

ALABAMA'S

TREASURED FORESTS

A Publication of the Alabama Forestry Commission

Issue No. 1 - 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
FORESTS**

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Erratum | In the Fall 2022 issue, we inadvertently omitted a photo credit in the 'Alabama's Water Resources' article. The lovely photograph on page 8 of an eastern hellbender resting on the rocks of a clear stream was by Mike Knoerr, Private Lands Biologist, Working Lands for Wildlife Initiative. We apologize for this omission!



On the Cover:

This winter scene photo was taken January 2022 on Lookout Mountain in Dekalb County, Alabama, after 4-6 inches of snow had fallen!

Photo by Dan Green

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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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.

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Message from the STATE FORESTER

As I look out the window on this sunny day in February, I want to talk about the exciting opportunities that await us this year in Alabama's great outdoors. Whether you are in your 20s, 30s, 60s, 80s, or even older, this state is blessed with so many ways to appreciate the natural beauty God set before us.

You can enjoy:

- the Pinhoti Trail that begins at Flagg Mountain in Coosa County and winds its way northeast to Springer Mountain in Georgia.
- 170+ miles of canoeing 'trails' that take you through some remote areas in LA (that's Lower Alabama of course).
- 280 sites from the mountains of north Alabama to the Gulf Coast that provide the opportunity to watch more than 430 different species of birds found here.
- boating on the many beautiful, clean lakes that dot our landscape.
- more than 42,000 acres of wilderness area affiliated with our National Forests.
- a leisurely stroll along the miles of pristine beach that make our southern border, and so much more!

There is an outdoor activity in this state for every skill level, age, or interest. And, what's even more exciting, our state's leaders, starting at the top with Governor Ivey, understand just how important developing these resources is to growing Alabama. Outdoor recreation can be a major factor in someone's decision to accept a job and move somewhere new. Many surveys suggest that this quality-of-life indicator is becoming a large part of how a young person decides where they want to live and work. To attract bright young people to Alabama, we need more investment in outdoor recreation, which is what we are doing!

The Governor and Commissioner of Conservation & Natural Resources are working hard to enhance outdoor recreational resources. The Alabama Legislature is providing additional funding this year for such opportunities. The people of Alabama just voted to spend more than \$85 million to upgrade our state parks and state forests. Groups such as the Alabama Hiking Trails Society, the Alabama Trails Foundation, the Conservation Fund, Alabama Power, The Nature Conservancy, and many others are investing time and money to make our outdoor opportunities more inviting.

At the Forestry Commission, with the assistance of many partners and efforts mentioned above, we are upgrading our outdoor recreation assets too. At Flagg Mountain in Coosa County, a new ADA compliant trail provides an easy walk to a truly beautiful and historic part of Alabama. If you want to stay on site, check out our cabins that are available to reserve. In Escambia and Monroe counties, we are rebuilding Little River State Park. Much of the original park footprint was lost to storms about four years ago, but soon, it will be built back even better. Other state forests are seeing a face lift as well. Stay tuned for more information on our plans for these diamonds in the rough!

So, I urge you, this spring as temperatures warm up and the skies aren't so gray, get out and enjoy some of the investment being made in Alabama on your behalf. You won't regret it.



*Rick Oates,
State Forester*

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

P.S. A whole article on recreational opportunities in Alabama that doesn't mention hunting once...what's up with that?

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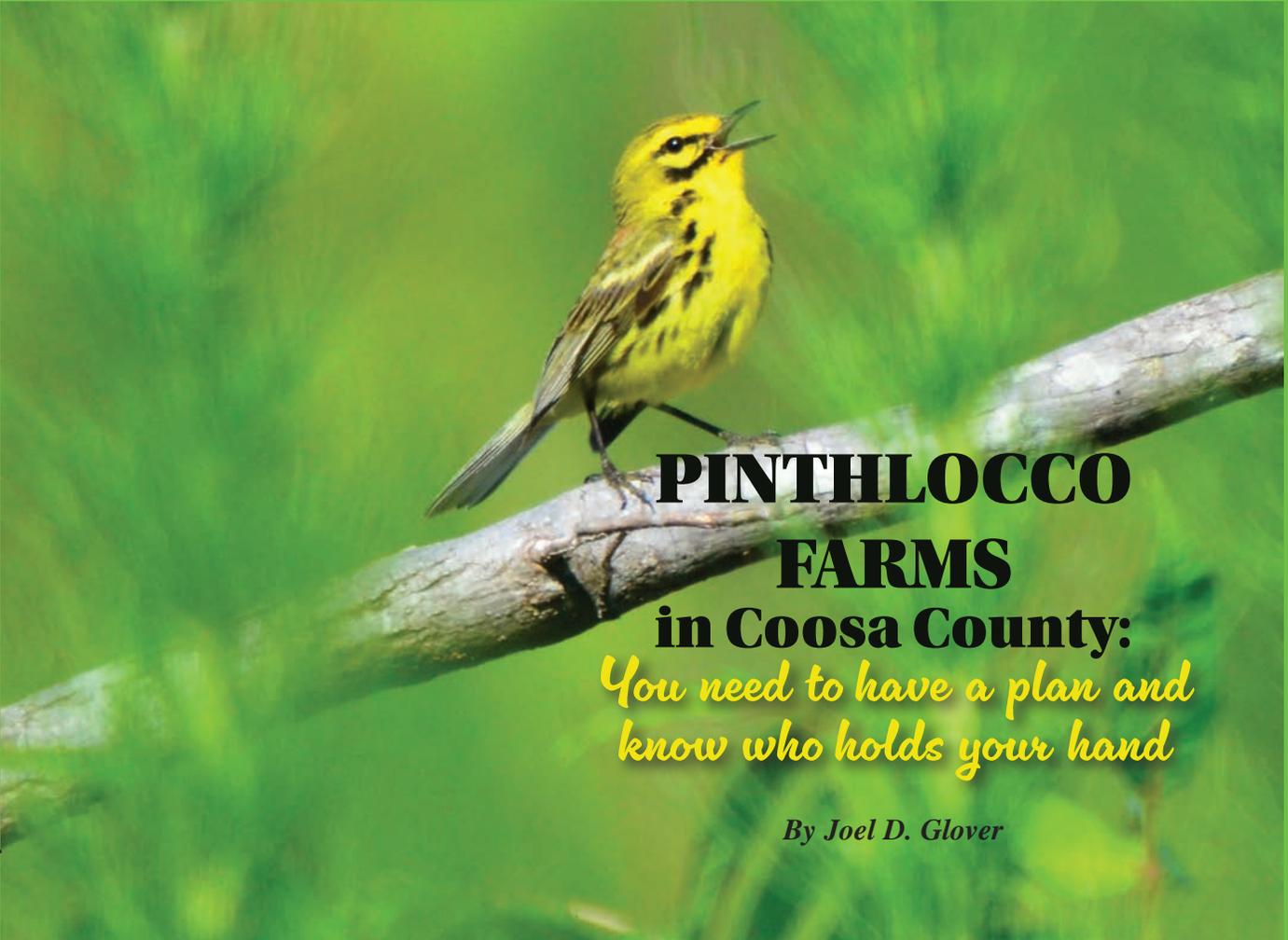
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The Alabama Forestry Commission supports the Alabama Natural Resources Council's TREASURE Forest program. *Alabama's TREASURED Forests* magazine, published by the Alabama Forestry Commission, is intended to further encourage participation in and acceptance 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.

Photo by Joel D. Glover



PINTHLOCCO FARMS

in Coosa County:

You need to have a plan and know who holds your hand

By Joel D. Glover

Early successional habitat benefits many species of wildlife, such as this happy prairie warbler.

Nearly 50 years ago, Raymond Shaw, Jr. and his wife, Sara, began managing 100 acres of Coosa County land that had been in his family since the 1800s. They officially inherited the tract in 1980, giving them the foundation for what would become their truly special TREASURE Forest that was certified in 1995.

Initially the Shaws' primary and secondary objectives were timber and wildlife management. The couple focused on acquiring available adjacent property and getting the timber stands into shape. Although not avid hunters, they devoted a lot of time, money, and effort to wildlife management improvements, greatly enhancing their wildlife habitat. Through hard work, the property was being transformed into a show place.

While working toward their original objectives, like many landowners, they also embraced environmental education, recreation, and aesthetics, amassing significant accomplishments in every area. Approximately 100 acres of the original farmstead was extensively repopulated with hundreds of trees, shrubs, and flowers native to the region. Aesthetics were further enhanced by the addition of stonework bridges, picnic areas, and a nature trail around the lake.



The environmental education objective was totally embraced by the family. Hundreds of Coosa County school children received vital outdoor education on the property through the Coosa County Forestry Planning Committee Adopt-a-School program. In addition, multiple landowner tours were hosted allowing landowners to observe forest management practices they could employ on their own properties and providing insight into the TREASURE Forest philosophy.

The tremendous amount of work performed on the 640-acre tract earned the family the coveted Helene Mosley Award in 2000. In the years since, the Shaw family has continued to grow the farm and excel in a tremendous way. Recently, it was my good fortune to sit down with my friends Raymond and Sara Shaw and talk about 'the farm.' During our visit Raymond shared with me that his secret to success is that he married a younger woman. Raymond is 92 and his wife Sara is only 90! Obviously, they make a great team. Of course, they have been working at it for 71 years! From the beginning, the plan for the property has been to create something for their children and their families, and to instill in them a passion for the property. Now 40-plus years since the property was acquired and

(Continued on page 6)

Pinthlocco Farms in Coosa County

(Continued from page 5)



Photo by Joel D. Glover

Numerous historic family-related cabins are maintained on the property.

23 years since their Helene Mosley Award, it is evident Raymond and Sara have achieved those goals and much more!

I have told TREASURE Forest landowners and those working toward that prestigious designation, they need to remember that owning a TREASURE Forest is a project they will never finish. Property management is never ending. Even when you've achieved your goals, there is still a tremendous amount of maintenance needed. In an interview many years ago Mr. Shaw stated, "We didn't know it would take this much effort to manage a farm." He continued saying, "But we also didn't know the benefits. I don't know of anything we have done in our lives other than raise our family that we are prouder of or receive more benefit from. You can't explain it so that people can understand. You have to experience it." He says those comments still hold true today. I could see the twinkle in his eye when he told me about a grandson calling him and thanking him for teaching him how to work. Sounds as if the plan is working!

Several years ago, the Shaws' son, Robert, took over the day-to-day management of the property. Mr. Shaw said having his son get deeply interested in the property is a true blessing. Robert, a former Dallas Cowboy football player is now a commercial property developer in Texas. He comes to the property two to three times a month, hits the ground running, and doesn't let up. Raymond says Robert has a plan for every acre of the property and possesses an intense desire to see the plan through to fruition. He says he does not consider it work, although there is a lot of work required. The Shaws say their son has a long-term vision for the property and they know the place is in good hands.

Another asset is a grandson and his wife who now live and work on the farm growing and processing organic foods. Mr.

Shaw says his great-great grandfather originally worked the land and now he's thankful his son and grandkids are working it. He once told me that much of the recreation accomplishments on the property were done in an effort to draw the grandchildren to the property. Today, the great grandchildren are coming. It appears the plan has worked pretty well.

Mr. Shaw commented the best thing they ever did was to acquire professional assistance with the management of the property. Early on he received guidance from resource professionals from the Alabama Forestry Commission, Department of Conservation & Natural Resources, and the Extension System and is quick to praise them for helping him along the way. While he originally performed much of the work, over time the property grew to the point they needed some full-time assistance. Today, the property has grown to an astounding 6,000 acres. Raymond said the best deal they ever made was when they hired Certified Wildlife Biologist Brian Walker as their full-time property manager. He says not only does Brian know how to manage wildlife and habitat, but he also possesses a tremendous work ethic. In addition, they use professional consultants to manage their fishing lakes and to consult on their quail management. He says by following the advice of the professional resource managers, they have enjoyed great success.

Brian Walker calls Robert Shaw a visionary who is always a few steps ahead in his mind. He says his forward thinking has proven very helpful in allowing them to reach their objectives for the property. With Robert taking the helm, the objectives were adjusted once again. Today most of the management on the property revolves around bobwhite quail. There are 2,800 acres of quail courses on the property. Maintaining early successional

habitat requires regular maintenance. The staff maintains 150 brood fields, one to five acres in size, that are disked and fertilized to encourage native vegetation and insect production. By lowering the basal area of the timber, using as much prescribed fire as possible, maintaining an extensive feed trail, managing hunting pressure, and intensively trapping predators, they have achieved a tremendous quail population. I feel it is safe to say there is nowhere else in Coosa County and probably in any of central Alabama that can match the quail population found on the Shaw property. This situation did not happen by chance, but by having a detailed plan and executing it well.

Other areas of the property are being managed with various objectives in mind. Wildlife openings are maintained for deer and turkey. Antlerless deer are harvested to keep the herd within the carrying capacity. Numerous wood duck boxes have been placed along the 40-acre beaver swamp. As you can imagine, there is no shortage of road and fire breaks to maintain. These activities have resulted in a wildlife paradise.

An added aesthetic asset are the several cabins that have been renovated and maintained on the property. All of the structures, with the exception of the AFC fire tower that was moved from south Alabama and erected on the property, have some type of tie to the Shaw family.

As we were concluding our talk, Raymond told me, “I know who I am, where I am, and where I’m going,” and Sara added, “and we know who holds our hand!” The Shaws understand they have been richly blessed by God. They trust they’ve been good stewards with what they have been entrusted. They have graciously shared their property with others in an effort to encourage them to develop a TREASURE Forest philosophy.



Photo by Joel D. Glover

Wild turkey gobbler hen.

Throughout my career, it has been my good fortune to meet many outstanding landowners. I rank the Shaws high on that list. It has been my pleasure to know and work with them. Working with landowners while serving as a wildlife biologist for more than 30 years, I witnessed an intense desire in most landowners for their children to develop a passion for the property. The Shaws had that desire, nurtured it, and now enjoy seeing it in their family. Have a plan and know who holds your hand. Now that will preach! 🙏

Low basal area pine stand.



Photo by Joel D. Glover



CHECK YOUR TREES, PLEASE

*By Katie Wiswall | Urban & Community Forestry Partnership Coordinator
Alabama Forestry Commission*

I live in a condominium community that sits on about 8 acres of land, most of which is still natural forest. I wake up to birdsong at my window and return home from work to dappled shade in our parking lot. I have a pear tree (the real kind) growing by my back deck and a crape myrtle at my front door. I am, by training and vocation, a forester, and as you can imagine, I LOVE my little neighborhood.

During the early days of the pandemic, I walked to a neighbor's door, and she asked, "What do you think is wrong with that tree?" I looked up and realized that a large ash tree overhanging the area where the children play was looking decidedly ill. Many of the branches at the top had no leaves; others had tiny leaves, and a couple of branches were obviously dead. One had even fallen within the tree and was lodged across a lower branch, poised to fall with the next good wind! How could I not have noticed that this tree had serious issues?

Simple – I was what my boss refers to as "tree-blind."

Too often, we enjoy our trees but take them for granted and don't really LOOK at them. To me and my neighbor, that tree was fine yesterday and a danger today, but honestly, that's not how trees work. Barring a lightning strike or damaging wind event,

trees don't die (or get obviously sick) overnight. Most often, tree death is what I liken to being pecked to death by ducks – it takes a long time, and it leaves plenty of bruises along the way. I simply didn't see the tree until I was forced to see the tree.

Thankfully, we took care of the tree before it caused any damage or injured anyone; however, that is not always the case. Some insurance studies have shown that most trees that fail during storms had pre-existing defects or diseases that could have been addressed. And early intervention starts with SEEING your trees.

This doesn't mean your beautiful trees need to become just another daily or weekly chore. You and your trees can stay safe with only a little extra attention. Twice a year, take a really good look at the trees near your home. Doing this at the start and end of hurricane season is a good time because you will look at them once with all their leaves on (June 1) and once with no leaves (November 1). Perhaps your semi-annual 'inspection' could be the beginning of a special scrapbook documenting how your family and your trees look over time!

When you look at each tree, look from the roots to the top. Does anything look different about it? Maybe some big fungi on/near the roots? A difference in the level of the ground on one side

of the trunk? Are there new scars or splits on the trunk? Are the leaves a little different in color or size? Maybe there are more of them or less of them? Mistletoe up in the crown? Dead limbs or twigs? You do not need to be a forester or an arborist to notice these kinds of differences. But you MAY need one to help you diagnose and treat the tree if you do see them. Many times, tree life can be extended through the application of mulch, aeration of the root zone, the addition of nutrients, a change in the water regimen, or some judicious pruning.

We all benefit from the trees around us. Besides providing us with oxygen and shade, they provide habitat for birds, insects, and animals; they protect our soil and waterways; they give our

children places to play, and they increase our property values. What's not to love about a healthy tree? And that is why I have only one request: Check Your Trees, Please! 🌳

Article posted by Hannah Curranon in "Tree Talk," Trussville Tribune, October 07, 2022 – "Trussville's Tree Commission would like to thank Katie Wiswall for her support over the last two years in helping our city become part of The Arbor Day Foundation's Tree City USA program and for her contribution to this column."

**I
Ask:
When
You look
At my crown
Do you see gaps or
mistletoe or empty twigs
or dead or broken branches? Do my
leaves look "weird"? Are they too small or
not the right color or shape?
On my trunk
Do you see
growths or
cracks or holes
or twists or oozing?**

Are there mushrooms on my roots or is one side of my trunk flare higher than the other so I have a new lean to my look? Or is the soil sunken-in around the drip line from my leaves? All of these can mean that I need help to keep doing my job well and safely. It may not be too late to keep me healthy, so remember twice a year to

CHECK YOUR TREES PLEASE

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
Mike Conlon	Colbert
Stanton Langley	Coosa
Albert Boroughs	Monroe
Alan Miller	Sumter



BUILD. INVEST. GROW.

ALABAMA FINANCING

"I'm proud to be associated with an organization that makes their living from the land, because that's what I do."

Wintson Bryant
Owner at Ponderosa Farms



Hear from our members.
<https://qrco.de/bdf0jy>



Together we grow.
ALABAMAFARMCREDIT.COM





Alabama SANDSTONE OAK

*By Patrick Thompson | Curator, Davis Arboretum |
Coordinator, Alabama Plant Conservation Alliance, Auburn University
and Dr. Emily Nichols | Extension Specialist, Alabama Cooperative
Extension System, Auburn University*

While Alabama has more forest canopy cover than almost any other state, in between the forests is where we find one of the world's rarest oaks, the Alabama sandstone oak, *Quercus boyntonii*. The conservation of this interesting dwarf oak is a tale of teamwork keeping Alabama's forests diverse, while globally many plant species are in steep decline.

Although Alabama has more species of large trees than any other state, including many oak species, dwarf oaks are a group that can be easily overlooked. Some species such as myrtle oak, runner oak, and dwarf live oak are found near the coast. The habitats where they grow are very low in nutrients and water-holding capacity. The habitat where food and water are even harder to come by is a rock outcrop, and that is where you can find our only endemic tree, the Alabama sandstone oak (ASO).

Alabama's diverse oaks include species that prefer wetlands such as overcup oak and swamp white oak, dry site specialists such as blue jack and turkey oaks, opportunistic species such as water oaks and laurel oaks, and species that can get huge such as the tall cherrybark oak or the wide live oaks near the coast. The soil pockets on rock outcrops can't sustain larger species, so

ASO's have an advantage over those numerous large tree species that might occur in the woods surrounding the rocks. Another special thing about this species is that they tolerate extreme heat. Think about what it takes to survive on a rock in the blazing sun of an Alabama summer year after year.

Cooperative teamwork across academia, state agencies, and public gardens have largely contributed to the conservation of the ASO. Matt Therrell from the University of Alabama, for example, has cored some of these trees on Alabama State Parks and 'Forever Wild' Land Trust lands, reporting that those less than 20 feet tall can be centuries old! When a university expert can add measurements to their data set while increasing our knowledge base of a rare plant on Alabama's public lands, it is a win-win situation. The U.S. Department of Agriculture, Forest Service is tasked with maintaining the genetic diversity of our forest resources. That diversity includes the workhorse species such as loblolly pine and white oak, but also the rarer species like the ASO. Public gardens are in an ideal position to assist the Forest Service with this task as their field work has broad range and horticultural expertise is plentiful.

(Continued on page 12)

Alabama Sandstone Oak (Continued from page 11)

In 2015 the Forest Service and the Association of the Public Gardens of America signed a memorandum of understanding to work together on a series of tree gene conservation grants to help preserve rare trees, especially the exceptional species that cannot be seed banked in traditional ways. Acorns cannot be kept long term, so oaks must be maintained in living collections such as those at the Huntsville Botanical Gardens and Auburn University's Davis Arboretum. These two institutions have worked together over the past few years to document the ASO in the wild and collect acorns when they can be found. Their field agents have been following leads from central to northeastern Alabama in search of this cryptic species.

The ASO grows primarily on sandstone ridges from Oak Mountain State Park south of Birmingham, to the Noccalula Falls area north of Gadsden. The ASO team will spend summer months hiking and mapping acorn-producing trees and return each fall to collect acorns to plant in botanical gardens and arboretums. As part of the ASO conservation efforts, tree plantings have also been implemented in a Forest Service seed orchard. The seed orchard will be essential to producing enough seedlings so that these trees can be made available to the public enabling this rare species to become more common. Collecting seed in the wild is a challenge because observations have shown that less than 5 percent of trees set acorns each year, and the Center for Plant Conservation (CPC) recommends collecting no more than 10 percent of the seeds available each year. These recommendations help reduce the possibility of inadvertently doing more harm than good.

The total wild population for the ASO is currently only known to be about 1,000 trees. Most locations where ASOs have been documented only feature a few of these trees, though there are a couple of healthy populations growing on protected state lands, thanks to Alabama State Parks Division (Department of Conservation & Natural Resources) and the Forever Wild Land Trust program. Some ASO trees have been found in Hoover in and around Moss Rock Preserve, residential yards in Mountain Brook and Irondale, and at Camp Winnataska. It can be difficult to fully ascertain how rare a cryptic species is such as the ASO because people's ability to recognize and identify the tree is limited.

Another important piece in the rare oak puzzle is increasing public awareness, and ASO teammates are hard at work. Over the previous summer they hosted a workshop at Oak Mountain State Park with a park naturalist and experts from the National Arboretum in Washington, D.C., and the Global Conservation Consortium for Oak at Morton Arboretum in Chicago. It is our hope to continue

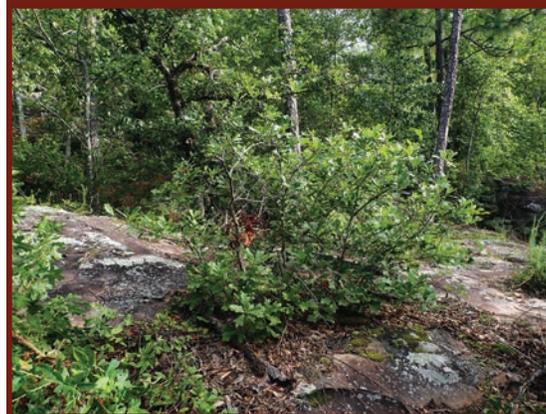
to expand upon these efforts to provide outreach and education about plant conservation and diversity and secure a promising future for the ASO.

Plant conservation in the Southeast depends largely on public advocacy, private landowners, and land managers. There are several ways that you can assist the ASO team.

1. Appreciate Alabama's oak diversity! If you have oaks in your woods that you don't recognize, take a minute to try and identify the species. It could be something special. Apps such as iNaturalist can be very useful.

2. Look for the Alabama sandstone oak, especially if you are inside the triangle formed by Pelham, Blountsville, and Gadsden.

3. The Global Conservation Consortium for Oak (GCCO) and the *Quercus boyntonii* Species Action Plan Stakeholder Group, along with the Alabama Cooperative Extension System and the Donald E. Davis Arboretum, would like to gather information related to individuals' awareness of Alabama oaks, especially the Alabama sandstone oak, *Quercus boyntonii*, and how to engage them in future conservation efforts. We need your help in enlisting feedback from Alabama residents! Please share our Qualtrics survey link and/or QR code with your local stakeholders (landowners, educators, students, volunteers, everyone!) on your social media pages, county newsletters, email lists, etc. Please feel free to reach out to me if you have any questions or would like further information. Thank you for helping us to expand our reach! 📡



WANTED

HAVE YOU SEEN THIS PLANT?

ARE YOU IN ALABAMA?

ARE YOU ON SANDSTONE?

YOU MIGHT BE SEEING THE AL SANDSTONE OAK
~ *QUERCUS BOYNTONII* ~

MAY BE SHAPED LIKE A BUSH OR SHRUB
DON'T BE FOOLED BY LOOK-ALIKES!

Q. MARILANDICA

Q. NIGRA

Q. MARGARETTA

IF SEEN CONTACT THE APCA
EMAIL AT THOMPPG@AUBURN.EDU

Use the link or QR code to complete the survey:
<https://aub.ie/ALoaks>



PRESCRIBED BURNING SAFETY:

Protect yourself, and your utility poles, this winter and spring season

Contributed by AREA and PowerSouth Energy Cooperative

Many landowners use prescribed burns during spring to manage forests and pastures. The Alabama Rural Electric Association of Cooperatives (AREA) supports prescribed burns, but urges caution this season, especially near electric infrastructure.

Understand the risks.

While burning can control the buildup of fire-fuel sources like brush and debris, poorly handled burns can result in property damage, injury, or death. Fires near utility poles and lines can be particularly problematic.

If a pole (or line) catches fire, it can create electrocution hazards and spread flames. Not only is burning electric infrastructure a major safety risk, but it also can create community-wide outages and service disruptions.

Have a plan.

Monitor recent and current weather conditions. Before burning, check your property for utility poles. Create firebreaks between your property and the poles. Also, be cautious of poles that run through your property (such as in a field) or poles on adjacent property.

To construct an effective firebreak:

- Remove grass, weeds, and debris at least 10 feet around poles.
- Ensure only bare ground is exposed.
- Soak the base of the poles with water.
- If necessary, create a circular firebreak around poles.
- Watch for guy wires and other infrastructure.

No firebreak is 100 percent effective. Always keep an eye on active fires and be ready to act.

Accidents happen.

If a pole catches fire, call 911. Even if you think you have the flame under control, stray embers can get into cracked utility poles and burn them from the inside. Call the appropriate authorities, and inform your local utility of the situation.

Please burn responsibly this winter and spring season. Your community, and your electric provider, will thank you. 

PRESCRIBED BURNING?

Help us PROTECT OUR UTILITY POLES.

Check your property for utility poles prior to burning.

When able, create firebreaks between your property and the poles. (Beware of guy wires above when using large equipment.)

Clear vegetation and flammable material at least 10 feet away from pole bases. Then, wet the bases before burning.

Check poles for cracks and make sure embers have not gotten inside. Embers can burn the poles from the inside out.

Check poles before and after a prescribed burn.





*By David Mercker / Extension Forester
and Sheng-I Yang / Assistant Professor of Forest Biometrics / University of Tennessee*

Trees and the forests in which they grow are measured to obtain information for making natural resources decisions. Decisions may include several reasons, such as financial, wildlife management, or forest health. Several common concepts in forest measurements are introduced. You'll benefit by gaining a general understanding of how and why forest measurements are taken.

Diameter at Breast Height (DBH)

Diameter at breast height (DBH) is an important tree measurement. DBH is the diameter of a tree measured outside-of-the-bark at breast height (4.5 feet above the ground). Useful to characterize forest stands and estimate wood volume, DBH is also



closely tied to tree value. DBH is usually measured with a diameter tape that is wrapped around the circumference, or with a Biltmore stick.

Trees per Acre (TPA)

Trees per acre (TPA) is another important stand parameter that is often needed to make decisions. TPA is the total count of all standing trees on a per-acre basis. For example, if there are 200 trees on a 2-acre stand, TPA of the stand is 100.

Because it is not practical to count all the trees in a forest, estimates are made with plot samples. To ensure the sample represents the target population, multiple 'fixed radius plots' are taken and evenly spaced across the forest. With this method, a plot center is first established. Then, all trees within the radius of the plot circle are tallied and multiplied by that 'portion' of an acre sampled to provide per-acre values.

For instance, a 1/10-acre plot has a plot radius of 37.2 feet. All trees within the 37.2-foot radius circle are tallied. Therefore, each tallied tree within the circle represents 10 trees per acre. If a 1/20-acre plot is used, then apply a 26.4-foot radius plot and multiply each tree tallied by 20, and so on. The accuracy in estimating number of trees increases as plot size increases, but so too do the number of trees to be tallied!

Tree Age

Tree age provides a measure that reflects stand productivity and is useful in making forest management recommendations. Tree age can be known based on history and previous land



uses, or it can be determined by counting tree rings using an increment borer. A borer has a hollow center that is penetrated (screwed) into a tree to the center (or pith) of the tree, from which a core of wood is extracted and then the growth rings are counted to estimate tree age. The outermost rings reflect the most recent growth.

Tree Height (Total, Crown, and Merchantable)

There are several measurements of tree height that can be taken. Three are considered here, and each provides useful information.

Total height – a measure from the groundline to the highest point of the tree crown. Tree height, when combined with tree age, provides an estimate of site index (explained later).

Crown length – a measure of that portion of the total tree height having living branches. Sometimes called live crown ratio (defined as the ratio of crown length to the total tree height), it is useful in determining when forest stands are ready to be thinned. Small crown length can imply slow growth and poor health.

Merchantable height – the height above the ground level to which the tree bole can be cut and sold for commercial products. Merchantable height is normally reached when the diameter inside the bark at the small end of the log reaches 10 inches.



Crown Class

Tree crowns make up the canopy (or uppermost layer) of a forest. Crown classes cannot be measured precisely, and they are broken into distinct layers. Four crown classes are generally recognized:

Dominant – trees much taller than the general level of the canopy, receiving direct sunlight on all sides of their crown.

Codominant – trees that form the general level of the canopy, but below the dominants, receiving sunlight from above their crown and some from the side.

Intermediate – trees with crowns that fall below the general level of the canopy, receiving sunlight only from above at midday.

Suppressed – trees much shorter than the general level of the canopy, receiving only filtered sunlight.

Site Index

The site index (SI) of a forest is an expression of the forest site quality. It is based on the average height of the dominant and codominant trees at a specified age, usually 50 years for hardwood trees and 25 years for planted pine. Site index curves are used to estimate the SI for each species. For instance, when white oak trees (*Quercus alba* L.) are 85 feet tall at 50 years of age, the SI for that group of trees is 85 (ft). If the white oak trees are only 65 feet tall at 50 years of age, the SI is 65 (ft). The higher the SI, the better trees grow and produce wood volume.



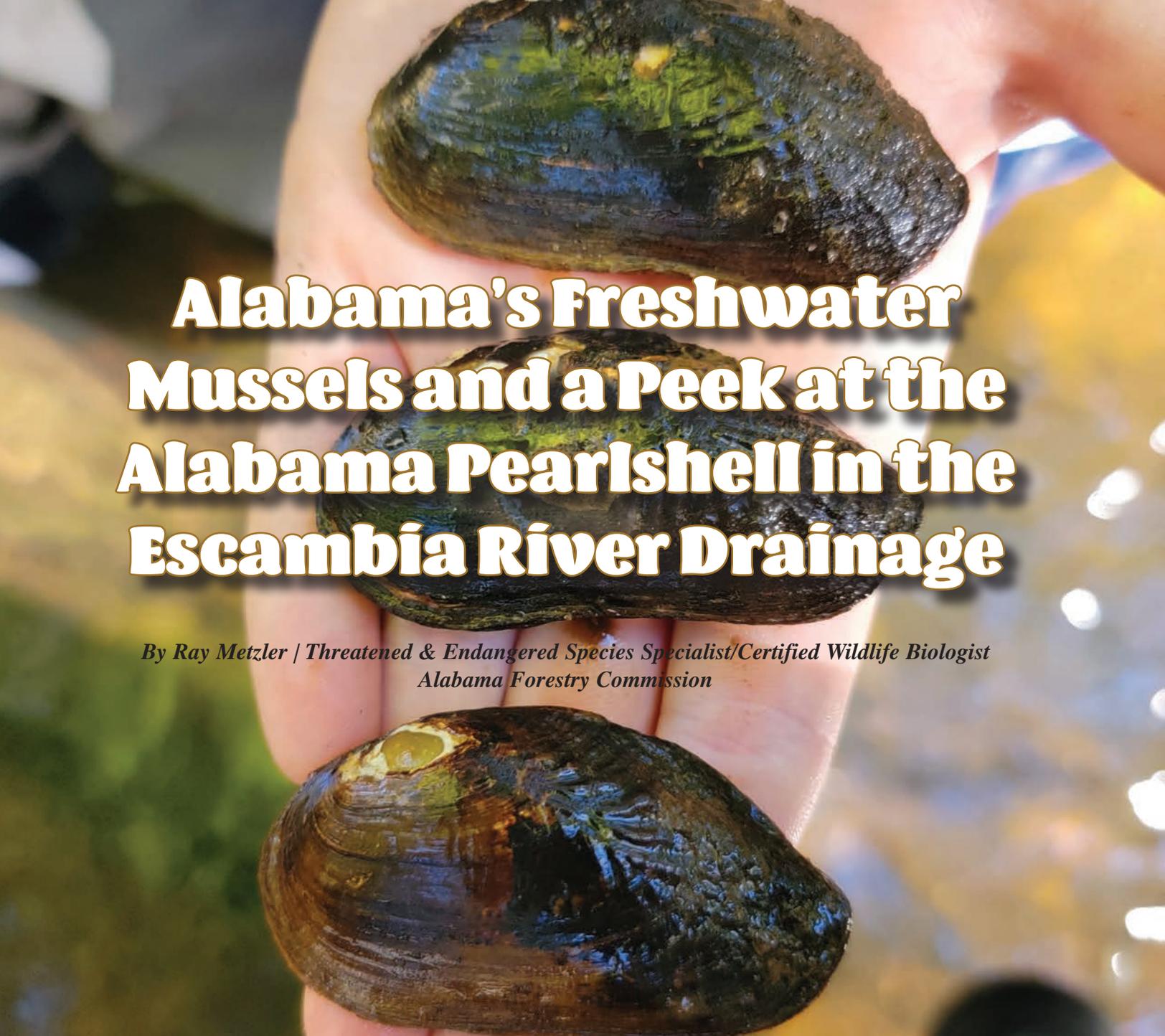
Board-foot Volume

A board foot (BF) is a measure of wood volume totaling 144 cubic inches that is commonly used for estimating wood volume in trees, sawlogs, or individual pieces of lumber. For instance, a piece of wood measuring 1-foot-long x 1-foot-wide x 1-inch-thick, or a piece of wood measuring 1 foot x 2 inches x 6 inches, each contain 1 BF of wood. Tables have been developed for both felled logs and standing trees, called log rules, whereby estimates of BF can be quickly made. The log diameter and length are needed to use these rules.

Increasingly, board foot volume measurement is being replaced by log weight as a measurement. Although not as accurate (weight varies by species, size of trees, season of the year, and location), many mills prefer this method of wood measurement due to the ease in business transactions.

Conclusion

Measuring trees and forests is important for assessing the present condition and for developing strategies to achieve future goals. Foresters and natural resource professionals utilize a number of techniques to measure trees and forests. With the information presented here, you'll be better prepared when engaging the services of professionals. 🏠



Alabama's Freshwater Mussels and a Peek at the Alabama Pearlishell in the Escambia River Drainage

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

North America is home to more species (about 300) of mussels than anywhere else in the world and at least 182 different mussel species occur in Alabama. Our state's geological history and climate are reasons that Alabama has the greatest aquatic biodiversity of any place in North America. Mussels have adapted to and now live in nearly every water body in the state.

As part of my work with the Alabama Forestry Commission, I have been fortunate enough to assist with surveys for some of Alabama's threatened and endangered mussels and snails. These efforts have given me an appreciation for the work being done by the agencies, companies, and entities engaged in streamside habitat restoration to benefit the state's aquatic biodiversity. But I must admit, one of the most memorable 'surveying' experiences I had occurred during my student days at Auburn University as part

of a waterfowl biology field trip to Louisiana where we got to harvest and shuck enough oysters to fill a big pickle jar. Oysters share many characteristics with mussels, but are more like cousins as opposed to brothers and sisters.

WHAT MAKES A MUSSEL A MUSSEL?

Mussels have an external shell comprised of two hinged halves or 'valves' joined together by a flexible ligament. The valves support internal soft tissues and provide protection from predators as well as desiccation [drying out completely]. The valves can open and close for a variety of reasons including locomotion and reproduction. It has a muscular organ or foot used to pull itself through the sand, gravel, or silt by repeatedly moving its foot to a new location, anchoring it, and then pulling its body and shell to the newly anchored location.

Freshwater mussels perform an important ecological service by acting as filters of our streams and rivers. They filter large quantities of algae, bacteria, silt, fine particulates, and even heavy metals that may harm our aquatic ecosystems. Mussel populations are often an indicator of overall stream health and water quality.

Male mussels release sperm into the water column that enters a female through a siphon inlet. After fertilization, the eggs develop into larva called glochidia within the female's gills. Mature glochidia parasitize the gills or fins of host fishes and the release often targets a specific host fish. Depending on the mussel species, glochidia will take days to nearly a month to mature and drop off the host fish where they will begin their life as a juvenile mussel. It may take several years for them to become sexually mature, and several species can live for more than 70 years.

MUSSELS IN DECLINE

Of the 182 mussel species reported to occur in Alabama, 76 (42 percent) are high or highest conservation concern, and 70 of them are provided protection under the Endangered Species Act. The primary cause of population declines in many aquatic species, not just mussels, was the construction of dams on all but one of Alabama's major river systems. One thing to remember, many of these dams were constructed to provide electricity at a time when other sources of electricity were not abundant. Private landowners are more likely to have issues with sedimentation, perched culverts, and other barriers to passage as opposed to dams. Most of the activities that led to population declines occurred many years ago. The Clean Water Act, Endangered Species Act, and other legislative initiatives have resulted in opportunities to restore habitat during the past 50 years.

MUSSEL POPULATION RECOVERY EFFORTS

Mussel species of high or highest conservation concern are generally located in small populations separated by large expanses of unsuitable habitat. Recovery of these species requires at least one, if not both of the following two actions: 1) habitat restoration and 2) some type of artificial propagation or culturing facility to produce individuals to release into the newly restored, unoccupied habitat. The Alabama Division of Wildlife & Freshwater Fisheries operates the Alabama Aquatic Biodiversity Center (AABC) in Perry County – the largest facility in the world that produces mussels and snails for conservation activities. Since recovery operations began in 2010, the AABC has propagated approximately 200,385 individuals of 18 species for release into the wild.

A PEEK AT THE ALABAMA PEARLSHELL

Most of Alabama's 182 mussel species are members of the Unionidae family. The Alabama pearlshell is one of five species in the Margaritiferidae family and is also one of the 53 species of mussels occurring in the state protected by the Endangered Species Act. They are called pearlshells because of the thick layer

of nacre or 'mother of pearl' lining the interior of the shell which enables individuals on occasion to produce pearls.

Alabama pearlshells are thought to live as long as 80 years or so, and they spend the first three to five years of life buried in the substrate. Very little is known about the species due to its rare status, but redbfin pickerels are the host-specific fish that transform glochidia into juvenile mussels.

Paul Johnson, Director of the AABC, stated this species is one of the most endangered in Alabama. It is found primarily in the Escambia River system in Conecuh, Crenshaw, and Escambia counties. Streams of particular interest in the Escambia River drainage include Burnt Corn Creek, Murder Creek, and several tributaries including Sandy, Hunter, Otter, and Jordan creeks. It was also historically found in Limestone and Big Flat creeks in Monroe County in the Alabama River drainage. The five remaining populations are thought to be currently limited to 5-7 miles of habitat.

The AABC has previously determined that they can successfully culture this species and has a desire to propagate and release individuals into suitable habitat. The issue at hand is that the AABC can culture specimens to support recovery efforts but doesn't have willing partners in suitable locations to release the juveniles. Most of the stream bank habitat in suitable habitats are privately-owned creeks. Additionally, habitat suitability assessments need to be completed prior to any habitat restoration and propagation efforts being implemented.

There is a great deal of interest from conservation and forestry organizations to work with private landowners to improve riparian habitats so efforts can be made to restore local populations of threatened and endangered mussels. Habitat improvement could lead to downlisting or delisting of aquatic species.

The Escambia River drainage or any other major river drainage in Alabama includes streams that are listed as critical habitat for several mussel species. The fear of government intervention often limits a private landowner's willingness to cooperate with efforts to restore habitat for threatened and endangered species. However, cooperating with conservation efforts to improve riparian habitats in these areas doesn't expose private forest landowners to any additional regulatory burden if past forest harvesting activities abided by Alabama's Best Management Practices for Forestry. Alabama has a great resource in the AABC, and we should maximize opportunities for private and public partnerships to occur for the benefit of our highly diverse mussel and snail resources. The first step in recovery for many of these species is to assess and survey aquatic habitats.



A cattle exclusion project was conducted by the Alabama Forestry Association. Trees have been planted which should greatly improve riparian habitat.

However, cooperating with conservation efforts to improve riparian habitats in these areas doesn't expose private forest landowners to any additional regulatory burden if past forest harvesting activities abided by Alabama's Best Management Practices for Forestry. Alabama has a great resource in the AABC, and we should maximize opportunities for private and public partnerships to occur for the benefit of our highly diverse mussel and snail resources. The first step in recovery for many of these species is to assess and survey aquatic habitats.

WHAT SUCCESS LOOKS LIKE

A recent success story of the AABC and partners was the reintroduction of the very rare Coosa moccasinshell mussel in two streams, one located on property held by a private forest landowner and another on lands owned by The Westervelt Company – a private, family-owned land stewardship company that has

(Continued on page 18)

Alabama's Freshwater Mussels and a Peek at the Alabama Pearlshell in the Escambia River Drainage

(Continued from page 17)

managed forest resources for almost 140 years. This species was once commonly found above the fall-line of the Coosa, Black Warrior, and Cahaba River basins but has been limited to the Conasauga River in southeast Tennessee and northwest Georgia since the 1970s. Kudos to the partners (especially the private landowner and The Westervelt Company) involved in the culturing and release of the juvenile mussels into the streams. It takes at least five to seven releases in a decade to successfully establish a species at a site. If reproduction occurs over a ten-year period, it may be possible for downlisting or delisting of the species.

The Alabama Forestry Association currently has a project in 10 south Alabama counties to work with private landowners to restore riparian habitats for at-risk species. Riparian zone repair and reducing sedimentation not only provides better habitat for all mussels and fish but it also reduces channel incisement and prevents land loss for the landowner. Project personnel recently worked with a private landowner in Conecuh County to exclude cows from 350 feet of erodible streamside habitat that was causing sediment discharge into Murder Creek. The exclusion area encompassed about 0.5 acres and has been planted with hardwoods to re-establish riparian habitat. This one streamside restoration project will positively impact water and stream quality for several miles while only removing 0.5 acres of erodible pasture land from production. This situation seems like a win-win for both the landowner and the aquatic habitat downstream. Whit Carroll, biologist for the Alabama Forestry Association, is spearheading the efforts to assess and implement practices to benefit aquatic habitats in the 10-county project area and can be reached at wcarroll@alaforestry.org.

Surveys completed along waterways adjacent to private lands are key to filling gaps in population data for mussel species. One recent example comes from a Clay County property adjacent to a one-mile stretch of Hatchet Creek. With technical and financial assistance provided through a partnership between the American

Forest Foundation (AFF) and the US Fish & Wildlife Service's 'Partners for Fish & Wildlife Program' (PFW), the health and biodiversity of 18 acres of riparian forest were improved through removal of invasive species. Under the agreement with the landowner, a survey of the creek was completed. The original mussel species of interest to surveyors was fine lined pocketbook, a rare mussel found during the initial inspection of the property. During the survey, another rare mussel, Southern pigtoe, was documented. This was the first finding of this species of mussel in Hatchet Creek in more than 50 years. Funding has been provided through the AFF/PFW partnership for riparian habitat improvements on three other projects across Alabama. Greg Pate, a forester with the partnership, can be reached at greg.pate@fourwforestrygroup.com for more information.

Hopefully these and similar efforts around the state of Alabama will lead to improved habitat, enhanced populations of threatened and endangered species including the Alabama pearlshell, and eventual downlisting or delisting.

WHAT CAN YOU DO?

Approximately 93 percent of Alabama's forestland is privately owned. Successful habitat and population restoration efforts must include private landowners as well as public agency personnel, non-governmental entities, and other partners working collaboratively for the benefit of our imperiled aquatic species. Most *Alabama's TREASURED Forests* readers are private non-industrial forest landowners with a deep sense of stewardship who want to do what's best for Alabama's natural resources. In addition to your local Alabama Forestry Commission office, landowners interested in improving riparian habitats can reach out to the following individuals:

Whit Carroll, Biologist
Alabama Forestry Association
wcarroll@alaforestry.org

Todd Fobian, Environmental Affairs Supervisor
Alabama Wildlife & Freshwater Fisheries Division
Todd.Fobian@dcnr.alabama.gov

Ray Metzler, Wildlife Biologist
Alabama Forestry Commission
Ray.metzler@forestry.alabama.gov

Greg Pate, Forester
American Forest Foundation
greg.pate@fourwforestrygroup.com



Stream habitat assessment conducted by fisheries biologists

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SCOTCH Makes Commitment in Rebuilding Waynesboro Veneer Plant...

Facility is rebuilt, up and running only 14 months after devastating January 2021 fire



Contributed by Panel World magazine, a Hatton-Brown Publishers publication

Executives and key individuals with Scotch Plywood made a commitment to rebuild before the ashes had cooled following a January 6, 2021, fire at a key veneer production facility in Waynesboro, Mississippi. Thanks to a monumental effort by all involved – from Scotch Plywood owners, management, and employees to vendors and log suppliers – the veneer plant was peeling logs again in March 2022.

That the project was pulled off so successfully and smoothly under tough operating conditions is a testament to the Scotch plywood organization. The icing on the cake is the new facility here has hit the ground running and recently set plant production records for shift and day, along with improved veneer quality.

Scotch Plywood does most of its peeling at Waynesboro. The facility produces anywhere from two-thirds to three-quarters of Scotch Plywood's overall green veneer requirements. Scotch's veneer plant in Beatrice, Alabama, has a lathe and one dryer, and the Fulton plywood plant has two dryers plus layup, pressing, and finishing. Keeping all the moving parts in place for such an organization and process were critical.

"It was real important to keep all the landowners, suppliers, and employees working with us," says Charles Bradford, Scotch Plywood Vice President of Procurement. "We tried to keep everyone busy and working, including the loggers."

Letting the Beatrice plant pick up the slack in veneer production was key to maintaining the Waynesboro plant's operational infrastructure. Employees were bussed from Waynesboro to the Beatrice plant and back every day as the facility ran almost around the clock to keep veneer moving.

Logs also had to be transported from Waynesboro to the Beatrice plant for peeling, up to 150-200 extra loads a week. Where feasible, loggers would haul directly to the Beatrice plant, but most logs were hauled as usual to the Waynesboro log yard, then transported the 115-mile journey to Beatrice.

The charter bus rides and 12-hour days were critical to keeping employees on the job. Waynesboro Plant Manager Buddy Douglas says even though they were nice charter busses, the employees were sure happy to see the bus rides end as the new plant came on line.



PROJECT

Looking back at the ashes more than 14 months ago following the fire, officials took stock: downstream from the vats was a total loss that included lathe and infeed, clipper and stacker, and related equipment. The log yard and boiler were in good shape and still operable. The mill had been operating an older Premier lathe that was a bit dated but had an upgraded electronics package and ran well.

To replace the mill, Scotch started from the ground up, having to take up the concrete that had been scorched and damaged and starting over with bare ground. Within a few days, Mid-South Engineering had been brought in to help with mill design. Key vendors included Southern Industrial for concrete work, RK Wallace Construction handled the building work, and A&B Electric Company did the electrical. Deep South Machine Works performed equipment installation.

After doing research and especially after a visit to see a similar system run at Coastal Plywood in Havana, Florida, Scotch officials decided to go with an Altec lathe and charger system that includes step feeder, x-y charger, all-electric lathe and controls, and related components, plus tray drives and controls.

The all-electric charger system uses servo-electric roller screws for all functions, and the electric backup rolls are controlled by Allen-Bradley servo drives and motors that Altec officials say allow tighter tolerances on peel thickness as well as improved quality. The Altec lathe carriage is also all servo-electric roller-screw actuated and features Altec's advanced control logic. Trays utilize ABB Reliance motors and Allen-Bradley drives and controls.

Before the fire occurred, there was already a plan in place to add a veneer diverter and strip trays behind the clipper. The old plant had a no-tray shotgun design, with 70 feet from lathe to clipper. The new plant was extended, and now has three 97-foot trays feeding the clipper and two overhead sheet trays, and three 45-foot strip trays downstream of the clipper.

The clipper is a Raute unit that's been refurbished by USNR, which provided scanning and controls for the clipper and diverter. Veneer sheets flow to two single-bin Raute stackers, and strips flow to a green chain.

Douglas notes that the lathe has performed extremely well. The new facility recently set plant production records for shift and day within three months of startup.

RESOURCES

The Scotch Companies management group employs 28 foresters and technicians, oversees 24 logging crews, and manages several wood dealerships. A big part of the Waynesboro recovery project and rebuild success was keeping the log supply chain up and running and maintaining long-term procurement relationships.

Hall Timberlands President and CEO David Hall says Scotch's response to the fire confirmed what he already knew about the family-owned Scotch Companies' dedication and commitment. Working with Scotch since 1976, Hall calls the relationship 'seamless' and says he was kept in the loop as Scotch managed the operational aspects and kept timber flowing to the Beatrice mill.

NEW MILL

For now, plant operators are focused on the future and getting better as the recent production records attest, the hallmark of a good mill construction and startup project. "The owners and upper management let us go buy what we needed to get the mill back up quickly, making it ready to run," Douglas said.

While leadership came up with a solid plan and project, it was Scotch Companies' employees and suppliers who worked together to make the new plant a reality. "Our greatest investment is in our people," Douglas says. "They're the ones who make it happen." 🙏

Photos courtesy of Scotch Plywood



SCOTCH HOSTS GRAND OPENING – Scotch Plywood Co., Inc. held a Grand Opening appreciation luncheon May 25 at its rebuilt veneer operation in Waynesboro. Management, employees, timberland owners, logging contractors, local business operators, community residents, and other friends of the company were on hand. Vice President of Scotch Plywood Gray Skipper, holding the microphone, spoke to the media about the benefits of the new facility for the community and area business operations. Standing next to Skipper, left to right, are co-owner Montgomery Woods and Vice President Procurement Charles Bradford.



North Alabama Metro Work Unit



By Robert Maddox, Registered Forester/Work Unit Manager | Alabama Forestry Commission

The North Alabama Metro Work Unit consists of Lawrence, Limestone, Madison, and Morgan counties. It was decided to group the most urban counties together to focus on urban forestry opportunities. We therefore named our work unit ‘North Alabama Metro’ to evoke a ‘city’ feel. Although Lawrence County is more rural than the other three, the city of Moulton will also benefit from urban forestry assistance.

The Tennessee River separates the work unit in half. A mix of pines and hardwoods can be found throughout the work unit. Madison County becomes more mountainous near the Tennessee line and east of Huntsville. Morgan County has a ridge of hills/mountains from the northeast circling along the bottom of the county into Lawrence, Winston, and Cullman counties. Lawrence County contains finger ridges, sinkholes, and some hilly terrain to the south. Agricultural fields and pasture are abundant everywhere. Large diameter natural gas lines cross some of the counties. Wheeler Wildlife Refuge in Morgan County, parts of Joe Wheeler State Park, and Bankhead National Forest in Lawrence are points of interest.

Forestry Specialist David Bullion is stationed in Limestone County. Forester Andy Nichols, Forestry Specialist Vince Barrios, and Work Unit Manager Robert Maddox are all stationed in Morgan County. Management Specialist Darci DeBrunner with the AFC Forest Management Division is also physically located here and assists with activities in the work unit. An interesting note about this work unit is the span of experience level among the personnel: from three years to 28 years of experience.

We are seeing an increased interest in urban programs such as Tree City USA, Tree Campus USA, and Champion Tree, as well

as school visit requests to discuss nature and environmental topics. Urban sprawl is occurring in most of the work unit, especially Madison, less so in Lawrence. As cropland and forested areas are sold for development, that creates more need for urban forestry. We are fortunate to have two arborists nearby to assist us with technical calls. Our plan is to have one or more arborists in the work unit soon.



North Alabama Work Unit employees fought this wildfire through the night.

Traditional forestry practices and services continue throughout the work unit. The Conservation Reserve Program (CRP) leads requests for technical assistance in all four counties, followed by southern pine beetle (SPB) and general stewardship. Each contact with a landowner for these programs usually generates a call back for something else on the property. Many refer us to their neighbors and friends.

Promotion of the Forestry Commission is a priority

in the North Alabama Metro Work Unit. Introducing ourselves to a younger generation of landowners has been an interesting experience. Many new landowners have found our homepage, then called or completed a request for service. These landowners prefer to communicate by email or text to schedule a site visit, obtain management information, or ask questions about burn permits. ‘Seasoned’ landowners still call or stop by, preferring to meet us on site or have information mailed to them.

Multi-agency firefighting in the Wildland Urban Interface is becoming common for our work unit. Increasing development of crop and forest land leads to scattered pockets of woods. Debris piles are also on the rise. Fire departments and volunteer fire departments are usually on scene with us, responding as their capabilities are best suited. 🙏



The Wiregrass Work Unit

By Thomas Moss, Registered Forester/Work Unit Manager Alabama Forestry Commission



The Wiregrass Work Unit is comprised of Houston, Henry, Dale, and Barbour counties. The wiregrass name is derived from the native wiregrass (*Aristida stricta*) that was commonly found underneath longleaf pine in the ecosystem native to this part of the state. In fact, the tri-state area of Alabama, Florida, and Georgia is known as the Wiregrass Area. Work unit personnel consists of Forestry Specialists Brady Dunn, Huey Jones, Justin McGhee, Lowell Helms, Forestry Management Specialist Perry Pritchett, and Work Unit Manager Thomas Moss. Shannon Anderson and Ed Lewis, Forest Management Specialists with the AFC Forest Management Division, are also physically located here and commonly assist with activities in the work unit.

These counties occupy the southeast corner of Alabama, and transition from more forested with rolling hills to more agricultural and urban as you move from north to south. Barbour County is the northern-most of the four, and the county in the work unit with the greatest contribution to the state's timber output. Henry County, already home to wood treating facilities, saw a major win for forest landowners and the town of Abbeville when a former textile plant was given new life as a large sawmill just a few years ago. Houston County and the county seat of Dothan lie at the heart of one of the nation's greatest peanut producing regions. Recent and ongoing investments by SmartLam North America and Peak Renewables in Houston County will increase the area's forest product output.

The Wiregrass Work Unit spends a lot of time on USDA landowner assistance programs such as the Conservation Reserve Program (CRP), Environmental Quality Incentives Program

(EQIP), and Emergency Forest Restoration Program (EFRP). Additional forest management workload includes education and outreach, stand management recommendations, firebreaks, and prescribed burning. Personnel in the work unit not only provide technical guidance to private landowners, but also partner with other state and federal agencies. Management activities with these partners include prescribed burning on Lake Point State Park and the Eufaula National Wildlife Refuge.

Houston County and portions of Henry County were heavily impacted by Hurricane Michael in 2018. A federal block grant program helped landowners recoup damage suffered on their forest land with economic assistance administered by the AFC.

In the southeast corner of Houston County, Chattahoochee State Park has been closed since Hurricane Michael made landfall. In cooperation with local county and state officials, the Alabama Forestry Commission has been working on clearing roads and reforesting the park in an effort to get it reopened.

The Wiregrass Work Unit is fortunate to have a diverse and abundant workload across a variety of forest and terrain types. Planted and natural pine stands flourish, more specifically, loblolly, longleaf, and shortleaf pines exist in these forests, along with natural hardwood bottoms around the Chattahoochee, Choctawhatchee, and Pea rivers, as well as countless creeks and streams. 🌲



Members of the Houston Work Unit spent the afternoon with Rehobeth FFA forestry team. The group discussed tree identification, timber cruising, and compass/pacing on Forever Wild trails in Dothan.

leaf, and shortleaf pines exist in these forests, along with natural hardwood bottoms around the Chattahoochee, Choctawhatchee, and Pea rivers, as well as countless creeks and streams. 🌲



By Jason Berry | Forestry Specialist | Warrior Work Unit | Alabama Forestry Commission

If you are reading this, more than likely you have either operated a chainsaw, or have friends and family members that own and operate one. As I think back about growing up on a farm, I recall watching family members master one of the most dangerous tools found on the farm. I observed family members clearing fence lines, cutting fence posts, sawing the perfect 18-inch firewood log, and dropping trees more than 100-feet tall with marksman-like precision. I also witnessed the bad that comes with the good, such as torn jeans, ripped gloves, shredded boots, and several stitches to the legs and hands.

Statistics have shown that there are more than 27,000 injuries each year related to chainsaw use, making its way into the ‘top 10 most dangerous occupations.’ Many of these injuries occur on the left leg, foot, hand, and face area, because handling of a saw in the most common positions allows it to injure the left side of the body. (Most saws are manufactured to be operated right-handed.)

Cause of each injury usually includes:

- Left foot: misjudging the tip of the bar while cutting low
- Left leg: when fatigue sets in and bottom of the bar connects with the leg
- Left hand: when the thumb isn’t wrapped around the handlebar and the saw kicks back due to the top half of the bar tip striking an object, causing the bar to forcefully come back towards sawyer, then sawyer reacts and shields face with left hand
- Head/face area: Same as above, but strikes the facial area

These injuries can be avoided, if the proper safety precautions are in place and the appropriate personal protective equipment (PPE) is worn.

Before you hit the field . . .

What brand and size saw do you need?

The brand and size of saw will depend on the task at hand, how often you use the saw, and if there is a local mechanic that can get you parts easily and work on the saw.

There are three categories of chainsaws: Homeowner, Landowner, and Professional (*Figure 1*)

- The homeowner saw is compact/light weight, easy to use, and usually comes in gas or electric options.
- The landowner saw is built for performance and durability. These type saws are commonly used around the farm, cleaning up/clearing roads, and cutting firewood.
- The professional series saws are designed for full-time use in the hardest conditions and offer many advanced options.



What size bar will you need?

Depending on the brand and size of the saw, your cutting objectives will all determine the maximum length bar that you can use. A landowner type saw may come with a 16-inch bar and cut at maximum performance but could handle a 20-inch bar for cutting those larger logs without having to move or reposition. You are swapping power for convenience and providing more patience to the overloaded saw.

A professional series saw may start out with a 20-inch bar but can handle a 32-inch bar depending on the number of cubic centimeters (CCs) the saw can produce.

What chain will you need?

First you will have to determine your experience and skill level to determine whether you need a standard chain (with low kickback) or a professional chain (with increased kickback). A standard chain usually has a green dot or marking on the box, while a more aggressive chain usually has a yellow dot or marking on the box.

After you have determined which chain you are comfortable with, you are now ready to find the rest of the information to determine the chain that fits your bar.

When buying a chain, you should look at the stamped label on the bar to determine the size you need. This info will include chain length, pitch, and number of drivers. (Figure 2)



Figure 2

Maintaining your saw

Maintenance is a key factor in reducing fatigue while running a chainsaw. There is nothing like spending 10 minutes trying to start a saw. You may already be frustrated and begin cutting only to discover that your chain is dull. My advice: sharpen your saw before attempting to start it! If not, you will become fatigued before you start cutting.

There are a few simple steps that will save you a lot of hassle throughout the day. If your saw is running poorly, check these next few steps.

- Check your air filter. Blocking air flow to the carburetor can lead to poor saw performance. If there is a buildup of sawdust, more than likely your chain isn't sharp and throwing saw dust instead of shavings.



The author posing with a Stihl 880 with a 5-foot bar while on a fire detail in Oregon.

- Check your fuel filter. It is located inside your gas tank and can clog, restricting the flow of fuel to the carburetor.
- Make sure that the oiler is working and providing plenty of lubrication to the bar. You should use approximately one tank of bar lubricant per one tank of fuel mixture.
- Make sure that your chain tension isn't too loose or too tight. Too loose, and your chain will roll out of the bar groove or come off completely. Too tight and you start adding stress to the power head – it will get too hot and reduce the lifespan of the bar. You should be able to grab the chain (with gloves) halfway down the bar, pull it up to where the bottom of the drivers is at the top of the rail of the bar, and it snaps back into the groove.
- When sharpening the chain there are several options. For inexperienced sawyers, keep several chains on hand and take them to the saw shop to have them sharpened for a small fee. For the intermediate sawyer, there are several types of saw filing guides available to make filing your chain easier. For advanced sawyers, a properly sized round file, flat file, and depth gauge for the rakers is all that you will need to sharpen your chain in the field.

Important Notes about Chains

New chains tend to heat up and stretch during initial use and become loose. When this happens, let the saw and chain cool for a few minutes. Recheck the tension and adjust carefully to the proper setting, without over-tightening. A sharp chain can make a hard day's work much easier, and a dull chain can make the operator fatigued and more susceptible to accidents and injuries.

Sharpening a chain properly is an art and takes many hours of practice to master.

(Continued on page 26)

How Sharp Are Your Saw Skills?

(Continued from page 25)



Cutting downed trees from a tornado.

How to start your saw

Believe it or not, there is a process that needs to be followed to make sure that your saw starts every time. If you follow this process, your success rate will be much better and your number of pulls on the starter rope will be much less. Each saw brand is different, but most have the same starting principles.

- Make sure that your chain brake is on (the hand cover that runs parallel with the handlebar). That way your chain isn't running wide open when the saw starts at high idle.
- Check to make sure that your switch is in the start position, with the choke on.
- Pull the start rope until you hear the saw fire (usually three to five pulls).
- After you hear the saw fire, but not crank, stop!!!
- Now turn off the choke and pull the start rope until it fires (usually two to four pulls if the saw is tuned properly).
- Now that the saw is running, it should be at high idle and sounding like it is in a bind (because your chain brake is on).
- To take it off high idle, squeeze the trigger and let off. Your saw will idle down to the factory setting. If your saw dies and will not idle without you having to feather the throttle, take it to the saw shop and have the idle properly adjusted.
- When ready to cut, with your thumb wrapped around the handlebar, use your other fingers to reach up and pull the chain brake to you. This will disengage the chain brake allowing the chain to run at full throttle.

Personal Protective Equipment (PPE)

Now that you have your saw sharp and maintained, you are ready for the field. But before you start the first cut, it is strongly recommended to wear the appropriate personal protective equip-

ment (PPE). Proper PPE can reduce head injuries, hearing loss, eye injuries, scrapes, scratches, burns, and cuts. The following safety items can help reduce all the injuries listed above.

- Hardhat
- Long sleeve shirt (not only protects arms from scrapes but also helps reduce poison ivy, poison oak, or any other harmful oils that may come in contact with the skin)
- Hearing protection
- Safety glasses
- Gloves
- Approved saw chaps that overlap the boots
- Leather boots

Chainsaws play an important role while doing outside work. When used properly, they are very effective. Whether you are getting rid of that pesky household shrubbery or cutting a winter's worth of firewood, proper preparation and maintenance will make your job a whole lot easier. Work smarter, not harder! 🛠️



Forester Mary Claire Smith and Ranger Jonas Freeman learning how to fall trees.



Cutting a large hazard tree.



The author rests on a bench he made next to a park walking trail.

Alabama Forestry Commission Gains Economic Development Expertise

*By Dan Chappell, Assistant Director, Forest Management Division,
Alabama Forestry Commission*

The Alabama Forestry Commission (AFC) is pleased to announce the hiring of Al Jones as its new Senior Economic Development Representative. Noting state government's need to focus on forest products economic development, this position was envisioned as an investment, created by the Alabama Legislature through funding in the AFC budget.

Al comes to us from the City of Alexander City where he served for five years as Community Development Director. In this position he was responsible for identifying, applying for, and administering a wide range of grants and loans for community and economic development projects, as well as working with the mayor and city council to decide on and administer local incentives for new and expanding industries. His major accomplishments include acquiring a \$1 million economic development grant in partnership with the Coosa County Commission for the city to run an 8-mile sewer line to the Lake Martin Area Industrial Park for the new Alabama Graphite processing plant; a \$500,000 economic development grant for the sewer lift station at Russell Land's new world-class golf course at Wicker Point; and a \$500,000 economic development grant for Russell Hospital's new Legacy Senior Care project.

Prior to his time at Alexander City, Al spent 15 years in state service with the Alabama Department of Economic & Community Affairs (ADECA) in the Community & Economic Development Division. From 2004 to 2014 he was ADECA's Disaster Recovery Coordinator, overseeing more than \$181 million dollars in U.S. Department of Housing & Urban Development Community Development Block Grant recovery funds related to Hurricanes Ivan and Katrina, and the tornadoes of April 2011. To date, these are some of the largest grants ever awarded by ADECA. Al's final

position at ADECA was Chief of the Statewide Initiatives Unit which included responsibility for all Community Development Block Grants, Appalachian Regional Commission, and Delta Regional Authority funding for economic and community development projects.

The duties and responsibilities of this new position at the Alabama Forestry Commission vary widely as Al has already learned, with no two weeks being the same. Primarily, he is the agency's tip of the spear for facilitating new and expanding opportunities for wood-using mills by working alongside the many professional economic development entities in the state, both



public and private, such as the Alabama Department of Commerce, utilities, local communities, and directly with industry. However, on occasion his reach expands to such activities as participating in wood industry trade shows, building relationships with local economic development organizations, completing the annual Timber Product Output survey by directly visiting primary producers, workforce development, and networking with forestry data for public and private inquiries.

Although he just began this position in mid-October, Al is already involved with our team on the identification and evaluation of several new client site locations for potential mill fits.

The Alabama Forestry Commission has been very pleased with Al's willingness to hit the ground running and crisscross the state, making the acquaintance of key allies in economic development and learning firsthand the advantages and drawbacks of available industrial sites with the capacity to host new wood products facilities. He brings an energy and knowledge base to this role that is a great asset to this agency and the people of Alabama. 🌲

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Understanding Your TAXES as a Forest Landowner

By Kathryn Sosbe | Office of Communication | U. S. Department of Agriculture, Forest Service

Tax implications for forest landowners depend on the activity or activities on your land. The **Tax Tips for Forest Landowners: 2022 Year PDF** (<https://www.timbertax.org/publications/fs/taxtips/TaxTip2022.pdf>) can help forest owners understand the basics of forest-related federal tax provisions and how that relates to income tax planning.

Tax Tips for Forest Landowners is an annual information and educational publication developed by the USDA Forest Service in partnership with the Warnell School of Forestry & Natural Resources, the University of Georgia, and the Institute of Food and Agricultural Sciences Extension at the University of Florida.

Bottom line: if you own forested land, you should understand how U.S. tax laws pertain to you.

“A lot of people don’t always know what to ask about,” says Greg Frey, a Forest Service research scientist whose focus includes forest taxation, non-timber forest products, and common property. “Educating yourself and finding help from professionals is among the most important things you can do.”

An excellent place to start for landowners is to understand the tax classifications:

- **Personal use or hobby:** Your primary purpose for owning the property is for personal enjoyment or hobby rather than making a profit. Tax deductions are limited under this category.
- **Investment:** You have a profit motive for the property; however, your activities don’t rise to the level of a trade or business. Specifically, your primary purpose for

owning the property is to make money, such as timber income or property appreciation, but the activity on the property is not continuous or regular. Tax deductions are relatively limited.

- **Trade or business:** You have a profit motive, and your forestry activities are conducted in a businesslike manner. Your involvement in the business may be material participation or a passive activity, which is determined on an annual basis. Material participation implies regular, continuous, and substantial activity and will result in more favorable tax deductions. Losses from passive activities are only deductible against passive income.

In addition to the Tax Tips for Forest Landowners, the Forest Service is a partner in the National Timber Tax website (<https://www.timbertax.org/>). The site includes information about federal and state tax laws, estate planning, and other information for timberland owners.

Although the Forest Service publicizes the tips, the agency or its employees do not provide specific tax advice to individuals.

“We are not tax specialists,” Frey said. “Some people are unaware of some basic benefits and provisions that landowners can use to lower their taxes. We encourage people to contact their accountant, tax attorney or the Internal Revenue Service to get answers to their specific questions.”

This story was originally published as a Forest Service feature story. The Forest Service helps develop and publicize the tax tips but does not provide specific tax advice to individuals.

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Letters from Landowners

4 November 2022

January 21, 2023

To the Editor:

I've subscribed to the *TREASURED Forests* magazine for the last couple of years and I've been meaning to thank y'all for this magazine. I always look forward to receiving it – always great articles, great photography. I'm not involved in the forestry industry, but I discovered this a couple years ago, I believe in a doctor's office or somewhere, and I filled out the subscription form.

I appreciate your magazine, and I want to congratulate you on what y'all do with putting this out. I really enjoy it.

Thanks again,
Don Franklin
Auburn, Alabama

5 January 2023

To the Editor:

Will you please add my daughter/family to your subscription/ mailing list as they have purchased land, inherited land, and moved back to Alabama. They own land in both Marion and Lamar counties. They will be good managers of their timberland for both diversity and wildlife.

We look forward to each issue of the *TREASURED Forest* and share it with friends.

Thanks, and keep up the good work.
Sherman & Ora Woods
Sulligent, Alabama

To the Editor:

I do appreciate so much the Alabama Forestry Commission and I love the magazine! I really enjoyed Coleen Vansant's article on the Pounders in the most recent *TREASURED Forests*. What a remarkable story.

Aldo Leopold's writings shaped my life and career. I have been engaging the Aldo Leopold Foundation about starting an advocacy group to promote the land ethic in Alabama, to do outreach and share his legacy with younger generations.

I so enjoy *Treasured Forests* that I read each issue in its entirety the day it arrives. Thanks to AFC for that and for all you do.

Respectfully,
Richard A. "Ran" Nisbett
Retired Rewilded
Mvskoke Territory
Lower Alabama USA





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Black Walnut

By Seth Junkin | FIA Forester | Alabama Forestry Commission

The black walnut (*Juglans nigra*) is a commercially prized tree in the walnut family (*Juglandaceae*) due to its tasty fruit and beautiful lumber. Native range is most of the eastern United States from upstate New York to southeast Texas, typically found in riparian zones, although the trees can be found anywhere on a slope. They are typically found alongside yellow-poplar, red oaks, white oaks, and hickories in higher elevations, and maples, black cherry, ashes, elms, and beeches in lower elevations. Trees are usually only found in small 'clumps' and pure stands are extremely rare.

Identifying the black walnut can be difficult unless one knows what to look for, because it is closely related to all hickories and the pecan. The leaves are in an alternate arrangement. Each leaf is compound (like other members of the *Juglandaceae* family), comprised of 8 to 24 serrated leaflets and does not *usually* have a terminal leaflet [on the tip]. The bark has deep, diamond shaped furrows. The fruit is a greenish-brown, husk-covered, edible nut that matures in late summer/early autumn and falls in October.

The fruit being edible has led to interest in commercial utilization, but the black walnut tends to grow poorly in plantation/monoculture environments unless grafted. This is because the black walnut is allelopathic, meaning that the leaves, bark, fruit husks, and roots produce a chemical called juglone that when released into the surrounding soil acts like a natural herbicide and reduces competition. This means that a large portion of walnuts are harvested from wild trees. While being highly nutritious (each walnut is approximately 25 percent protein), the nut is notoriously difficult to crack thus making the softer English walnut more commercially available. The hulls are so hard in fact, they have been used as an abrasive in sand blasting.

Another use for the nut, the husks specifically, is the brownish-black dye that can be produced due to the high concentrations of juglone and tannin. Its primary commercial use is as an ingredient

in wood stains. The dye produced is a likely reason for the name black walnut.

The black walnut tree is also prized for its lumber, partly due to its scarcity, but largely because of its beautiful dark brown color. Hard, strong, and shock-resistant, yet soft enough to be easily worked, it is used in all kinds of fine furniture, as well as gun stocks, paneling, flooring, and veneer.

The Alabama Champion black walnut, first crowned in 1973 in Colbert County, measured 211 inches in circumference (67.2-inch diameter) with a 99-foot height and 99-foot crown spread. The National Champion lands at 243 inches in circumference (77.3-inch diameter), 104 feet tall, and has a crown spread of 56 feet. 🌳



Paul Wray, Iowa State University,
Bugwood.org



Robert Vidéki, Doronicum Kft.,
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