

ALABAMA'S

# TREASURED

FORESTS

A Publication of the Alabama Forestry Commission

*Celebrating*

30

*Years*

Fall 2012

# Message from the *STATE FORESTER*

**W**ith this Fall 2012 issue, *Alabama's TREASURED Forests* magazine celebrates "30 Years" of publication, providing landowners with forest management advice and stewardship principles. It seems the perfect time for reflection, as well as an opportunity to re-emphasize the significance and value of our state's rich woodland resources. Alabama's forest products industry is critical to the state's economy and the sustainability of forests and wildlife.



The mission of the Alabama Forestry Commission is to "serve Alabama by protecting and sustaining our forest resources using professionally applied stewardship principles and education. We will ensure Alabama's forests contribute to abundant timber and wildlife, clean air and water, and a healthy economy." Our vision is to achieve healthy, productive forests for future generations.

As a state agency, we exist to serve as well as provide both fire and forest health protection to owners of over 22.8 million forested acres, or more than 70 percent of Alabama's total land mass. The standing timber value of these forests is estimated to be nearly \$20 billion. Nearly 80 percent of this forestland is owned and managed by non-industrial private landowners, typically owning 60 acres or less. Our agency also provides professional forestry assistance to these 400,000 landowners. Numerous wildlife experts agree that Alabama is the most biologically diverse state in the nation.

In short, Alabama's forest landowners are doing an amazing job in the management of their forests. Not only are they providing critical wildlife habitat, opportunities for recreation, clean air and water, but they are also supplying raw materials needed to fuel the economic engine of a strong forest products industry. This economic engine provides: (1) financial returns to many landowners allowing them to keep their forest in forest; (2) thousands of direct and indirect jobs; and (3) revenue to local, state, and federal governments that fund critical services to its citizens.

The forest products industry is the state's second largest manufacturing industry, producing an estimated \$12.78 billion worth of products in 2010 and accounting for over 12 percent of the value of all manufacturing in the state. Thousands of well-paying jobs have been created, as well as four-to-eight times that number of indirect jobs.

According to the Auburn Forest Products Development Center, "Alabama's pulp and paper industry is not only one of the largest in the United States, but if Alabama was a country, it would rank 8th in the world in pulp production and 12th in paper production. Additionally, Alabama ranks 7th in the U.S. in lumber production and 8th in wood panel production."

In the past decade we've seen a significant downward trend in Alabama's forest industry economic statistics. The number of jobs generated by wood suppliers and loggers has declined by nearly 28 percent and jobs in the solid wood/pulp/furniture industry have declined by nearly 40 percent. Alabama's forest product industry economic engine is in trouble.

Without strong forest industry markets, landowners have a reduced incentive and/or ability to sustainably manage their forests. One has only to look at the condition of forests in the Western states to get an appreciation of what can happen when active forest management is eliminated from the forest landscape. Western forests have not been managed in decades and are now unhealthy, resulting in devastating mountain pine beetle epidemics killing millions of acres of forest and fueling catastrophic fires with increasing frequency. Without healthy and robust forest product markets, this could be Alabama's and the South's future.

In these difficult economic times, it is imperative that we expand marketing of our traditional forest products to increase sales, and that we also provide incentives to not only support existing manufacturers but also entice new businesses to locate in Alabama. Maintaining the health and sustainability of our state's natural forest resources will depend, to a large extent, on our ability to retain and grow traditional forest product markets. We all need to be involved and work together to ensure this goal is achieved.

*Linda Casey*

**GOVERNOR**  
Robert Bentley

**ALABAMA FORESTRY COMMISSION**  
Johnny McReynolds, Chairman  
Tommy Thompson, Vice Chairman  
C. Irvin Eatman, Jr.  
Don Heath  
Kenneth Real  
Salem Saloom  
Jerry M. Smith

**STATE FORESTER**  
Linda S. Casey

**ASSISTANT STATE FORESTER**  
Patrick Glass

**ADMINISTRATIVE DIVISION DIRECTOR**  
Walter Cartwright

**FOREST OPERATIONS DIVISION DIRECTOR**  
Dan Jackson

**REGIONAL FORESTERS**  
North.....Terry Ezzell  
Northeast.....Jason Dockery  
Northwest.....Hank McKinley  
East Central.....Bruce Springer  
Southeast.....Otis French  
Southwest.....Gary Cole

**EDITOR**  
Elishia Ballentine

**MANAGING EDITOR**  
Michael Kyser

**PRODUCTION ASSISTANT**  
Kelvin Daniels

**EDITORIAL BOARD**  
*Alabama Forestry Commission*  
Elishia Ballentine  
Kelvin Daniels  
Dan Jackson  
Michael Kyser  
Brad Lang

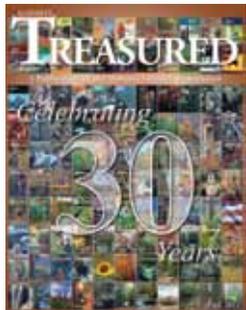
*Alabama TREASURE Forest Association*  
Don Stinson

*Natural Resources Conservation Service*  
Tim Albritton

*Resource Management, LLC*  
Doug Bowling



- 2 Message from the State Forester
- 10 The Longleaf Planting Density Debate  
by Tim Albritton
- 15 Is the Only Good Snake a Dead Snake?  
by Chas Moore
- 16 Moving Firewood Transports Tree-Killing  
Insects and Diseases
- 18 Invasion of the Popcorn Trees  
by Lenela Glass-Godwin
- 22 Bottomland Oaks . . . Landowners Should  
Examine the Soil When Planting  
by David Mercker
- 24 Champion Trees for 2012  
by Brian Hendricks
- 29 Alabama Ranks High in Water Quality Report
- 30 AU Study Examines Impacts of Timber  
Industry's Land Sales  
by Jamie Creamer
- 30 New Fungicide to Treat Pine Seedling Diseases
- 32 PLANTS OF ALABAMA: Devil's Walking Stick  
by Fred Nation



**On the Cover:**  
**Celebrating 30 Years of publication!** A compilation of the front covers of all the Alabama's TREASURED Forests magazines since the inaugural issue was published in the Fall of 1982.



[www.goodfires.org/](http://www.goodfires.org/)



[www.visitmyforest.org/](http://www.visitmyforest.org/)



**There's an "App" for that!**  
Scan this QR code with your smartphone to view a digital edition of the magazine.



◀ 4

**Achieving a Dream**  
by Elishia Ballentine



◀ 7

**Uneven-aged Management for Longleaf Pine: Freedom to Choose**  
by David S. Dyson



◀ 12

**Theft and Vandalism of Logging Equipment**  
by Craig Hill, Rex Woodson, and Tom Kazee



◀ 20

**Red-Tails and Other Raptors**  
by Brandon Howell

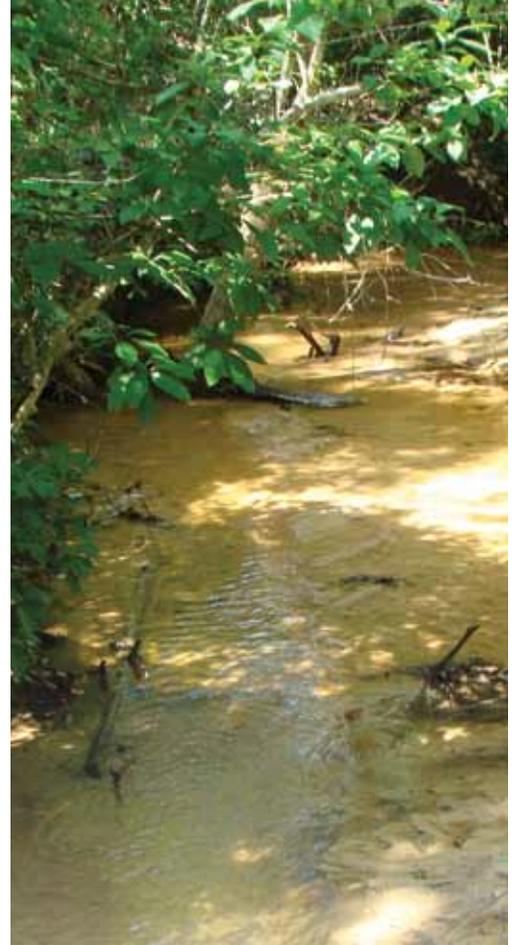


◀ 26

**Bullock County "Forestry & Wildlife for Youth"**  
by Thomas M. James

Alabama's TREASURED Forests (ISSN 0894-9654) is published by the Alabama Forestry Commission, 513 Madison Avenue, Montgomery, AL 36130. Telephone (334) 240-9355. Bulk rate postage paid at Montgomery, Alabama. POSTMASTER: Send address changes to: Alabama's TREASURED Forests, P.O. Box 302550, Montgomery, AL 36130-2550. Website: [www.forestry.alabama.gov](http://www.forestry.alabama.gov)

The publication of a story or article in this magazine does not constitute the Alabama Forestry Commission's endorsement of that particular practice or product, but is an effort to provide the 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.



# Achieving a Dream

*By Elishia Ballentine, Editor*

**R**aised on a farm, working the land, O. M. Becton always dreamed of owning his own property. More than a personal goal, it was – and remains – the driving force in his life.

To achieve that dream, he and his family were often required to sacrifice many of the things that other people enjoyed. Crediting his wife, Carolyn, with being instrumental in the purchase of their first parcel of land back in 1965, he said they could not have bought the property if she had not contributed her teaching salary toward buying it. Becton was 25 years old at the time. The timber on the place had been heavily cut a few years earlier. Upon learning that they had paid \$250 an acre for the

property, his father told his mother, “You just as well clean out that boy’s room . . . they’re gonna be back here in the house with us in less than a year. He’s gone stone crazy . . . he’s gonna lose everything he’s got!”

Fortunately, the young couple fared a bit better than expected. Today, the Bectons own 1,100 acres in Choctaw County. Every acre was acquired by purchase, even the 80 acres of “family land” they bought from his elderly aunt. She had inherited it from her parents – his grandparents – and he felt very fortunate to buy it.

Becton stated that even though their property was first certified as a TREASURE Forest, then later as a Tree Farm, it had



not been necessary to adapt any of his land management practices or change his management goals to attain the certifications. Before he had ever heard of either program, he was already dedicated to managing the forestland according to sound principles . . . maximizing timber production while at the same time enhancing and protecting the multiple resources provided by the forest. Following these criteria earned O. M. and Carolyn the prestigious Helene Mosley Memorial TREASURE Forest Award in 2011.

### **Timber Production**

The primary TREASURE Forest management objective for Becton is commercial timber production. He prefers timber to be in “pure” stands, either pine or hardwood, not mixed. The management methods and goals for the two forest types are distinctly different. There are approximately 200 acres in hardwood. The balance is planted in pine, mostly loblolly. Of that, only 50 to 60 acres are managed as uneven-aged stands, primarily to take advantage of the mixed aged that was present when the property was obtained. The majority is even-age managed, from 2-3 years old up to 40 years old. There are only 50-60 acres in longleaf, all on deep sandy land where loblolly will not grow.

“Some people are of the mistaken opinion that with timberland, you cut timber, then walk away and not do anything for ten years or so, then come back and cut some more.” Becton continued, “I manage my timber like a crop, working in it all the time . . . not necessarily in the same stand, but somewhere on the property, there’s something going on, continually.”

In fact, there is no area on his property that he is not constantly working to improve. According to Becton, “I don’t believe in setting acres aside and not doing anything with them. Every acre you own should produce the maximum it can, either in timber or

for the benefit of wildlife. To really make money growing timber, you have to pay attention to detail . . . if you don’t work it, you will not reach the maximum potential in returns.”

### **Management Practices**

With the advantage of being a forester for over 40 years, Becton calls on that professional experience to achieve success on his personal forestland. Employed at MacMillan-Bloedel for nine years, then with Scotch Lumber Company for 31 years, his job was working with private landowners, assisting them in managing 250,000 acres of forestland.

A strong advocate of prescribed burning, Becton states that the practice provides numerous benefits. “Timber that has been burned allows you to see better to mark your timber, and also helps the crew to see better when cutting it. It improves wildlife habitat for deer, turkey, rabbit, and quail by producing legumes and herbaceous growth . . . food that would not be present without prescribed fire. It’s also a cheap way to control hardwood underbrush, making it more aesthetically appealing than a stand that’s grown up in brush.”

Becton noted that if you do burn regularly, when you get to the end of a rotation you have a choice . . . you can either regenerate naturally, or, clear-cut and plant. If you choose to clear-cut and plant, you’ve cut down your site-prep costs considerably because you’ve pretty much got your hardwoods under control with prescribed fire. He is not opposed to the clear-cut and plant method; in fact, he had to employ it. Most of his stands are plantations now because they were cut-over when he purchased the land years ago, and the only way to put those particular stands into production was by clear-cutting, spraying, and planting.

*(Continued on page 6)*



## Achieving a Dream

(Continued from page 5)

However, in stands he has harvested in the past ten years, he has been able to use natural regeneration by cutting timber in the autumn after good seed fall.

Conducting his own prescribed burns, Becton laughingly said he was known locally as a “fire bug” because of the frequency of his burns! He performs the initial burn at eight to ten years, then again in two- to three-year cycles after that. The stands are commercially thinned at age 12-14, then every four to five years thereafter, up to 30 years. His goal is two burns between each thinning, with four or five thinnings by age 40. It may not be necessary to thin again before the final harvest when the trees are between 40 and 50 years old.

Marking timber is another practice Becton enjoys doing for himself. Every tree cut from his forestland is marked. “A stand of good quality trees is the result of timber marking,” he stated. “It’s more profitable, particularly on longer rotations when trying to grow poles and high quality saw timber. Before cutting trees, I recommend hiring an experienced timber marker versus ‘operator-select’ cuts, because the operator can’t always see well from the cutting machine. Tree selection is critical. You have to select the right trees to leave. If you take out the wrong ones, you’ll cut profits considerably.”

### Wildlife

Becton’s secondary objective as a TREASURE Forest landowner is wildlife habitat management. In pine stands, as previously mentioned, he feels strongly that there is nothing any more important for game than prescribed fire. “If a landowner could carry out only ONE practice for wildlife enhancement, it would be burning,” he said.

To emphasize this point, he noted that wildlife had definitely improved since they first purchased the land. Opening it up by burning and thinning has not only improved habitat, but also

increased numbers of animals, particularly deer, rabbit, quail, and turkey. Remarking on the quantity he said, “We can’t have a garden without fencing out the deer. If you planted a pea on the porch, they’d come up on the porch and eat it!”

Another practice includes improvement cuttings in streamside management zones (SMZs), primarily to enhance mast-bearing trees for wildlife. Also, in seeding the roads with bahia grass to prevent washing, he has discovered the bonus benefit that it feeds the turkeys. Finally, he plants food plots, mainly to concentrate game for hunting. Becton has a son and three grandsons who enjoy coming all the way from Mississippi to hunt with him!

### Education

Having worked in the forest products industry for many years, Becton is well versed in educating school children, as well as adults, about the important role forestry plays in Alabama. He is able to explain all facets of forestry production and the forest industry, as well as conservation of natural resources. During his forestry career, he conducted numerous tours on “lots of other people’s lands.” Now that he’s retired, he gets to showcase his own land! As a long-time member of Choctaw County’s chapter of the Alabama Natural Resources Council, he has made the property available to various groups for tours.

For several years, the Bectons have opened their doors to fifth graders from schools around the county for “Classroom in the Forest” presentations. He says he is amazed at the number of students – even from rural areas – who think it’s wrong to cut trees. He makes it his mission to teach them the facts, explaining that Choctaw County depends on the timber industry! Additionally, the property has provided an ideal location for several FFA and 4-H forestry judging teams.

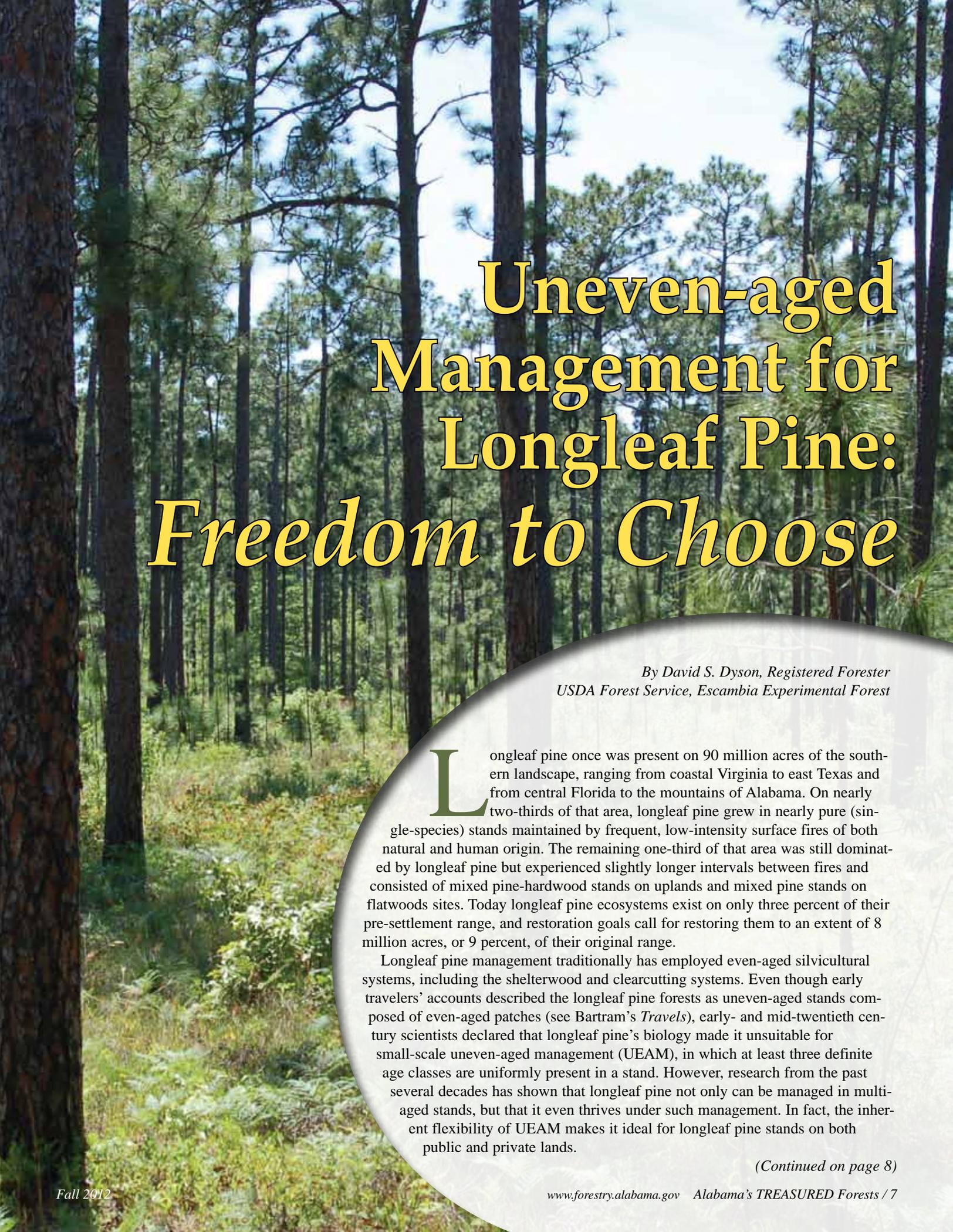
Demonstrating a wide range of management practices, the Becton family has also hosted a number of landowner tours. He strives to impress upon his fellow landowners that you can make money growing timber! With a smile on his face, Becton says, “I may be married to the land, but I’m *not* married to the trees . . . I love to cut timber!”

Other advice he offers landowners is that if they are not comfortable in managing the land themselves, they should hire a consulting forester to advise them before cutting timber. “It’s too late after the fact. If you don’t know what you’re doing, don’t sell timber without first talking with a forester – whether they’re with the Alabama Forestry Commission, industrial, or private consultant.”

One final tip Becton strongly recommends to landowners, whether big or small, is to take advantage of cost-share programs whenever they are available.

### True Treasure

When asked why he works so hard and puts so much effort into the property, Becton replied, “I do it because I enjoy it. Managing timber is where I get my satisfaction. Buying and selling land has never been my objective, as it is with many folks. Being certified as a TREASURE Forest or Tree Farm – even being recognized as a Helene Mosley property – all of that is great, but I didn’t manage my land with any of those things in mind. I manage it because that’s just what I do. Managing my timber . . . that’s what makes it a treasure to me!”



# Uneven-aged Management for Longleaf Pine: *Freedom to Choose*

By David S. Dyson, Registered Forester  
USDA Forest Service, Escambia Experimental Forest

**L**ongleaf pine once was present on 90 million acres of the southern landscape, ranging from coastal Virginia to east Texas and from central Florida to the mountains of Alabama. On nearly two-thirds of that area, longleaf pine grew in nearly pure (single-species) stands maintained by frequent, low-intensity surface fires of both natural and human origin. The remaining one-third of that area was still dominated by longleaf pine but experienced slightly longer intervals between fires and consisted of mixed pine-hardwood stands on uplands and mixed pine stands on flatwoods sites. Today longleaf pine ecosystems exist on only three percent of their pre-settlement range, and restoration goals call for restoring them to an extent of 8 million acres, or 9 percent, of their original range.

Longleaf pine management traditionally has employed even-aged silvicultural systems, including the shelterwood and clearcutting systems. Even though early travelers' accounts described the longleaf pine forests as uneven-aged stands composed of even-aged patches (see Bartram's *Travels*), early- and mid-twentieth century scientists declared that longleaf pine's biology made it unsuitable for small-scale uneven-aged management (UEAM), in which at least three definite age classes are uniformly present in a stand. However, research from the past several decades has shown that longleaf pine not only can be managed in multi-aged stands, but that it even thrives under such management. In fact, the inherent flexibility of UEAM makes it ideal for longleaf pine stands on both public and private lands.

*(Continued on page 8)*

## Uneven-aged Management for Longleaf Pine

(Continued from page 7)

Primary among the economic benefits of UEAM (also called selection systems) is its conservative nature, both fiscally and ecologically. Not only are capital expenditures such as upfront regeneration costs minimized or even eliminated, but also high-value stems are maintained within the stand at all times, thus providing a reserve that can be tapped when either markets or financial needs dictate doing so. Furthermore, some UEAM systems maintain 50 percent of stand basal area in sawtimber and 80 percent of basal area in merchantable stems. (Some ongoing experiments have maintained almost 80 percent of basal area in sawtimber). As a result, the majority of growth occurs on high-value, merchantable stems instead of low-quality, potentially unmerchantable stems. Even though UEAM's short-term per-acre returns may not equal those of even-aged stands and depend on accounting procedures, its production of diverse forest products, particularly high-quality poles and sawtimber, virtually ensures positive returns.

Adaptability to changing markets is also a central advantage of UEAM — with careful management, selection systems can be adjusted to allocate more growing space to particular product classes. Yet, the conservative philosophy of UEAM can also provide a hedge against changing markets, as it produces stands that provide a variety of products at frequent intervals. Although tree recruitment rates may be reduced, the effect is less important than in even-aged systems because growing space is allocated along a continuous diameter distribution, such that each diameter class constantly adds volume. Thus, harvesting can occur at more frequent intervals and there is no time lag in which little or no merchantable volume is accruing. Furthermore, in UEAM there is efficiency in that “rotations” are overlapped in both space and time because any given acre may contain seedlings, saplings, and merchantable stems.

Because of the precision required for proper uneven-aged management of longleaf pine, the attention of a professional forester experienced in UEAM and longleaf pine ecosystems is a necessity. Uneven-aged management is an art and a science, but of utmost importance is the forester's ability to quantify the management system, showing that adequate growing stock is retained to ensure sustainability of future harvests and prevent long-term damage to forest productivity. UEAM systems follow principles that stem from longleaf pine's biology and its resulting population dynamics, yet an experienced forester can make adjustments to UEAM prescriptions to achieve specific landowner objectives. For example, harvesting schedules and volumes can be adjusted to better coincide with mast years for recruitment purposes, or overstory density can be maintained through time to suppress excess undesirable midstory or understory stems or species. Still, growing

space must be carefully allocated among diameter classes in order to ensure and maintain continual recruitment and upgrowth.

As with all longleaf pine management systems, frequent prescribed fire is crucial, but its importance in UEAM cannot be understated. Because uneven-aged management relies on natural regeneration, understory competition must be managed continually to encourage proper seedling establishment and recruitment.

Even though longleaf pine “bumper-crop” mast years typically occur infrequently, less abundant “seed rain” from the continuous presence of mature seed trees combined with a receptive understory — a result of proper prescribed burning — allows for some regeneration to take place at

more frequent intervals. Although regeneration is a highly site-specific process, long-term data from the Escambia Experimental Forest in Brewton show that “fair or better” cone crops have occurred every three years on average (an interval as long as 10 years has also been documented). Thus, the forest is able to perpetuate itself on the landscape, and the landowner is free from worries about regeneration but can still capitalize on exceptional seed crops if so desired. Uneven-aged management and prescribed burning thus form a positive feedback cycle, as regular prescribed burning promotes the seedling recruitment that perpetuates the overstory, and the overstory litter builds a continuous fuel bed that supports fire and a receptive understory for seedling recruitment.

Scientists from the USDA Forest Service and cooperating universities have been conducting UEAM research in longleaf pine ecosystems at the Escambia Experimental Forest for four decades. Different selection systems under investigation include methods for both volume regulation and structure regulation. This research is ongoing, but data currently demonstrate the sustainability of these management systems even after repeated har-

“As with all longleaf pine management systems, frequent prescribed fire is crucial, but its importance in UEAM cannot be understated.”



Stand managed with volume regulation for four decades, three weeks after a spring prescribed fire.

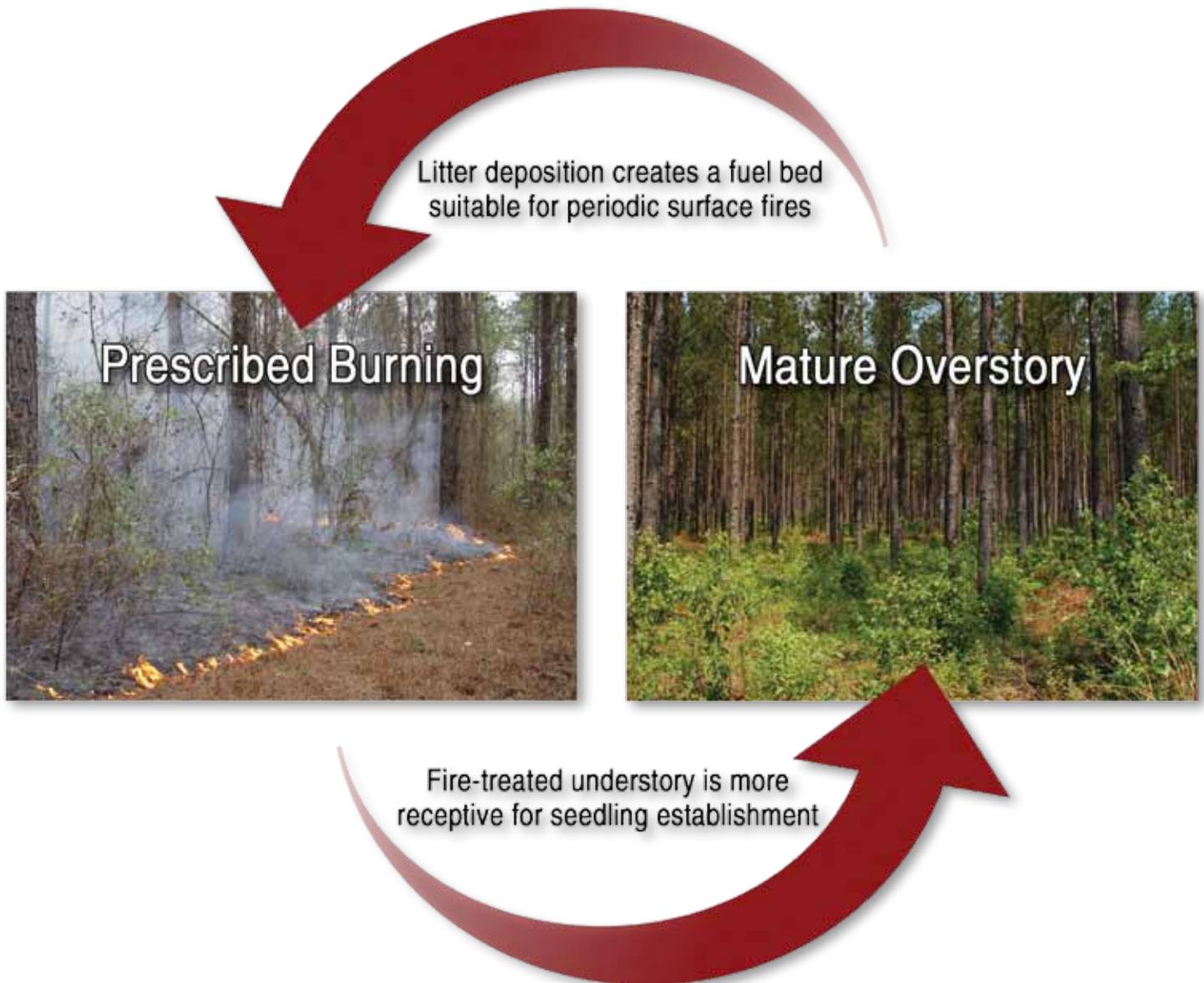
vesting. However, results are also beginning to show the risk of misapplying UEAM, as stands managed by the diameter-limit cutting method appear to be developing diameter distributions that could prove to be unsustainable.

A drawback to uneven-aged management is that it cannot necessarily be applied to small tracts. Because modern harvesting operations are highly mechanized and have high overhead costs, it may not be economically viable for buyers to purchase marked sales which remove only a percentage of the periodic growth increment from small acreages.

Nevertheless, a balanced, well-managed longleaf pine forest contains products of high quality and value that may make small-

er harvests feasible. Additionally, the flexibility in timing of harvests in UEAM allows landowners to coordinate timber sales with neighboring owners so that loggers can harvest multiple tracts in the same area, making sales more attractive to bidders. Also, due to the resulting diversity of cover and plant species, longleaf pine stands managed with UEAM contain high-quality habitat for a diversity of wildlife species including deer, quail, turkey, and fox squirrels, in addition to non-game species such as songbirds and the gopher tortoise.

With hunting, recreation, and aesthetics becoming more popular management objectives, UEAM provides an invaluable tool for multiple-value ecosystem management.†



*The 3,000-acre Escambia Experimental Forest is managed by the USDA Forest Service Southern Research Station on land owned and provided at no cost by the T.R. Miller Mill Company of Brewton, Alabama. The forest is dedicated to researching and improving longleaf pine timber management, focusing on ecosystem restoration, management systems, fire ecology, growth-and-yield, and landowner demonstrations. For more information, contact the USDA Forest Service, RWU-4158, Auburn, Alabama at (334) 826-8700, or visit <http://www.srs.fs.usda.gov/longleaf/>. To see UEAM in action, visit the Escambia Experimental Forest, 35 Red Branch Road, Brewton, Alabama. Telephone: (251) 867-3942.*

# The Longleaf Planting Density Debate

By Tim Albritton, State Staff Forester  
Natural Resources Conservation Service

During this election year, I'm sure you have seen your share of political debates. You know the ones where one party or candidate seems so right or so smart – that is, until the other candidate gets his opportunity to offer a rebuttal. We can also gain wisdom from God's Word on this matter in Proverbs 18, verse 17 [NIV], where it reads, "The first to present his case seems right, till another comes forward and questions him." So debate is not a bad thing, it helps everyone to hear both sides on an issue.

Forestry issues are not immune from this type of heated debate. The subject of "planting density" in newly established longleaf pine stands is the latest hot topic in forestry circles. If one asks, "How many seedlings should I plant to get an adequate longleaf pine stand?" the answer will vary, depending on who you ask. If you ask a wildlife biologist concerned with threatened or endangered species associated with longleaf pine ecosystems, the answer might be 300 to 400 seedlings per acre. If you ask the same question of a forester that is interested in growing high-quality pole timber and saw timber, the answer might

be somewhere in the range of 550 to 725 well-spaced seedlings per acre.

Well, who is right? The answer is that both are correct. At least, depending on the landowner's objectives, they both *could* be right.

Wildlife biologists are correct in prescribing a density of 300-400 seedlings per acre to provide sunlight to the forest floor for a longer period before crown clo-

sity of quality trees also provides for increased income from timber harvest.

Both objectives are good, wholesome, and practical. Private landowners are free to choose for themselves which objective they want to manage on their property. The controversy arises when federal and state agencies begin providing financial assistance. Along with the assistance come standards, restrictions, and specifi-

cations to meet the purposes of the various programs of each agency.

In delivering financial and technical assistance to landowners, we (I say "we" because I am a forester working for a federal agency) sometimes have margins that are too narrow. Narrow margins do not give landowners enough flexibility to meet a broad range of goals.

Recently, I had the pleasure of attending a meeting at the Jones

Ecological Research Center at the Ichauway Plantation in southwest Georgia. It is a unique place full of history and beautiful longleaf pine forests. One of the many goals at the research center is longleaf restoration and management. It was interesting to hear Dr. Lindsay Boring, Director of Forest Ecology at the Center, make a statement regarding their



© 2012 Journal Communications Inc

Fully-stocked stand of approximately 500 to 550 trees per acre.

sure. The sunlight increases growth of native grasses, forbs, and wildflowers that are vital to many wildlife species.

The forester is also correct in prescribing a denser stand of 600+ trees per acre to ensure a well-stocked stand that will reach canopy closure sooner and begin naturally pruning some of the lower branches at an early age. The higher den-

longleaf plantings over the years, “The low-density plantings were a disaster.” Later I had the opportunity to see the stand he was referring to, and it was just as I expected. The majority of trees in the stand had poor form and large limbs.

Low-density stands have very little margin for error. Many different problems can reduce seedling survival. In the case of the stand at Ichauway Plantation, drought-induced mortality had seriously reduced the density below the 350-400 trees per acre. Low-density stands reduce the margin of safety in getting a fully-stocked stand.

They have since modified their planting density to average planting 600-700 trees per acre. The increase from a low-density stand of 350 trees per acre up to 600 trees per acre has had an obvious positive effect on the natural pruning of the lower branches during the early development of the stand.

Recently, the State Technical Committee for Alabama approved a change in the planting density to allow landowners/producers to plant up to 622 trees per acre in the EQIP (Environmental Quality Incentives Program). This is an increase from the previous maximum of 545. The change does not require the landowner to plant this many, it only provides the opportunity for landowners with a definite forestry objective to plant at a denser spacing if they choose. The planting density must be within the range recommended in the conservation plan, and the NRCS (Natural Resources Conservation Service) restrictions require that a stand be within 400 to 622 trees per acre.

This change does not impact the planting requirements within the WHIP (Wildlife Habitat Incentives Program); that range remains 400 to 454. The WHIP program obviously has a wildlife objective and is available to benefit and improve wildlife habitat.

As my friend and wildlife biologist Eric Spadgenske says, “More scientific research is needed.” He is right. Without good scientific research, this debate is sure to continue. Debate without scientific data becomes a battle of wills.

At least for now, landowners with a strong belief that a denser stand will be more economical for their timber investment will have a slightly higher planting density within the EQIP program.†

*The author observing a “limby” stand.*

Fall 2012



# THEFT AND VANDALISM OF LOGGING EQUIPMENT

*By Craig Hill, Law Enforcement Chief, Alabama Forestry Commission  
Rex Woodson, Corporate Security Manager, Weyerhaeuser Corporation  
and Tom Kazez, Woodland Security, Inc.*



**M**any of you may have had experience with vandals or thieves that target logging equipment, farm equipment, or recreational vehicles. While a large number of these incidents are relatively minor, others can be very expensive. The cost of replacing or repairing equipment is always compounded by down time and lost production. With bad weather, regular maintenance, and mill quotas, you don't need anything else to cause trouble.

A few months back, *the Southern Loggin' Times* website described arrests made by the Alabama Forestry Commission, along with the Butler County (Alabama) Sheriff's Department, for theft of timber equipment.

Over \$200,000 in property was involved. Sadly, there are a lot more crimes than arrests. Theft of equipment seems to be rising to levels unknown in the past, and senseless vandalism appears to be more common also.

Logging contractors often begin to look for solutions *after* there has been an expensive incident. The purpose of this article is to give you a few things to think about *before* you have serious trouble.

One of the problems with protecting your equipment is the balance of cost and risk. It may be that you've never had problem with theft or vandalism, so you can't justify an additional expense. This makes perfect sense, but an expensive incident can occur without warning. The place to start, then, would be a menu of *low-cost, low-tech options* that a crew can utilize all the time, with some likelihood their efforts will mitigate risk.

Obviously, we are not inventing anything new here; many of these things are done every day by you and others in the business. But if you have difficulty in *thinking* like a vandal or thief, we're here to help.

1. **Be sensitive to your surroundings.** If you are in an area known for criminal activity, you would want to ramp up your preventative measures. Once a *minor* incident occurs, this might be a clue that larger things are in the works.
2. **Pay attention to people that drive by your worksite.** Encourage your crew to make notes about vehicle descriptions, time of day, and other details. Thieves will often 'recon' their targets during the day, to get the lay of the land.
3. **Be on good terms with the neighbors.** This includes adjoining landowners (especially a landowner you cross to harvest timber), game wardens, deputies, hunting clubs, road maintenance vendors, and others with legitimate access to the area.
4. **Discourage the "half-hearted."** Some criminals will not be discouraged no matter what you do, but a high percentage will be scared off if they think you might be watching.
  - a. **Signs.** When we approach a deck where a "surveillance underway" sign is displayed, it has an effect on our behavior, even though we have legitimate business there. A quick search of the internet found a wide variety of signs. One favorite is "Dog Contained by Invisible Fence with Full Access to Equipment." Of course, it's not actually necessary to *have* a dog or a camera to display a sign.
  - b. **Lights.** There are a wide variety of lights available which are powered by solar cells and activated by motion. You might have something similar to this on your property already. Like roaches, vandals and thieves hate the light.

- c. **Alarms.** It is always surprising that expensive new equipment in remote locations is not equipped with simple 'car alarms.'
- d. **Barriers.** Although not attorneys, we highly recommend that you never do anything that might hurt a trespasser or recreational user. Cable gates, for example, are notoriously bad. However, a good cheap cattle gate will discourage certain trespassers. Contingent on the terrain, you may be able to safely block road access with a pull of timber or a skidder.



5. **Guards.** In the Appalachian Mountains, logging equipment is often guarded by a night watchman. This would be the extreme solution because of the cost. There is also liability to consider. The safety of a night watchman could be, at least in part, the responsibility of the people who hired him or her. The actions of a guard are also likely to be the responsibility of the people who hire him or her. So, it makes sense to take this step cautiously.
6. **Technology.** There are options from low-tech to high-tech, and from low-cost to extravagant. Most folks are familiar with game cameras; we have seen these set up around fuel trailers and other equipment. While they are inexpensive and might work well, they are very difficult to conceal. If you go this route, you must ensure you acquire a camera with no visible flash or red glowing lights. The better cameras have infrared (IR) emitters that are invisible to the naked eye. It is certainly possible to install car alarms on your equipment. This goes back to the concept of discouraging the half-hearted vandal. There are a range of options available at Best Buy and other vendors. A proximity alarm will activate when there is motion near your equipment. If you do an internet search on "RECONYX license plate capture camera," you will locate a unit that does a great job of capturing tag numbers in the dark. This is approximately a \$650 product.



"LTL ACORN" Security Camera - Locks and a protective box might not save the unit from vandals.

(Continued on page 14)

# THEFT AND VANDALISM

(Continued from page 13)

There are several kinds of products with sensors that can detect motion and call your cell phone, or send a text or even video image. Of course, these require a cell phone plan (\$15-\$30 per month) and some study to find the right product. Be aware that “false positives” can be a problem. Motion detectors might alarm with wind and raccoons, as well as vandals. You can find a selection of these products at [tattletalealarm.com](http://tattletalealarm.com), [videofied.com](http://videofied.com), [pixcontroller.com](http://pixcontroller.com), and [ltlacorn.com](http://ltlacorn.com). The “LTL ACORN” camera has proven itself to be very versatile and more covert than regular game cameras.

**7. Marking Equipment.** Tires, wheels, hydraulic pumps, and cylinders are all hot items for thieves. We recommend that you brand tires in three places, just above the bead. Many tire dealers will mark tires when they are purchased with your unique brand. Skidders and other heavy equipment should be marked with hidden numbers known only to the owner. A customized kill switch is highly recommended. For common brands of equipment, thieves know where the standard switches are located. PLEASE NOTE: If you purchase used equipment, let common sense be your guide. If the deal is too good to be true, there may be strings attached. Missing PIN (parts identification number) plates should be a huge RED FLAG that things are not normal. While they can be knocked off accidentally, a legitimate owner should have routine paperwork defining ownership. It is a crime in several states to conceal the true identity of a vehicle.

**8. Fuel, Lubricants, and Spare Parts.** If you don't know how much diesel you left in the woods yesterday, you won't know how much was taken overnight. If you don't know how much you spend on lubricants and spare parts, you won't know what might be missing. Here's a safe bet: when the cost of petroleum products jumps again, there will be a rash of diesel thefts. Lock them up, take them home, and measure consumption. Otherwise, you might be a victim and never know it. Also (and here is a sad fact of life), if you have a problem, you must consider an 'inside job.' We tell forest managers this all the time: you have to protect your business from your own employees.

**9. Communicate with Law Enforcement.** If you fail to report your equipment as stolen, you have almost no chance of retrieving your property. It may be recovered, but the agency would have no corresponding reports to fall back on. Be sure to communicate with the Alabama Forestry Commission's law enforcement agency if you are victimized. If you have suffered an expensive incident, professional investigators might recommend that you post a reward for information in the local community. Several years ago, a Florida logger had excellent success with this approach. In just a few days, he had three teenage boys identified, and their parents eventually paid for damages.

After experiencing an expensive incident is the *wrong* time to mitigate risk. If you can incorporate low-cost, low-tech solutions in an everyday manner *before* it happens, you might avoid such problems altogether.☞





# IS THE ONLY GOOD SNAKE A DEAD SNAKE?

By Chas Moore, Wildlife Biologist

Division of Wildlife and Freshwater Fisheries, Alabama Department of Conservation and Natural Resources

**M**ost people have an innate fear of snakes, which they probably learned at an early age, believing “the only good snake is a dead snake.” They are under the impression that no snake is beneficial, so they instinctively kill every snake they see.

Actually, most snakes are docile, non-aggressive creatures that serve a vital role in nature. All snakes are carnivorous, meaning they eat other smaller animals. They consume a wide range of prey items, depending on the species. Most readily eat rodents such as mice and rats, while others prey on insects. Who doesn't want fewer mice, rats, and bugs around? If it weren't for snakes, many areas would be overrun with these pests. Snakes are also beneficial to farmers. They help keep rodent populations down in seed or grain storage areas, barns, gardens, fields, and houses. King snakes even eat other snakes, including venomous species such as rattlesnakes.

Unless they are provoked, snakes in North America will not attack. They usually have to be picked up, cornered, stepped on, or harmed in some way to provoke a strike. The snake's first response is almost always to flee rather than bite.

Of all the snake species found in Alabama, only six are venomous: the coral snake and the five pit vipers which include the timber, eastern diamondback, and pygmy rattlesnakes, the copperhead, and the cottonmouth. Anyone who spends time in the outdoors should learn to identify these snakes and avoid them. Pit vipers have heat-sensing pits on their heads, which help them locate warm-blooded prey such as rodents. They have triangular shaped heads and stout, robust bodies. Non-venomous snakes have heads that are not much larger than the rest of the body.

Coral snakes are small, secretive snakes that live mainly underneath rotting logs and leaf litter, where they search for insects. They rarely are encountered by humans, but are easily identified by their coloration. Coral snakes typically have alter-

nating rings on their body of red, yellow, and black. Old sayings such as “red on yellow will kill a fellow,” “red on black – poison lack,” or “red on black – friend of Jack,” help to distinguish the venomous coral snake from several similarly colored non-venomous species such as the scarlet king snake.

If an unknown species of snake is encountered, it is best to simply leave it alone. People are bitten each year while attempting to kill a snake. This puts the snake in an understandably aggressive mood. Some are bitten when they pick up a snake they think is dead. Of course, no one wants a venomous snake around their house or yard, but if you encounter one in the wild, just leave it alone. Venomous snakes serve an important role in the ecosystem, just like the non-venomous species.

In the rare instance that someone is bitten by a venomous snake, it is important not to panic. Snake bite victims should be taken to a hospital as quickly as possible; most do not die if treated in a reasonable amount of time. In fact, many more people are killed each year in North America from bee stings than from venomous snake bites.

The best way to avoid attracting snakes around homes is to remove anything that may attract prey such as mice, rats, chipmunks, and insects. Remove any wood, lumber, or brush piles from around yards, and keep lawns and fields mowed regularly. Keep fencerows clean of unnecessary brush and tall grass. De-clutter storage areas such as basements, out-buildings, or sheds. Keep livestock feed or grain stored in sealed metal containers. All of this discourages rodents from hanging around.

In the future, don't be so quick to kill every snake that is encountered. Leave them alone and they will go away. Don't fear snakes, but respect them and be satisfied knowing they are helping to reduce the numbers of disease-carrying rats and mice, as well as a wide array of insects. ♣

# Moving Firewood Transports Insects and Diseases

## Little Critters Big Threat

Many invasive forest insects and tree diseases can harbor in untreated firewood. These destructive pests may be hiding **on** the wood, **in** the wood, or **underneath** the bark. Transporting firewood can unintentionally introduce and ultimately spread unwanted pests into new areas.



## Gypsy Moth

One of the most destructive pests of trees and shrubs, gypsy moth caterpillars attack hardwoods, especially oaks. By gorging on the leaves, the insect defoliates and weakens the tree, potentially causing death. Dispersal occurs when people transport gypsy moth eggs from infested areas on items such as firewood. Since its introduction into Massachusetts in 1869, this insect is now in several Eastern states and continues to spread.

## Laurel Wilt Disease

Initiated by the redbay ambrosia beetle, this disease infects trees in the laurel family, especially native redbay and sassafras. Adult beetles bore into the tree, feeding and creating galleries, spreading a deadly fungus. Eventually, the flow of water and nutrients is disrupted, causing mortality. First detected in Georgia in 2002, this disease now exists in five other states, including Alabama.



## Emerald Ash Borer

As the name implies, this insect attacks ash trees. The larvae of this insect bore into the tree, feeding and creating galleries under the bark. This disrupts the flow of water and nutrients, eventually killing the tree. Since its introduction in Michigan in 2002, this insect has spread to several other states, including Alabama.

# DON'T MOVE FIREWOOD



"In accordance with Federal Law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability. (Not all prohibited bases apply to all programs.) To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer."

Funded in part by the U.S. Forest Service

Images courtesy of Bugwood.org and CAES

# Transports Tree-Killing Diseases

## Ash Borer

As the name implies, the ash borer attacks ash trees. The larvae of the borer bore into the wood of the tree and create galleries, disrupting the flow of water and nutrients, eventually killing the tree. First detected in 2002, this disease has spread to 14 other states including Tennessee.

## Thousand Cankers Disease

Initiated by the walnut twig beetle, this disease infects walnut trees. Highly susceptible, the black walnut tree usually dies from the disease. When adult beetles bore into the tree creating galleries, a deadly fungus is introduced. The fungus causes numerous cankers beneath the bark, eventually girdling the branches, disrupting the flow of water and nutrients. Since 2010, this disease has spread to several Eastern states including Tennessee.



## Asian Longhorned Beetle

The Asian longhorned beetle attacks several hardwood trees, especially maples, birches, and elms. The larvae bore into the tree, feeding on wood beneath the bark, eventually disrupting the flow of water and nutrients causing some trees to die. First detected in New York in 1996, there are now scattered infestations in three other states.

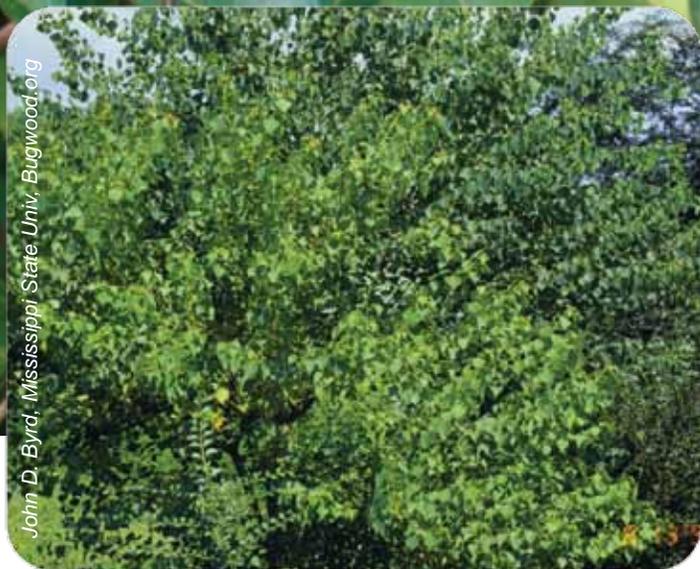
## You Can Help!

- Leave your firewood at home.
- Don't transport firewood long distances.
- Buy firewood from local vendors near your campsite.
- Burn all of your wood before leaving.



# MOVE FIREWOOD!

# Invasion of the



John D. Byrd, Mississippi State Univ, Bugwood.org



Chris Evans, Illinois Wildlife Action Plan, Bugwood.org

By Lenela Glass-Godwin  
Wildlife Biologist and Scientific Writer/Editor

Our founding father Benjamin Franklin was known for his wisdom and sound advice during his lifetime, and he is still admired today for the legacy of common sense suggestions he left us. But even the architects of great countries make mistakes. Mr. Franklin made a big one when he introduced the Chinese tallow tree (*Sapium sebifera* or *Triadica sebifera*) to the eastern United States during the colonial period. His error in judgment is one from which the South is likely to suffer for a long time.

Chinese tallow tree, also known as “popcorn tree” or Florida “aspen,” is native to eastern Asia. Unfortunately, plants such as tallow trees, kudzu, privet, mimosa, Japanese honeysuckle, chinaberries, and a host of other Asian plants

which may not pose problems in their native countries have created colossal invasive nightmares in the southern U.S. One of the biggest headaches facing land managers now on the Atlantic and Gulf coastal plains is the tallow tree. A deciduous tree with bright, waxy green heart-shaped leaves that turn glowing red in autumn, tallow trees may grow 40 to 50 feet in height. In the spring the trees produce long, light-green inflorescences [flowerings] that are easily seen even from a distance. In September and October, dark-brown three-valved fruits mature, producing the characteristic “popcorn” seeds which are spread far and wide by both water and birds.

The Chinese tallow tree is spreading like an aggressive cancer throughout Alabama, and is now a problem in all of

the south and central parts of the state. The website [www.eddmaps.org](http://www.eddmaps.org) provides an excellent representation of the current distribution of tallow trees in the South. The tree has taken over huge areas along the banks of the Coosa, Alabama, and Tallapoosa Rivers and is steadily invading many wetlands. It rapidly overtakes unmanaged pasture areas and abandoned farms, and because certain bird species disperse the abundant seeds in their droppings, it is often seen growing along fencelines where birds perch.

For many years tallow trees were planted by property owners as ornamentals for the yard. Many people thought that they were just planting an exotic that would provide shade and pretty fall color. But the private landowner who continues to allow a tallow tree to grow on his prop-

# Popcorn Trees

Charles T. Bryson, USDA Agricultural Research Service, Bugwood.org



James H. Miller, USFS, Bugwood.org



Karan A. Rawlins, Univ of Georgia, Bugwood.org

erty does a great disservice to his neighbors as the trees quickly invade adjoining properties and are extremely difficult to control. According to Dr. Nancy Loewenstein of the Alabama Cooperative Extension Service, a mature tree can produce more than 100,000 seeds per year and the trees also propagate by means of “runners” or “suckers.” The leaves and sap of these trees are toxic to humans and cattle and can cause serious illness if ingested. Most states have now declared tallow trees a noxious weed and in some states it is illegal to possess them.

Concerned land managers throughout the southeastern U.S. who are fighting the spread of invasive pest plant species are encouraging property owners to eradicate the Chinese tallow tree from their yards and land holdings. According to Dr. James

Miller of the USDA Forest Service, forest landowners can take a number of steps to control or eradicate this pest species.

Small specimens (diameter of less than 6 inches) of tallow tree should be pulled up as soon as they are observed, and foliar applications of herbicides may also be used to kill young trees. For larger trees with a diameter of more than 6 inches, the trees should be cut with a chain saw as close to ground level as possible. After that, herbicide applications to the cut stumps or basal bark are essential. A 15-20 percent application of the herbicide *triclopyr* (found in formulations such as Ortho Brush-B-Gon and Bayer Advanced Brush Killer) mixed with oil should be sprayed on the root collar area, sides of the stumps, and outer portion of all cut surfaces until thoroughly wet. The herbi-

cides Garlon 3A and 4, Arsenal AC, and Clearcast are also effective. Herbicide treatments are best used during early to mid-growing season before the trees have a chance to set seed. For specific application information, consult *A Management Guide for Invasive Plants in Southern Forests*, (General Technical Report SRS-131), written by James Miller, Steven Manning, and Stephen Enloe, and published by the USDA Forest Service.

For more information on Chinese tallow tree invasion and eradication advice, please contact your county office of the Alabama Forestry Commission or Alabama Cooperative Extension System, or check out the Alabama Invasive Plant Council website at [www.se-eppc.org/alabama/](http://www.se-eppc.org/alabama/).



# Red-Tails

## and Other Raptors

By Brandon Howell, Wildlife Biologist  
Wildlife and Freshwater Fisheries, Alabama Department of Conservation and Natural Resources

**Y**ou may see them in woodlands and clearcuts, on power lines and fence posts, and even in city parks and urban areas. But do you know them? Commonly referred to as raptors or hawks, they are diurnal birds of prey. Called “birds of prey” because they exclusively feed on other animals, they are “diurnal” because they feed during the daytime. Out of the 286 species of raptors, several either reside in or migrate through Alabama at some point during the year. Many of these birds can be readily identified by having a general knowledge of size and color characteristics including tail coloration and shape.

One of the most common raptors is the red-tailed hawk. It has a large wingspan of about 50 inches and an unmistakable red tail. These hawks are so common that many people believe that every hawk they see is a red-tailed hawk. The red-shouldered hawk or the broad-winged hawk

could easily be mistaken for a red-tailed, unless some basic markings are observed. The red-shouldered, as the name suggests, has a large red spot on the upper reaches of its shoulder. The tail of the red-shouldered is also different, with two large horizontal black bands and two thin horizontal white bands. The broad-winged hawk has more evenly-sized black and white tail bands. Without knowing the distinct characteristics, these three birds could easily be mistaken for one another.

Another common hawk found in Alabama is the Cooper’s hawk, named after 19th century ornithologist William Cooper. It is sometimes confused with the sharp-shinned hawk, and these two are virtually indistinguishable in appearance. The Cooper’s hawk is usually slightly larger than the sharp-shinned, and generally, the Cooper’s tail is rounded and the sharp-shinned is square-tipped. There may be a slightly noticeable notch in the folded

tail of a sharp-shinned. Using the tail shape to distinguish between the two species works best when the tail is folded.

Two other similar birds mistaken for each other are the American kestrel (sparrow hawk) and the merlin (pigeon hawk). The kestrel is the smallest falcon in North America, weighing around 4 ounces. It is slightly larger than a robin. Merlins are larger, but can look very similar in color and tail patterns with a couple of exceptions. Merlin males have grey tails and backs. Kestrels have two black malars, which are black stripes that run vertically below the eye and behind the cheek. This sets the kestrel apart from any other similar-sized diurnal birds of prey.

Alabama is blessed with many species of raptors. The next time you see one, take a closer look. With a general understanding of some specific characteristics, distinguishing between diurnal birds of prey can become like second nature. 🦅

USFWS



**Cooper's Hawk**  
(*Accipiter Cooperii*)

**Red-shouldered Hawk**  
(*Buteo Lineatus*)



USFWS

USFWS



**Merlin**  
(*Falco columbarius*)

**Sharp-shinned Hawk**  
(*Accipiter striatus*)



USFWS

**Red-tailed Hawk**  
(*Buteo jamaicensis*)



USFWS

**American Kestrel**  
(*Falco sparverius*)



Terry L. Spivey, Terry Spivey Photography, Bugwood.org



# Bottomland Oaks . . .

*By David Mercker, Extension Specialist  
University of Tennessee*

Over the past several decades, federal incentive programs have encouraged the planting of bottomland oaks throughout the United States. Landowners are involved in these programs that are designed to protect water and soil resources, and play a major role in sequestering atmospheric carbon. Incentives such as the Conservation Reserve Program (CRP) and Wetlands Reserve Program (WRP) have been marginally successful in bottomlands because conventional tree planting procedures are often followed – procedures that prove problematic in wet soils.

High water tables, soil drainage and compaction, and regular flooding make selecting the right trees difficult. Even slight changes in topography (a foot or less) can have a dramatic effect on survival and growth of seedlings. Researchers at the University of Tennessee were curious to see if there is a soil property that can accurately predict which oaks would perform best on these sites. Specifically, we examined soil mottling.

## **What is soil mottling anyway?**

Soil *mottling* occurs when soils are frequently wet for long periods of time. In water-logged soils, oxygen moves through too slowly to aerate the soil. This causes the natural red colors in soil

to become gray spots (mottles). Gray spots are a good indicator of soil wetness. Foresters and soil scientists can use a soil probe to extract a plug of earth and evaluate the degree of mottling. The more mottling or graying in the soil, the wetter it will be. Sometimes mottling results from flooding, but more often, from a high water table (below the ground).



*Extracted soil core*

# ... Landowners Should Examine the Soil When Planting

## Not all trees can tolerate wet soils

A variety of species can be planted in bottomlands. However, due to their economic and ecological values, most landowners focus on oaks. Some of the more common bottomland oaks that are native to the U.S. include:

Red Oaks
Water oak ( <i>Quercus nigra</i> )
Willow oak ( <i>Quercus phellos</i> )
Pin oak ( <i>Quercus palustris</i> )
Nuttall oak ( <i>Quercus texana</i> )
Shumard oak ( <i>Quercus shumardii</i> )
Cherrybark oak ( <i>Quercus pagoda</i> )
White Oaks
Overcup oak ( <i>Quercus lyrata</i> )
Swamp chestnut oak ( <i>Quercus michauxii</i> )
Swamp white oak ( <i>Quercus bicolor</i> )
Bur oak ( <i>Quercus macrocarpa</i> )

## So which oaks do best?

At the end of six growing seasons, we found the ones that performed best on the water-logged soils include: Nuttall, overcup, and pin oak, followed closely by willow oak. The others were much more sensitive to wetness, and should only be planted as the soil drainage improves.

For most landowners, and under normally accepted practices, a variety of species is desired. Some oaks can tolerate poorly drained soils; others cannot. Diversity is easiest achieved on better drained soils. However, as the water table rises and gray mottling follows it toward the surface, diversity of oak species tolerant of such sites narrows.

When landowners are considering planting bottomland oaks, they should evaluate their soil to determine the degree of mottling. Because internal drainage so greatly affects tree survival and growth, the importance of matching species-to-site in bottomlands is paramount. The oaks examined here are not native throughout the entire U.S., but rather are more common in eastern and southeastern regions. Therefore, it is very important for landowners to seek localized knowledge of tree requirements for each species, long before planting begins. For that, first see a forester! 🌳

*Editor's Note - For a copy of the study results, refer to: <https://utextension.tennessee.edu/publications/Documents/PB1800.pdf>*



*This soil core is approximately 30% gray, indicating some drainage impairment.*



*These cores contrast poorly-drained soils (left, 95% gray) with well-drained (right, 0% gray).*



*Co-Champ Southern Magnolia - Macon County*

# Champion Trees

2012

By Brian Hendricks, Forester  
Champion Tree/FIA Coordinator, Alabama Forestry Commission

Ten trees have made the 2012 list of Alabama's Champion Trees. With the addition of these new trees, the state now has a total of 144 champions. This total decreased from last year because 17 of the 2011 champions had died by the time they were visited for their scheduled re-measurement, and three others were de-certified.

Of the ten new champions, seven trees were declared outright champions: blue ash (*Fraxinus quadrangulata*), Carolina buckthorn (*Rhamnus caroliniana*), water oak (*Quercus nigra*), willow oak (*Quercus phellos*), osage-orange (*Maclura pomifera*), longleaf pine (*Pinus palustris*), and witch-hazel (*Hamamelis virginiana*). Five of these filled vacancies for species that did not have a current champion, while two other trees defeated 2011 champions. Three of the new champions are actually co-champions (trees whose total scores are within five points of each other) including two American hornbeam trees (*Carpinus caroliniana*) from Bibb and Talladega counties that both defeated the 2011 champion. The third, a Southern magnolia (*Magnolia grandiflora*) found in Macon County, was named co-champion with the existing champion from Calhoun County.

In addition to these new state champion trees, the state champion Alabama black cherry (*Prunus alabamensis*) located in Tuscaloosa County was declared a national champion tree in 2012!

For those unfamiliar with *Champion Tree*, the purpose of the program is to discover, recognize, and preserve the largest tree of each species in Alabama. Anyone can nominate a tree for Champion Tree designation; however, an AFC forester is responsible for collecting the tree's measurements.

When determining a champion, three of the tree's components are taken into consideration: circumference, height, and crown

spread. The formula used to determine the size of a tree is as follows: one point for each inch of circumference, plus one point for each foot of height, plus one point for each four feet of the average crown spread. Also, for a tree to be eligible for the Champion Tree program, it must be a species that is recognized as native or naturalized in Alabama. A naturalized tree is an "introduced" species that has established itself in the wild, reproducing naturally and spreading.

Once a new champion is identified, both its owner and nominator receive a certificate. The nominator is also presented with a permanent tree marker by AFC county personnel, placed in proximity to the base of the tree. New champions are added to the "Champion Trees of Alabama" publication which can be found on the AFC website at [www.forestry.alabama.gov/PDFs/ChampionTrees.pdf](http://www.forestry.alabama.gov/PDFs/ChampionTrees.pdf).

If you know of a tree that you think might be the largest of its species in the state, you are encouraged to nominate it. Before sending in a nomination, you are strongly encouraged to review the measurements of the current champion to get an idea if the candidate tree has a chance of defeating it. After all, there are millions of "big" trees in Alabama, but to be a CHAMPION a tree must be THE BIGGEST. Although nominations may be sent in year round, for a tree to be eligible for Champion Tree designation in 2013 the nomination form must be received by the program coordinator no later than June 1, 2013.

To learn more about *Champion Tree* or to complete an online nomination form, visit the AFC website at [www.forestry.alabama.gov](http://www.forestry.alabama.gov) and click on the "Champion Tree Program" fast link. ☛

TREE SPECIES	COUNTY	NOMINATOR	OWNER
Ash, Blue	Jackson	Jason Shelton	National Park Service
Buckthorn, Carolina	Talladega	John McBride	Camp Mac
Hornbeam, American	Talladega	John McBride	Margery B. McBride
Hornbeam, American	Bibb	Thomas Hogelin	Mead Stallings
Magnolia, Southern	Macon	Philip Pierce	Frank Pierce & Patricia Springer
Oak, Water	Montgomery	Katie McKeen	Kirk McKeen
Oak, Willow	Shelby	David R. Shaw	David R. Shaw
Osage-orange	Sumter	Eleanor Ward	Don Ward
Pine, Longleaf	Baldwin	Selena C. Vaughn	Vilai Marino
Witch-hazel	Randolph	Stan Roark	Stan Roark

A unique hands-on learning adventure for fourth graders, “Forestry and Wildlife for Youth” Field Day and Tour is an annual event sponsored and coordinated by members of the Bullock County Forestry Planning Committee (BCFPC). This walking tour features a series of interactive learning stations, collectively designed to increase the natural resources awareness of students in outdoor settings. The concepts illustrated during the activities are also intended to promote responsible environmental stewardship.

First however, the Forestry for Youth program deserves a little background . . .

### **Cedar Oaks Ranch: More Than a Place to Ride Horses**

The story goes back to 1989, when Maurite Scanlan and Jane James were looking for land where they could ride their horses. After a long search in several counties, they purchased what became “Cedar Oaks Ranch” on Alabama Highway 110 in Bullock County.

In 1991 they built a 12-acre pond and had Frank Brabham (an original BCFPC member) plant 100 acres of improved loblolly pine seedlings. Cedar Oaks was certified as a TREASURE Forest in 1993, with timber being the primary objective, followed by wildlife and aesthetics.

Jane and Maurite joined the BCFPC in 1996 and attended field tours. Becoming stewards of the land, the two ladies wanted to help educate others about the country and inspire them to do the same. “Forestry for Youth” was launched at Cedar Oaks in 1997. It was clear that the “Ranch” was turning out to be much more than a place to ride horses!



*Pond Management & Water Quality - After seining the pond, Claude Reeves (foreground) and Joe Scanlan (background) allowed students to touch “the day’s catch” of plants and animals.*

Honored in 1999 with the Alabama Natural Resources Coordinating Council’s “Helene Mosley Memorial TREASURE Forest Award,” Cedar Oaks Ranch was made the subject of a conservation easement with the State of Alabama in 2001 to ensure that it would not be developed, but remain in perpetuity as a combination of pasture and forestland. In 2012, the property was certified as a Tree Farm.

### **The Move to the Wehle Land Conservation Center in 2012**

Obviously, a great deal of organization and effort goes into planning and executing a one-day program to educate some 200 to 250 school children. Over the years, Cedar Oaks Ranch, the Bullock County Forestry Planning Committee, and many friends have provided a huge amount of support for the Forestry for Youth program.

Approaching the event’s 16th year, Cedar Oaks was undergoing an extensive timber cutting program. Jane and Maurite became concerned that the ranch would not be ready by the spring of 2012 to host the annual field day. An alternative site was determined to be the best course of action. But where would that be? Since the students are bused from their schools to the event, the site needed to be somewhere within the county.

A natural option was the Wehle Land Conservation Center, located in the eastern portion of Bullock County. This block of land was accumulated by the late Robert Wehle, who for many years spent his winters here (and summers in New York). A true



conservationist, Mr. Wehle made provisions in his will to endow a trust for the maintenance and capital improvement of the Wehle Land Conservation Center (and also for a similar-sized property in New York State which is now a state park).

In short, the Wehle Land Conservation Center provided a great venue for the Forestry for Youth event. In addition to the woods, pastures, and ponds found at Cedar Oaks, it offered many other interesting features and buildings to explore!

### 2012 Activities and Instructors

Schools served currently in the Forestry for Youth program include Conecuh Springs Christian, Macon East Academy, and South Highlands Middle School. Students are divided into groups which are led to the various stations by volunteers. Each presentation/activity lasts around 30 minutes,

and an allowance of 5-10 minutes is then made for walking to the next station.

“Archery” was conducted by Tommy Atkins, ADCNR Wildlife & Freshwater Fisheries, and Hobbie Summerfield, BCFPC member and TREASURE Forest landowner, along with several other volunteers. The archery station consists of eight or ten positions with bows and arrows, each with a target several paces down-range, and a volunteer. All students receive hand-on assistance in shooting from a volunteer. Every year, student feedback shows that this is a favorite station, mainly because it involves direct participation.

“Native Birds” was presented by Eric Soehren and John Trent, both from the Wehle Land Conservation Center, using recorded calls and wooden models of the various native species. It is quite common for the calls to attract actual live birds, which makes for a lively session!

“Pond Management & Water Quality” featured Claude Reeves, retired from ADCNR Wildlife & Freshwater Fisheries, and Joe Scanlan [Maurite’s husband] seining a small portion of the pond and examining what is in the net. The students got to see and feel the catch! It included plants and animals – fish, shell fish, and invertebrates. There was a lot of discussion about water quality and how it relates to land management.



*Native Birds - Eric Soehren used recorded calls and wooden models of various native species.*

“Forestry” was conducted by Dr. Jerry Bettis, Tuskegee University, as he walked with students on a short tour while discussing different trees found on the property [photo center]. “Wildlife” was discussed by Rachel Lee, Bullock County Extension System. Animal hides, antlers, etc. were passed around for the students to handle and stroke. Rachel explained the importance of maintaining quality habitat through good land management practices, providing food, shelter, and other requirements which promote wildlife.

Each year, the program stations have changed. Other Forestry for Youth events over the years have included bats, birds of prey from Montgomery Zoo, a wood mizer demonstration (a portable wood mill which saws wood products from timber), a sheep dog demonstration, a farrier demonstrating horse shoeing, chainsaw carving, photography, snakes, fire ants, and dendrology (the science of identifying and classifying various tree species). Cedar Oaks Ranch built a dendrology trail and labeled the trees. Wonder what will be on the list for 2013?!

Lunch – consisting of hot dogs, hamburgers, chips, cookies, and drinks – was organized by George Tabb, Bullock County Cooperative Extension System, and served by the ladies of the Chunnenugee Garden Club of Union Springs. An ambulance

*(Continued on page 28)*



*Wildlife - Rachel Lee allowed students to touch various animal hides and antlers while explaining the importance of maintaining quality habitat.*

## FORESTRY & WILDLIFE FOR YOUTH

(Continued from page 27)



Archery - Volunteers assisted students with shooting bows and arrows.

was also provided on site, furnished by the RCS Ambulance Service, along with two Emergency Medical Technicians (EMTs), just in case any medical emergency arose.

### As the saying goes, “It takes a village!”

There is an extensive list of sponsors, supporters, and volunteers for the Forestry & Wildlife for Youth Field Day . . . all coordinated by the BCFPC.

Financial sponsors include the BCFPC, Bullock County TREASURE Forest landowners, Bo Starke, Bootie Smitherman, Cedar Oaks Ranch, Dr. Andrew and Beverly Callaway, Foy and Rhonda Tatum, Jerry Kyser, and the Waters Trust.

Supporting agencies which have given generously of their human resources include the Alabama Cooperative Extension System (Bullock County), the Alabama Forestry Commission (Bullock County), the Bullock County School System, Farm Service Agency, Natural Resources Conservation Service, Tuskegee University, and the Wehle Land Conservation Center.

Approximately 50 volunteers are required to handle tasks such as registration, guiding students around to the various stations, set-up, clean-up, etc. In addition to the many friends of the BCFPC and Cedar Oaks Ranch, we had the able assistance of the Youth Leaders from Union Springs High School.

Many thanks are due to all who were involved. We hope that they and others will participate in future “Forestry for Youth” events.☪

*Editor’s Note: Thomas M. James is the husband of Jane James.*

## The Wehle Land Conservation Center

**R**obert Wehle was quite a remarkable individual. In addition to putting together two large tracts of land in two states, he was an avid bird hunter and dog trainer. He started Elhew Kennels and bred his own line of pointers, which he hunted and ran on the field trial circuit, producing several national champions. On the subject of gun dog training, he authored the book, *Wing and Shot* (The Country Press, 1964). In addition to being a comprehensive “how-to” of gun dog training, the book contains many of Wehle’s drawings and paintings. Wehle’s art includes work in bronze sculpture – the bird dog in downtown Union Springs is his creation. (There is another casting at the Wehle Center.)

The Wehle Land Conservation Center consists of Mr. Wehle’s house, stables, and several outbuildings – mostly log cabin-type structures – including a blacksmith shop, carriage house, kennels, and bird rearing cages, etc. Each year it hosts the Alabama Outdoor Heritage Day (first Saturday in October) and the Alabama Spring Festival (first Saturday in May), where visitors of all ages can step back in time and celebrate old-time outdoor activities, food, music, and fun. Visitors enjoy activities such as log cabin and primitive furnishing exhibits, quilting demonstrations, pine needle basket making, native plant vendors, and much more. This portion of the property also includes a rustic dormitory and plans for a central lodge with cooking and dining facilities which may be reserved and used by Alabama residents for a variety of activities.

Another section of the property is the Robert G. Wehle Nature Center which covers about 25 acres and is adjacent to the Wehle Forever Wild tract. Available on certain weekends for trail rides,

camping, and fishing, it includes several buildings where classes are held, ponds, stables, and a number of set-ups for travel trailers.

The northern two-thirds of the 1500-acre Wehle Forever Wild site are managed as a nature preserve and recreational area by the State Lands Division of the Alabama Department of Conservation and Natural Resources (ADCNR).

Additionally, the Elhew Field Station was established in 2011 as part of the Wehle Land Conservation Center. It is dedicated to supporting sound land stewardship principles as well as promoting the understanding and appreciation of Alabama’s natural heritage through research, conservation, and outreach activities. The on-site management of the Elhew Field Station is under the direction of Eric Soehren. He and wildlife biologist John Trent’s offices are housed in the former Wehle residence.

A complete description of how the Wehle tract was acquired by the State of Alabama may be found in the July 2012 edition of *Outdoor Alabama* magazine, authored by Soehren. Other Wehle information may be found on the ADCNR and Forever Wild websites. Also extensively involved in several wildlife (bird) research projects, Soehren may be reached for Wehle and Elhew information at (334) 529-3003 (office) or (334) 850-4553 (cell).☪



“Elhew Snakefoot” by Robert G. Wehle.



# Alabama Ranks High in Water Quality Report

**A**ccording to a recent regional Best Management Practices (BMP) Implementation report, Alabama ranked among top-performing states in the category of BMP Implementation for water quality in the harvesting of timber and other forest operations. In September's Implementation of Forestry Best Management Practices: 2012 Southern Region Report, published by the Water Resources Committee of the Southern Group of State Foresters (SGSF), Alabama demonstrated a 97 percent overall BMP implementation rate. The average overall BMP implementation rate for the region combined was 92 percent. Alabama consistently ranked among the highest BMP implementation rates within the individual categories as well.

The Water Resources Committee, a subcommittee of the SGSF, adopted a monitoring framework to track and assess the implementation of non-regulatory forestry BMPs in 1997. However, although the Alabama Forestry Commission (AFC) had been monitoring BMP implementation since 1990, it did not adopt the SGSF monitoring protocol until 2009 when the

agency joined the 12 other Southeastern state forestry agencies comprising the SGSF. Grouped into seven categories according to the primary forestry activity they relate to, these BMPs are statistically monitored throughout the year. The seven categories are combined to allow for assessment of the overall BMP implementation rate that measures how effectively the water resources of Alabama are being protected.

"Water is a major concern right now," said State Forester Linda Casey. "Because of the role forests play in water-related issues, the Alabama Forestry Commission considers the protection of water resources to be among its top priorities. Water is an essential element for life and livelihood. The forests of Alabama are of vital importance for ensuring that the quantity and quality of water are maintained and improved for current and future use. Additionally, Alabama's forests generate significant contributions to the economic and social well-being of the state through provision of raw materials for the forest products industry, habitat for fish and wildlife, outdoor recreation, and a host of

other opportunities too numerous to mention. The AFC's commitment to protecting the water resources of Alabama extends far beyond the monitoring framework for implementation."

The Alabama Forestry Commission believes that education is crucial for the prevention and mitigation of threats that would impact the water resources of the state. To that end, the AFC routinely conducts BMP training for forest industry professionals, state agencies, and other interested parties. By facilitating communication and the exchange of information between the various stakeholders within the water resources community, and the general public, the AFC makes a significant contribution to the protection of water resources.

To review the 2012 Southern Region Report, go to [www.forestry.alabama.gov/PDFs/SGSF\\_BMP\\_Report\\_2012.pdf](http://www.forestry.alabama.gov/PDFs/SGSF_BMP_Report_2012.pdf). To learn more about Alabama's Best Management Practices for Forestry or Coastal Pre-Harvest Guide for Landowners, visit [www.forestry.alabama.gov](http://www.forestry.alabama.gov).

# AU Study Examines Impacts of Timber Industry's Land Sales

By Jamie Creamer, Auburn University College of Agriculture

In the past decade, major corporations in Alabama's forest products industry, looking to pay down debt and raise the price of shares, have sold off 3.5 million acres of commercial timberland, primarily to outside investment firms and trusts that may or may not keep the land in timber. With the new owners comes the possibility that forest management practices and land-use patterns will shift, and that could have major implications for rural communities, local governments, and family-owned forests in timber-dependent areas of the state, as well as for the future of the forest products industry itself in a state that has the third most timberland acreage in the 48 contiguous states.

In an investigation under way at Auburn University, Alabama Agricultural Experiment Station scientists aim to document all corporate forested-land ownership transfers in the state in recent years, analyze the social and economic impacts the land sales are having, and identify ways rural communities can not only reduce the negative consequences of the changing landscape but maximize the benefits as well.

Auburn rural sociology professor Conner Bailey, director of the five-year project funded by USDA's Agriculture and Food Research Initiative, says current tax policies have made timberland an extremely attractive venture for investors, particularly real estate investment trusts, most of whom contract with companies known as timber investment management organizations to make decisions about the land and its use. These new owners and overseers will shape the future of the forest products industry and the larger rural economy of Alabama, based on their management objectives for this land, says Bailey, who is joined in the project by Auburn forest economist Larry Teeter and Extension forest management specialist Rebecca Barlow.

"The forest products company that has owned timberland for decades has a vested interest in managing the land so that it will remain highly productive and is concerned with the community in terms of workers, mills, equipment dealers, and so forth," Bailey says. "When that company sells the land, the new owner

may not be anchored to the community; its main interest is going to be the return it gets on its investment."

In some parts of the state, Bailey says, the new owners are likely to keep the land in commercial timber production, mainly because of the lack of alternative uses for the land. This is particularly true in west-central Alabama. "But in other parts of the state, especially near urban-growth centers or major transportation arteries, where there's a demand for rural residential property or where it's a prime area for manufacturing, investors are going to evaluate what the highest and best use of their land is, and that could prompt them to take the land out of timber production," Bailey says.

Such moves could have a positive impact on some communities and counties. "If timberland is bringing \$5,000 an acre but dividing it up and selling off parcels for subdivisions would raise the value to \$15,000 an acre, obviously the landscape is going to change," Bailey says. "But that could be to a county's advantage because even if the homestead exemption applies, the increase in land value will generate increased property tax revenue."

Bailey and team will amass much of their data through examining county property tax records to identify the sellers and buyers in all forestland real estate transactions in Alabama in recent years, conducting surveys, and interviewing a range of stakeholders, from forest industry executives to local equipment dealers. In the final phase of the project, the researchers' objective will be outreach designed to help rural Alabama communities adapt to change brought about by restructuring of forestland ownership.

Collaborating with the Alabama Ag Experiment Station research team at Auburn is John Bliss in the College of Forestry at Oregon State University. Bliss is a former Auburn faculty member who has conducted similar research in Oregon and with whom Bailey and Teeter have worked on other social and economic forestry issues.☞

Reprinted with permission of *AG Illustrated*.

## New Fungicide to Treat Pine Seedling Diseases

Auburn University School of Forestry and Wildlife Science Professor Scott Enebak and research fellow Tom Starkey recently spearheaded the registration of a fungicide that could revolutionize the forest nursery industry. The fungicide is Proline, a compound commonly used to control soybean rust.

Through lab experiments, Enebak and Starkey showed that Proline not only controls fusiform rust — one of the most

costly diseases in loblolly pine — but is also effective for two other diseases that affect pine seedlings: pitch canker and rhizoctonia foliar blight. "Proline's effectiveness in controlling pitch canker and rhizoctonia foliar blight is particularly exciting because rhizoctonia was only partially controlled with the only available treatment, and there was absolutely nothing to help growers if their seedlings got pitch canker," says Enebak.

Previously, only one compound was available to control fusiform rust. When that compound came under review from the EPA, Enebak and Starkey worked with the manufacturer and EPA to keep the compound available for forest nurseries while they searched for an alternative.

"With Proline's labeling for use in forest nurseries, growers now have access to one of the most effective tools the industry has ever seen," says Enebak.☞

**Alabama Natural Resources Council**

*Save the date!*  
**2.8.13**

**CHANGE OF ADDRESS & NEW SUBSCRIPTION FORM**

Are you receiving *Alabama's TREASURED Forests* at the correct address?  
If not, please complete this form and return to:

*Alabama's TREASURED Forests Magazine*  
P.O. Box 302550 Montgomery, AL 36130-2550  
**New Address:**

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

**Old Address as it appears on mailing label:**

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

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



**Alabama Natural Resources Council  
Outreach Symposium & Awards Banquet**

**Friday, February 8, 2013**

The Hotel at Auburn University & Dixon Conference Center  
241 South College Street • Auburn, Alabama

Hear about new applied science related to natural resource management!

**Applied Forestry & Wildlife Research Symposium**

2:00 pm - 4:30 pm  
\$25.00 per person

- Fawn Predation Issues
- Landowner Assistance Programs
- Hunting Leases, Liability & Insurance
- Outdoor Photography

**Awards Banquet**

5:30 pm - 7:30 pm  
\$35.00 per person

- Cocktail Reception (cash bar)
- Dinner
- Awards Presentation

Help us celebrate the achievements of award winning TREASURE Forest owners, Tree Farm owners, and county natural resource committees!

**both Symposium & Banquet**  
\$60.00 per person

Three ways to register or get additional information!  
Click: [www.aces.edu/go/293](http://www.aces.edu/go/293)  
call: (334) 844-1010  
or email: [kelly@auburn.edu](mailto:kelly@auburn.edu)



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

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



# Devil's Walking Stick

(*Aralia spinosa*)

By Fred Nation, Environmental Services, Baldwin County

**D**evil's walking stick (*Aralia spinosa*), is an attractive deciduous shrub or small tree to about 30 feet tall. The leaves are very large, compound, often to 4 feet long, closely arranged together around the tops of the stems, to create a distinctive umbrella-like appearance. Even more than the huge leaves, the most unforgettable feature of *Aralia* is the armor. The stout twigs and even the leaves are abundantly armed with sharp, stiff prickles that will surely make any physical contact an unforgettable experience!

In the late nineteenth century, the Victorians had a taste for strange and unusual plants in their gardens, and they sometimes planted *Aralia* as a "grotesque." The large creamy white, lemon-scented inflorescence in midsummer, followed by masses of small, dark purple berries are all quite handsome, and might be interesting in today's landscapes, in an out-of-the-way location where the prickles can be avoided. The fruits provide good forage for songbirds and small animals. Devil's walking stick is native to the eastern United States, from New York to East Texas, south to the Gulf Coast. Throughout Alabama, it is found mostly in rich, moist forested areas.

The Choctaw Indians used the aromatic roots of *Aralia spinosa* to treat boils, and old American herbals mention extensive uses and medical actions. It is frequently listed as a stimulant, and as a diaphoretic, to promote sweating. The following is just part of the *Aralia* entry in *A Modern Herbal*, by M. Grieve, published in 1931:

*"Fresh bark causes vomiting and purging, but dried is a stimulating alterative [an herb traditionally used to 'purify' the blood]. A tincture made from the bark is used for rheumatism, skin diseases and syphilis. The berries in tincture form, lull pain in decayed teeth and in other parts of the body, violent colic and rheumatism, useful in cholera when a cathartic is required . . .*

*Also a powerful sialogogue [increases saliva] and valuable in diseases where mouth and throat get dry, and for sore throat; will relieve difficult breathing and produce moisture if given in very small doses of the powder. The bark, root, and berries can all be utilized."*

Plant relationships, based mostly on flower structure, are interesting and often quite surprising. For example, who would think that two of *Aralia*'s family relations are English ivy, an exotic woody vine, and Ginseng, the rare, world-famous medicinal herbal species!

Devil's walking stick is somewhat similar in appearance to another prickly, though larger, Southeastern native: Hercules club, *Xanthoxylum clava-herculis*. Although both have been used to treat toothache – in fact, one common name for *Xanthoxylum* is "toothache tree" – the two species are unrelated.

According to the American Forests organization, the national champion is 31 inches in circumference, 38 feet tall, with an average crown of 40 feet, located in the Pisgah National Forest, south of Asheville, North Carolina. The Alabama Forestry Commission does not consider *Aralia spinosa* to be a tree, and does not recognize a state champion for this species. ♣



Photos by Fred Nation