

ALABAMA'S

TREASURED FORESTS

A Publication of the Alabama Forestry Commission

Fall/Winter 2017

Message from the STATE FORESTER

As we wrap up the Thanksgiving holiday and look forward to the Christmas season, it's appropriate to look back and remember the things we should be thankful for this year. One of these things for me is the staff of the Alabama Forestry Commission. These 220 men and women work daily to make Alabama better, they take seriously our mission to protect and sustain the forests of Alabama.

Our people have worked hard this year to protect and sustain the forests in Alabama. On the protection front, our firefighters have battled almost 1,200 fires on 19,000 acres of Alabama forestland. This represents a significant amount of time and effort. Please remember, the time spent on the ground or in a bull dozer is just a portion of this commitment. Our men and women are always prepared to fight fire. In every county across the state, there are people on call, at all times, ready to leave a child's birthday party, a church service, or a dinner with friends, to protect your forest land.

On another protection front, we found over 2,200 beetle infestations across the state this year. Once detected via aerial surveys or other means, the AFC spent a considerable amount of time on the ground verifying these reports and contacting landowners to make sure they were aware of this threat to their property. We also helped landowners apply for and receive cost-share assistance to eliminate this problem on their land.

Efforts to sustain Alabama's forests were also successful. It appears landowners have a renewed interest in demonstrating that their forest is being managed in a sustainable way! Our employees had a hand in certifying 70 new TREASURE Forests; a record number. We know there are many landowners who want, and deserve, this honor. Therefore, we have made certification programs a priority for the agency. If you are interested in becoming a TREASURE Forest owner, please call your local AFC office.

Part of the AFC's efforts to sustain the forests involves Best Management Practices (BMP) compliance inspections. We are required to complete random inspections to demonstrate that loggers are harvesting timber in a way that protects the land. This year we checked almost 300 of these sites and found Alabama loggers are doing a great job. This helps the public see that we do care for the land we have been entrusted to manage.

Without good information about the size and extent of Alabama's forests, industry would not have the confidence to invest in this state. In 2017, we've seen companies expand production, make improvements in mills, re-open shuttered facilities, even build a new sawmill. Forest Inventory Analysis (FIA) in Alabama beats every other state . . . we're both faster and more accurate than other states. That's thanks to our dedicated FIA crews, along with AFC county personnel who went out and helped them measure the 977 plots completed last year.

Finally I would like to mention the many forestry tours this agency's employees helped plan and conduct this year. About 30 tours, across all forest types in the state, helped landowners see the great variety of forestland and practices that create the great diversity of habitat and forests we have on Alabama's 23 million acres of forestland.

So, in conclusion, when you see our people in their uniforms and AFC trucks, please remember to thank them for the many services they provide to help protect and sustain Alabama's forestland! I hope you all have a Merry Christmas and Happy New Year! 🍷

Rick Oates



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On the Cover:
Scarlet Oak (*Quercus coccinea*)
adds to the autumn brilliance of
Alabama's forests.

Photo by Mark Burkett



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Alabama Forestry Commission's endorsement of that particular practice,
product, or company, but is an effort to provide forest landowners of Alabama
with information and technical assistance to make informed decisions about
the management practices they apply to their land.
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‘The Pike Place’ . . . *Mentor to Many*

By Joel D. Glover

When asked if he would allow the Coosa County Forestry Planning Committee to nominate him and his property for the Helene Mosley Memorial TREASURE Forest Award a couple years ago, Bill Dark humbly responded, “If you think we are worthy of that high honor, okay.”

Bill Dark is somewhat of an icon in Coosa and surrounding counties. Having worked with area landowners for over 60 years in the earth-moving business, he has helped thousands of landowners make the most of their properties. However, unlike those in many professions, Bill has not neglected his own property while working with others. ‘The Pike Place’ as it is called, was certified as a TREASURE Forest in 1997. In addition to manicuring his own property, he has mentored numerous landowners across central Alabama along the way.

While still a young man, Bill followed in his father’s footsteps. First joining him as a partner in the family earth-moving business, after several years, he took over the company. As time went by, Bill acquired family land and purchased other property as well. Always holding himself to a very high standard personally, he also managed his land in that same manner.

Being involved in the earth-moving business, Bill had worked alongside natural resource professionals for many years. Hav-

ing gleaned a great deal of information concerning resource management, he put that knowledge into practice not only on his property but also that of others. Aware of his many accomplishments, County Forester Blake Kelley and Wildlife Biologist Joel Glover approached Bill about participating in the TREASURE Forest program. Bill was somewhat familiar with the program, and expressed interest in the process. He selected his primary management objective as timber and his secondary as wildlife. An inspection was conducted and the diverse 337-acre property was soon certified.

Not long after his certification, Bill decided he needed to take a more formal approach to the forest management of the property. He contacted a local forestry consultant and had them provide him with a timber valuation and management plan. Since that time, he has been an active timber manager, implementing suggested forest management activities.

Bill has site-prepared and planted several tracts on his property. Following the harvest of mature stands of loblolly, he replanted with both loblolly and longleaf pine. He has had stands pre-commercially thinned, prescribed burned, and commercially thinned. He has also battled kudzu and other problems along the way. As with most landowners, his objectives have expanded over the

years. He has even manicured some areas along the public road to highlight the aesthetics of a well-maintained timber stand.

Forest management of the property continues according to plan with regular burning and maintenance of wildlife openings. As a result, the Pike Place provides an excellent example of wildlife and timber management. Thankfully the owners are willing to unselfishly share the property with both youth and adults through formal tours and other activities.

Although himself not a hunter, Bill annually maintains wildlife openings on his property. He has allowed numerous youth hunters to take their first deer there. Research has shown that in order for someone to become a hunter they need to be exposed to the activity at an early age. Research has also revealed that lack of access to a place to hunt is a huge limiting factor. Since hunters pay for conservation through their purchases of licenses and equipment, by managing his property and allowing it to be hunted, Bill is contributing greatly to wildlife conservation. Additionally, the property has been utilized to train boy scouts working toward various merit badges.

While resource conservation education of our youth is critical and occurs regularly on the property, Bill has also excelled in educating landowners. He believes it is equally important that those decision makers receive sound forest management advice and assistance.

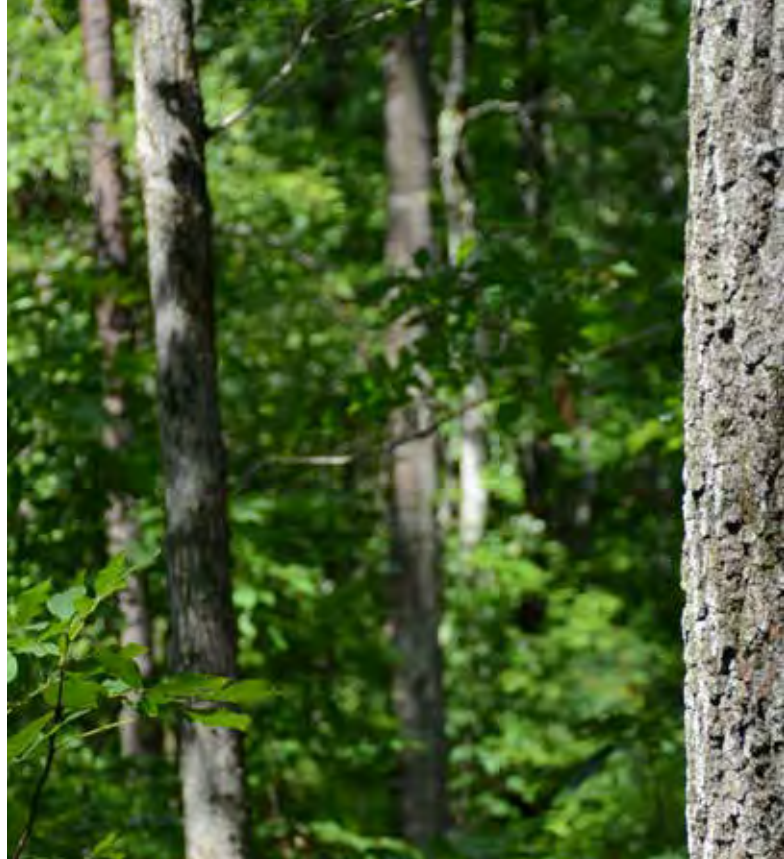
Members of the Coosa County Forestry Planning Committee have long understood that mentoring landowners is the key to TREASURE Forest certification. They have also discovered that sometimes the most effective mentoring is landowner to landowner. Landowners are often receptive when talking with another landowner who is willing to share their land management experiences.

Although Bill Dark's company is technically a construction company, it is very much a land management business. He builds ponds and recreational lakes, creates wildlife openings, and builds roads to provide access as well as facilitate management and monitoring activities. Additionally, he often improves existing roads by adding water bars and turnouts. He also establishes fire breaks for prescribed burning.

In this position, Bill has been offered the opportunity to work with thousands of landowners over the years. Many of these folks possessed very little knowledge concerning how to manage their property. Bill has been instrumental in connecting those people with the natural resource professionals who could provide them with technical assistance and cost-assistance opportunities. In fact, these relationships have often served as a catalyst for the properties to become certified as TREASURE Forests.

One Coosa County resident that traveled this path was Joseph McKinney. After a career in the military, Mr. McKinney and his wife returned to some family property in Coosa County. He was steered to Bill for the construction of a pond. Understanding his objectives, Bill introduced Mr. McKinney to Elijah Moore, who then served as the Natural Resources Conservation Service (NRCS) District Conservationist. Since that time, the McKinneys have amassed numerous land management accomplishments which led to their certification as a TREASURE Forest. In addition, the McKinney property was the site of an 'Underserved Landowner' tour sponsored by the Coosa County Forestry Planning Committee (CCFPC) and the Federation of Southern Cooperatives. The tour was well received with 60 participants. This type of mentoring is priceless.

Speaking of landowner tours, Bill Dark has been exceptionally generous throughout the years in allowing the CCFPC to utilize his



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'The Pike Place'. . . *Mentor to Many*
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property for such events on four different occasions. Tour stops have included site prep and planting of longleaf, prescribed fire, thinning in plantations, Best Management Practices for Forestry (BMPs), Streamside Management Zones (SMZs), water quality, wildlife management, and other concerns. Additionally, tours have featured wood craft, wildlife photography, tree stand safety, conservation law enforcement, utility vehicle (UTV) and tractor safety, as well as other topics.

Bill has also served as a speaker on several tours talking about road development, turnouts, water bars, and lake building. He has also helped sponsor several tours and a couple regional field days. Through these endeavors, he has promoted good stewardship to hundreds of landowners. Based on his many accomplishments his property was selected as the Coosa County TREASURE Forest of the Year in 2010. Then in 2015, Bill was the recipient of the prestigious Helene Mosley Memorial TREASURE Forest award. This honor of course, led to the Pike Place serving as the venue for yet another landowner tour—the Central Alabama Forestry Field Day – hosted by the Alabama Natural Resources Council and the CCFPC this past October.

In reviewing our CCFPC records and speaking with landowners and Bill, we can document that he has been instrumental in assisting over 50 landowners become certified TREASURE Forests in Coosa and surrounding counties. To put that in perspective, only two counties in the state have that many TREASURE Forests! Bill has also been an enormous asset to the CCFPC in his position of supervisor with the Coosa County Soil and Water Conservation District. Holding this position for over 30 years has allowed him to become an even stronger advocate for proper natural resource management.

Obviously the members of the Coosa County Forestry Planning Committee are appreciative of the accomplishments of the Dark family. We are thankful that they are so willing to unselfishly share their property in an effort to educate both youth and adults in Alabama, and to promote the TREASURE Forest program. 🙏

Forestry Field Days Add to Fall Festivities

By Allen Varner, Stewardship Coordinator, Alabama Forestry Commission

Fall is always a busy time for folks that work out of doors. If you're a farmer, then you are bringing in the last crops of the season. If you're a hunter, you're scouting and searching for the perfect spot to harvest that trophy buck. But if you're one of the three fortunate landowners named as a Helene Mosley Memorial TREASURE Forest award winner last year, you may be the busiest of all as you prepare your place to receive 100 or more guests for one of the Regional Forestry Field Days.

Of course, you're not in this alone. Thanks to the strong efforts of the local forestry planning committees, what can start off as an overwhelming complicated project usually turns into a morning of fun, education, and comradery. Whether they go by the name of a resource council or a TREASURE Forest chapter, local planning committees know that the best way to tackle something such as a regional field day is to divide and conquer. Tasks are distributed among members and work is shared, making everyone's burden less and self-respect more.

This past October 5 in Henry County, the Alabama Natural Resources Council (ANRC), in conjunction with the Henry

County Conservation District, hosted the South Alabama Regional Forestry Field Day. The event was held near Abbeville at the Helene Mosley Memorial Award winning TREASURE Forest and 2017 Regional Outstanding Tree Farm of the Year of Glenn and Scarlett Riley . . . the same Rileys who were just named the 2017 NATIONAL Outstanding Tree Farm of the Year! Nearly 100 guests learned about feral hog control, gopher tortoises, and wildlife management.

The following week on October 12, the ANRC – along with the combined efforts of the Clay County TREASURE Forest Chapter and the Randolph County Forestry Planning Committee – hosted the Regional Forestry Field Day event for North Alabama. The tour was held at the beautiful Helene Mosley Memorial Award winning TREASURE Forest of Ronnie and Brenda Prince near Woodland in Randolph County. Over 110 tour attendees enjoyed learning about longleaf pine/prescribed burning, pre-commercial thinning, soil conservation and water quality relating to forest access roads, and wildlife habitat enhancement. Homemade ice cream put the finishing touches on a wonderful day in the woods.

October 2017 came to a close with the third and final event as the ANRC, working with the veteran Coosa County Forestry Planning Committee, hosted the Central Alabama Forestry Field Day on the Helene Mosley Memorial Award winning TREASURE Forest of Bill and Janet Dark called 'The Pike Place.' Beautiful weather complemented the day as 114 attendees toured the property learning about pine management, forestry insect identification and control, sustainable trail development, and the Coosa County Forestry Planning Committee's 'Adopt-a-School' program.

Fundamental to these field days is the TREASURE Forest Program, an excellent way to teach landowners about multiple use management. TREASURE is an acronym for Timber, Recreation, Environment, and Aesthetics for a Sustained Useable Resource. It is always a special moment when TREASURE Forest certificates are presented at the field days. This year, three TREASURE Forests certifications were awarded at the Central Field Day and one certification at the North Field Day. If you want to know more about the TREASURE Forest Program, contact your local AFC office. 📍

New TREASURE Forest Certifications

Congratulations to the 20 landowners who were recently awarded TREASURE Forest certification. With these new landowners and properties, 6,126 acres were added to the TREASURE Forest program in Alabama. Additionally, 12 landowners received re-certification for 4,292 acres.

Currently, Alabama has 2,120 TREASURE Forests with a total of 1,923,770 acres of forestland being managed under the guidelines of the TREASURE Forest program. 📍

CORRECTION: In the Spring 2017 issue, we incorrectly identified Mr. John Frank Farrow, new TREASURE Forest in Tallapoosa County. We apologize for this error and any inconvenience it may have caused.

NAME	COUNTY
Bennie Adams 'Plum Nellie Family Trust'	Hale
David Allen "Austin Family Investments, LLC"	Bullock
James E. Fleming	Geneva
Dr. Adair Gilbert 'Calumet Plantation'	Houston
Jim & Betty Hardage	Limestone
Governor Kay Ivey	Wilcox
Robert Keen 'Keen Family Farm'	Autauga
Geraldine Y. Lambert	Randolph
Jeremy Lowery	Fayette
Bernice E. Malone	Mobile
Richard McCain	Calhoun
Roger Minton	Pickens
Preston Phillips	Lamar
Mr. & Mrs. Ricky Porch 'The Sissy Farm'	Coosa
David Potts	Perry
Dr. James David Robinson, Jr.	Cherokee
James J. Schrenkel	Jackson
Mr. & Mrs. Ronald Sloan	Lamar
Stephan S. Turnipseed	Montgomery/Bullock

After the Hurricane: Dealing with Damaged Trees

by Zöe Hoyle, Southern Research Station Science Communications,
US Forest Service

Hurricanes bring winds that can exceed 125 miles per hour, heavy rain, and flooding — any or all of which can damage trees. Some damage can be seen immediately, while some damage may not become apparent for years after a hurricane.

On the other hand, what may initially seem like mortal damage — all the leaves blown off, for example — may be just temporary. Leaves saturated with saltwater turn brown and look like they've been burned. If not hazardous, these trees should be monitored for 6 to 12 months before deciding to cut them.

Downed or weakened trees can be hazardous to people, buildings, and power lines. Storm-damaged trees should be assessed for risk as soon as possible after a hurricane or other major storm. Signs that a tree could be a hazard include:

New cracks in the lower trunk or large stems split from the tree;

- Major roots severed or broken;
- Tree partially uprooted;
- Noticeable tree lean in response to the storm;
- Large limbs broken; and
- Most of crown damaged.

If one or more of these conditions are present, consult with a professional arborist as soon as possible. Until the tree damage is addressed, stay clear and keep vehicles and other movable assets out of range.

Some Tips When Hiring a Tree Service

- ◆ Beware of scams — unsolicited offers, bargain deals, and out-of-state companies with offers too good to be true. Use a qualified arborist; unqualified workers could get hurt on your property or cause irreparable damage to trees.
- ◆ Ask for certificates and proof of liability insurance and workers' compensation. Contact the insurance company to confirm that policies are current.
- ◆ Ask for references and check them.
- ◆ Do not use any company that recommends topping.
- ◆ Sign a written agreement before the work. Never pay in advance.
- ◆ Landowners with larger stands of trees will need to develop a plan for salvaging damaged timber. 🏠

Adapted from: Mississippi homeowners guide: working with trees affected by Hurricane Katrina. [Available from Mississippi Forestry Commission \(MFC\).](#)





10 Things Landowners Should Know Before Thinning Their Pine Plantation

This first thin is a combination of a fifth-row thin and removal of the smaller or poorly-formed trees in the remaining four rows.

By Billy Rye, President, Forest Management Specialists, Inc.

According to the Alabama Cooperative Extension System, thinning harvests are cuttings made in immature stands to stimulate the growth of the remaining trees¹. Landowners often implement a thinning to improve the economic rate of return from their planted pines, to improve wildlife habitat, or to protect the health of their pines. The goal of any thinning should be to create more growing space for the superior trees while removing trees that are smaller, poorly formed, damaged, or dying.

Both the Alabama Forestry Commission² and the Alabama Cooperative Extension System³ recommend that forest landowners use a professional forester to coordinate all timber harvests including pine plantation thinnings. Members of the Association of Consulting Foresters are committed to upholding a high level of ethical standards and staying current on issues that affect forest ownership, thus they are always obligated to work with the landowner's best interest in mind by providing unbiased advice and expert options.

The benefits of using a consulting forester include: a) increased prices received for standing timber; b) protection of the landowner's interests in the form of a professional contract; c) retention of a performance deposit; and d) the peace of mind of knowing a competent resource professional is handling the details.

Once a consulting forester has been identified, the landowner should consider the following steps prior to initiation of thinning activities:

1) Understand the stages in the process.

Initial Consultation – The prospective consulting forester performs a visual inspection of the area to be thinned in an attempt to determine the points of access, topography, the quality, and the quantity of timber to be removed. The information gathered will be used to determine if the consulting forester will consent to serving as the landowner's agent during the thinning process.

Consultation Agreement – A written contract or consultation agreement usually follows the initial consultation should the landowner and the consulting forester come to agreement on the terms. This written document specifies the period, terms of service, and fees.

Negotiations with Timber Purchasers – Once an executed consultation agreement is received, the consulting forester will market the thinning to qualified timber purchasers in the area and negotiate the terms of the harvesting. The selected timber purchaser typically conducts a title search prior to closing to ensure that no challenges will be made to their purchase of the timber. Any liens or other claims against the title will need to be resolved prior to the execution of the timber sale contract. The landowner may need a release from the lienholder if there is a mortgage on the property being harvested.

Timber Sale Contract Closing – A written contract with the conditions of the sale will be presented at closing. A good contract will specify a) the seller and timber purchaser; b) location

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10 Things Landowners Should Know Before Thinning Their Pine Plantation

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of the thinning; c) duration of the agreement; d) the prices and methods of payment for the timber harvested; e) the methods of harvest; f) the protection of the property and roads; g) the type of insurance required of the timber purchaser; h) liability clauses; and i) any penalties for non-compliance.



Harvesting – The consulting forester typically inspects the harvesting operation on a regular basis to verify that the timber purchaser’s activities are in compliance with the timber sale contract.

Payment – Most pine thinnings are sold ‘pay-as-cut.’ The landowner is typically paid weekly as the timber is harvested. Payment and settlement sheets are usually provided by the timber purchaser to the consultant and typically cover the period two weeks prior to their receipt. This is due to the payment schedule of area mills to the timber purchaser. The consulting forester typically reviews the ticket summaries, scale tickets, log books, and payments for accuracy. A copy of the ticket summary, payment from the purchaser, and invoice for the consulting forester’s

services are typically submitted to the landowner as settlements are received.

Completion – Upon completion of harvesting, the consulting forester will perform a final compliance check and return any performance bond to the purchaser if the requirements of the contract have been satisfied.

The landowner is typically released from the timber sale contract at this point and is free to use the land and timber in the sale area as he/she pleases.

2) Do your homework.

At a minimum, landowners should make the following preparations before proceeding with a pine thinning:

1. Define the objectives for the thinning.
2. Make sure there is a consensus among all of the owners to proceed with the thinning.
3. Notify the consulting forester of any liens on the timber/property.
4. Discuss the harvest with accountants or estate planners to determine the potential impact on the landowner’s estate/tax planning.
5. Clearly define any no-cut or partial-cut areas, as well as any improvements (buildings, fences, roads, etc.) that need to be protected.
6. Notify hunters or others that may use the property of the upcoming thinning.
7. Notify appropriate government agencies, if cost-share monies were ever received for the stand of pine being thinned.
8. Notify the proper authorities if the stand of pine being thinned is enrolled in a Conservation Easement.
9. Secure access for the timber purchaser, if necessary.

3) Understand the thinning methods available.

First Thin. Most foresters prescribe a combination of thinning methods for a first time thin. Typically, every third or fifth row is removed to permit access for the harvesting equipment. In addition, the smaller, poorer formed, or diseased trees are removed from the remaining rows. Occasionally, some of the well-formed trees are removed to improve spacing of the best trees. A third-row thin will yield more immediate income, at the expense of future income, by removing more of the best trees as compared to the fifth-row thin.

Second Thin. This thinning typically occurs five to eight years after the first thin, depending on soils present and the desired stocking rate. Most foresters prescribe a thin where only the smaller, poorly formed, or diseased trees are removed. Occasionally, some of the well-formed trees are removed to improve spacing of the best trees.

Third Thin. This thinning typically occurs five to eight years after the second thin, depending on soils present and the desired stocking rate. If the pine stand is not clear-cut by this stage, the stand will be thinned in a similar manner as employed in the second thin where the smaller, poorly formed, or diseased trees are removed.

4) Provide closing information.

After acceptance of an offer and prior to closing, the timber purchaser may request the name of the landowners as they appear on the deed as well as a Social Security number or federal identification number. This will be used to report their purchase of the landowner's timber to the IRS (form 1099).

5) Understand the need for a survey.

Most consulting foresters advise that all property lines be surveyed and marked by a licensed surveyor. Well-marked boundaries provide the following advantages: avoiding claims of 'adverse possession,' reducing hunting trespass, and reducing timber trespass. In addition, well-marked boundaries often result in higher prices paid for standing timber and hunting leases. Boundaries marked by those other than a licensed surveyor are often more expensive in the long run.

6) Secure access.

This is only a concern if the landowner's tract or a portion of the tract does not have direct access to a public road. Most consulting foresters will require the timber purchaser to secure his or her own access to the property. However, many landowners have obtained higher prices for their timber by arranging for access with adjoining property owners prior to marketing their timber.

7) Discuss prior condition of roads.

Most consulting foresters specify in the timber sale contract that the timber purchaser will leave all roads in at least as good of condition as the roads were prior to the initiation of harvesting. However, equipment used to harvest and transport wood is extremely heavy; thus, it may be impossible to restore roads to their exact same condition prior to harvesting. Therefore, the timber purchaser will expect the landowner to be reasonable in his/her interpretation of the condition of the roads. ATV trails are usually excluded from the provision to be restored to their prior condition.

8) Avoid visits to the logging site while harvesting is active.

Most consulting foresters advise landowners not to visit the logging site while harvesting equipment is being operated. Should the landowner choose to visit the harvesting site while the equipment is inactive, they should exercise caution as walking and/or driving across logging debris can be hazardous. Stumps, holes, hanging branches, and hung trees are but a few of the hazards that individuals might encounter. Unless there is an emergency, landowners should not provide harvesting instructions to the logger. If there is a potential non-emergency problem, the landowner should contact the consulting forester, who will work with the timber purchaser's agent, to correct the situation in accordance with the timber sale contract.

9) Discuss landings.

The timber harvester will need an area to sort the trees by product and load them onto trucks for transportation to the mill. These areas are known as landings and are typically one-quarter to one-half acre in size. They look like small clear cuts and are normally located near a road capable of supporting a loaded log truck. Sometimes, the timber harvester may need to locate the landing inside the stand being thinned. The number of landings needed to complete the harvesting will vary by site, topography, and

proximity to public roads. Landowners should discuss potential landing locations with their consulting forester prior to marketing the timber for sale.

10) Understand the role of the consultant regarding the mitigation of problems.

Most consulting foresters will make every effort to ensure that the marketing, harvesting, and sale closure proceed as smoothly as possible. Since there are many variables that are beyond the control of the consulting forester, some disruptions and inconveniences to the process should be expected. By preparing a timber sale contract that is written from the landowner's perspective, securing a performance bond, and by monitoring harvesting activities, the forestry consultant will greatly increase the likelihood that the timber sale process will be a success. 🙏



In this second thin, trees that were smaller and poorly-formed were removed. Occasionally, a good tree or two were removed to improve spacing of 'leave' trees.

References

- ¹ *Thinning Pine Stands for Top Returns*. Alabama Cooperative Extension Service. ANR-396, New August 1983. Frank A. Roth II, former forester, Woodland Management Demonstrations.
- ² *Selling Your Timber*. Alabama Forestry Commission.
- ³ *Forestry: When do I need a consulting forester? When planning a timber harvest*. Alabama Cooperative Extension System website: www.aces.edu/natural-resources/forestry/foresters/whendoineed.php



Sustainable Forestry VERSUS Diameter Limit Cutting

*By David Mercker, Ph.D.
Extension Forester, University of Tennessee*

Forest ownership carries an opportunity to practice sustainable forestry. In this sense, *sustainable* means managing the forest in such a way that it provides a continuous output of products and services, without causing lasting harm or affecting forest productivity (Schuler and McGill, 2006). *Diameter limit cutting*, as described here, generally is counter to sustainable forestry.

Diameter Limit Cutting Defined

Diameter limit cutting is the practice of harvesting all merchantable trees above a specified diameter (for instance 16 inches and larger in diameter). This practice is a form of

high-grading. In forestry, “high-grading is the removal of the most commercially valuable trees (high-grade trees), often leaving a residual stand composed of trees of poor condition or species composition” (Helms, 1998).

With diameter limit cutting (DLC), timber diameter is measured either at 4.5 feet above ground level (referred to as ‘diameter at breast height’ or DBH) or at stump height. The diameter is normally selected based on tradition, financial needs, tree species, the cost of harvesting, ease of implementation, and local sawmill demand. In most cases, however, DLC does not remove undesirable species, culls, or poor-grade trees that fall within the specified diameter limit. Nor does DLC harvest the smaller unacceptable trees with diameters below the specified diameter limit.

Such trees have little investment value and should be thinned to promote stand improvement. What DLC does do is sacrifice immature, desirable crop trees before they reach economic maturity – trees, which if allowed to grow, could develop into high-quality, top-value timber desired by the hardwood industry.

Why does DLC Happen? The Pros and Cons

Diameter limit cutting occurs for the following four reasons:

High Initial Revenues – Diameter limit cutting liquidates more timber assets up-front and improves current revenue, but largely neglects future timber sale income. Merchantable hardwood timber broadly falls into three categories, including pulpwood (6 – 11.9 inches DBH), small sawtimber (12-17.9 inches DBH), and large sawtimber (18 or more inches DBH). Market value generally increases as timber size increases, yet DLC often removes small sawtimber. Although small sawtimber can be sold with DLC to increase current income, such timber often is financially immature. If left to grow, particularly if good quality, small sawtimber can gain substantial value as an investment.

Ease of Application – When harvests are in the planning stage and parameters are being set, diameter limit cutting is simple to understand. Cutting specifications and terms are easily settled upon. Landowners and their loggers must agree on the property boundary, size, and species of trees to be harvested, and the price per unit. Once these are set, cutting begins. Professional foresters are normally not involved in planning the timber harvest – i.e., evaluating the stand and its regeneration prospects, prescribing a properly marked harvest, and ensuring that sustainable forestry is being practiced.

Value System – Diameter limit cutting is a common alternative to clearcutting. Timber stands are often in poor condition due to previous mismanagement. In such cases, an accepted practice is to harvest all trees in an effort to regenerate a more desirable stand. This is clearcutting, and for some, clearcutting is undesirable due to ownership values and alternative objectives, such as recreation and aesthetics. Diameter limit cutting often becomes the default to clearcutting in these cases.

Tradition – Diameter limit cutting has endured through time. It is perpetuated with a common misconception that smaller trees left as residuals are younger, and that harvesting the larger (assumed to be older) trees will provide the smaller (assumed to be younger) ones room to grow. In many cases, the smaller trees are the same (or nearly the same) age as their larger counterparts (Clatterbuck, 2004). With each successive diameter limit cut, the ability of a forest to ‘earn its keep’ is diminished. Slow-growing, poor-quality residual trees rarely become future champions.

Forest Management Options Following Diameter Limit Cutting

Landowners and forest practitioners are regularly faced with decisions on how to manage timber stands once ‘the damage has been done,’ i.e., forest stands have undergone DLC (or many occurrences of DLC). Proper forest management is highly dependent upon the availability of acceptable growing stock (AGS) within the stand. Here AGS refers to trees meeting specified objectives of species, quality, vigor, and value. As outlined in *Treatments for Improving Degraded Hardwood Stands*

(Clatterbuck, 2006) http://trace.tennessee.edu/utk_agexfores/26/, two options exist for degraded stands: rehabilitation or regeneration.

Where sufficient acceptable growing stock exists, stands can be *rehabilitated* (improved) via sanitation harvesting, crop tree release, or pre-commercial timber stand improvement. With these practices, undesirable trees are either harvested or deadened in an effort to create adequate growing space for the desirable (AGS) trees. If a market cannot be located for the undesirable trees, they can be deadened by girdling and/or with herbicide treatment. Cost-share assistance is sometimes available from both the state and federal governments to offset investments in deadening undesirable trees.

Alternatively, when the growing stock is so poor that stand continuation is not economically viable (a decision that should involve assessment by a professional forester), stand *regeneration* is the preferred option. Regeneration is the act of starting (or reproducing) a new forest, and can occur in a variety of ways which include clearcutting, patch openings (small clearcuts), shelterwood, or planting. With these techniques, new seedlings are released, invade, or are planted to occupy growing space, eventually becoming a viable stand. Southern hardwood forests are difficult to sustain with continuous partial harvesting. Doing so favors the reproduction of shade-tolerant species, generally viewed as less desirable. Regeneration of many of the more desired species (oaks, tulip poplar) requires that at some point, a heavier, stand initiating harvest is needed – thereby allowing adequate sunlight to reach the forest floor and encourage seedling development.

Closing Remarks

Diameter limit cutting has been practiced for generations, is simple to implement, and can provide favorable short-term financial returns. However, DLC usually leaves a degraded forest. This runs counter to sustainable forestry. With DLC, trees with highest current value are harvested, leaving slow growing and/or poor quality trees behind. Stand growth, yield, and future timber sale incomes are compromised.

This article creates awareness of the problems of DLC with intent to reduce the implementation of this practice. Before a commercial timber harvest is conducted, landowners are advised to first seek assistance from a professional forester. With the forester’s knowledge, a plan can be developed that will not only avoid DLC, but reverse the deleterious effects. ♣

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MAKING A SMOOTH TRANSITION FROM PINE PLANTATION TO BOTTOMLAND HARDWOODS

A PERSONAL ACCOUNT

*By Tim Albritton, State Staff Forester,
USDA Natural Resources Conservation Service*

It's no secret that hardwood prices are equaling or surpassing pine prices these days. Many forest landowners, myself included, have probably asked, "Why should I continue to site prepare, plant, and then fight back the hardwood competition, when in some situations I could allow hardwood timber to grow natural?"

Allow me to harken back to an article I wrote a couple years ago. In it I invited the reader to consider an important question: Is my land classified as one of the three broad groups suitable for hardwoods? I then referenced an article in *Alabama's TREASURED Forests* magazine (Summer 1987), in which AFC



Hardwood Specialist Tom Cambre identified three broad groups: major bottomland sites, minor bottomland sites, and upland hardwood sites. If you can answer 'yes' to this question, then keep moving forward. (see *Alabama's TREASURED Forests* magazine, Spring 2015)

This is still a good question to ask, but if you do not have a viable hardwood site, you had best stick with pine.

Permit me to share some of my own 'unscientific' research on the Tallapoosa River bottomland I have owned for over 20 years. When I first bought the land, like a good forester I planted the old cotton field in loblolly pines. This rich bottomland soil could



have grown a great stand of hardwoods, but since pine was dominating the market in Alabama, I saw no reason in 1995 *not* to plant pines.

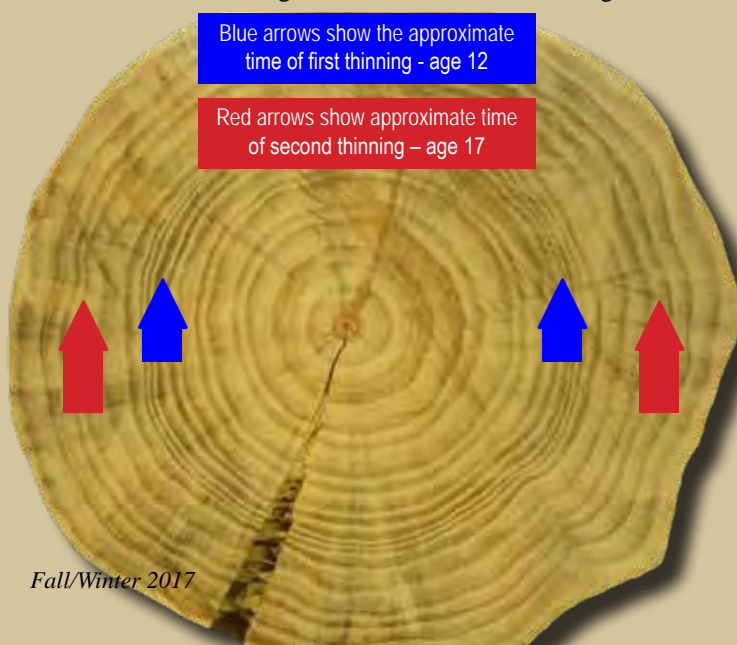
Managing the pine stand as most foresters and forest landowners do, I conducted a prescribed burn as soon as possible, and thinned as soon as it was commercially viable. Then I continued to burn regularly, usually every two years. All of these prescribed burns were in February after deer season ended. I'm a simple man, so I can only focus on one thing at a time.

These management practices proved very successful. However, especially after the first thinning when the timber was at age 12, I began to notice a fair amount of cherrybark oak naturally sprouting and coming into the understory. Knowing this was good bottomland, I continued watching the situation with interest, and the idea began to materialize of one day allowing this site to regenerate to oak.

I continued to conduct a winter burn about every two years, and thinned the stand again when the timber was at age 17.

Blue arrows show the approximate time of first thinning - age 12

Red arrows show approximate time of second thinning - age 17



Thinning heavier than most landowners traditionally do, I wanted the stand to be more open for deer hunting and to allow the residual trees more growth potential. This process worked well as you can see from the 'tree cookie' photo showing growth rings of one of the trees after harvesting. I conducted one last prescribed burn in the winter before the final clearcut harvest was performed the following September.

After giving it a great deal of thought, I decided to proceed with my plan of transitioning the stand from pines to hardwoods. The next spring, I was pleasantly surprised with the amount of oaks – mainly cherrybark oak – that had naturally regenerated.

Recently while reviewing the stand, I was pleased to see that a few of the cherrybark oaks are at least 12 feet tall; some even taller in their third growing season. There are actually other river bottom hardwoods growing (sycamore, water oak, hickory, sweetgum, etc.), but I am delighted with the amount of cherrybark in the composition and that they are doing so well.

I attribute the current success of this stand to the frequent winter burns that kept top-killing the cherrybark oak. The oaks would re-sprout, then a couple of years later be top-killed again, but all the while building a great root system that was primed to take off once the pines were removed.

One more recommendation is that it seems wise to manage the understory of the pine stand with chemicals as well as fire. I would frequently walk through the loblolly pine stand using a chemical treatment method called 'hack & squirt' to treat a few problematic species such as privet, tallow, and chinaberry. These invasive species can take over and dominate a site, preventing the natural hardwoods/oaks from getting a good start. (see "Hack & Squirt: A Poor Man's Way to Improve His Forest" in *Alabama's TREASURED Forests magazine*, Fall 2011)

So far, so good! More about this experiment later – as I make the transition from pine to hardwoods on my river bottomland! 🍷



Aerial photo of the Paint Rock River Valley © The Nature Conservancy

Working Woodlands: A Forest Conservation Model from The Nature Conservancy

Contributed by The Nature Conservancy in Alabama

With uncertainty in traditional timber markets and a trend toward lower sawtimber prices, some landowners are looking for ways to continue good forest management while ensuring long-term protection of their forest. The Nature Conservancy's 'Working Woodlands' program has taken these challenges head on.

What is *Working Woodlands*? Working Woodlands is a forest conservation program initiated in the Appalachian Mountains that seeks to implement science-based, verifiable forest management activities while taking advantage of a growing voluntary carbon market to protect private forests. But before getting too deep into Working Woodlands, let's explore what exactly is forest carbon?

Forest Carbon

Forest carbon is carbon that has been removed from the atmosphere through photosynthesis – the method by which trees absorb carbon dioxide and sunlight to produce energy. Trees pull carbon dioxide from the atmosphere and store it for long periods of time as wood. This process can counteract increased amounts of carbon dioxide occurring in Earth's atmosphere.

So how can a natural process – that is going to occur with or without human intervention – be marketed? Well, carbon markets have developed around what are called 'offsets,' or the removal of carbon dioxide from the atmosphere to compensate for carbon dioxide emissions occurring elsewhere. Currently, there is no regulatory framework requiring U.S. forest carbon conservation or mitigation. Most carbon offset projects have been implemented voluntarily by project developers, and carbon buyers have purchased offsets on a voluntary basis, seeking in

many cases to enhance their sustainability record.

Now, how does the carbon market advance forest conservation? While there are many types of carbon sequestration projects, Improved Forest Management (IFM) projects are one way to capture and hold carbon for a long period while compensating landowners for making the long-term commitment of 'keeping their forest a forest.' IFM projects focus on 'improvement' from a carbon standpoint. They are *improved* in that they capture more carbon than the typical forest in the area, thus addressing the *additionality* requirement. The good thing is that IFM projects are compatible with good forest management. Periodic timber harvesting can continue, wildlife management programs can continue, and private landowners can ensure permanent protection of their land. Improved forest management is the typical approach utilized in the Working Woodlands program.

Carbon in Alabama

Clean water and air, sustainable fiber and lumber, excellent wildlife habitat, endless recreational opportunities, and aesthetic appeal are all forest values Alabamians have treasured for generations. Capturing and holding carbon is yet another role of Alabama's forests, and one that can provide meaningful economic benefit to private landowners.

There are many factors influencing the ability of a landscape to sequester carbon, such as existing forest cover and past land use, and each project is unique. While the Working Woodlands program has focused on hardwood forests in the Appalachians, we can estimate relative sequestration capacity by forest types in Alabama with some level of certainty. The open pine forests of the Lower Coastal Plain that were

once dominated by vast, fire-maintained longleaf pine forests are now increasingly managed as well-stocked working forests. If we consider the 'additionality' concept of carbon accounting, it would be difficult to do more than common practice in this setting. However, there may be significant opportunities in other forest types across Alabama, for example, the upland hardwood forests of the Ridge and Valley at the tail end of the Appalachians (northeast Alabama), or our extensive bottomland hardwood forests within the Mobile River Basin.

Considering the values we are accustomed to receiving from the forests and a changing landscape of traditional management regimes, are there other ways we can continue good forest management in Alabama while ensuring long-term protection of our forests? Would a Working Woodlands program work in Alabama? We think carbon projects can be part of the answer and encourage landowners to research and stay well-informed in a changing market.

The Nature Conservancy

The Nature Conservancy is a 501c3 non-profit conservation organization working in all 50 states and around the globe. Our conservation goals focus on protecting biodiversity, native habitats, and resources for the benefit of people. In Alabama, The Nature Conservancy helps conserve and manage the most biodiverse state east of the Mississippi River. ♣





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Alabama Forestry Commission | PO Box 302550 | Montgomery, AL 36130

WHITE-TAILED DEER

Movement and Mortality Rates



Results from an Auburn University Study, Compiled by Ray Metzler, AFC Wildlife Biologist

It occurs in the forests every fall . . . slightly less than 200,000 hunters spend over 4 million man-days pursuing Alabama's white-tailed deer annually. Changes to hunting regulations and widely utilized self-imposed club harvest restrictions during the past decade have influenced survival rates and movements of white-tailed deer. These regula-

tion changes and self-imposed harvest restrictions are a few reasons why many hunters now spend a great deal of time and money trying to learn as much as possible about survival, movements, and whereabouts of deer on their property. The Auburn University School of Forestry and Wildlife Science, with financial assistance from the Division of Wildlife and

Freshwater Fisheries, the Westervelt Company, and three individuals recently finished a two-year survival and movement study in four areas. Two were conducted in public wildlife management areas (WMAs) – Barbour and Oakmulgee; two on private land, in Marengo and Pickens counties.

(Continued on page 20)



Deer were captured using a sedative injected intramuscularly by dart gun, tagged and fitted with a transmitter, then released.

White-Tail Deer: Movement and Mortality Rate
(Continued from page 19)

Adult male and female deer were captured using a sedative injected intramuscularly with the use of a dart and dart gun. Each captured deer was fitted with ear tags and either an orange or brown collar containing a transmitter that allowed the researchers to locate the animal. Orange collars contained GPS units that determined locations at given intervals. Hunters on and around the four study sites were requested not to shoot deer with orange collars, so the maximum amount of movement data could be obtained. Brown collars had a mortality sensor that activated after eight hours of inactivity. The sample of deer wearing brown collars was used to determine age- and sex-specific mortality rates.

Mortality

A total of 79 individual deer comprised the sample used to investigate causes of mortality. Of the 30 mortalities documented throughout the study, 23 were hunting related. Natural mortality was relatively low and accounted for only five of the observed deaths. Post-breeding exhaustion (one), hemorrhagic disease (one), and three natural mortalities of unknown causes made up the identifiable natural mortalities. Two of the 30 mortalities could not be categorized as either natural or hunting related.

Right: Use of a receiver and directional antenna facilitates in locating tagged deer.

Adult males experienced lower survival rates than females, and mature deer (3.5 years of age or older) had lower survival than immature deer (less than 3.5 years of age). The data support the thought that hunters select for older age class deer, regardless of gender. The annual survival (32 percent) of mature males was lower than reported in other studies conducted throughout the Southeast. Harvest rates for both males and females were similar when comparing public land and privately-owned study areas. No mortality was attributed to deer-vehicle collisions. This anomaly may be attributed to the rural nature of the study areas as it is apparent that Alabama's white-tailed deer do experience some mortality due to vehicular collisions, especially in more urban areas where there are more vehicles.

The study results suggest that natural mortality plays a small role in limiting the adult portion of Alabama's white-tailed deer population. Fawns were not targeted for collaring in this study, although results may have varied if fawns had been collared. Hunters often call coyotes the scourge of the earth, voicing their belief that they are a serious predator of white-tailed deer. Coyotes have been the focus of several recent studies and population control efforts by hunters and managers. Some previous studies support the belief that coyotes can negatively impact fawn recruitment and limit population growth, especially when coupled with high hunter harvest of female deer. Hunters and managers should monitor fawn recruitment and harvest rates on their hunting property to maintain a stable, healthy population of white-tailed deer.

Movement

A total of 33 deer comprised the sample used to evaluate movement and displacement of deer in this study. Man-days of hunting was greatest on weekends for both public and private lands. Nocturnal movement [occurring in the night] was consistently greater than diurnal movement [occurring in the daytime] through-



This map demonstrates a doe's 4-5 mile excursion (EHRM) away from and return to her home range during a 20-hour period.



ing to increased activity during that magical time of year ('the rut') for Alabama deer hunters.

On average, female EHRMs extended 805 meters farther than male EHRMs. However, males took 1.6 times more EHRMs than females. The furthest EHRM was 12,276 meters undertaken by a one-year-old male over an 84-hour period before returning to its home range. This excursion was characterized by nearly continuous movement. Average duration of EHRMs was 15.8 hours. The one-hour period before or after sunrise was the period in which the highest percentage of EHRMs began. Researchers suggest that EHRMs are typically brief in nature because deer recognize the point at which the danger of continuing appears to outweigh any remaining potential benefits. They therefore return to their home range within a matter of days. Juvenile males in this study exhibited dispersal activities that were preceded by EHRMs to their final home range sites.

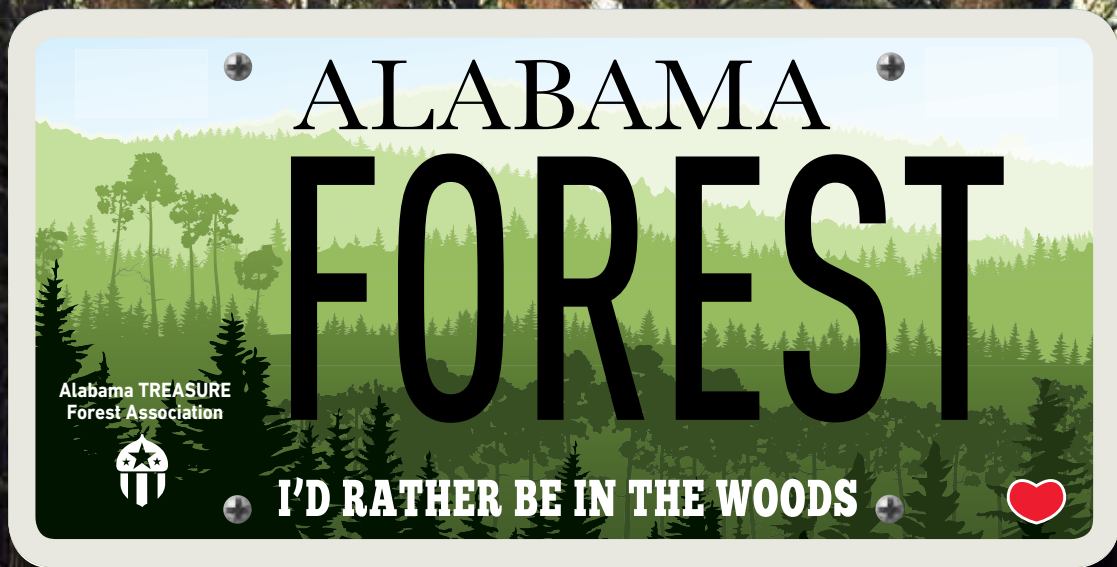
Data from the study highlights the importance of hunters minimizing their movements and approaching hunting areas from downwind. It is important for hunters to be as 'invisible' in the woods as possible throughout the year, but especially during the hunting season.

out the study for both bucks and does. Daytime movement of deer decreased significantly when comparing Friday to Sunday but increased to normal levels again by Wednesday. Differences in daytime movement of mature and immature female deer was not discernible in this study. However, the movement rate of mature males was 10 percent less during daytime hours than immature males and net displacement was 31 percent less. Total distance moved during diurnal hours decreased by approximately 28 percent from Saturday to Sunday. Decreases in movement rate and net displacement support most deer hunter's beliefs that 'pressured deer' become more 'nocturnal' and tend to hang out more in a core area where they feel secure.

Bucks were more likely to undertake an excursion or extra home range movement (EHRM) than does. The greatest number of EHRMs for males was 26 EHRMs over 387 days for a yearling male, and 27 EHRMs over 455 days for an adult male. The 30-day period prior to mean conception date for each study area was the period in which EHRMs were most prevalent. This indicates that the search for receptive mates is a driving factor lead-

Use of game cameras has become quite common for many hunters to monitor local deer populations and antler development throughout the year. Periodically, a deer shows up on camera that was never seen before and may only be seen in pictures for a day or two. These studies seem to support a notion that these random camera sightings could possibly be the result of an excursion or EHRM. The results also point out the need to always be ready during the hunting season because that 'buck of a lifetime' may show up unexpectedly and never be seen again if you aren't prepared to shoot! 🦌

Editor's Note: The information for this article was obtained from the theses of Kevyn Wiskirchen and Todd Jacobsen, both former students of Dr. Stephen S. Ditchkoff, William R. & Fay Ireland Distinguished Professor, Auburn University School of Forestry and Wildlife Sciences. Each thesis is available electronically for downloading from the following website: <https://etd.auburn.edu/>.



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Acorns: Autumn's Bounty . . . Price's Processing Steps

By Cathy Price, Coosa County

In my readings about processing acorns, the only thing everyone agrees on is that there are many different ways to process acorns, all having good results! I have had so much fun reading other people's accounts of processing acorns and learning about their methods. The following steps relate how my husband and I have successfully processed our acorns.

The first step is to pick up acorns. The type of acorn is your choice, but do not mix types of acorns: white oaks only in one batch . . . red oaks only in another batch. You can process any kind of acorn, but each type has a different amount of tannic acid in it and will take a different amount of soak time. I've read that white oaks in different areas have different amounts of bitterness in them, so I suggest you don't mix nuts from different areas. I've picked up acorns in a 20-acre area and mixed them with no problems.

After picking up the acorns you need to grade them. The first year you pick up acorns under an oak tree, there may be many nuts with holes in them from bugs, and old nuts from previous years. You will probably have to throw away many of them, but next year will be better. Nuts are a process, not a quick thing. Many people suggest you put the nuts in a bucket of water; if they float, throw them out. I've done that, then tested the 'bad' nuts but didn't find anything wrong with them. It's up to you.

You can start cracking the nuts when you feel as if you have enough to work with. You don't have to make a lot of meal to begin with. When cracking fresh acorns, put the nut 'meats' in

water to keep them from turning brown. Brown isn't bad necessarily, it just means the nut has dried out. Dried nuts are very hard and more difficult to crush into meal. Sometimes, half of the nut looks good and the other half does not. Keep the good half. We keep a paring knife beside us to cut off the bad places. We also keep the bowl of nut meats in the refrigerator after they are shelled until we have enough to grind and leach out.

If you want to crack and process the acorns later, they should be laid out to dry a few days before you put them in a cloth bag or basket to save. If it is a while before you get back to the nuts, they may be dark brown when you crack them. Simply re-hydrate, and they will lighten back up to nearly their original color.

Leaching is the process of soaking out the tannic acid from the nut meats. We put about one cup nuts with one and one-half cups water in a blender and coarse-grind them for several seconds, then change to a fine-grind. Use your judgement if you want more or less water. I think it is easier on my blender this way and you are going to soak the ground nuts anyway. Choose a container that you can manage well when full, because you will need to pour off the water and refill it daily. The nut mixture should stay cool while leaching, so it is best if the container fits in a refrigerator. I keep mine in a refrigerator, but you may have another cool place in your home. Wide-mouth quart jars work well or sturdy plastic

*[Nuts are a process,
not a quick thing.]*

(Continued on page 24)



Acorns: Autumn's Bounty . . . Price's Processing Steps (Continued from page 23)

containers. I like a top on my container for security while moving it around but it's not necessary.

Only fill about one-third to one-half of the container with the ground nut and water mixture, then fill the rest with water. I just use tap water. Be sure to mix the fresh water with the meal. Change the water daily by carefully pouring off the top half of the water. (If you miss a day it's okay, it just takes a day longer to be ready.) The water will turn brown as it soaks out the tannin. The meal settles to the bottom, so you can easily see a line between it and the water. Just be careful and don't shake the container before you pour off the water.

It normally takes two to three weeks to process the nuts; I have had some that took as many as five weeks. You test by tasting a small amount after two weeks, or when the water is clear for a couple of days. If it's not bitter, you're done. If it's still bitter, keep soaking for a few more days.

When the leaching is finished, you must dry the meal. Pour off the water for the last time; spread the wet nut meal on a cloth; then let it dry slowly, or spread in thin layers in a dehydrator. I find it much easier to line wire racks with parchment paper that you can get at a grocery store, or make your own 'reusable' ones out of old sheets. (Make a pattern of your dryer rack, cut out several liners, then use Fray Check around the edges.) When using cloths or liners, you can easily pick them up and put them in a bowl to dust off the meal. The meal will be clumpy, but it breaks up easily with stirring, or put it in a storage bag and kneed it for a short time. I keep mine in freezer bags in the freezer until I need it.

Two books on acorns I have enjoyed include *It Will Live Forever: Traditional Yosemite Indian Acorn Preparation* by Beverly R. Ortiz, as told by Julia F. Parker; and *Acorns and Eat'em: A How-To Vegetarian Cookbook* by Suellen Ocean. 🍄

Acorn Poundcake

Blend together

½ cup cooking oil

½ cup honey

½ cup acorn meal

½ cup sugar (or 1 cup sugar if not using honey)

2 eggs

Sift together

1¼ cup flour

½ tsp cream of tartar

⅛ tsp salt

Stir the sifted mixture into the first mixture alternately with ¼ cup milk

Add

½ tsp vanilla


¼ tsp pumpkin pie spice

Beat well (up to five minutes to make it lighter).

Pour into oiled and floured pan (8" round is recommended).

Bake at 350 degrees until done (about 50 minutes).

This recipe was developed by Tommy Patterson of Lauderdale County, Alabama, and printed in an article called "the Shoals Chef" by Pamela Morse.



Just What the Doctor Ordered . . .

PRESCRIBED FIRE

HELPS WILDLIFE

By Barry Baird, Wildlife Biologist, Alabama Division of Wildlife & Freshwater Fisheries

The use of prescribed fire is a major tool in wildlife management used by natural resource professionals in Alabama and throughout the Southeast. The concept of prescribed fire management is pretty simple. It is a fire that is planned, or 'prescribed,' for application on a certain area, at a given time of year, and under predetermined environmental conditions such as wind direction and speed, humidity, and fuel moisture. These parameters are used to obtain a predetermined result. Despite its growing popularity, prescribed fire is often misunderstood.

Throughout history, fires, especially unplanned or 'wildfires,' have resulted in

destruction of human property and the loss of life. Because of this, the term 'fire' is often associated with a negative consequence. This perception is most often the result of a lack of understanding regarding the vital role of fire in native landscapes.

The key term to focus on in the phrase 'prescribed fire' is prescribed. Prescribed fire, like a medical prescription, has a desired outcome and guidelines or a set of directions for application. To obtain the desired outcome there must be a specific, detailed plan, or 'prescription,' followed by the proper execution.

Fire affects wildlife by altering the animals' habitat. Cool-season (sometimes referred to as dormant-season) burns are

typically conducted between the months of December and April. Environmental conditions of a cool-season burn usually have a temperature of 70 degrees Fahrenheit or lower combined with minimal new vegetation growth. This type of burn is often used to reduce heavy fuel loads or in areas with dense overhead canopies. It produces lower overall temperatures, which limits potential damage to over-story vegetation, decreases levels of forest litter, and helps diminish the intensity of a wildfire should one occur. Cool-season prescribed fires also stimulate the growth of forbs, legumes, native grasses, and the re-sprouting of small trees, woody vines, and shrubs – all of which benefit wildlife.

(Continued on page 26)



Just What the Doctor Ordered . . . PRESCRIBED FIRE HELPS WILDLIFE

(Continued from page 25)

Warm-season (or growing-season) burns are applied from early spring to late summer. Typical environmental conditions of a warm-season burn are temperatures in the mid 70s or higher, moderately-to-exceptionally damp soil, and active vegetation growth. This type of burn is used to control woody brush, stimulate the growth of native grasses, and open up the midstory and understory to sunlight. Increased sunlight will provide a diverse understory of high quality browse and cover to benefit wildlife.

Each type of prescribed burn has its own set of specific guidelines and outcomes determined by individual circumstances. Wildlife, including white-tailed deer, wild turkey, bobwhite quail, select song birds, small mammals, reptiles, and even amphibians can all benefit from appropriately applied prescribed fire. Many wildlife species will immediately utilize the freshly-burned bare areas as a place to forage for insects or to pick up newly-exposed seeds and nuts. Fires release nutrients into the soil, which stimulates the growth of quality native plants. As this vegetation develops, different animals will utilize the area for nesting cover, protection from predators and weather, and for forage or travel corridors.

The use of prescribed fire can be very beneficial to wildlife. It is cost effective, and with a little training and a properly followed plan, it is relatively easy to apply. Prescribed fires can benefit wildlife habitat on a larger scale more economically and quicker than most other habitat enhancements. More acres are managed for the benefit of wildlife as a result of prescribed fire than any other type of management throughout the Southeast.

Before you conduct a prescribed fire, many considerations should be made. A prescribed burn manager's certification is recommended to ensure liability protection. A training program is offered by the Alabama Forestry Commission that consists of fire behavior and burn manager courses. These classes will provide the information required to develop a burn plan. A plan should consist of specific goals, safety precautions, optimum environmental conditions, assistance, materials, cost, etc. Private companies and the Alabama Forestry Commission also conduct prescribed burning for landowners for a fee.

If you decide to pursue prescribed fire management, contact your local natural resource professionals such as the Alabama Division of Wildlife and Freshwater Fisheries, the Natural Resources Conservation Service, or the Alabama Forestry Commission for more information. 🏠



A Different Kind of Thanksgiving

By John Goff

Director, Forest Protection Division, Alabama Forestry Commission

As Thanksgiving Day was approaching this year, I actually had time to reflect on a few things. Compared to this time last year, we at the Alabama Forestry Commission truly had a lot for which to be thankful. Because of the state-wide drought in 2016, we were experiencing one of the worst fall fire seasons we had seen in 10 years! Wildfire behaviors were witnessed that only the agency's 'old timers' had ever seen . . . re-burns (when a wildfire burns through a stand and the resulting needle cast falls on the forest floor; then the stand 're-burns' escaping containment), crown fires (when the tree canopy, rather than ground litter, is the carrier of the fire), as well as fires spotting a quarter mile in front of the flaming front, igniting yet another fire with which to contend, creating a very dangerous situation. Yes, all of these situations were occurring here in Alabama, not California!

It all started in mid-September and culminated on November 28, with 2,198 fires that burned 29,533 acres during that two-and-

a-half-month period. November 28, 2016, will be remembered in history as the day that wildfires raged through Gatlinburg, with 14 lives lost as a result of that tragedy. On that same day – November 28, 2016 – wildland firefighters with the Alabama Forestry Commission had their hands full as well, responding to 106 wildfires that burned 3,201 acres.

There were several significant events that happened last fall worthy of pointing out:

- There were 36 'named' wildfires (over 100 acres) including the Cyclops Fire (1,308 acres) and the Lookout Mountain Fire (2,096 acres)!
- To cover the shortage of wildland firefighters in the northern part of the state, the AFC shifted personnel resources from the southern area of the state. A total of 28 employees served these one-week 'tours of duty' away from their homes and families.

***Fall 2016: 2,198 wildfires
burned 29,533 acres***

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From a historical standpoint, in the past 10 years at least, Alabama has not experienced a two-and-a-half month ‘consecutive’ period with the number of fire occurrences or acres burned as we saw during September through November of 2016. No other two-and-a-half-month stretch even comes close . . . 75 days with no breaks! The main point to make is that we experienced no significant injuries. Our guys and gals spent many long hours in the woods and on the roads, remaining safe through all the wildfires. That says a lot about our employees and the quality of work they perform when protecting your forests.

The number of wildfires that the AFC controlled last fall was also unprecedented for the number of wildland firefighters we had on staff, 156. Currently our staffing numbers have fallen even further to 137, setting the stage for a shortfall of resources when, not if, we have another fall fire season such as last year.

From the public standpoint, all the wildfires were handled last fall with minimal property loss and no fatalities. However, it was a huge ordeal for the AFC to accomplish. Some might say, “The Alabama Forestry Commission handled it, so they must be okay from a funding and personnel standpoint.” Right? Well, no. With declining budgets, we have neither adequate staff nor equipment to do our jobs safely and efficiently. Alabama ranks third in the nation for most timber (second, east of the Mississippi River, behind Georgia). Yet this agency – which is mandated to protect those very valuable resources that bring in over \$10 billion in revenue to the state every year – is one of the most underfunded forestry agencies in the Southeast.

Compared to the same time frame as last year’s fall fire outbreak, the 2017 fall fire season has been a walk in the park with only 83 wildfires burning 470 acres. On Thanksgiving Day alone last year, the AFC responded to 22 wildfires for 456 acres. That means that approximately 50 AFC wildland firefighters were away from their families for at least some, if not all, of Thanksgiving Day in 2016.

In 2006, I had to leave our Thanksgiving Day festivities early to respond to a wildfire in Clay County where I was working at the time. There was no way we could have known that day, but it ended up being the last time I saw my Dad, who passed away a week later. Our employees sacrifice a lot of family time; it comes with the job, but it is not recognized nearly enough. We understand those sacrifices here inside the agency, but I’m not sure it ever gets voiced outside the agency. Maybe now you will have a better understanding of what an AFC firefighter has sacrificed when they show up to contain a wildfire after hours or on the weekend (be it Thanksgiving, Christmas, a kid’s birthday, ballgame, or a wedding anniversary).

As you sit down to dinner this Holiday Season with your families, you can rest assured if it’s a pretty fall or winter day outside, there is a wildfire somewhere in the state, and an Alabama Forestry Commission wildland firefighter is there. 🙏

A Different Kind of Thanksgiving

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- A total of 16 equipment resources (dozers and wildland fire engines) were relocated from south Alabama to north Alabama.
- The AFC partnered with several other agencies who assisted in wildfire suppression on a much higher level than normal, which was crucial to getting the job done due to our reduced staffing. Those partners included the U.S. Forest Service, Alabama Law Enforcement Agency (ALEA), Alabama National Guard, countless volunteer fire departments, the Georgia Forestry Commission, Alabama A&M ‘Fire Dawgs,’ Westervelt, Warrior Tractor, state and county EMAs, as well as countless media outlets.
- Additionally, the AFC coordinated with the Alabama National Guard, ALEA, and the National Forests of Alabama for air support. There was even a fire-retardant drop in Alabama, the first one ever!
- The AFC spent just over \$2 million to contain the 2016 fall wildfires.



Sweet Rewards of Cooking Cane Syrup

*By P. Bayne Moore, Registered Forester & Work Unit Manager,
Alabama Forestry Commission*

Growing up, everyone in my family had a garden — from my parents, to grandmother, to aunts and uncles. The whole family would work in these huge gardens, and at the edge of my family’s stood a sugarcane patch. The hard work paid off when we had home-raised food in our pantry, but the payoff for tending sugarcane was always a little sweeter.

The payoff? Cutting, peeling, and chunking the stalk, then chewing juice out of the pulp. When my son, Malcolm, was 3 or 4 years old, he had his first taste of this sweet nectar. My father, as always, was peeling a stalk to give his helpers. When it was Malcolm’s turn, he chewed the cane and loved it. But he missed the final and most crucial step — to spit out the chewed pulp. As sweet as the juice is, the pulp is just like swallowing cardboard or wood pulp. Lesson learned.

Throughout the years, the patch slowly got smaller and smaller as my father got older. If it was a bad

year and the cane stubble (or root where the cane was harvested) died from drought or cold weather, my father would search till he found a friend or stranger who could give him some stalks. Sometimes he

purchased them, but most of the time the supplier would say, “Take what you need. If and when I need some for planting, I will call.” And when they called, he would always help them out, even if it meant all his stalks went to a neighbor instead of the cane press.

As a child, I always wondered why my father never failed to have a sugarcane patch. It wasn’t until years later that he told me a wealthy landowner had moved his maternal grandfather to Octagon, Alabama, because he was the best sugarcane cooker around. For the last 63 years of his life, my father grew cane to honor the memory of his ancestors.

Sugarcane was brought to the U.S. by way of the West Indies around 1741. The South, mostly Louisiana, became home to sugarcane, which has many varieties and hybrids and is used to make syrup, white sugar, brown sugar, ethanol, and rum. In times past, families made syrup on the farm to eat and use as a sweetener. Although the

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Photo by Marlee Moore



Sweet Rewards of Cooking Cane Syrup

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years have rolled by and large-scale farming has evolved, small-time sugarcane production and syrup-making are similar to the techniques our ancestors used over 100 years ago.

Sugarcane is planted by laying and covering cane stalks in a deep furrow. Cane can be planted in fall after harvest, or banked out (laid in a pile and covered with hay to keep from freezing) and planted in spring before the nodes sprout and break through the soil. I've always had better luck planting in late fall.

The cane is harvested in late fall before the first big frost, which would make the juice bitter. Cane stubble will sprout year after year, as long as the stubble doesn't freeze. At some point, the sprouts will slack off, which means it's time to replant.

To start the cooking process, stalks are hauled to a cane roller mill where the juice is squeezed out.

The next step is evaporating the water to make syrup, either by batch or continuous cooking. 'Batch' cooking starts with a certain amount of juice, 10 to 50 gallons, depending on the size of the pot or kettle. The water is evaporated till the juice makes syrup.

On the other hand, continuous cooking uses an evaporator pan, roughly 8 feet long by 4 feet wide by 8 inches tall, with panels sectioning the pan off like a maze. Juice comes in one end, and as it heats, the juice is transformed to syrup by the time it gets to the other end of the maze. One gallon of juice will yield approximately three-quarters to one pint of syrup.

There are several critical steps that must be performed when cooking, or the finished product will be subpar. First the trash (chlorophyll, dirt, and wax) must be removed. Some screening takes place during squeezing, but most trash is skimmed off the top with a hand skimmer before boiling. The remainder is removed as it slowly rises to the top as the water evaporates.

Knowing when the juice has become syrup might be the most critical — and most difficult — step. Old timers dip a ladle in the liquid, and depending on how it forms and runs off, they know when the syrup is ready. Others use thermometers and know 225° F is the ideal temperature for syrup.

The hot syrup is strained through cheesecloth, poured in mason jars or plastic jugs, and sealed. Then it's ready to coat biscuits, sweeten pies, and remind you of a simpler, sweeter time. ☺



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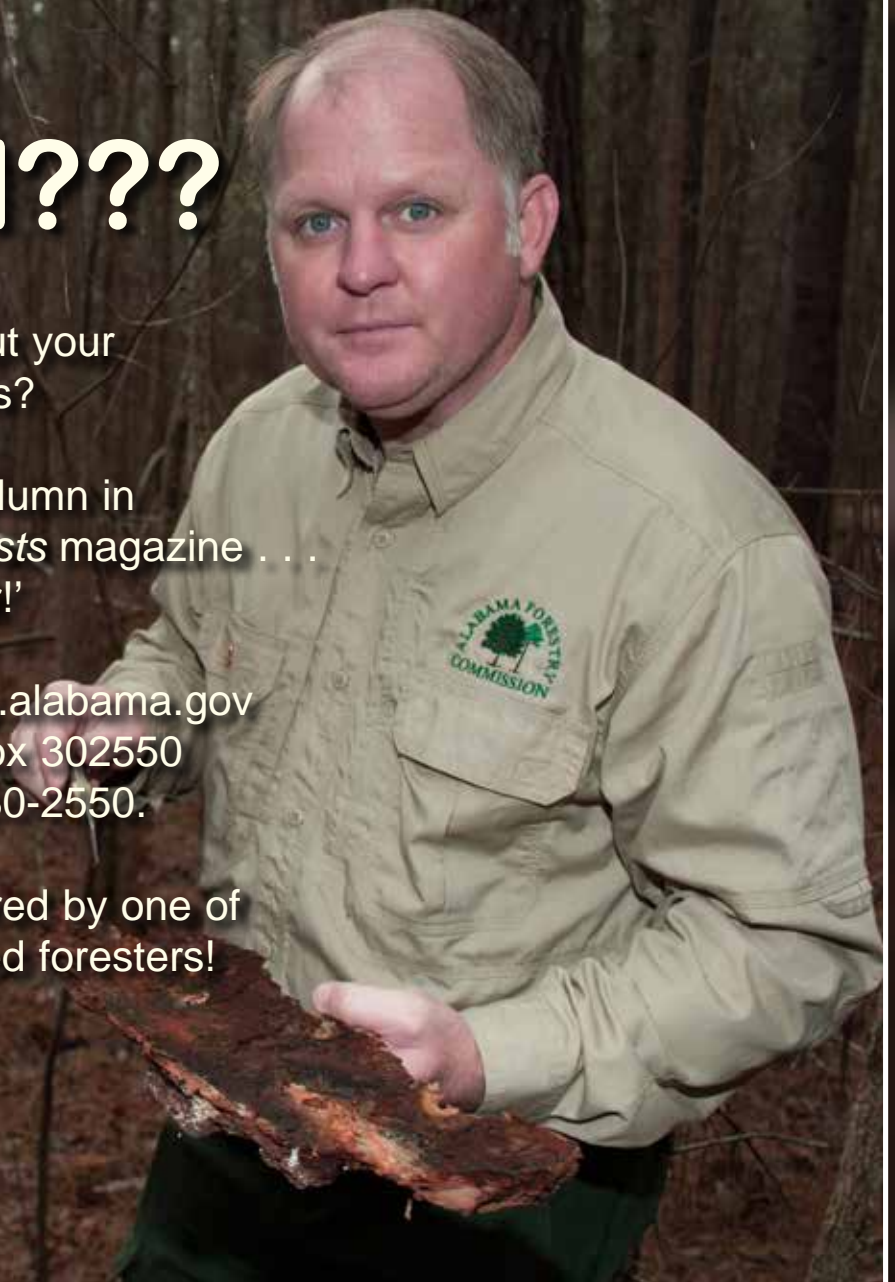
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The Acorn – A Little Nut with Many Uses

*By Daniel Goggans, Colbert County Forestry Specialist, Alabama Forestry Commission
and Carley Andrews*

Over 2,000 years ago, acorns were first recorded as being food by the Greeks. The Cherokee, Pima, and Apache used the nuts in their diets as much as corn. They are a good source of carbohydrates, protein, six vitamins, eight minerals, and 18 amino acids. Having less fat than most nuts, one handful of acorns is equivalent in nutrition to one pound of hamburger (Atkins). Acorns also have a low sugar content, so they can help control blood sugar.

Gather acorns from September to October as soon as they have fallen off the tree. They can be dried at room temperature on a rack. If they are greener, this process may take two to four weeks. You can also dry them in the sun to speed up the process, or in an oven. Acorns remain edible for about six months of storage (Atkins).

For baking purposes, acorns can be ground into meal and used instead of flour, using only one quarter the amount of acorn meal as you would use of flour. Although a few acorns have a sweet nutty aftertaste, tannins in their content can make others taste bitter. This bitterness can be removed by soaking in water several times until the water stops turning brown.

Acorn tea can also serve as a replacement for coffee. For this purpose, some of the tannins can be leached from the acorns by pouring boiling water over them, then roasting in the oven until they are dark and dry in the shell. After they are roasted, [peel

and] crack a handful of acorns, then boil them in about three cups of water for 20-40 minutes until the water is dark, muddy brown (Atkins).

Acorns have antiviral and antiseptic properties and have traditionally been used to wash the skin in the event of rashes, burns, or scratches, and also as a gargle for sore throat. Some people use acorns externally to treat poison ivy. One method is to freeze an acorn decoction in ice trays so that you can rub the cubes on the poison ivy blisters. The ice helps soothe the inflamed tissue, while the acorns help reduce itching and burning. It has been reported that 95 percent of the people that try this method cured their poison ivy in three days (Atkins).

Because acorn is such an astringent herb, it can be used internally and externally for a number of ailments (Christopher). Native Americans used the nuts as a staple in the diet of people with degenerative, wasting diseases such as tuberculosis.

In addition to health benefits, the astringent nature of acorns has yet another purpose. The brown tannin water left after steeping or boiling can be used as laundry detergent by putting two cups in a load of clothes. However, this water shouldn't be used with white or lighter clothes because they will become tinted. In fact, this brown water was sometimes used to tan animal hides, which is where the word 'tanning' originated. ♣



Paul Wray, Iowa State University, Bugwood.org