FORESTER

We often see the term ‘urban forestry,’ but do we really know what it means? The Dictionary of Forestry defines it as such: the art, science, and technology of managing trees and forest resources in and around urban community ecosystems for the physiological, sociological, economic, and aesthetic benefits trees provide society. But what does that mean? Who cares?

Well, we should all care about urban forestry. According to *Healthy Trees, Healthy Lives*, a program developed by the Southern Group of State Foresters and others, urban trees provide mental and physical healing, as well as financial benefits to those in communities which invest in such infrastructure. Read below for a surprising set of values that come from our urban forests.



*Rick Oates,
State Forester*

Trees care for your vitality – Trees absorb pollutants so you can breathe clean, fresh air, helping your brain release serotonin to boost your energy and mood.

Trees care for savings in healthcare – The positive human health effects of air pollution removal by community trees and forests across the United States equals \$6 billion annually.

Trees care for your healing – Being able to see trees while recovering from surgery – as through a hospital window – increases a patient’s pain thresholds, requiring less pain relievers and shortening recovery time.

Trees care for your brain – Kids who are exposed to nature are more relaxed and attentive, which improves learning and performance in school.

Trees care for your fitness – Green spaces and tree-lined streets encourage walking, outdoor activities, and generally healthier lifestyles.

Trees care for your skin – Urban trees throw shade on your exposure to harmful UV rays, reducing your chances of developing skin cancer.

Trees care for your comfort – Shade from a tree’s canopy can reduce temperatures by up to 20° F, making it safer and more comfortable to be outdoors.

Trees care for your fighting power – Being in and around nature helps your body’s immune system and boosts disease-fighting cells to act faster.

Trees care for your heart – Exposure to trees relaxes and restores your mind, lowering your blood pressure and heart rate.

Trees care for your little ones – Urban trees are found to promote higher birth weights and support good health in newborn babies.

Trees care for your lungs – Trees help keep our world clean and healthy by filtering particles out of the air we breathe, decreasing the risk of respiratory illnesses.

Trees care for your peace of mind – Exposure to forests decreases mental fatigue by relaxing and restoring your mind as well as providing a sense of security.

That is a pretty amazing set of facts about our urban trees; something we all take for granted as we walk around our cities and towns! For more information about Healthy Trees, Healthy Lives, see the story on page 13, and check out the website at <https://healthytreeshealthylives.org>.

Rick Oates

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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 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.



Calumet Plantation

*By Thomas Moss | Forester | Wiregrass Work Unit Manager
Alabama Forestry Commission*

Nestled on the banks of the Chattahoochee River you will find a peaceful place known as Calumet Plantation, owned and operated by siblings Walter Earl Whatley and Adair Gilbert. This brother and sister pair are the fourth generation of the family that has owned the property for more over 120 years. The original farmhouse and barn sit on a gentle rolling hillside overlooking the property. On a visit to Calumet, you can see their cattle and hay operation, or view wildlife in one of the many timber stands.

While Calumet Plantation sits on the Chattahoochee, the history and name of the property originate on another river. The siblings' great grandparents met while working on showboats that ran on the Mississippi River. The name Calumet originates from the French explorers' interactions with Native Americans. The ceremonial pipe became known as the Calumet, while used in many ceremonies it most often became synonymous with peace. So, when the family retired from the showboat life close to the turn of the twentieth century, they bought property near Columbia. Their peaceful place on the Chattahoochee became Calumet Plantation.

As the family farm passed from generation to generation, Walter B. Whatley and his wife, Clarkie, took over management of her family's farm around the 1940s. Both Walter and

Clarkie worked as teachers, and Walter had also been employed with the Soil Conservation Service in Georgia. He brought his knowledge as an agriculture teacher and soil conservationist to the farm. Mr. Whatley introduced many agricultural practices on the farm including terracing, treating peanuts to prevent disease, and hybridizing corn to improve seed varieties. These practices evolved into a seed corn business, and he was one of the directors of the Alabama Crop Improvement Association. His knowledge was not just limited to agricultural conservation. In a recent visit with Adair and her husband Maurice, she told me how her father would rotate his quail hunts to prevent depletion of an individual covey. It was under his management that the property became a certified Tree Farm in the 1950s. The wealth of conservation knowledge he passed on to his children has had a great impact on the current conditions of Calumet Plantation.

During the mid-1980s, approximately 230 acres were clearcut in preparation of predicated market fluctuations due to upcoming changes in capital gains tax laws. Normal site preparation at the time consisted of sheering and raking before planting. Having observed that trees in neighboring plantations were performing better near the rake piles, Adair discussed the idea with her father.

(Continued on page 6)



Dr. Adair Gilbert understands the importance of having a forest management plan.

Courtesy of Ala Coop Extension System



Prescribed fire was utilized on this stand of loblolly.

They began researching and working with a consultant out of Georgia, deciding to spray the area with herbicide, then machine and hand plant the trees. Their property became one of, if not the first in the area, to conduct site preparation in this fashion that has since become the standard practice.

Walter Earl and Adair learned and assisted with management on the land before they took over ownership in the early 2000s. While growing up, they learned to take care of the land from their father, but that didn't stop them from seeking additional wisdom. Family members have taken multiple classes from the Alabama Cooperative Extension System including Master Tree Farmer, Master Cattle Producer, Master Wildlife, and Master Gardner. In addition to always learning, they are always willing to share their knowledge with others. The importance of having a forest management plan and setting goals is shared with any landowner wanting advice. "Do the best you know how with the resources you have available," is how Dr. Gilbert responded when I asked about their multiple-use management style.

The property is no longer utilized for cropland but is divided into pastures for grazing and hay, as well as a diversity of timber stands. Longleaf pine has been planted on the upland sandy sites through funding from the Conservation Reserve Program through the Farm Service Agency and the Environmental Quality Improvement Program through the Natural Resources Conservation Service. In the more clay-rich soils, loblolly pine has been planted, while slash pine has been planted in the low lying and wetter soil types that were not favorable to the other pines. These pine stands, as well as the bottomland hardwood along the river and drains, give the property a wide variety of forest diversity. In a continued effort to improve the forest productivity and in pursuit of innovation, cloned loblolly pine seedlings were planted in 2012. The rest of the property is managed in pastures for grazing and hay production for the 175-head cattle herd. On a visit to Calumet, it is possible to see deer, turkey, quail, gopher tortoise, and many other species of wildlife. This variety is only possible due to the diverse eco-system of the property.

Brady Dunn, Forestry Specialist with the Alabama Forestry Commission, began working with the family when he transferred to Houston County. Brady updated the forest management plan on the property in 2016. Noticing the good work they have been doing and working with the Houston County Farm City Committee, Calumet Plantation was awarded the committee's Forestry award for 2017. This is also the year the property became certified as a TREASURE Forest.

Over the last several years they have hosted workshops and tours for the Future Farmers of America, Houston County Farm City Committee, Dothan Kiwanis Club, local churches, and other groups on topics that included forestry, wildlife, cattle, and invasive species. Alabama Department of Conservation & Natural Resources Wildlife Biologist Ericha Nix was invited to the property to check the condition of the gopher tortoise population. In addition to the educational opportunities conducted on the property, the family is also active in the Houston County Farm City Committee, Dothan Kiwanis Club, Columbia Historical Society, and the Houston County Cattleman's Association. Due to the outstanding work on the property and their education outreach, they were also recognized as the Houston County Farm Family of the year and won the Outstanding Wildlife Conservation Award by the Southeast Alabama Association of Conservation Districts in 2019.

Like many other properties in Alabama, Florida, and Georgia in October of 2018, Hurricane Michael greatly impacted Calumet Plantation. Multiple stands suffered minor damage, but severe destruction resulted in salvage thinning and clearcutting of approximately 80 acres. This situation led to a few management changes on the property, which included combining some of the timber management and cattle to allow grazing in a portion of the pine stands. The other change in forest management was to consider the harvest rotation to prevent a large-scale loss in the future if another storm hit. Hurricane Michael introduced the Emergency Forest Restoration Program from the Farm Service Agency to the



Severe destruction from Hurricane Michael resulted in salvage thinning and clearcutting.

Courtesy of Ala Coop Extension System

An example of active silvopasture, the property combines pastures for grazing and timber stands.



area, and they were also able to take advantage of the Hurricane Michael Block Grant Program to recover some lost timber value. Calumet today continues to be a family operation. While Walter Earl lives in north Alabama, the decisions are made with both siblings' input, proving that family can manage property together. While the farm is owned by the fourth generation, they are preparing the next generations to be able to care for the land. In continuation of the family-run farm, Wade (Walter Earl's son-in-law) started assisting with the day-to-day operations several years ago. Wade helps with all aspects of the farm including the cattle and timber production. He has become a certified prescribed burner and conducts a good portion of the burning on the property himself. Timber management work that the family cannot manage is handled by a professional forestry consultant. In the past year multiple stands have been burned on a rotational basis, invasive species including bamboo trifoliolate orange and cogongrass have been treated, and clearcut areas have been replanted with site-specific pine species.

When they were asked why they chose to manage the land, Adair responded, "I absolutely love it," and Walter Earl said, "It never occurred to us not to." This sentiment easily demonstrates the love and passion they hold for the land. It does not take a long visit to see why the local Alabama Forestry Commission staff decided to nominate Calumet Plantation for the Helene Mosley Memorial TREASURE Forest Award in 2022. Education is important to Walter Earl and Adair, and they are happy to share their knowledge of management with other landowners, encouraging them to reach out to the public service agencies to get more information on how to do what is best for their property. They believe everyone should be informed about what assistance is available to them. 🙏

Proud recipients of the Helene Mosley Memorial TREASURE Forest award in 2023: Wade Whatley, Walter Earl Whatley, Adair and Maurice Gilbert.

Courtesy of Alabama Cooperative Extension System



The AFC's Brady Dunn assisted Walter Earl and Adair with their TREASURE Forest certification.



New TREASURE Forest Certifications

Created in 1974 by the Alabama Forestry Commission under the vision of former State Forester Bill Moody, 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! 🎉



Landowner	County
<i>Mark Siegel</i>	<i>Baldwin</i>
<i>Stephen Musser</i>	<i>Chambers</i>
<i>Mike Conlon</i>	<i>Colbert</i>
<i>Stanton Langley</i>	<i>Coosa</i>
<i>Eddie Kirkland</i>	<i>Henry</i>
<i>Ansley Whatley</i>	<i>Houston</i>
<i>David Jemison</i>	<i>Jackson</i>
<i>Albert Boroughs</i>	<i>Monroe</i>
<i>Cathy Jorgensen</i>	<i>Pike</i>
<i>Alan Miller</i>	<i>Sumter</i>



BUILD. INVEST. GROW.

Experience the ultimate hunting and fishing getaway at Willow Oak Lodge's new Pheasant Ridge cabin, the latest addition to Tim and Kim Horton's expanding operation. Thanks to Alabama Farm Credit's support, the Hortons were able to make their dream a reality, offering guests a luxurious all-inclusive retreat right here in Alabama.



Hear from our members.



Together we grow.
ALABAMAFARMCREDIT.COM





SUSTAINABLE AND RENEWABLE Energy Utilizing Wood: International Drax Group Locates Pellet Plants in Alabama

By Al Jones | Forest Economic Development Representative | Alabama Forestry Commission

The State of Alabama and the Alabama Forestry Commission were excited to receive the news of Drax Group's decision to locate pellet plants in Alabama during the second quarter of 2021. Since its arrival, Drax has been a fantastic partner bringing good paying jobs to rural Alabama, expanding operations, providing strong timber demand to Alabama's forest owners, and becoming an integral piece of Alabama's strategy to keep our forests healthy. Drax is the United Kingdom's (UK) largest source of renewable electricity, employing 3,400 people across the UK and North America. Mr. Matt White, Executive Vice President of North America Operations for Drax, graciously agreed to be interviewed, providing the following information about the British-based company for the enjoyment of our *Alabama's TREASURED Forests* readers.

What is a pellet and what is the process of producing a pellet?

“In terms of bioenergy, wood pellets are a renewable, sustainable form of fuel, which can be used to generate electricity. Biomass pellets are made at a pelletization plant where sustainably sourced fiber is chipped, screened for quality and particle size, heated to reduce its moisture content, and lastly pressed through a grate at high pressure to form the solid, short, dense biomass pellet. By compressing forest industry residues into a pellet, biomass becomes significantly more energy dense. Wood pellets also have very low moisture content, giving them a high combustion efficiency – an important feature in power generation.”

What type of raw material do you utilize to make a pellet?

“Our biomass is sourced from sustainably managed forests, predominately in the U.S. and Canada. We utilize low-grade wood fiber left over from timber harvests and the sawmilling process, including smaller, diseased, or misshapen trees that have little commercial value, as well as trees removed during thinning operations under standard forest management practices to maximize the growth of forest stands. Using these wood product residues helps reduce the risk of forest fires, pests, and disease outbreaks that occur in places such as California where there is very little forest management.

“Three major benefits of a facility such as ours is that we provide market opportunities for small timber and materials which also supports good forest management, help to create jobs in rural communities, and deliver reliable renewable power. The forests that we source our biomass from are managed in accordance with best practices designed to support the health and growth of these forests over the long term, and we have strict criteria in place to ensure our work does not negatively impact the growth of the forest, the amount of carbon being stored, biodiversity, or the socioeconomic wellbeing of the communities that surround them.”

(Continued on page 10)





Drax pellet plant in Aliceville

How did Drax come to locate in Alabama?

“When Drax acquired Pinnacle Renewable Energy, we gained the Aliceville site and the greenfield project site at Demopolis. The desire to strengthen our footprint in the Deep South coupled with Alabama having the third largest forest industry in the U.S. gave Drax the win/win opportunity to expand its business and grow within the state. The forest products industry is a major component of Alabama’s economy.

“With the third largest timberland base in the U.S., producing around \$4 billion in gross domestic product (GDP), sustainable biomass production is a key part of Alabama’s economy. Drax aims to increase its global biomass pellet production capacity from around 5 million tons to 8 million tons by the end of this decade, seeing the strong forest industry in Alabama and the larger U.S. Southeast as a great partner. A recent analysis by Chmura shows that this year (2023), Drax’s two pellet plants in Alabama could generate revenues of approximately \$20.6 million for the forest and logging industries alone, and that Drax could contribute more than a quarter billion dollars to Alabama’s economy, adding more than \$100 million to the state’s GDP. Further, with the right support from governments, Drax stands ready to invest billions in deploying ‘bioenergy with carbon capture and storage’ (BECCS) at scale to cut carbon emissions and generate renewable power for millions of homes and businesses. We are excited about the positive impact this will have on climate, nature, and our communities in Alabama.”

What has been your experience in Alabama?

“Exceptional . . . from a people perspective we’re providing good paying jobs for rural communities, and they are extremely hard working and dedicated to growing our business. From a business perspective, the State is very accommodating for manufacturing and increasing job opportunities for its residents.”

How many people does Drax employ in Alabama?

“Drax currently employs more than 130 employees across our two Alabama plants, in Aliceville and Demopolis. However, a recent study done by Oxford Economics shows that Drax’s operations (including indirect and induced employment) could support more than 2,000 jobs in Alabama alone.”

What are the advantages of locating to our state?

“Drax’s success will always be underpinned by the people we employ and the partnerships we make. So, the advantages for us are the timber/fiber resources, our partnerships with local

sawmills and businesses, and the communities in which we’re providing jobs. Our pellet mills in Alabama support the wider supply chain of truckers, railway workers, port workers, and other logistics professionals living in the state.”

How important is your relationship with the local community and private timber owners?

“Our relationship with our communities and partners is of utmost importance. We are committed to having a positive impact in our communities, including supporting jobs, education, economic development, environmental stewardship, and stepping in during moments of crisis.

“Our partnerships are equally important to us. We recently announced a partnership with the Federation of Southern Cooperatives (FSC) to aid African American small-scale farmers, landowners, and cooperatives in the U.S. South with greater access to the biomass market, further encouraging sustainable forestry management. This partnership will also support initiatives on forestry education, internships, and enabling equal access to a fiber market that has historically been limited to large corporations.”

Can you describe your operation in Europe?

“Drax is the second largest sustainable biomass producer globally, providing a sustainable, low carbon fuel source that can be safely and efficiently delivered through our global supply chain. We are the United Kingdom’s largest source of renewable power by output, delivering up to 20 percent of its renewable power at peak times in 2022. We are also progressing options for BECCS, as we have an ambition to be a carbon negative company by 2030, delivering 12 million tons of negative emissions globally by that same year.”

How long has Drax been in business?

“Work began on Drax Power Station in 1967, but it didn’t begin generating electricity until 1974. Through the years, Drax has grown and decarbonized, all the while supporting energy security in the UK. Converting Drax Power Station to use sustainable biomass was a radical move that transformed the business into Europe’s largest decarbonization project and was a critical step in our journey to become carbon negative using BECCS.”



How does Drax rank among pellet manufacturers?

“Drax’s ambition to be the largest pellet manufacturer in the world is highly publicized. However, the key to our business is the culture and core values that we’re building. We’re a safety focused organization that wants the best employees to succeed

personally and professionally. As we continue to grow, we're dedicated to doing it the 'right way' and instill those values in the employees we hire.

"Additionally, sustainability is at the heart of everything we do, and we are committed to ensuring the biomass we source delivers positive outcomes for the climate, for nature, and for the communities in which we operate. Central to this philosophy is ensuring that we are not only complying with, but also driving standards within the industry. Drax adheres to all required legislation, regulations, and standards. We measure and report on supply chain, as well as supply chain associated emissions. We also provide extensive information to voluntary certification schemes such as the Sustainable Biomass Program (SBP), Forest Stewardship Council (FSC), and Sustainable Forestry Initiative (SFI), which provide third-party oversight of our operations. We also publish comprehensive data in our annual report and have created an Independent Audit Board to support further oversight, which is all available publicly on our website."

Does Drax plan to expand its footprint further in the U.S.?

"There is a great opportunity for further expansion within the U.S. We have seen growing global demand for high-quality carbon removals, particularly in the U.S., and we aim to be a world leader in BECCS, delivering up to 4 million tons of carbon dioxide removals (CDRs) from BECCS in locations outside the UK by 2023.

"We have a well-established supply chain in the U.S., and it is home to some of the world's greatest fiber baskets and a thriving sustainable forest industry, with two of the world's six densest woody biomass hotspots. BECCS in the U.S. would further bolster the sustainable forest products sector, with the potential to improve forest management, reducing risks from wildfires/pests while also improving wildlife habitat. It would also create a U.S. end-to-end value chain, creating the skilled workforce that the U.S. government wants to see and delivering substantial economic, environmental, and social benefits."

Has Drax initiated any studies regarding its economic impacts locally and statewide?

"We recently issued the findings of an economic impact report by Chmura, looking at the economic impact of our biomass op-

erations across the Southeastern United States. The report shows that Drax could contribute more than \$260 million to Alabama's economy in 2023. Drax is providing career opportunities in areas that have been economically challenged and where jobs haven't been widely available. In Alabama, 72 percent of all wages paid to Drax employees were people living in rural counties. This includes Pickens County, considered to be 100 percent rural, where Drax's Aliceville plant is located. Alabama is a player on the global energy stage. The state plays a critical role in our ability to meet the growing global demand for wood pellets because it provides Europe and Asia with reliable, renewable electricity to help displace coal from their energy systems.

"As demand for biomass continued to surge, last December we announced a \$50 million expansion at our Aliceville wood pellet plant, right here in Alabama."

What are the benefits of sustainable and renewable energy utilizing wood?

"Biomass is increasingly being recognized by governments and scientists around the world as having the potential to play a critical role in tackling climate concerns, supporting communities, and contributing to energy security. The United Nations' Intergovernmental Panel on Climate Change (IPCC) – the world's leading science-based climate authority, backed by thousands of scientists – restated in their latest report the critical role that biomass will play in meeting global climate targets. Sustainably sourced biomass plays a critical role in protecting and enhancing our environment, displacing fossil fuels directly in the production of electricity and supporting markets for wood products that replace other carbon intensive materials such as cement. Add to this its ability to deliver negative emissions with BECCS and you can see how biomass is one of our most valuable tools for reaching net zero emissions."

The decision by Drax to locate facilities in Alabama has been an economic development homerun for the State. We are committed to continue working and partnering with Drax for the success and expansion of their Alabama footprint. 🏠

drax

Drax power plant in the United Kingdom





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Warrior Tractor & Equipment continues to serve Alabama and its surrounding areas with some of the finest, state of the art products John Deere has to offer. Although we have seen a lot of changes over the years, the Warrior Team continues to be focused in providing excellent parts availability and service support. Warrior is proud to continue to grow with our customers, employees and communities we serve. If you are in the market for construction, forestry or mining equipment check us out by giving us a call or visiting us at www.warriortractor.com

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HEALTHY LIVES GROW ON TREES

By Chelsea Ealum | Communications Director | Southern Group of State Foresters

It may have come and gone, but each year on March 21, people across the globe observe the International Day of Forests to “celebrate and raise awareness of the importance of all types of forests.” The United Nations declared the theme for 2023 as “Forests and Health” – a concept we at the Southern Group of State Foresters know well!

A growing body of research has demonstrated a clear connection between access to trees and improved human health. The mere presence of trees and forested areas supports human health and wellness in a variety of ways, while providing vital environmental benefits to support all life on Earth. Sustainably managed forests also provide renewable and sustainable wood-based materials for medicines and other products that keep us healthy. Read on to learn five important ways healthy trees make for healthy lives:

1. Mental Health

Exposure to forests and trees helps decrease mental fatigue by relaxing and restoring the mind, while boosting serotonin levels to improve energy and mood. In fact, one study found that being closer to green areas was associated with decreased anxiety and fewer mood disorder treatments in urban environments. Another study demonstrated that exposure to 30 percent or more total greenspace, specifically tree cover, was associated with lower psychological distress and poor health.

Trees are also beneficial for kids’ mental health. In fact, children who spend time in nature are often more relaxed and attentive, which can improve learning and performance in school.



2. Physical Wellness and Disease Prevention

According to Health.gov, about half of all American adults have one or more preventable chronic diseases, yet nearly 80 percent of adults are not getting enough aerobic and muscle-strengthening activity, and only about half are getting adequate aerobic physical activity. “This lack of physical activity is linked to approximately \$117 billion in annual health care costs and about 10 percent of premature mortality.”

The presence of green spaces and tree-lined streets infuses communities with an inviting atmosphere proven to successfully motivate people to get active outdoors and maintain a healthier overall lifestyle. Treescapes have also been shown to reduce risk of dying from several common causes of death, including cardiovascular and respiratory diseases, by between 8-12 percent. Fascinatingly, the odds of hospitalization for heart disease or stroke were also 37 percent lower among adults in neighborhoods with a variety of trees and greenery.

(Continued on page 14)



HEALTHY LIVES GROW ON TREES

(Continued from page 13)

3. Food and Medicine

According to the United Nations, “nearly one billion people globally depend on harvesting wild food such as herbs, fruits, nuts [and] meat . . . for nutritious diets.” In addition to the many fruit and nut-bearing trees found in the region, southern forests provide a bounty of healthy foods by way of non-timber forest products, including wild mushrooms, ginseng, ramps, and more.

Many of the medicines we rely on today also come from forests, with 25 percent of all medicinal drugs used in developed countries being plant-based. Moreover, most pharmaceutical pills contain high-purity cellulose, which is largely derived from wood sustainably harvested right here in the U.S. South. High-purity cellulose is used to bind pill contents together, create hard-shell or slow-dissolving coatings for tablets, and as a thickening agent in liquid medicines.



4. Clean Air and Water

The presence of clean and abundant air and water is crucial to the survival of humans and thriving communities. One of the most important services forests provide is helping maintain the carbon balance in the earth’s atmosphere. Healthy, growing trees remove carbon dioxide from the atmosphere, releasing oxygen and storing carbon in their wood.

In the Southeast, more than 44 percent of the total water supply, or about 98 trillion gallons, comes through state and private forests before it makes its way into waterbodies. Providing more than half of the available water supply for 14 million people, healthy forests that effectively filter water, recharge aquifers, and prevent erosion are central to supporting our fundamental need for clean water.

5. Barrier Against Disease Transmission

Forests have always played an important role as a barrier against disease transmission between animals and humans. The presence of sustainably managed forests (both public and private) provides reliable habitat for wild animals and removes potential pathways for diseases to spill over from undue wildlife-human contact.

More than 30 percent of new diseases reported since 1960 were attributed to loss of forestland, according to the UN Food and Agriculture Organization. By supporting private landowners (who own 86 percent of forested land in the Southeast) in keeping their forests intact, thriving, and profitable, we could be helping to prevent the next major disease outbreak. 🌲



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Fire on the Mountain

By John Goff | Forest Protection Division Director | Alabama Forestry Commission

“**F**ire on the mountain, lightning in the air . . .” as you may recall the familiar words from a song by the Marshall Tucker Band. Not sure if there is any gold on Flagg, but there was definitely lightning in the air on the night of March 26, 2023, resulting in a wildfire on the 28th that burned 50 acres. For us here at the AFC, fire on the mountain at “Flagg” has been a topic of discussion in recent years. Fire – whether prescribed or wild – has pretty much been absent from the Flagg landscape as far back as anyone can remember. The Flagg ecosystem is a historic representation of the way things used to be, with the exception of the absence of fire.

The forests on and around Flagg are very old with longleaf pines ranging in age from seedlings to nearly 400 years old! Yes, you read that correctly. One cannot just burn 400-year-old longleaf that hasn’t been burned in recent history without very strict burn parameters. What happens in the absence of fire is that the longleaf needles build up around the bases of the pines, creating a duff layer that could be as much as a foot deep or more. If you burn when that duff layer is too dry, it will ignite and smolder, girdling the tree, resulting in mortality a year or two after the burn.

In partnership with The Nature Conservancy and the Alabama Forever Wild Land Trust, we started putting fire back in the system at Flagg. These prescribed burns were conducted in January and early February of 2022, totaling 570 acres. By all accounts

these burns went well, reducing the duff layer and removing understory hardwoods. The idea is to slowly remove the duff layer and eventually get back to a growing season prescribed fire which is what would have been present historically.

The observation tower and hiking trails have all seen tremendous improvements over the last few years and now we had a great start to getting the forest back in shape. Some debated that putting fire back on the mountain would be too risky to the old pines. That is definitely a concern; however, as we have seen with our western forest wildfires, absence of fire is not the answer. A tract *will* burn eventually, either on your terms or Mother Nature’s, your choice!

While working on the various burns last year, I made other observations to debunk the non-fire folks. When you conduct a prescribed burn, you end up deep in the stand in places where people don’t go, and you see things that people don’t see. What I saw was dead snag after dead snag of old longleaf pine – standing strong with no bark or needles – solid trees of fat wood. There were about as many dead snags as old growth live pines. I also observed many stems of longleaf in the grass stage, choked out by the mid- and understory bramble resulting from fire exclusion. If we didn’t step in and actively start managing with fire, we would eventually lose one of the things that makes Flagg so great . . . the longleaf! With continued management practices,

the mountain will look very different in a few years: more grass, more open space, and longleaf regeneration flourishing!

The Nature Conservancy (TNC) had planned to do a prescribed burn this winter on a 300-acre tract west of the tower on the north, west, and southern slopes of the mountain. When the weather did not cooperate, they postponed the burn for a year. However, Mother Nature decided to intervene on TNC's behalf the night of March 26!

We happened to be headed up to Flagg to finish installing some gates on the morning of the 28th. As we passed Mount Moriah Church from the south on County Road 29, we started to catch glimpses of the tower. I was shocked to see smoke rising from the southern slope of the mountain. In the previous couple days, about 4-5 inches of rain had fallen on the mountain. Many county roads were washed out and still impassible from the storms. Flagg Mountain Tower watches over two hidden gems to the south, Weogufka Creek and Hatchet Creek, both flowing into Lake Mitchell. These creeks were still swollen; the previous day Hatchet had jumped 20 feet according to a US Geological Survey monitor located about 6 miles from Flagg. A lot of water had fallen, how was there fire on the mountain???

Well, Mother Nature is amazing. Historically, longleaf burned all the time. The mountain was doing what was intended. Fire occurrence in the South ranged from one to three years along the coast, and three to five years in the Flagg Mountain area. How would Mother Nature have accomplished this? With lightning!

In the situation this past March, the primed longleaf fuel bed on the southern slope of the mountain was able to maintain a spark from a lightning strike until the fuel was dry enough for the fire to spread. The flames were confined to the southern and western aspects; although the fuel on the northern aspect still remained too wet and the fire failed to ignite. Resources were called and the AFC, along with TNC, decided to confine the fire to where it was and allow it to burn out since there was no rain for the next five days. If we had not taken measures to control it, the fire would have spread over the following days in conditions that were *not* favorable to the big old pines. I couldn't help but think, what if we hadn't burned all those acres the year before? The tower would not be there, and the road I drove in on would not exist. The fire would have likely burned for nearly a week, scorching thousands of acres, with the only thing to stop it being the next rain or a creek.

Flagg is one small example of the way forests looked in centuries past when the entire southern landscape was covered in longleaf, from Virginia to Texas. This region would have been a potential receptor to hold a lightning strike and take off a few days later. Imagine, if this one storm had passed through 300 years ago, it may have lit up the middle third of Alabama.

From now on at Flagg, we intend to practice forest management using prescribed burning – there will always be fire on the mountain! 🙏

Photo by Art Meripol, courtesy of the Alabama Trails Foundation



ALABAMA

State Forest Improvement Program Kicks Off

*By Hank Burch | Asset Planning Director
Alabama Forestry Commission*

Geneva State Forest Lake is a great place to visit and experience the beauty of Alabama's largest state forest.

On May 24, 2022, Alabama voters passed statewide Amendment #1 authorizing an \$85 million bond issue to fund improvements at Alabama state parks and historical sites. The amendment passed by a wide margin, garnering support from more than 76 percent of voters.

The amendment created the Alabama State Parks Enhancement Authority to oversee the issuance of the bonds. Per the amendment, \$85 million dollars in bonds would be marketed for sale to the public. Of that amount, \$80 million in proceeds from the bond sale would be set aside for improvements at state parks managed by the Alabama Department of Conservation & Natural Resources (ADCNR). The remaining \$5 million in bond proceeds would be directed to improvements at certain state historical sites managed by the Alabama Historical Commission. The amendment also had a provision that any 'premium' generated from the sale of bonds would be allocated to the Alabama Forestry Commission (AFC) for "capital improvement, renovation, acquisition, provision, construction, equipping, and maintenance of state forests."

If, like me, you are not a skilled bond trader, you might ask, what is a bond 'premium?' In very simplified terms, a premium bond is an investment strategy where the bond sells on the open market at a rate that is higher than its face value. For the purposes of Amendment #1, all you need to know is that any revenue above \$85 million generated from the bond sale goes to the Alabama Forestry Commission for improvements at Alabama's state forests.

Over the summer of 2022, the Alabama Department of Finance stood up the Alabama State Parks Enhancement Authority and prepared for the bond sale. Bonds were successfully sold in November 2022, generating a premium of \$6.7 million for the Alabama State Forest improvements. This is truly a remarkable opportunity for AFC to increase public access and recreational opportunities at our beautiful state forests. It is also an opportunity with a very tight window, as federal policy requires that the bond revenues be spent within three years. The clock is ticking!

But where do you start? State Forester Rick Oates felt it was important to have a single employee focused on the bond

improvement program, and that ultimately led to me joining the AFC team. I transferred to AFC on January 16 after more than 20 years with ADCNR's State Lands Division. A large part of my career with State Lands was focused on implementing recreational and educational programs for the public, managing facilities, and administering infrastructure improvements.

In my first week at AFC, we met with Regional Foresters and Work Unit Managers and talked through wish lists for improvements at various state forest facilities. We also conducted interviews with architectural/engineering firms, selecting four firms with varied expertise to assist with design and planning of various projects around the state.

Our approach to this project is deliberate. While we will be able to do a lot with the available funding, our wish lists could probably spend the available funding several times over! To make the most of the available funding, we will start with a planning phase, where we will work with architects to develop master plans for selected state forests with high potential for recreational improvements. During this phase, we will document current condi-

tions, identify utility needs, and develop concepts for recreational facility improvements at each site. The master planning phase will also provide cost estimates and timelines for implementing proposed improvements, so that we can prioritize how and when we use the available bond funds. Even though we may not be able to accomplish everything we want to with the bond funds, the master plans will be vital tools for seeking additional funds in the future.

ABOUT STATE FORESTS

The Alabama Forestry Commission currently manages more than 18,000 acres in 13 state forests throughout Alabama. It is important to note that the primary purpose of state forests is timber management and production, serving to demonstrate sound management principles to the public. The state forests also generate revenue in several ways, including timber management and leasing property for nursery and seed orchard operations. Several of the larger state forests provide public wildlife and recreational benefits as well.

In terms of recreational potential, the crown jewels of Alabama's state forest system are Geneva, Little River, and Weogufka state forests, which also contain about 70 percent of the total state forest acreage. Our initial planning efforts for the bond funds will certainly target these three sites.

Little River State Forest (LRSF) straddles Escambia and Monroe counties near the town of Uriah. Originally comprised of 2,100 acres deeded to the State in the 1930s, the LRSF has a rich history

of timber management and public recreation. The Civilian Conservation Corps (CCC) created the 25-acre lake and other recreational improvements on the property in mid 1930s. Over time, recreational improvements were made on about 100 acres of the property, and it was operated for decades by ADCNR as Claude D. Kelley State Park. In 2020, the AFC more than doubled the size of LRSF with the 2,885-acre Little River State Forest addition, which was made possible by funding from the USDA Forest Legacy program, with matching funds from Alabama's Forever Wild Land Trust program. Unfortunately, the former park facilities have been closed to the public since a straight-line wind event destroyed many of the existing facilities in 2020. In the short time I have been with AFC, I have spoken with several folks in South Alabama who have fond memories of spending time camping, swimming, and hiking at Little River State Forest. It is certainly a priority of the AFC to use the bond funds to bring this facility back online for both day use and overnight camping, including RV hookups.

The Weogufka State Forest in Coosa County consists of 237 acres owned by AFC and is adjacent to the 762-acre Forever Wild Land Trust Weogufka State Forest addition. Like Little River, Weogufka is a site with rich history that was deeded to the State in the 1930s with early aspirations to become a state park. The CCC also had a camp here, building several cabins and the 50-foot-tall Flag Mountain fire tower structure. There has been a lot of effort at this site over the last decade with many partners pitching in to

renovate the existing structures, improve public access, and acquire land to extend the Pinhoti Trail to Flag Mountain. In the summer of 2022, AFC held a grand re-opening of the Flag Mountain fire tower as the first round of restoration was completed. Today it is a vibrant site with trails and camping facilities. While much work has been done at the site, much also remains. The next major goal will be to get municipal water service to the top of Flag Mountain and to construct restroom and bathhouse facilities.

Situated on the border of Geneva and Covington counties, Geneva State Forest is just shy of 7,300 acres. It was donated to the state in the early 1930s and had been extensively clearcut with little or no replanting. It is now a great example of a working forest with an active focus on uneven-aged longleaf pine management. In cooperation with ADCNR, the AFC property is also part of the Geneva State Forest Wildlife Management Area, which includes nearly 9,000 additional acres of ADCNR land. Camping and fishing opportunities are currently available on the southern shore of the 100-acre Geneva State Forest Lake. We hope to complete a master plan for Geneva to expand and improve the recreational offerings around the lake.

It is really an exciting opportunity to be a part of the Alabama State Forest Improvement Program and I look forward to reporting our progress in future issues. If you'd like to learn more about this effort or if you have some ideas to share, please contact me at: hank.burch@forestry.alabama.gov 📧



The recently renovated Flag Mountain Tower is a centerpiece for Weogufka State Forest.



The 25-acre lake at Little River State Forest will be a focal point for future improvements.

Trapper Education Workshops

By *W. Keith Gauldin* | *Wildlife Section Chief*
Alabama Division of Wildlife & Freshwater Fisheries

While the mention of trapping may conjure thoughts of the historic mountain man and the early discovery, economy, and settlement of the western frontier, the practice still has a place in our culture today. Like the mountain men, many pursue this activity for the generation of revenue from the prepared furbearer pelts, of which during 2013, accounted for \$1.39 billion in U.S. fur sales. Though in more recent years, the value of pelts has significantly decreased, fluctuations in value of this renewable resource can at least lend support to assist in paying for the required supplies, if not more at times. In addition, as human populations continue to expand and change the landscape, the instances of negative interactions with wildlife increase, leaving skilled trappers a robust business opportunity as responsible parties to mitigate nuisance furbearer complaints. Landowners or those that lease or manage land who are interested in bolstering their game species populations can add trapping to their repertoire as an effective component of a comprehensive wildlife management plan in reducing predation. Though the intentions and reasons for its use may differ, trapping represents an effective, species-specific, and humane way to manage furbearers for both the benefit of humans and for management of wildlife populations.

With a resurgence of interest in trapping expressed from private landowners, hunting clubs, and other assorted constituents, the Alabama Division of Wildlife & Freshwater Fisheries (WFF) responded by developing a well-rounded trapper education program back in 2007 to satisfy this need, in cooperation with the Alabama Trappers & Predator Control Association and support from the Alabama Conservation Enforcement Officers Association and Safari Club International. Trapping workshops have been conducted since that time, with WFF hosting seven to eight programs throughout the state during trapping season. These popular events have hosted an average of 25 participants per workshop; a rousing success with plans to continue beyond this 18th year of Trapper Education Workshops.

Workshops represent a unique experience for participants and cover a vast array of information on trapping in addition to hands-on experience. During each program, participants are exposed to the many facets of trapping such as the different types of traps available and which ones are used for which species, trap anchor types, use of lure, and a litany of techniques. Participation can significantly decrease the learning curve for anyone interested in becoming a proficient trapper. The workshops begin on a



Saturday morning and span one and one-half days in an outdoor classroom where students learn about the history of trapping, trap types and associated equipment, trap preparation, lures, trap sets, skinning/pelt handling, furbearer management, laws/regulations, and ethical trapping practices. Students are paired with seasoned trapping mentors and travel to the field where they practice with a variety of trap types and sets used for catching furbearing species, such as coyotes, foxes, bobcats, beavers, and raccoons. Participants can also be paired with mentors according to their preference of trapping technique or targeted species as well. The workshop continues the following morning: running the trapline to check the traps and collect the catch. Skinning and fleshing lessons then demonstrate to students how to prepare pelts for the market, enabling participants to obtain the basic skillset needed to begin trapping independently.

Despite the many benefits that trapping provides, it can be a controversial topic for some who mistakenly view the practice as a cruel and outdated pastime. In truth, regulated trapping of furbearers has long represented an integral component of wildlife conservation. Whether for population management, mitigating wildlife/human conflicts, or ensuring human health and safety, trapping represents an essential element of the conservation of natural resources. Modern-day trapping equipment has evolved greatly from its earlier designs and has improved in all aspects including trap efficacy, humaneness, and ease of use for the trapper. In fact, many research projects or efforts to capture furbearing animals for population restoration and re-introduction, such as gray wolf, river otter, and red wolf recovery efforts, would not have been possible if it weren't for the use of leg restraint traps. Many threatened and endangered species of birds receive protection from predation with predator removal programs via trapping



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programs. Regulated trapping has been instrumental for state and federal agencies to manage wildlife populations using scientifically based laws and regulations that the wildlife management arena has utilized since the inception of wildlife management principles.

Trapping is not only appropriate for the previously mentioned applications, but it also provides an additional route for one to hone their outdoor skillset. Learning about the natural history of furbearers – their habits, where they feed, where they travel, what attracts them, how to alter their movements, and effective baits are examples of the insight accrued when one continues to develop as a proficient trapper. Trappers are well-known for their increased knowledge of wildlife and astute abilities to read the sign they leave behind. If this skill sounds like something of interest to you, WFF continues to host the Trapper Education Workshop to show you the ropes. For more information, visit www.outdooralabama.com, select the 'Hunting' tab and scroll down to 'Trapping in Alabama' or contact your local WFF District Office. 🏠



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Tennessee Valley Work Unit

By *Johnnie Everitt* | Registered Forester | Work Unit Manager
Alabama Forestry Commission



Located in the northwest Alabama, the Tennessee Valley Work Unit includes Lauderdale, Colbert, Franklin, Marion, and Winston counties. Covering five counties, it is one of the larger work units in the state. In fact, it can take well over an hour to drive from one end to the other. We are bound to the north and west by the states of Tennessee and Mississippi. Several large rivers and streams run through the work unit, the largest being the Tennessee River which divides Lauderdale and Colbert counties. A fall line traverses the center of our work unit, with water falling on the north side of the fall line eventually flowing into the Tennessee River and water falling to the south of the line feeding into the Warrior River.

The soils within our work unit can vary greatly, based on location. For instance, soils along the Tennessee River are conducive to riparian trees such as black gum, maple, and ash. Upland sites are suited for oak, hickory, loblolly, and shortleaf pine. Coastal Plain soils contain loblolly, shortleaf, and to a lesser extent, longleaf pine. This variety allows Eastern hemlock to thrive along cool steep creek banks in the southernmost portion of its range.

The large hardwood and pine forest within the work unit certainly contributes to Alabama's total forest resource base.

Our work unit has a well-rounded forest management program. Traditional services include forest management plan production, landowner certifications, prescribed burning, fire break establishment, and disking. The combination of rural and urban areas offers an opportunity to work in assorted forestry-related areas, including urban forestry. At least five cities are currently certified in the Tree City USA program.

Educational programs are also important to us. Throughout the year, our counties host FAWN (Forestry Awareness Week Now) programs, PLT (Project Learning Tree) workshops, and individual

school programs allowing us to meet hundreds of school children. In addition, we offer adult forestry educational programs. Last year we hosted two best management practice programs, a wild hog trapping program, and participated in a bat survey.

Also, when called upon, forest protection becomes our highest priority. In the past year, our crews have responded to wildfires, provided emergency response cleanup following hurricanes and tornadoes, and assisted multiple private landowners with forest insect and disease issues.

The wide diversity of assignments keeps the work interesting! You never know what you may be called to do on a given

day. Having a great staff makes this possible. Our people are very talented with years of experience. In fact, a couple of our team members began work under former State Forester Bill Moody and former Assistant State Forester Charles Pigg. In short, we are 'old school' in our approach to our jobs.

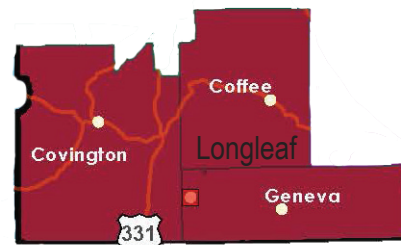
Tennessee Valley Work Unit personnel consists of Forest Ranger John Wesley Nichols; Forestry Specialists Joel Bartlett, Chris Brewer, Scott Daniel, Daniel Goggans, and

Casey Hammack; Forester Kyler Barnett; Forestry Management Specialists Robert Clement and Alex Horn; Work Unit Manager Johnnie Everitt, and Northwest Regional Aircraft Pilot Phillip Montgomery.

In closing, we welcome you to stop by one of our offices or give us a call with any forestry-related questions. Our overall goal is to provide the best possible service to the forest landowners in the Tennessee Valley Work Unit area. 🌲



ALABAMA FORESTRY
COMMISSION
**Longleaf
Work Unit**



*By Chris Cotton | Registered Forester | Work Unit Manager
Alabama Forestry Commission*

The Longleaf Work Unit is located in southeast Alabama and is comprised of Geneva, Coffee, and Covington counties. It gets its name from the large amount of acreage in longleaf pine. Because of this, forest management is a high priority for the work unit. Providing technical assistance is a huge part of the daily workload, whether it is writing a management plan, installing firebreaks, and implementing a prescribed burn, or writing technical needs plans for the USDA Farm Service Agency and Natural Resources Conservation Service.

Geneva County is home to Geneva State Forest, the largest state forest in Alabama. It is predominantly a 90- to 100-year-old longleaf pine ecosystem that is being managed by natural regeneration and an uneven-aged management system. This system promotes an aesthetic that is not easily matched. Centered around the beautiful 100-acre lake, recreational activities such as fishing, camping, hiking, and horseback riding draw outdoor enthusiasts from across the country almost daily. The Alabama Department of Conservation & Natural Resources also utilizes Geneva State Forest as one of their Wildlife Management Areas, providing hunters access to chase both large and small game species. It is also home to several species of concern including the gopher tortoise, diamondback rattlesnake, gentian pinkroot, and two species of pitcher plants.

A large portion of the southwest corner of Covington County is covered by the Conecuh National Forest. Managed by the U.S. Forest Service, it also consists of old longleaf pine and offers

many of the same recreation activities as Geneva State Forest. Most of the southeast portion of the county is in industrial pine plantations. As Covington County is rural and encompasses considerable forested acres, wildfire suppression is a necessity. It is also the ‘hottest’ county in the work unit, meaning it experiences the most wildfires, many of which can be large both in size and



intensity because of the fuel types and the difficulty of access for attack. Solon Dixon Forest Education Center, also located in Covington County, is a critical resource for students completing a degree in forestry or wildlife science. This facility is also where the Alabama Forestry Commission hosts the Forestry Academy to train newly hired employees how to safely carry out the duties of the job.

The majority of Coffee County is forested with ownerships of both private forests and industrial forests. The Coffee County Forestry Planning Committee is a strong group of forestry-minded landowners and professionals. Focused on education, this committee hosts several educational events such as Classroom in the Forest and annual landowner tours. Fort Novosel (formerly Fort Rucker) U.S. Army Aviation Installation covers several thousand acres in the county. While this forested area is primarily utilized for military missions training, it is also managed with prescribed fire and harvesting when necessary.

Longleaf Work Unit personnel consists of Forestry Specialists Stephen Bridges, Dearl Driggers, Jeffrey Hogan, Greg Piland, and Keith Stephens; Forester Daniel Harrison; Work Unit Manager Chris Cotton, and Southeast Regional Fire Specialist Lester Williams. 📍



Photo by Alan Cressler

The American ALLIGATOR

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

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Author’s note: I enjoy writing wild-life-related articles for each issue of *Alabama’s TREASURED Forests*. It provides me with an opportunity to research various topics and hopefully write an article that is both informative and entertaining. The article I wrote for the previous issue of this magazine was entitled “Alabama’s Largest Reptilian Predator: Eastern Indigo Snake.” After publication, I received a phone call from James Altieri, a former coworker and longtime friend, who was mentioned in the Indigo article. He asked me, “What is Alabama’s largest reptilian predator?” I replied, “the Eastern indigo snake.” He then said two words “American alligator.” I immediately realized my mistake and knew I would now have to write an article about the American alligator, Alabama’s largest reptilian predator! The indigo snake *is* the largest snake in Alabama, but *not* our largest reptile. I am chalking up my error to having a senior moment!

”

Although there are many crocodilians around the world, there are only two members of the alligator genus: the American alligator and Chinese alligator. The American alligator is the larger of the two and reportedly reaches lengths up to 19 feet and weights of 1,300 pounds. A quick internet search seems to indicate the longest alligator that was measured and recorded was 15 feet 9 inches and was harvested in Alabama from the Alabama River in 2014. This alligator weighed in at 1,011 pounds. The heaviest alligator put on scales and recorded was in Arkansas, weighing in at 1,380 pounds but was only 13 feet 3 inches. Males are larger than females.

DESCRIPTION AND ECOLOGY

American alligators primarily inhabit freshwater swamps, marshes, lakes, rivers, and streams from North Carolina down the east coast to Florida and westward along the Gulf Coast to Texas. In Alabama, population density is greatest in the southern half of the state, but alligators occur as far north as the Tennessee River and a few tributaries. Their lack of salt glands prohibits them from inhabiting saltwater environments for a long period of time. They may occasionally be found in a saltwater environment but return to freshwater habitats to rebalance their salt levels.

Relatively long-lived, most reports state the life expectancy for alligators is about 50 years. They are carnivorous, opportunistic, feed mostly at night, and may eat up to about 20 pounds of meat weekly during warmer months. Food habits vary by size class. Alligators less than 3 feet in length feed primarily on small prey such as spiders, minnows, crawfish, shrimp, and crabs. As alligators grow, prey size increases and includes, but is not limited to, fish, birds, snakes, turtles, feral pigs, and even white-tail deer. As air and water temperatures cool, alligators become less active and food intake decreases.

Alligators possess powerful jaws with 80 conical shaped teeth. Well-developed muscles allow them to clamp down on prey items, but muscles to open their mouth are not as strong. They can’t chew their food, so they bite off large chunks of meat or swallow smaller items whole. Alligators can open their mouths underwater to capture prey with the aid of a membrane called a glottis that keeps water from entering their trachea and lungs, then return to the water’s surface to swallow the prey. They often lie and wait for prey items to come by where they can capture and drown it. Many fishermen can also attest that they will pursue prey items (artificial baits or fish on the line) if they think they can capture it.

In one of my favorite fishing ponds, a rather large gator was very adept at minimizing the number of snakes and turtles. I witnessed this gator kill a great egret feeding just within the shoreline in about a foot of water. Pets should be discouraged from going near the shoreline as they are certainly prey items for an alligator. Attacks on humans seldom occur but caution is necessary when conducting activities in or near alligator habitat – especially if big gators are known to inhabit the area.

Alligators have dark skin armored with small, bony scales called *scutes*. They possess a long, laterally flattened tail used for defense and locomotion in the water. Large, webbed feet allow them to walk or run efficiently with their relatively short legs directly under them. They are ectothermic (cold-blooded) and as such, rely on the environment to regulate their body temperature. They can often be seen basking in the sun on shore or floating on the water. Their eyes, ears, and nostrils are located on the top of their heads which are generally visible when an alligator is floating on the water's surface. A valve gives them the ability to close their nostrils and ears, allowing them to utilize their air supply very efficiently and stay submerged for extraordinarily long times.

Like most predators that are active at night, alligators have a structure in the back of their eyes called a *tapetum lucidum* that reflects light back into the photoreceptor cells. This allows them to see much better than humans in low light conditions. Many folks have probably seen the yellow eye shine of a raccoon or white eye shine of a whitetail deer as your car headlights 'light up' an animal on the side of the highway. Boaters in alligator habitat know all too well what those red eyes are when traveling through a swamp or down a river at night.

REPRODUCTION

Various literature sources state American alligators usually start reproducing at 10 to 12 years of age. After breeding occurs in April to June, the female builds a nest of vegetation and mud near the shore. Most reports indicate female alligators typically lay up to several dozen eggs but occasionally as many as 90. The eggs are then covered with more vegetation, and the sex of the embryo is determined by temperature within the

nest. Generally, lower temperatures result in more females being produced.

Incubation period is estimated to be about 65 days on average. Prior to hatching, baby alligators begin to make a high-pitched noise from inside the eggs. The female then knows it is time to remove the nesting material that is on top of the eggs. Newly hatched alligators are about 6 to 8 inches in length. Females aggressively protect the newly hatched young, but predation can be relatively high. Snakes, mammals, birds, large bass, and even large alligators may prey on the young alligators.

CONSERVATION STATUS

Like many species, American alligator populations faced huge pressures from illegal-market hunting and trapping. Populations declined drastically from colonial days up through the mid-20th century. In 1938, Alabama was the first state to protect alligators. Other states enacted legislation in the following years, then alligators were provided federal protection as an endangered species in 1967. Populations rebounded quickly and they were removed from the list of endangered species in 1987. They still receive federal protection due to being similar in appearance to other crocodylians protected by the Endangered Species Act. Commercial farming operations, especially in Louisiana, resulted in rapid population increases as farmers were required to release a certain number of farm-raised alligators as a condition of their permit. These commercial operations quickly minimized the financial rewards of illegal black-market hunting and trapping.

All alligators harvested (either commercially or recreationally) throughout the Southeast must be tagged by a biologist or conservation enforcement officer with the respective state fish and wildlife agency. Populations in Alabama are stable, and in some areas have grown to levels considered to be a nuisance. Alabama implemented limited annual alligator hunts in select areas that typically begin in August and may last into early October, depending on the specific location. Additional information regarding alligator hunting in Alabama is available at www.outdooralabama.com. 🏠

Alligators can open their mouths underwater to capture prey without water entering their trachea and lungs, then return to the water's surface to swallow the prey.



Photo by USFWS



Newly hatched alligators are about 6 to 8 inches in length.



Alligator eyes reflect light back into photo receptor cells causing red eyes at night.

Photo by Larry Lynch

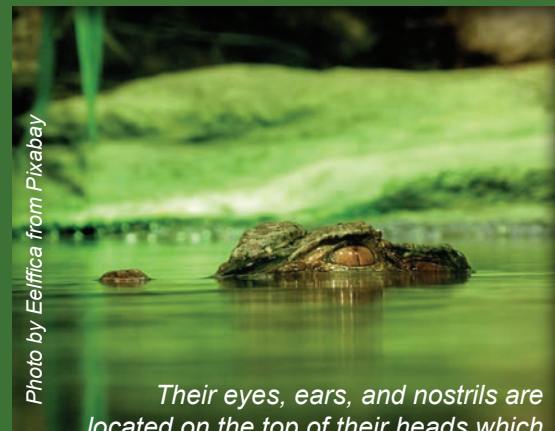


Photo by Eelfica from Pixabay

Their eyes, ears, and nostrils are located on the top of their heads which are generally visible when an alligator is floating on the water's surface.



Stumps & Jumps

It was a holiday weekend, but wildfires don't take a day off...

*By Robert Maddox (Morgan 1),
Work Unit Manager | North Alabama Metro Work Unit | Alabama Forestry Commission*

Saturday afternoon ...

I received a call from Morgan County 911. The Decatur Fire Department (FD) had a woods fire behind Kroger Shopping Center at Highway 67 and 31. Hang on, there are woods behind Kroger in central Decatur? Ok, I said, we are enroute. After calling Lawrence 10 (Andy Nichols), I headed to the office for the Morgan dozer unit.

It was odd to drive across a shopping center parking lot to access a wildfire. Easy driving for sure, considering some of the places we normally go. Sure enough, approximately 20 acres back there were being logged. Today though, our response was needed on the other side of the access road, to the north (see yellow fire symbol on the adjacent map). Decatur FD had staged on the pavement, their rescue trucks getting closer to the fire. We deployed near some onsite logging equipment.

We linked up with the FD, got a plan together, then went to work on a half-acre smoldering fire. The FD had hosed it down well, although some heavy fuels were still smoking. The risk of escape prompted them to call us. One firefighter on scene was carrying a wildland fire rake. When I asked how he liked it, he replied that this was the first time he had held one in 12 years with

the FD. That made me smile as I started putting in the firebreak. Lawrence 10 and I had to pick our way through this partially cutover area, dodging stumps and clearing logging slash (limbs and tops) out of the way.

Morgan 11 (Vince Barrios) arrived a short while after we had begun. I asked him to coordinate with the FD and check the other side of a hedge row. When we made our way around to the heavy fuels, I stopped to evaluate the area, calling Lawrence 10 and Morgan 11 over to observe the situation. The heavier fuels were at the open corner on the southwest. The trunks and limbs weren't flaming, just hot and glowing. But there was a breeze.

This corner's firebreak was widened, with standing snags pushed down toward 'the black' (the burned area). The bulk of the smoldering logs were pushed further into the black, away from the exposed corner. Our line tied into the access road for the railroad and power transmission lines. After cleaning up the line some more, we called it: Fire Contained. We remained on scene, explaining to Decatur FD what we did and why. They thanked us and we left. That was Saturday.



Sunday afternoon . . .

Call came in from 911: the other part of the logged area was on fire. Decatur FD was on scene. They advised that the fire was moving into piles of tops and limbs with high flame lengths. Slash was scattered everywhere across the ground with stumps throughout. Ground that wasn't hard and dry was a fine, grey powder that clung to everything.

Morgan 11 and Lawrence 10 were dispatched, taking the Lawrence dozer, a John Deere 550G. After arriving on scene, Lawrence 10 called me about a mechanical problem with the transport. It was determined that the dozer could be unloaded, and suppression could continue. I told them to start firefighting; I would head up there and look at the truck.

They used the access road as an anchor for the firebreak and began pushing into the stand to cut off the spreading fire. The logging slash and stumps made progress slow.

Morgan 11 coordinated with Decatur FD, staging their resources for structure protection. Water from the fire trucks knocked down the fire in the piles; however, dry conditions allowed these piles to flare back up eventually. Once the dozer made its way into the interior, coverage from the engines and rescue trucks ended.

The transport was down for the count. The black rubber seal had cracked on an oil filter for the transmission. None of the auto parts stores in the county had that filter; it would have to be ordered. At this point I radioed Lawrence 10 and Morgan 11 about the transport and arranged for it to be towed the next morning.

Returning to my pickup and getting on my gear, I was going to link up with Lawrence 10 on the dozer. It's at this point that the wind picked up from the north. A cedar near the northeast corner caught fire and 'went vertical' [or 'torched' – advanced to the top of the tree]. These conditions sent embers across the line [a jump], catching two piles on fire and moments later a third pile further east. This last one was getting close to a mobile home park. I advised all units of the jump. The dozer was busy catching a jump to the south. I worked with Decatur FD to guide their brush truck in to catch the small pile to the east, leaving the first two fires fully involved. Unfortunately, once their fire truck entered the area, it was discovered that the pump had a pressure issue and water flow was not productive, so they returned to the safety zone. Looking back in the direction from where they came, we saw fire on both sides of the line.

Morgan 11 was on the west side with Decatur FD making sure the fire did not jump across the railroad tracks or other areas. Lawrence 10 made his way to me after securing the jump to the south. The two piles were burning in place thankfully, but now the smaller pile on the east side was be-

(Continued on page 28)

Stumps & Jumps

(Continued from page 27)

ginning to spread. Decatur FD staged an engine in the mobile home park, as close to us as it could get without knocking down trees (noted on map with rectangle FD symbol).

The events on Sunday started approximately at 3 pm. It was now just before 6 pm. The jumps, south and east, occurred just after 5 pm. The unexpected wind from the north changed some tactics and repositioned FD assets. Our plan adapted as conditions changed:

1. Keep this fire from crossing the railroad tracks to the west. If it did jump the tracks, the plan was to get the other dozer unit, deploy across the tracks and contain that jump.
2. Keep the fire from endangering the power substation across the tracks.
3. Watch for wind shifts that could push the fire north, endangering the shopping center.
4. Establish a firebreak to contain the jump on the east side that threatened the mobile home park, cell tower, and another business.
5. Contain the fire on the south side to keep it from endangering the chemical storage facility (yellow diamond chemical symbol on map).
6. Keep this fire as small as possible. The structures and infrastructure around this area necessitated not giving up any more area than necessary. So, we had to push lines through the cutover, moving tops and limbs while dodging stumps.

Lawrence 10 and I linked after he secured the south side and began to work on the east jumps. We swapped out roles with me running the 550G and him on the ground. I worked my way around the piles, pushing them into the black where I could. It was at this time the loggers showed up. Their loader, skidder, and cutter were all near enough to be threatened. Our lines cut the fire off from their equipment and the direction was away from them. Morgan 11 coordinated with them to move their equipment that could be moved and widen the line around their loader that could not be moved. In turn, they pushed down a burning snag near a power line for us, mitigating that hazard.

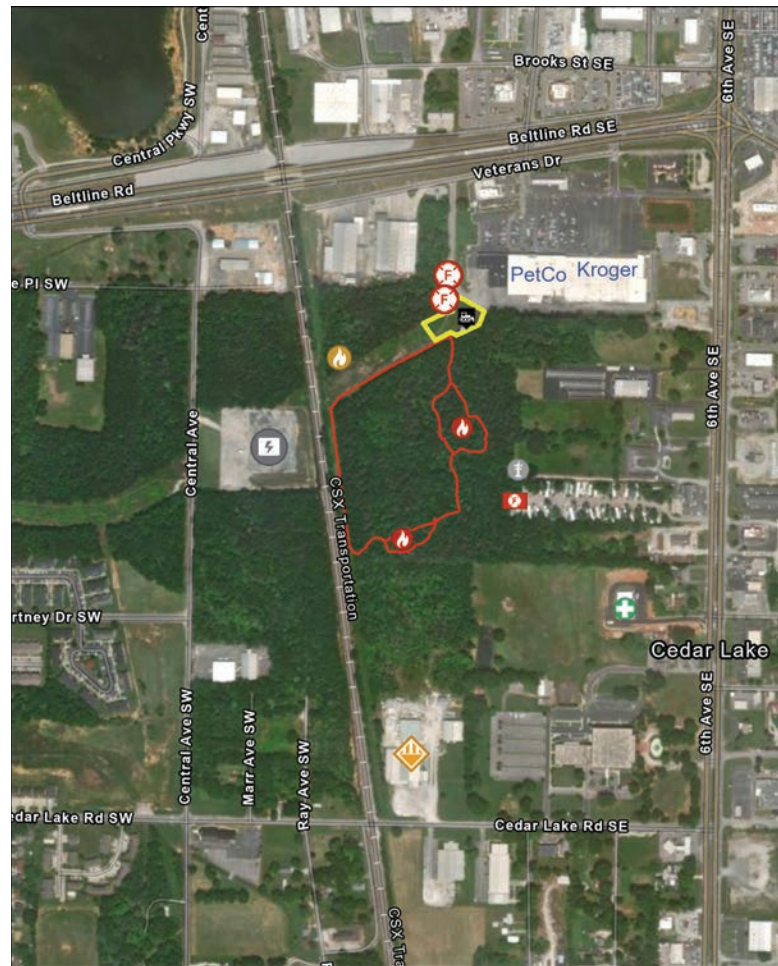
After tying in the fire break around the eastern break, night began to fall. The burning piles and tops cast an expansive glow. Humidity was still low, temperature was moderate, and there was little decrease in fire intensity. Total consumption of fuel (limbs, tops, and some logs) was the main thing to calm this fire.

Fire breaks were in place and holding before 6:30pm. There was still a lot of flame and some embers floating around. We continued to improve the lines, patrol, and take a break when we could. Decatur FD was advised that they could pull the engine covering the mobile home park. All other FD assets were on the pavement near the shopping center.

Lawrence 10 and I split up to patrol. I went south with the dozer; he went north around the east side to the staging area (safety zone). When looking at the south and west lines, I remember seeing the potential hazards near the edge of the line for the first time. I moved cedar trees that were near the line further into the interior.

Decatur Utilities was on the scene as I came around the west side. Their focus was on the transmission lines and security of the substation. Morgan 11 had been in contact with them while patrolling the west and north line.

Activity was winding down. The fire was contained and would have to burn itself out over the course of the week. The 550G would



have to remain on scene while the Lawrence transport was repaired. We had an After-Action Review meeting with Decatur FD and the logging crew, in which the FD offered to contact Decatur Police Department to request patrols to keep an eye on all the equipment. It was great to have that resource available. I cleared a safety zone to park the dozer, and we met back at the office to clean up before going home.

Monday . . .

The next day was full of transport repairs, checking containment, working with Decatur FD, and talking to local media. One thing to keep in mind about a fire in the Wildland Urban Interface (WUI – where forests meet urban development): the public can drive by, take pics, and call 911 when they see smoke or flame. A lot of the piles had burned down by this time. However, a reporter from the local paper that visited the site was surprised that a lot of heat remained in the ground as well as in the large logs that were still burning.

The rest of the week was quiet for this incident. The loggers had returned to remove their equipment. We made more trips to check containment, often meeting FD personnel on the scene who were there because of calls from the public and their own curiosity. It presented a good networking opportunity between our agencies to show what we could do and to call us if a similar incident arose in the future. Some of these structural firefighters expressed interest in taking our basic wildland firefighting class.

This wildfire ended up being 12.7 acres burned out of an approximately 20-acre cutover area. I will remember it for a few things: 1) unusual location; 2) threatened structures or other hazards in all directions; 3) difficulty in pushing breaks through the slash; 4) the speed with which the piles caught and spread in month-old logging debris; and finally, 5) the cooperation and respect between multiple fire departments and agencies during and after the initial incident. 🙏



Majestic Caverns

*By Matthew McCollough | Registered Forester | Plains Work Unit Manager
Alabama Forestry Commission*

What if I told you of a place that had Native American remains, used to be mined to make gunpowder, served as a speakeasy during prohibition, and was no more than a half day's drive for any Alabamian?

As a kid, I always loved to explore. I spent a lot of my time out in the woods climbing trees and building forts. One of the things that I didn't get to experience very often, being from LA (or lower Alabama), were caves. When I was growing up most of Coffee County was old farm fields, ponds, and hardwood bottoms. The memories I made will stick with me forever. Now that I have kids of my own, I want them to experience the same outdoor adventures and make memories just like I did. This year, I had the chance to take them into one of Alabama's most impressive cave systems, the Majestic Caverns.

Formerly known as Desoto Caverns, the Majestic Caverns are located in Talladega County. Being known as Alabama's Big Cave, the main room is an impressive 10 stories high and more than 100 yards across. Not only is its size impressive, but so is its history. As someone that loves history, I was amazed at what this cave was home to and the people it had entertained over the years. The earliest known inhabitants date back to the 15th century when this site served as a Native American burial ground and a sacred area to the local tribe.

Initially, the opening to the cave was only four feet high and had a long dirt ramp down to the main room. Over the years, Native Americans carved steps in the ramp to give easier access in and out. In 1963, a team of archaeologists from the University of Alabama found skeletal remains of five Native Americans buried in the main room of the cave system. Throughout the years, visitors could come and view the remains found in this ancient burial ground, but in the mid '90s the Caverns owners partnered with the local Tribe to rebury their ancestors. This



ceremony was private, and the remains were secretly burned in an undisclosed location in the cave.

The original cave name, DeSoto Caverns, comes from the Spanish explorer Hernando de Soto who in 1540 had traveled through what would become Talladega County and visited the cave supposedly looking for gold. Unfortunately for de Soto, the only thing he found was the gemstone onyx.

From that time onward, the cavern had an impressive resume of hosts from George Washington's General Superintendent of Indian Affairs to American Civil War families mining the caves for saltpeter to make gunpowder. It was even home to a prohibition speakeasy and dance hall named "The Bloody Bucket" because of its frequent shootings and fights. There is no doubt, if this cavern could talk, we would be grabbing our popcorn and sitting on the edge of our seat.

Luckily for us, we have the next best thing, a family that chose to share this beautiful place with the public. In 1912, Ida Mathis and some local business partners purchased the caves. After a failed mining venture of the cave's onyx, it sat dormant for many years. In the mid-1920s, Ida Mathis's son, Allen, bought out all other partners. With the help of Fred Layton in the 1960s, Mathis began to turn this dark hidden gem into a place of public exploration and an educational center for all who visited.

As a forester, I have seen family property handed down for generations and eventually be sold off by grandchildren or great grandchildren that either had no interest in the property or were too far from the property to maintain it properly. I am thankful that the Mathis family has kept this property and all its history in the family for over 100 years now, and I hope they will continue to safe keep this educational treasure of our nation's history – all within a day's drive of Alabama's residents. 🏠



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Letters from Landowners



March 21, 2023

To Ray Metzler:

I read your article in the *Treasure Forest* publication and want to see if mussels could be added to the creek that is on my property in Tallapoosa County.

The size of the creek is about the size of the one shown in the photo on page 18 of your article.

I have a map that shows the name of the creek to be Storehouse Creek although I am the third generation to own the property, I never knew it had a name. It eventually flows into Coley Creek or Lake Martin. The creek flows through the land of several property owners..

I would be glad to show the creek to you and hopefully get approval of adding mussels to the creek.

I assume you would need to get approval from other property owners. Hope to hear from you soon.

H. Turner

Pelham, Alabama

P.S. Will see if there are any Sandstone Oaks on the property.

May 18, 2023

To the Editor:

I was in my Dr's office the other AM and saw this magazine on a table. I opened it and to my surprise the 1st page was about a couple in my area, Coosa County, Alabama! Definitely had my attention in the beginning 😊, and it is so informative too! I couldn't put it down until it was my time for my adjustment; of course I inquired about your magazine! He told me that it was FREE!! An extra bonus . . . soooo if at all possible I would love to be added to your mailing list please!

Thank you & have a Blessed Day

S. Luster

Equality, Alabama





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TREES
OF ALABAMA

Chinese Parasoltree

(*Firmiana simplex*)



By Shannon Anderson, FIA Forester | Alabama Forestry Commission

A non-native invasive species, this tree receives its name from its dense crown of large, sturdy leaves, which effectively shade the surrounding ground as fully as a parasol would.

Introduced in 1757 from China as an ornamental tree, the Chinese parasoltree is a deciduous tree that can grow up to 50 feet tall and 2 feet in diameter. It has large (8 to 12 inches long), dark green, three- to five-lobed leaves that resemble a maple leaf. Above, the leaves have light-green palmate veins that form a whitish patch where they join the slightly rough petiole, which can be as long or longer than the leaf itself. Underneath, the leaves are softly hairy. Initially reddish but turning maroon in late winter, the leaf buds are large and round with many overlapping fuzzy scales. In the fall, these leaves turn yellow.

Alternately arranged, the Chinese parasoltree's twigs and branches are stout, glossy green or dull green and becoming grayish green due to a wax coating. Its bark is tight, grayish tan with vertical green to orange shallow stripes in late winter which then

roughens with age. Most distinctive is the pronounced eye-shaped branch scars that occur along the trunk. Especially after leaf fall, the odd branching pattern of green stems becomes apparent. No native species has a similar appearance.

From May to July, the Chinese parasoltree grows tan and yellow flowers on branched panicles more than 2 feet long. Separate male and female flowers occur in each cluster, so it easily self-pollinates and self-seeds. One to five pea-sized dry fruit within unique drooping petal-like curved seed pods form soon after flowering. Fruit drops from June through winter. Due to its self-fertilizing ability and rapid growth, this tree could very readily form colonies. Already this tree can be found in the Southern coastal states with northward spread expected. The tree is typically limited to warmer climates, with a well-known example growing in the botanical garden of Florence, Italy.

One man's trash is another man's treasure though, as the wood of the Chinese parasoltree is used in the soundboards of several Chinese instruments! ♪