

Alabama's TREASURED Forests

A Publication of the Alabama Forestry Commission

Summer 2011

Message from the STATE FORESTER

On the heels of the devastation caused by the tornados this past April, a good portion of our state is in the process of rebuilding, restoring, even re-establishing roots in some cases. In this issue of *Alabama's TREASURED Forests*, we're highlighting recovery efforts and how the planting of trees can bring beauty, healing, and hope following such a horrific event.

It seems rather ironic that at this particular time I should bring an issue to your attention that could result in significant increases in your reforestation costs. As State Forester and in keeping with the mission of the Alabama Forestry Commission, I need to make landowners, forestry service providers, forest industry, and other forest-land stakeholders aware of certain upcoming U.S. Department of Labor rules that will impact the ability of landowners and others to cost-effectively reforest their property.

The Department of Labor's regulations change the methodology for calculating the prevailing wages paid H-2B "guest workers" and will result in reforestation cost increases of between 26 to 104 percent in Alabama.



	Old Rate		New Rate Lowest	% Increase		New Rate Highest	% Increase
Alabama	\$10.40	to	\$13.06	26%	to	\$21.16	104%
Arkansas	\$10.16	to	\$13.08	23%	to	\$16.32	61%
Louisiana	\$9.60	to	\$16.31	70%	to	\$16.31	70%
Mississippi	\$9.52	to	\$14.46	52%	to	\$17.66	86%
North Carolina	\$7.63	to	\$16.38	123%	to	\$16.96	129%
South Carolina	\$9.24	to	\$11.96	29%	to	----	----
Tennessee	\$9.85	to	\$10.42	6%	to	\$12.09	23%
Texas	\$9.90	to	\$12.64	28%	to	\$13.54	37%

Increases of this magnitude could not only result in landowners postponing reforestation due to unanticipated cost increases, but forestry service providers going out of business as well. The effective date for these wage increases will be October 1, 2011. Additionally, the Department of Labor is in the process of revising other H-2B Visa Program Rules which could even further reduce the number of viable forestry service providers.

For further information or to see an example of a letter you can send to your members of Congress regarding this issue, please visit the Alabama Forestry Commission's web page at www.forestry.alabama.gov.

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On the Cover:

The clear waters of Talladega National Forest . . . in Alabama, eight communities rely on national forests as a water source. Thanks to the 1911 "Weeks Act," the National Forests encompass approximately 668,000 acres of public lands in the state, divided into four separate forests: the Bankhead, Conecuh, Talladega, and Tuskegee. Read more about **The Centennial Celebration of the Weeks Act** beginning on page 16.

*Photo courtesy of
National Forests in Alabama*

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A Labor & Love

*By Elishia Ballentine
Editor*

Often, life seems to be moving along smoothly in one direction, when suddenly . . . an event happens providing the catalyst to push it in another direction.

Such was the case with the Besh family of Sumter County. Looking back, Marilyn said she and husband John had always loved trees, but neither ever dreamed that timber would one day be the heart of their Alabama farm rather than beef cattle. Nor did they envision that their tree farm would not only become a TREASURE Forest, but also be named one of the prestigious Helene Mosley Memorial Award winners for stewardship in 2006.

Cattle farming was an occupation that John really enjoyed, until he broke his leg in a four-wheeler accident in the summer of 1991. As the injury limited his activity, running the cattle operation became more difficult. The time had come for a change . . . the launch of a new endeavor . . . forestry! Where he had previously built fences to keep in cows, he now took fences down . . . that following spring, instead of watching the birth of

new calves in their herd, they started planting loblolly pines.

The property had come full circle. Originally in timber, someone had converted it to cotton during the '40s and '50s. It reverted back to timber for a short while, before the next owner row cropped soybeans in the '60s and early '70s. Then in 1973 the Besh family moved to Livingston, as John was managing partner with a group of investors. They soon turned the farm into pasture land to begin their cattle enterprise, first leasing the farm in the '80s, then buying the 700 acres outright in 1989. Finally in 1992, once again, timber would reign.

In the beginning of course, most of the land was open pasture; only 40 acres of the 700 was in timber. The Beshes did most of the site prep work themselves, but contracted the actual tree planting. Today, composition of the forestland is 90 percent pine plantation – 20 years old – and 10 percent hardwood. John commented that they considered the Conservation Reserve Program (CRP) a wonderful cost-share program. [CRP falls under the United States Department of Agriculture (USDA), administered by the USDA Farm Service Agency, with technical assistance provided by the USDA Forest Service and the USDA Natural Resources Conservation Service.] “It provided us with a God-given opportunity to establish our forest and wildlife. It allowed us to enter the timber industry . . . in terms of acreage, we may not have been able to do so otherwise.”

Earning TREASURE Forest certification in 1994, their primary objective was timber production. In addition to timber management techniques such as thinning and prescribed burning, one of their main goals was to not just control but *eradicate* invasive species such as privet and Chinese tallow tree. The method employed in combating tropical soda apple on the property was



to spray herbicides using backpacks while riding ATVs down every third row of trees. This rather labor intensive task was completed maybe ten times each summer.

Their secondary objective was wildlife enhancement. Back when cows were grazing the property, they only occasionally saw deer and there were not many turkeys. Today they have noticed a substantial increase in the deer population, turkey numbers are improving, and there is also an abundance of small game. This success is attributed to numerous wildlife varieties: 1,200 sawtooth oaks, Chinese chestnuts, and autumn olives alternated with filberts (hazelnut). Each fall they plant clover, wheat, and rye for winter crops. Each spring in those same fields, they “no-till” iron-clay peas and grain sorghum.

For quail, they use bi-color lespedeza. As pine plantations are opened up by future thinnings, the quantity of quail is expected to rise.

An area is also maintained for ducks. A dam was installed, allowing the flatland leading to the river to flood each November. Then in late spring or early summer, this six-acre “duck pond” is drained.

There are two recreational ponds on the property as well, stocked with bass and bream. The first was built in 1974 for erosion control. The second was created in 1984 to provide water for the cattle. With the property bordering the Sucarnochee River, John noted that water quality and filtration had always been crucial elements of their farm. His father had instilled in him the classic principle of stewardship: “Always leave a place better than you found it, or you shouldn’t have been there.”

John Besh believes that whatever your endeavor, it is important to learn all that you can. He was grateful for the forestry advice received over the years from gentlemen farmers such as Miles Mayberry and Clinton McClure, both foresters who were TREASURE Forest landowners as well. When the Beshes had admired McClure’s beautiful forest, he’s the one who had first recommended they look into the TREASURE Forest program. Then there was Gary Fortenberry who had advised to plant nut-tall oaks in the lower areas. Now, those oaks are over 50 feet high - taller than all the pines, as well as the power lines. They were amazed to discover how quickly the oaks had grown. And neighbors Bob and Becky Williams had proven to be invaluable resources through the years.

Additionally, information was garnered from the county Alabama Forestry Commission, as well as other natural resources professionals and landowners John met during over 30 years of involvement with the Soil & Water Conservation District. He was also appreciative of recommendations over the years from other forest landowners with the local chapters of the Alabama TREASURE Forest Association and Forestry Planning Committee, noting how Sumter County was unique in that these

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A Labor of Love

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two organizations had been combined into one. Their quarterly meetings consist of a short business segment; more time is devoted to landowner tours with a focus on exchange of ideas and expertise.

Just as John and Marilyn feel fortunate to have received advice from experienced landowners, they are willing to share their knowledge. They have enjoyed hosting a couple of county TREASURE Forest tours, high school-aged students from Alabama Forestry Camp, and fifth graders encountering “Classroom in the Forest.” Challenged to do some forestry decision making, the students were allowed to pick and mark 25 trees with ribbons that needed to be taken out of the forest.

In making their property available, the Beshes provide an opportunity for others to learn about the advantages of timber growth and timber management, as well as issues such as carbon sequestration and water quality.

Perhaps the greatest reward of all is welcoming home their five children and eight grandchildren for holidays and visits. With all of them now living at least two hours away, they love coming back to the farm and hunting, or just watching wildlife. “Although each one showed steers in 4-H while growing up, no one was overly sentimental about the cows,” Marilyn commented. “All of them seem genuinely happy with the change from cattle business to timber enterprise. They have a real love of the home-place and the land itself. We feel pretty confident they will carry on the legacy.”

When asked why they continued to work so hard, both John and Marilyn agreed that it was indeed a labor of love. Watching the trees grow made it all worthwhile. 🌲

Photos by Tim Washburne, AFC

Restoring North Alabama's Storm-Battered Urban Forest

By Matthew McCollough
Urban Forestry Coordinator, Alabama Forestry Commission

In the wake of devastating tornados that battered North Alabama communities, the Alabama Forestry Commission, in collaboration with the Arbor Day Foundation, recently unveiled a new campaign to restore the region's urban forest. The "Alabama Tree Recovery Campaign" was launched in response to proactive efforts of the Alabama Forestry Commission to spearhead a reforestation initiative. This campaign allows anyone to make an online donation at www.arbor-day.org/alabama. For every dollar donated, the Arbor Day Foundation will deliver a tree seedling for distribution to Alabama citizens affected by the April tornados.

The planting of new trees brings beauty, healing, and hope. While the cleanup and rebuilding will continue for years to come, people can help the healing process now. With the support of citizens, the Alabama Tree Recovery Campaign makes possible the restoration of tree-lined streets, shaded parks, and beautiful neighborhoods that have always been part of Alabama.

"The Alabama Tree Recovery Campaign is an important effort to distribute trees to Alabamians who had homes destroyed in the April tornado outbreak," said Governor Robert Bentley. "This campaign will help restore our communities and I am appreciative to the Alabama Forestry Commission and Arbor Day Foundation for coming together on this project."

The Arbor Day Foundation will deliver an assortment of five native trees to each community. Species include willow oak, Shumard oak, northern red oak, black gum, and flowering dogwood. Each tree species was selected because of its suitability to

the region. Communities that were directly impacted by a tornado will be given priority to participate in the program. The community must also agree to organize the local distribution of their tree seedlings. The Alabama Forestry Commission will arrange the delivery of the tree seedlings to each community for planting during February 2012.

"The trees lost in the recent tornado outbreak provided millions of dollars in environmental, economic, and social benefits," said Linda Casey, the Alabama State Forester. "This campaign can go a long way toward putting our communities and surrounding areas on the path to recovery."

The Alabama Tree Recovery Campaign is the newest joint initiative in the Arbor Day Foundation's Trees for America program. Other initiatives include delivering more than 120,000 trees to Gulf Coast families who were victims of Hurricane Katrina, and replanting more than 20 million trees in national forests devastated by disease and fire.

The Alabama Forestry Commission is a state agency committed to protecting, conserving, and increasing Alabama's forest resource. In addition to the Alabama Tree

Recovery Campaign, the Alabama Forestry Commission is working with other organizations to donate trees to restore North Alabama's urban forest. For more information, visit www.forestry.alabama.gov.

The Arbor Day Foundation is a nonprofit conservation and education organization with more than one million members nationwide. More information about the Foundation and its conservation programs can be found at www.arborday.org.



In the Aftermath of the Storms: Claiming a Timber Casualty Loss

By Robert A. Tufts
Attorney and Associate Professor,
School of Forestry and Wildlife Sciences, Auburn University

First, if you need to read this article, let me express my condolences on your loss. As another consolation, the federal government is willing to share in your losses by allowing you to take a deduction for your casualty loss.

Let me start with an analogy. Suppose you owned stock that you purchased for \$6,000 and it had grown to \$10,000 before the last big market crash. After the stock market plunge, your stock is worth \$5,000. If you sold that stock, the IRS would allow you to claim a loss of \$1,000, the difference between what you paid for the stock and its value on the date of sale. The fact that the stock was worth \$10,000 at one time has no bearing on the amount of gain or loss on the sale.

The fact that your timber was worth \$10,000 before the tornado has no bearing on the amount of loss you may claim now that your timber has been damaged. The amount deductible is the lesser of the diminution in fair market value of the single identifiable property (SIP) or its adjusted basis.

A deduction is allowed for any loss sustained during the taxable year. [IRS Code § 165] For timber property, casualty losses are determined with reference to the SIP which is generally the depletion block. [Revenue Ruling 99-56] This generally requires that the fair market value of the SIP be ascertained by competent appraisal, immediately before and after the casualty. [Treas. Reg § 1.165-7(a)(2)]

Claiming a loss with respect to the SIP may allow a larger deduction than you would have expected. Let's suppose the timber on your tract (SIP) was worth \$10,000 before the tornado and your basis in those trees was \$6,000. The tornado only damaged one-fifth of the timber or \$2,000 of pre-tornado stumpage. When you look at the volume of timber destroyed and apply the depletion unit from Form T to that specific timber, the basis in that timber is only \$1,200. Remember, the amount of loss that can be claimed is the lesser of the diminution in fair market

value of the SIP (single identifiable property) or its adjusted basis. Suppose a forester determines that the value of the timber on the SIP after the tornado is \$8,200. Then, the diminution is \$1,800. The basis in the damaged trees is \$1,200, but because the loss can be claimed with respect to the SIP, the amount of depreciation deduction available is the entire \$6,000. So, the loss claimed is the entire \$1,800 of decrease in value of the SIP. This will reduce the basis in the remaining timber on the SIP to \$8,200. The amount of loss will have to be reduced by any insurance proceeds, but not the value received for the salvage of the damaged timber.

The IRS has recently published two articles addressing timber casualty losses that provide guidance to landowners as well as Treasury agents: "Timber Casualty Losses - Valuation of a Single Identifiable Property" and "Timber Casualty Loss Audit Techniques Guide."

The first article, "Timber Casualty Losses - Valuation of a Single Identifiable Property," addresses an unacceptable valuation method. "The major problem in this area arises when taxpayers, contrary to the regulations, do not perform an appraisal of the SIP (i.e., depletion block) before and after the casualty. Instead, these taxpayers seek to extrapolate the loss in value from per-unit FMVs, multiplying that figure by the number of units lost or damaged. In essence, this method consists of determining the volume of lost timber and multiplying that volume by the market price per applicable unit (cord, thousand board feet ("MBF"), etc.). This fragmented, additive approach is sometimes called the gross timber value and does not reflect the reduction in value of the SIP as a unitary whole. In other words, it does not follow that the loss of a specific volume of merchantable timber, whose value is often readily known, necessarily reduces the value of the larger block by the same amount. In some situations where the loss area is relatively small and the block size is very

large, the loss may not reduce the value of the depletion block at all.” [www.irs.gov/businesses/article/0,,id=148280,00.html]

The second article, “Timber Casualty Loss Audit Techniques Guide,” addresses four issues: identification of the SIP, basis verification of timber in the SIP, verification of volume loss, and diminution of fair market value verification. There is not sufficient space here to cover all these issues, so I have quoted below the initial instructions to the auditor from the publication [www.irs.gov/businesses/small/article/0,,id=238854,00.html]:

“Timber casualty losses may be reported in a variety of ways on a Federal Income Tax Return, depending upon the taxpayer’s accounting practices, sophistication, and desire to disclose or conceal the loss. During the opening interview, the examiner will have the opportunity to ask about casualty losses, and determine where and how such losses have been reported. Otherwise, examiners should review the return, looking in several places for a possible casualty loss deduction.

“Form 4684 - Casualties and Thefts: Ideally, a casualty loss deduction will be reported on Form 4684, under Section B, for property used in a trade or business or for income production.

“Examiners should note how the taxpayer has identified the timber property affected by the casualty. Has the property been identified as a single tract or has the taxpayer aggregated several tracts and selected the entire depletion block as the unit of property? In general, the larger the property unit, the greater the potential for a valuation issue.

“Examiners should look for indications of the type of casualty affecting the timber. This may be described in Part 1, Section B, of Form 4684 or it may be included in a separate statement, or on line 14 of Part II of Form T. Certain types of timber casualty events have greater potential for widespread destruction, such as fire damage or hurricanes, whereas other types of casualties, such as ice storms, may result in partial damage. The widespread nature, severity, and timing of the casualty will have an impact on the techniques used by the taxpayer to estimate the loss. Partial damage claims are generally more of an audit concern because more judgment is involved in estimating the loss.

“Examiners should carefully look at lines 27 and 28 of Form 4684 to see how the taxpayer reported the Fair Market Value (FMV) before and after the casualty, and compare those figures with the adjusted basis. If no figures have been reported for FMV, or if the FMV has diminished significantly, the examiner should include valuation as a significant component in the audit plan.

“Form 4797: The examiner should also review Form 4797- Part I to see whether there are any indications that the taxpayer has conducted a salvage of the damaged timber. Salvage sales may result in gains or losses. Typically, the taxpayer may elect to defer any gains under Code §1033 by attaching an appropriate statement.

“The examiner should review Form 4797 - Part II (Line 14) to see whether any losses are reported from casualties. The examiner should be able to reconcile the total casualty loss from Form 4684 to the Form 4797.

“Form T - Part II: Form T (Forest Activities Schedule) should be filed whenever a taxpayer makes a claim for a depletion deduction. If a Form T has not been filed it should be requested through the IDR process. In examining Form T, examiners should review line 14 of Part II of Form T, which is the place to report timber casualty losses.

“Examiners should determine the cause of the loss, to ensure that it constitutes an allowable casualty loss. Losses from disease or insects do not qualify as casualty losses. Losses from fire, storm, hurricane, theft, and wind would qualify as casualties.

“The examiner should note whether any reductions to the loss amount were reported for insurance or other recoveries. Generally, timber property is not covered by property and casualty insurance, but the taxpayer may have received proceeds from a Federal or State Disaster Relief fund, or other third party. The examiner should obtain an explanation of how the taxpayer determined their total loss from the casualty. If the explanation is vague, missing or unclear, it may be an indication that the taxpayer did not maintain records or did not document its procedures to estimate the volume lost, or the value of the loss.”

I mentioned above that the proceeds from salvage operations do not have to be deducted from the amount of loss claimed. In addition, if the proceeds are reinvested in “like-kind” property, the proceeds from the salvage operation do not have to be reported as income (involuntary conversion).

More detail can be found in an article I wrote in 2006, “The Impact of Casualty Losses on Forestland Owners,” which has been posted at www.aces.edu/forestry/documents/Casualty%20Losses%20publication.pdf. It also addresses casualty losses for home and personal property owners. If you would like more detailed information on this topic and other timber tax issues, a six-hour workshop on “Timber Tax and Form Preparation” will be offered at several locations throughout the state in November. Continuing education credit will be available for foresters and accountants attending these workshops. 



Technology in large-scale invasive species programs:

The State of Alabama VS. Cogongrass

By Stephen D. Pecot

Forester and Environmental Specialist, Larson & McGowin

An untold number of species are introduced into new environments every day. Anyone can be the unwitting host of a non-native species when we return from a trip abroad or even a few miles from home. This has occurred for ages and continues as the world's borders become more porous in this global economy, even with programs in place to slow their spread. In most cases these species meld into the landscape, and we in our daily living are none the wiser. However, non-native species can have significant negative consequences on native ecosystems, water and nutrient cycles, public safety, and economies. They alter the natural landscape in ways that in extreme cases result in nearly complete replacement of local species. These are commonly referred to as invasive species.

Alabama has become the reluctant host of numerous invasive species that assault our state from the sandy beaches of Fort Morgan to the Tennessee border. One of these species is cogongrass (*Imperata cylindrica*), a perennial grass from Southeast Asia accidentally introduced a century ago. Several recent articles in *Alabama's TREASURED Forests* have outlined what a significant problem this highly invasive grass species has become. In addition, there are hundreds of other publications as well as web resources that serve as clearinghouses of information (see end of article).

What I want to present is one approach to addressing cogongrass in Alabama on a scale never seen before, using advances in GPS and GIS technology. This work was made possible by a 3-year, \$6.2 million American Reinvestment and Recovery Act (ARRA) grant awarded in 2009 to the Alabama Forestry Commission and coordinated by Larson & McGowin of Mobile. Being a "stimulus" project the primary objective is job creation.

All other objectives focus on fighting cogongrass infestations statewide through documentation, treatment, monitoring, and network building.

Invasive Species Programs: The Dilemma of Scale

Any species adapts to a local environment by establishing itself wherever and whenever it can. Humans have been successful over the millennia in this regard. An invasive species, however, may have a very distinct advantage over that of local species, and that is evolution. More specifically, the advantage is a *lack* of evolution with native species: no natural enemies yet to partake in the long, unrelenting give-and-take of competitive interaction.

Addressing invasive species is no easy task, especially considering that we are sometimes at a disadvantage from the start. Invasives create their own obstacles to good management in several ways. First, landowners may have to adapt commonly accepted silvicultural practices to the unique characteristics of an invasive species. Second,

A scout contractor hired by the Alabama Cogongrass Control Center (ACCC) collects a cogongrass spot's information on a handheld GPS.



money and time otherwise spent on primary management objectives must be reallocated. Third, an invasive species treatment program typically focuses on a single species while others abound or are waiting in the wings. Fourth, there is a paucity of funding to directly address the root causes of *why* and *how* invasive species migrate to new areas. And funding for invasive species programs have lacked the consistency and scale needed over very long periods to be completely successful at eradication.

The scientific and management communities bear some of the responsibility for these obstacles. There are few people who could be considered true experts in invasive species. The experts and consultants are still determining the best treatment and rehabilitation options for a single species. What might work on one site may not work on an adjacent site, which can consume time, money, and sanity. But funding waxes and wanes, and results can take many years to publish and be disseminated to the public. This leads to an overwhelming number of treatment scenarios and inconsistent messages from well-meaning sources.

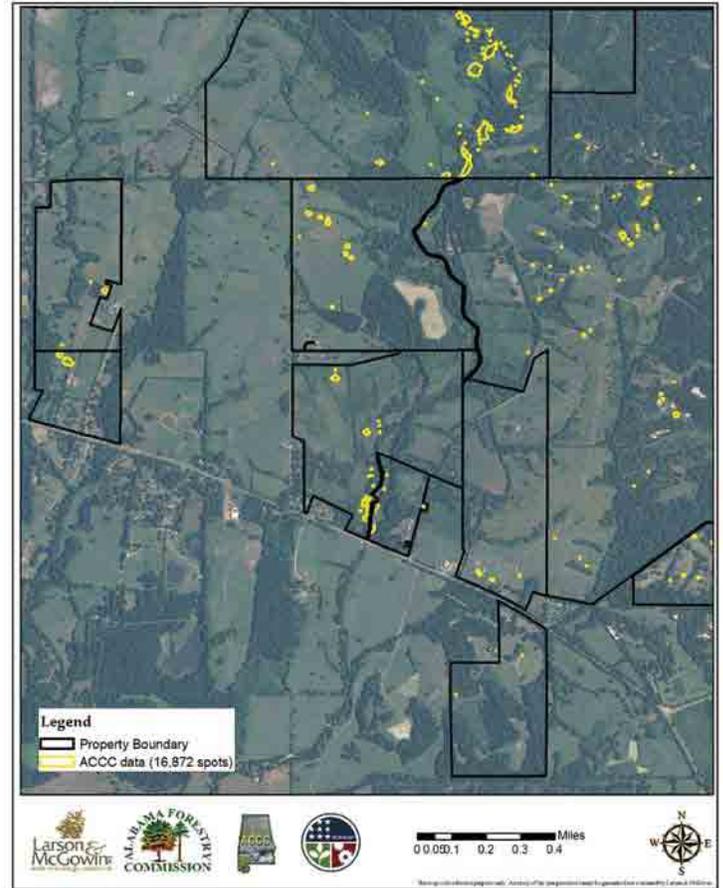
Because of the nature of funding “finiteness,” objectives must be pinpointed to maximize any gain. Invasive species programs that focus on a small scale are relatively easy to address. You specify the location and species of interest, allocate or secure resources, and execute the plan. I recently attended an international conference where many of the participants were focused on small-scale invasive species programs such as Japanese honeysuckle on a 20-acre nature center.

However, there is a positive and exponential relationship between scale and complexity of an invasive species program. The scale metric could be locales, time, funding, species, or any multitude of parameters. In the case of this cogongrass program, the first three metrics apply: the entire state is covered, it is over multiple years, and the funding allows for a small army of field staff, each with unique responsibilities. Ultimately the Cogongrass State Task Force that guides all of our efforts has pinpointed regions, land cover types, and many other factors in order to maximize the program’s footprint across the state. This includes making the hard choice of who can be helped with limited funding.

A large-scale invasive species program is complex because several questions must be addressed at an operational level that encompasses varying legal ownerships, management objectives, political boundaries, eco-regions, and many other factors. Critical questions we asked ourselves at the beginning of this venture included:

- What is the target species, and who is the target audience?
- How much funding is needed, and how much is available?
- How many personnel are required?
- How is the target species detected and documented?
- How is it treated?
- How are datasets managed?
- How is monitoring and auditing performed?
- What are quantifiable measures of success?
- How can lessons learned be incorporated into future work?

In considering these questions, we knew the only way a program of this scale could succeed was with GPS and GIS technology. GPS stands for Global Positioning System. Most people use this technology to find their location or to determine a trip itinerary (car navigation systems, for example). GIS stands for



A close-up of a group of properties in central Alabama demonstrates that cogongrass is found on many sites and varies in extent. Spots documented to-date range from one foot across, up to several hundred acres.

Geographic Information System, and it is a mix of what we refer to as *spatial* data (how pieces of a map relate to each other) and *tabular* data (specific information about that location such as a city’s population). These are linked together through stringent rules, creating a very robust analysis and map-creation tool. GPS and GIS are used every day by public safety officials, city planners, foresters, or anyone that needs information at multiple levels to make well-informed decisions.

We have had a cadre of professional services available to us throughout this program. Silvics Solutions LLC, located in Birmingham and a subsidiary of Larson and McGowin, has provided our program with key GIS technology needed to manage the voluminous data coming in daily from the field. Tri-Global Technologies LLC, located in Athens, Georgia has enabled us to use cutting-edge GPS hardware and software in the field. Finally, there is the field staff doing the documentation, treatment, and monitoring of cogongrass infestations statewide using GPS units provided by Tri-Global and customized by Larson and McGowin. In essence, our field staff is divided into three groups: scouts, applicators, and inspectors. They are hard workers, and most hold professional certifications for their vocation such as being a registered forester in Alabama. They are the unsung heroes of this program, and we simply could not do any of this without them!

(Continued on page 12)



A young plantation greatly infested with cogongrass. Small, circular cogongrass patches eventually melt into one another.

Commission had already documented over 7,000 spots prior to this program, and they have added over 1,000 since. Other agencies — and even private landowners — have shared some of their cogongrass data with us, bringing the total number of documented cogongrass spots in Alabama to nearly 30,000 to-date! This collegial sharing of information and lessons learned with public agencies is a logical step, broadening the footprint of the program and strengthening relationships with others involved in the fight.

Ultimately the GIS helps pinpoint future funding needs, efficiently manage financial and human resources, and determine which treatments were most effective in the long run. But the real beauty of what we have been able to accomplish with this technology is that it is scalable depending on funding, from a handful of staff to a region-wide, multi-agency campaign. Moreover, the approach is applicable to practically anything requiring field data collection and centralized data management — be it additional invasive species, wildfires, timber harvesting, road or powerline maintenance, wildlife populations...the list expands daily.

The initial funding for this program ends next year, and we will continue to document and treat sites to that point. We are actively pursuing additional funding to keep the program going and hopefully expand past Alabama. Many agencies have expressed interest in this integrated, simple, and auditable approach we have created using modern technology against an old pest. We still have a long way to go, but together we can defeat this most unwelcome visitor.

Summer 2011

In Conclusion

My wife and I recently received a gift from a friend of ours in Nanafalia, Alabama. Joey Van Dee, who happens to be one of the cogongrass scouts, makes spectacular jelly as one of his many side projects. As I delighted at the sight of the 12 Mason jars, each with a different flavor of jelly, I was amused to see one jar with the label “Kudzu Flower Jelly.” I realize not everyone may understand the irony of my partaking in such a guilty pleasure. For me it was a reminder that we may have a long way to go before invasive species become part of our history, and not part of our landscape. 🙏

Stephen Pecot is a Registered Forester (AL #2121) with Larson & McGowin, Inc. and the Communications Director for the Alabama Cogongrass Control Center. He lives in Fairhope, Alabama and can be reached at (251) 438-4581 or specot@larsonmccgowin.com.

Web Resources

www.alabamacogongrass.com
www.cogongrass.org
www.eddmaps.org
www.forestryimages.org
www.forestry.alabama.gov/Viewers/afc_cogongrass_viewer.aspx
www.recovery.gov
www.silvics.com
www.triglobal.net



Forest Health

UPDATE



By Dana McReynolds Stone
Forest Health Coordinator, Alabama Forestry Commission

In the spring, there were several reports of sudden defoliation of oak, hickory, and maple trees in north Alabama. The pest causing such destruction on these deciduous trees was the linden looper (*Erannis tiliaria*). For the third consecutive year, this defoliator has appeared in drastic numbers. This native insect of the *Geometridae* family was identified in Dekalb, Blount, Shelby, and Perry counties.

Linden Looper

Insects from this family are considered the most destructive foliage-feeding pests of North America, devouring leaves from many deciduous trees such as linden, apple, birch, elm, hickory, maple, and oak. Appearing in cycles, the linden looper is generally present in high numbers for two to three consecutive years, and then their numbers suddenly drop. The insect seemingly disappears for five to eight years. During a heightened linden looper infestation, natural predators such as parasitic flies and wasps help decrease the population significantly. Many bird species also prey on the insect.

The eggs of the linden looper hatch in the spring, generally when the hardwood buds begin to open. The caterpillars (larvae) are quite active during this time, feeding on the foliage for

approximately one month. During this period, the caterpillars grow, slightly changing in appearance from yellowish-green with thin black stripes to pale yellow with thicker black stripes. Reaching 1.4 inches in length when fully grown, they loop their bodies (hence the name “linden looper”) and stretch forward using their pro-legs to move to an available food source. Around late May, these caterpillars crawl to the ground and tunnel into the soil to pupate. Generally by mid-June, the affected host trees will start to rebound from the attack and grow new foliage.

Emerging from the soil in October to December, the wingless female moths crawl up a host tree to lay their eggs. A female moth may lay three to four eggs in a cluster under loose bark on the trunk and large branches, thus starting a new generation of linden loopers. One generation of this defoliator occurs per year.



Periodical Cicada

For a few weeks now, especially in the southern part of the state, many of you have heard a buzzing, singing noise in the trees. That curious sound that appears to start at dawn is noise created by male cicadas, which have a sound-producing apparatus called tymbals. Thousands of cicadas seem to appear overnight, with the males making this unique singing sound to attract females.



There are two distinct races of periodical cicadas based on the length of their life cycle: a 17-year northern race and a 13-year southern race. For the southern race, there are four distinct species. The species that is most likely present at the moment in Alabama is the *Magicada tredecim*.

Adult cicadas live for only approximately three weeks and then die. Eventually, the eggs hatch and the nymphs drop to the ground, burrowing into the earth. While in the soil, the nymphs will find a suitable root and suck sap from the xylem. Minimal damage is caused by the nymphs, however, because of this insect's slow development.

Nymphs begin to emerge from the ground in late April to early May, crawling onto nearby vegetation to complete their transformation into adult cicadas. Even though this insect has a life cycle of 13 years does not mean that cicadas will only appear periodically. There are several broods of this insect, each one emerging at different years. Next year, a different brood may appear somewhere else in the state creating its unique sound.

The damage to host trees is not caused by feeding activities of cicadas, but from the females' egg laying habits. The female cicada will cut the bark of twigs and lay 24 to 48 eggs. She may lay a group of eggs 20 times during the mating season to produce up to 600 eggs. Depending on the severity of the cut, the ends of

some injured twigs will eventually die from this process, creating a "flagging" appearance on the affected branches. The most common trees to show symptoms from cicada activity are sweetgum, oak, hickory, ash, maple, hawthorn, apple, black locust, birch, and dogwood.

The population of this insect is controlled by many natural enemies. Predatory insects and mites attack the eggs, while birds and small mammals also feed on the nymphs and adult cicadas.

Southern Pine Beetle



Based on the results from a survey completed in May by the AFC, it appears that Alabama will experience a low, declining southern pine beetle (SPB) (*Dendroctonus frontalis*) population for the fourth consecutive year. With an accuracy rate of 75 to 85 percent, this survey is a very good predictor of the year's potential beetle outbreak. Based on a seven to nine-year cycle, the SPB

population normally declines for several years then suddenly increases. Environmental factors that stress pines have some influence on the population, but this influence is quite limited.

Because of the storm-damaged pines from the April tornados, there is a legitimate concern about a potential increase in SPB infestation. Although there may be some SPB infestations in these ravaged areas, the Ips engraver beetle and the Hylastes beetle would be the pests to take advantage of this situation. These insects base their level of activity on how stressed pine trees are from adverse environmental conditions. Alabama may, therefore, experience a sudden increase later in the year from Ips engraver beetle attack and pine decline. ☝



2011 Alabama TREASURE Forest Association Conference & Tour "1991 – 2011: Celebrating 20 Years of Growth"

September 30 & October 1

Hotel Capstone, Tuscaloosa
Tour: McGiffert TREASURE Forest

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call ATFA toll free at 1-888-240-4694
or visit www.atfa.net

2011 Regional Forestry Event & Field Days



Sponsored by the
Alabama Natural Resources Council (ANRC)
and Alabama State Tree Farm Committee

North	Central	South
October 7 Snoddy Farm Winston County RSVP: Johnna Franks (205) 489-5014	October 13 Barton Ridge Plantation Coosa County RSVP: Roger Vines (256) 377-4713	October 6 Muleshoe Plantation Houston County RSVP: Willie Durr (334) 794-4108



*The Pinhoti National Recreation Trail,
located in the Shoat Creek District of the
Talladega National Forest.*



National
Forest

U.S. DEPARTMENT OF AGRICULTURE

Photo by James H. Miller, USDA Forest Service, Bugwood.org

Alabama Public Land: The Lands Nobody Wanted

The Centennial Celebration of the Weeks Act



By Tammy F. Truett
Public Affairs Staff Officer, National Forests in Alabama



There was a time when it seemed that no one cared about those lands in Alabama which the USDA Forest Service now manages for the public. Thanks to the 1911 Weeks Act that enabled the Forest Service to purchase eroded and cut-over private lands in the eastern United States, these same lands are now conservation success stories.

“Alabama’s National Forests were not always the beautiful areas as many individuals see them today,” said Steve Lohr, forest supervisor for the National Forests in Alabama. “During the early 1900s, much of the land was eroded and heavily cut-over. Many people had little regard for the value or future of the forests. Most of the land that eventually became the National Forests in Alabama was either stripped wastelands or abandoned, low-productive farm lands that no one wanted.”

The Weeks Act was part of the changing national attitude that evolved in the early twentieth century toward conserving public lands. Poor conservation ethics and the epic western wildfires of 1910 led to support for the Weeks Act. When President William Taft signed the bill on March 1, 1911, a century of conservation was launched – providing clean water, restoring forests, and reducing catastrophic wildfires. The federal government could now buy up land in the eastern United States for restoration and protection.

Weeks Act acquisitions led to the creation of 52 national forests on 20 million acres that includes public lands in Alabama. The four that were established in this state – Bankhead, Conecuh, Talladega and Tuskegee National Forests – include approximately 670,000 public-owned acres located across 17 counties of Alabama.

The Weeks Act enabled federal agencies to form partnerships to not only control wildfires, but also prevent erosion and flooding. A cooperative fire agreement between the Forest Service and the Alabama Forestry Commission allows the agencies to share resources to respond to emergencies. This partnership also brings state and federal natural resource managers together to develop solutions to manage threats that impact all boundaries, such as wildfires, southern pines beetles, or cogongrass.

National Forests provide communities with clean water, air, wildlife habitat, outdoor recreation opportunities, and jobs. One fifth of the entire nation’s clean drinking water flows from land acquired through the Weeks Act. In Alabama, eight communities

rely on national forests as a water source: Double Springs, Haleyville, Birmingham, Talladega, Sylacauga, Piedmont, Heflin, and Goodwater are serviced by watersheds in the Bankhead National Forest and Talladega National Forest (Shoal Creek and Talladega Districts).

The Forest Service first reserved public land in Alabama in 1918 under the Alabama purchase unit known today as the Bankhead National Forest. When the Forest Service acquired Alabama’s public lands, more than half of the forested area was cut over. The only forests that were not cut excessively were the Shoal Creek and Talladega Districts of the Talladega National Forest. These forestlands had fair site conditions with low-quality timber because of the rocky soils.

Through the years, Forest Service employees and numerous partners have demonstrated proper land management that today provides multiple benefits. The Forest Service is committed to continuing a conservation legacy by working together with numerous management partners on many issues of interest in Alabama. Some examples include restoring the native longleaf pine ecosystem and protecting communities from the threat of wildfire by using prescribed (controlled) fire to reduce hazardous fuel accumulations. Other examples include working with partners to implement a red-cockaded woodpecker recovery and habitat improvement program; controlling the spread of cogongrass, a non-native invasive species; and working with communities on conservation education.

“The National Forests in Alabama look quite different than they did when the lands were acquired,” said Lohr. “The once bare, eroded lands have been replanted and are now productive forests.”

The Weeks Act provided new opportunities for conservation, but people did the work, and people are key to future successes. Forest Service employees are proud to be a part of that success – to wear the uniform and care for the land. Forest Service employees and numerous partners are continuing to reach across landscapes to restore national forests and tackle large issues such as climate change, water supply, and land restoration. Thanks to the Weeks Act, strong partnerships with federal, state, and local agencies are improving the Forest Service’s ability to change lives and landscapes. Now that’s something to celebrate.

(Continued on page 18)

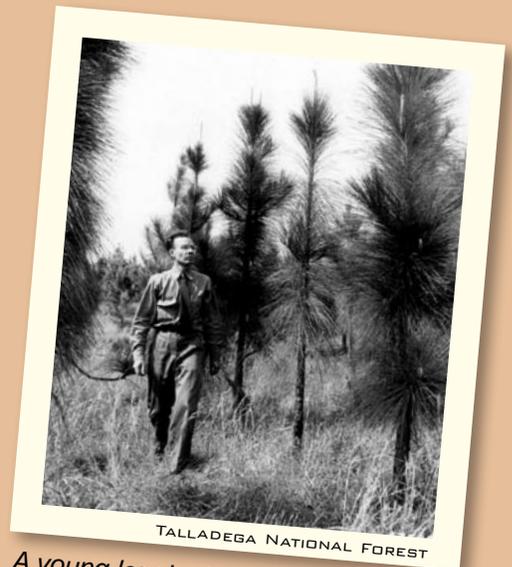
Alabama Public Land

(Continued from page 17)

National Forests in Alabama



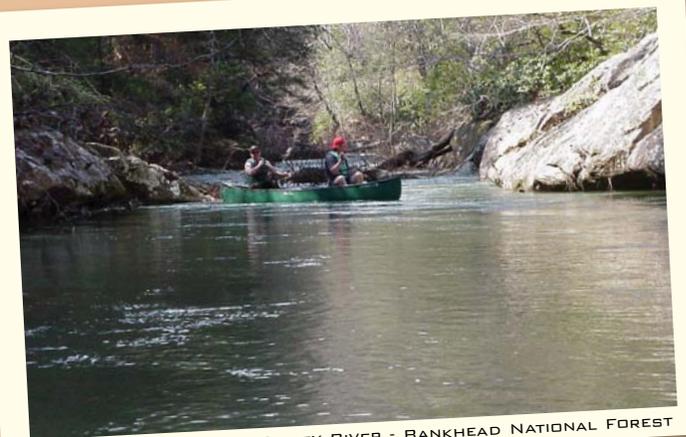
Establishment: The Forests began with the Alabama purchase unit that was proclaimed Alabama National Forest by President Woodrow Wilson on January 15, 1918. Located in Franklin, Lawrence, and Winston counties, land acquisition files show that many of the ridge tops had been cut-over, and approximately 40 percent of the land had been cut-over, cultivated, and vacated farmland. Alabama's four national forests represent the diverse geography of the state, ranging from the Southern Appalachian Mountains, Cumberland Plateau and Piedmont, to the Coastal Plain. The Bankhead, Conecuh, Talladega, and Tuskegee National Forests encompass more than 670,000 acres of publicly-owned land located in 17 counties.



A young longleaf pine plantation in the Talladega National Forest, circa 1953.

Bankhead National Forest

Forest Beginnings: On June 19, 1936, by proclamation of President Franklin D. Roosevelt, the Alabama National Forest was renamed the Black Warrior National Forest. About six years later on June 17, 1942, the name was changed by an Act of Congress to the William B. Bankhead National Forest. **Special Features:** Bankhead National Forest is home to the 25,000-acre Sipsey Wilderness, the second largest designated wilderness east of the Mississippi River.



SIPSEY RIVER - BANKHEAD NATIONAL FOREST

Conecuh National Forest

Forest Beginnings: The National Reservation Commission on January 21, 1935, established the Conecuh purchase unit in Escambia and Covington counties. On July 17, 1936, the Conecuh National Forest was created by presidential proclamation, initially containing 54,177 acres of cut-over and burned-over lands. **Special Features:** Conecuh National Forest includes Crawford Bog, one of several such habitats featuring various species of carnivorous plants. These pitcher plant bogs are among the most bio-diverse in the Southeast.

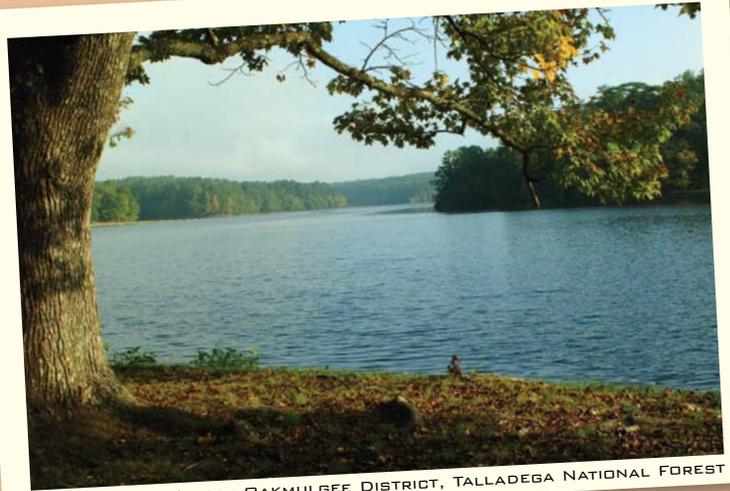


CRAWFORD BOG - CONECUH NATIONAL FOREST

Photos courtesy of National Forests in Alabama

Talladega National Forest

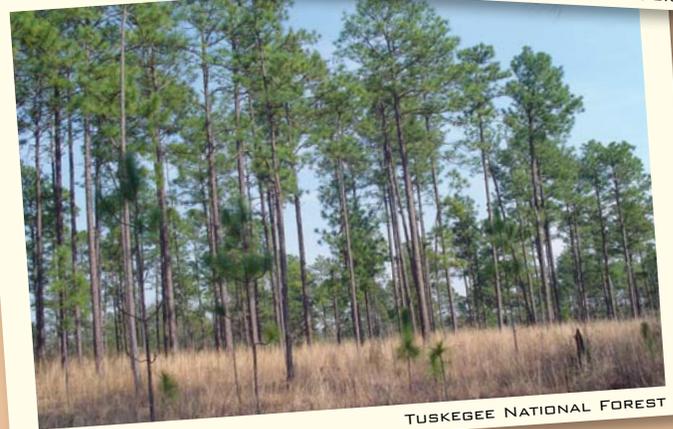
Forest Beginnings: The Talladega National Forest is three purchase units combined into one forest. The National Forest Commission created the Oakmulgee purchase unit, located south of Centreville, on January 21, 1935. When this area was first settled in the early 1800s, stands of timber were cleared for agricultural purposes and to build homes. What is now known as the Oakmulgee Ranger District was about 60 percent cut-over land. On July 17, 1936, President Roosevelt created the Talladega National Forest out of the Talladega and Oakmulgee purchase units. The Talladega unit was then divided into two districts on October 1, 1945, with the northern district, Shoal Creek Ranger District, headquartered in Heflin, and the Talladega Ranger District in Talladega. Of the Shoal Creek/Talladega land, 30 percent was cut-over, cultivated, and vacated farmland. **Special Features:** Within Talladega District, the 7,245-acre Cheaha Wilderness offers high elevations with numerous overlooks for panoramic views of east-central Alabama. It is named for nearby Cheaha Mountain, a prominent landmark which rises to a height of 2,407 feet and is the highest point in Alabama. Talladega District is also a lead partner with Munford Elementary School, the first school in the Southeast to integrate an environmental education theme in the classroom through interactive, educational displays. Shoal Creek District is home to Dugger Mountain Wilderness Area, encompassing approximately 9,200 acres. At an elevation of 2,140 feet, Dugger Mountain is the second highest peak in Alabama. Oakmulgee District, comprised of 157, 543 acres in Brent, was selected as a site for a 30-year ecological study by the National Ecological Observatory Network (NEON). This project will provide scientists with data involving changes in land-use, climate change, and invasive species.



PAYNE LAKE - OAKMULGEE DISTRICT, TALLADEGA NATIONAL FOREST



HORN MOUNTAIN OVERLOOK - TALLADEGA NATIONAL FOREST



TUSKEGEE NATIONAL FOREST

Tuskegee National Forest

Forest Beginnings: The Tuskegee Land Utilization Project, known as the Tuskegee Planned Land-Use Demonstration, was located about two and one-half miles northeast of Tuskegee in Macon County. The original project area consisted of approximately 10,358 acres of land and was purchased by the federal government during a three-year period from 1935 to 1938. The purchase of this land was authorized by the Bankhead-Jones Farm Tenant Act, also known as the Submarginal Land Program. This program's objectives were to acquire eroded, worn-out farmland; resettle the occupants; and develop the newly purchased land for other uses such as forestry, wildlife, and recreation. On November 27, 1959, the area was proclaimed the Tuskegee National Forest by President Dwight D. Eisenhower. Prior to federal government acquisition, this area was one of the most abused, eroded wastelands in Alabama, being 80 percent cut-over. **Special Features:** Comprising 11,252 acres, Tuskegee National Forest is the nation's smallest national forest. It is home to the popular William Bartram Trail, the first trail in Alabama designated as a National Recreation Trail. 🏠



TUSKEGEE NATIONAL FOREST



Lucas Epperson of the Auburn University College of Veterinary Medicine's Animal Health and Performance Program works with Charm, a 3-year-old dog trained to detect fungus in pine tree roots.

Timber Dogs

A forest owner's Best Friend?

Auburn Researcher Using Dogs in Battle against Pine Tree Disease

By Charles Martin

Office of Communications and Marketing, Auburn University

The mystery surrounding a disease that is killing Southern pine trees could possibly be solved by Auburn University detector dogs.

Lori Eckhardt, Associate Research Professor in Auburn's School of Forestry and Wildlife Sciences, is using dogs from the school's "EcoDogs" program to detect deadly fungus in pine tree roots.

The pathogenic fungus involved in "Southern pine decline" disease is introduced by fungus-carrying beetles that burrow below ground and attack the roots. Especially susceptible are stressed trees during times of drought, when the trees produce a chemical that attracts beetles. Southern pine decline is spreading and now affects more than a million acres in more than 80 counties across the Southeastern United States, Eckhardt said. The

disease hurts the timber industry financially and it reduces endangered species habitat.

"The current way to detect the fungus is to dig up the roots, but this method is time-consuming and does not cover much area," Eckhardt said. "Airplanes are useful in helping us spot dying trees, but this just looks above ground. We have to look *below* ground for these beetles."

The School of Forestry and Wildlife Sciences is working with the Forest Health Cooperative to develop methods for managing infected pine plantations and to research ways to combat the beetles and the disease. The Forest Health Cooperative is an association supported by the university, industry, and governmental agencies to fight pine decline and other insects and diseases affecting pine forests.

Auburn timber dogs have found invasive tree root fungi growing two feet under ground, and they have found fungi in areas where foresters thought the fungus was not present.

Root-feeding, pine decline beetles are different from Southern pine bark beetles, which attack trees above ground. “For the Southern pine beetle, there has been 30 years of research and we know how to manage it, but research on the pine decline beetle has been underway for only 10 years,” said Eckhardt, who began studying pine decline as a doctoral student in 1999 and is considered one of the nation’s foremost authorities on the disease.

Auburn’s detector dogs, from the College of Veterinary Medicine’s Animal Health and Performance Program, are being trained to sniff out the scent of two fungi, *Leptographium* and *Heterobasidion*, which are attacking tree roots.

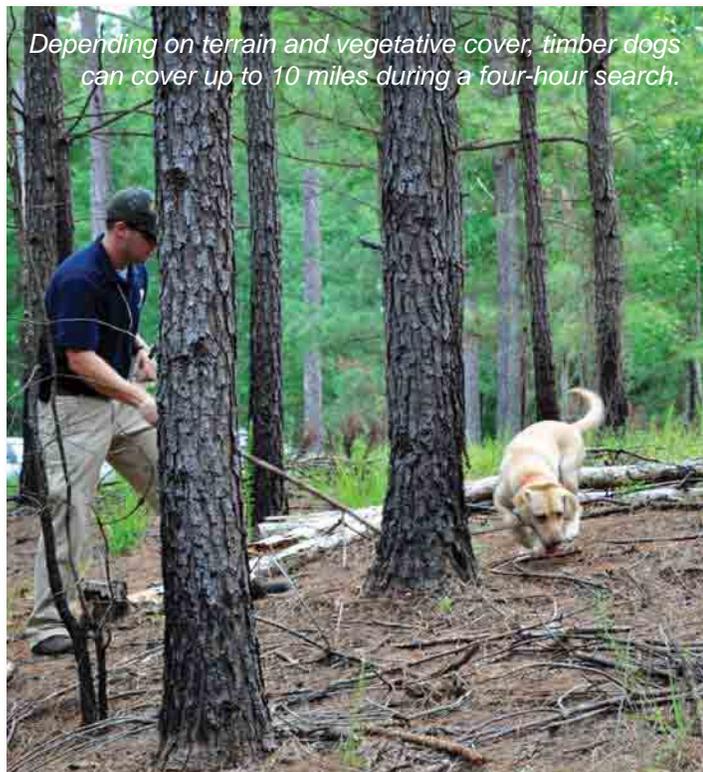
“In our tests, the dogs detect the presence of fungus-infected roots,” she said. “We are working on small test plots and are researching the possibility of using them on pine plantations.”



The development of fungus-finding dogs is in the beginning stage, but Eckhardt and the dog trainers hope it will lead to a successful and feasible program in fighting Southern pine decline.

“This could be a very positive step,” Eckhardt said. “It’s not a cure, but we hope the dogs will help advance our management of the pine plantations and help in our research to stop the disease.”

**Editor’s Note: To discuss your specific needs, determine whether detection dogs would be useful to you, or to get an estimate of costs, contact Dr. Lori Eckhardt at 334-844-2720 or eckhalg@auburn.edu. As a part of Auburn University, EcoDogs is strictly a not-for-profit project. All proceeds generated from the rental of dog and handler teams are used to maintain and train dogs, pay the salaries of project personnel, and pay for expenses and research.*



Depending on terrain and vegetative cover, timber dogs can cover up to 10 miles during a four-hour search.

Photos courtesy of Auburn University

The advantages are that the dogs are non-invasive and do not disturb the beetles or spread the fungus. As the dogs sniff through a pine tree stand, the handlers record the location of the “hits” – when the dog sits down – which would let landowners know the area and percentage of infected trees. By using this method, the researchers may not need to dig up the roots as compared to the current method of inspecting trees.

“Digging up the roots disturbs the trees, causing them to release stress chemicals that can attract more beetles to the area,” she said. “Cutting down the trees doesn’t help because the beetles stay underground.”

Timber dogs can be imprinted on anything that has an odor, such as insects, fungus, and larva. These dogs give the timber industry the capability of finding fungi before trees begin to show signs of infection.

Summer 2011





Using Pesticides Safely

By Kim Pope
Department of Entomology and Plant Pathology,
Auburn University

What is the first thing we do when we have a major pest problem? We think about what we need to control the problem. We grab our old faithful pesticide sprayer and we figure out what and how much we need to mix for control. Do we think about safety first? We should.

Before we talk about pesticide safety, what exactly is a pesticide? Pesticides are chemicals used to destroy, prevent, or control pests. Pests include weeds, diseases, and insects. "Pesticides" can mean an herbicide, fungicide, insecticide, rodenticide, etc. Pesticides also include chemicals used to regulate plant growth, remove, or coat leaves.

Pesticide safety is important in the protection of people, animals, and the environment. Before deciding which pesticide might be needed for a job, the applicator must first identify the pest. The applicator should determine available resources, what needs must be met, and any problems or limitations that might be encountered.

READ the LABEL

Reading the pesticide label is the most valuable few minutes you can spend in pest control. The label provides instructions on how to use the pesticide and is the primary source of information to the user. Read the label before buying any pesticide, so that you make sure you are buying the correct product for the job. Read the label before storing the product, disposing of unused pesticide, or disposing of empty product containers. It is a violation of federal law to misuse a pesticide. Read the label before mixing and loading to be sure that you are mixing the proper amount at the proper rate for whatever job you need to do. Read the label for the proper personal protection equipment you should wear. Reading the label is a small investment of time that can help you avoid injuring yourself, others, or the environment by misusing a pesticide.

There are different sections of the label; each part is important. It's very important to make sure that you are familiar with the product label. Some of the components include the brand

name, ingredient statement, registration number, establishment number, manufacturer's name and address, net contents, type of pesticide, and directions for use. The label also gives warning statements so that you know the potential dangers and safety steps that should be taken in an emergency.

DANGER!

There are four different ways that a chemical can enter the body. These routes include *dermal* exposure (skin contact), *oral* exposure (by mouth), *inhalation* (breathing in to the lungs), and *ocular* exposure (eye contact). Absorption through the skin, the most common route of exposure, can result in itching, blistering, or a rash. Symptoms that could be experienced from oral exposure can include a burned mouth, sore throat, or an upset stomach if the pesticide has been ingested. If pesticides are inhaled, an applicator can experience pain or tightness in the chest. Exposure to a chemical through the eyes can result in irritation, as well as temporary or permanent blindness.

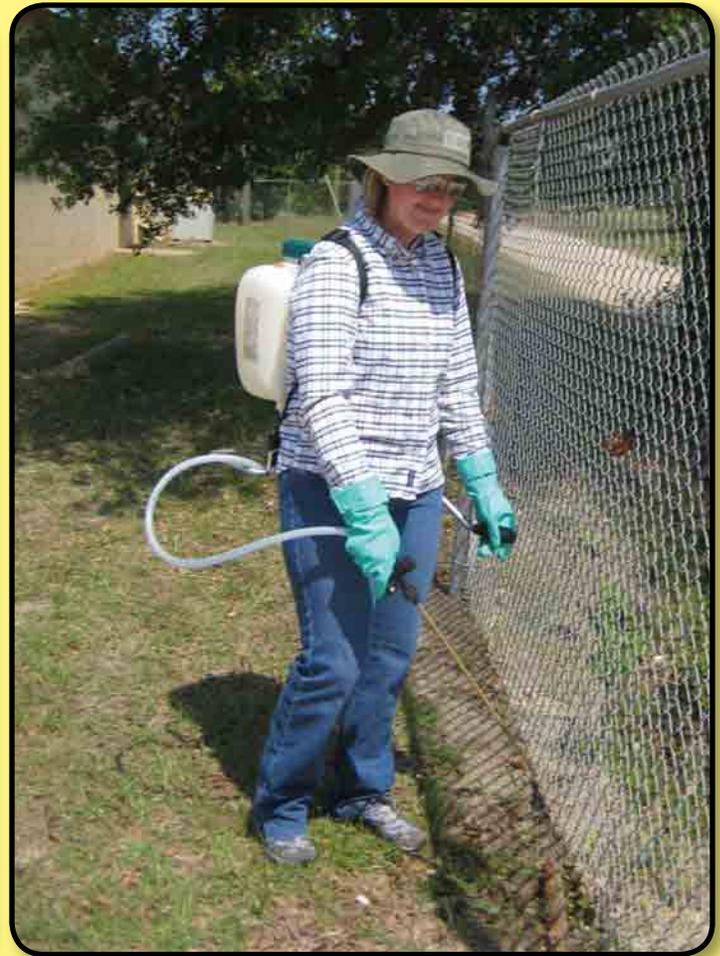
Pesticides have different types of toxicity. They include acute, delayed, and allergic effects. Acute effects are usually an immediate and obvious response to a chemical. Symptoms occur from a single exposure and develop within 24 hours after exposure to the offending chemical. Be sure when working with pesticides that you don't work alone, and that there are copies of all pesticide labels you are using in case of an emergency.

Acute symptoms that you could experience can include headache, giddiness, nausea, blurred vision, and/or chest pains. If you experience any of these symptoms when working with pesticides, you need to seek medical attention as soon as possible. Be sure to take a copy of the pesticide label with you to the doctor. This will let the doctor know what you have been exposed to and how to treat the symptoms.

Delayed or "chronic" effects are usually from long-term, repeated exposure. A few examples of symptoms that might be seen are tumors, gene effects, miscarriage, birth defects, infertility, sterility, and nervous system disorders.



What NOT to Wear – In this photo, the applicator is not dressed in long pants, long sleeves, gloves, or head protection as required when using pesticides.



Proper Minimum PPE Requirements – The applicator in this photo is wearing the minimum personal protective equipment (PPE) for working with pesticides: long pants, long sleeves, gloves, eye protection, hat, shoes, and socks.

Allergic effects are an immune system response to a chemical. Symptoms that an applicator could experience are asthma problems, shock, rash, blisters, sores, itchy/watery eyes, and/or sneezing. When an applicator is allergic to a given chemical, he or she will experience their particular symptoms every time they are exposed to the chemical.

Different signal words are used on pesticide labels to indicate the acute toxicity of a given chemical. Those with “DANGER POISON” illustrated with skull and crossbones are highly toxic chemicals. “DANGER” can cause severe eye damage or skin irritation. “WARNING” is a moderately toxic chemical, and “CAUTION” is a slightly toxic chemical.

Personal Protective Equipment (PPE)

In order for you to reduce exposure to pesticides, you should wear the proper personal protective equipment (PPE). Be sure to read the pesticide label . . . the minimum PPE required for a given pesticide is listed on its label. Dermal exposure can be reduced 99 percent simply by wearing chemical-resistant gloves and a long-sleeve shirt. The minimum PPE that an applicator should wear is long pants, long-sleeved shirt, gloves, eye protection, shoes, and socks. It is especially important to wear the

required PPE when mixing and loading chemicals because this is the time when you will be exposed to the most concentrated form of the pesticide; an apron is strongly recommended.

After handling or working with pesticides, make sure that you wash thoroughly with soap and water. Take a shower as soon as you finish for the day or if you have been exposed to a chemical. Chemical residue can be transferred to anything you touch prior to washing. Be sure to wash your hands before eating, drinking, or using tobacco products, as well as before going to the bathroom.

Summary

To use a pesticide correctly and safely, start by reading and following the pesticide label instructions carefully. Read the label before you purchase the product so you know that you are purchasing the correct product for the job. Read the label before you use the product so that you know how to use it correctly and what safety measures you need to take. Also, make sure that you are prepared for the unexpected. Take general safety steps so that you are prepared for an accident. Post the National Poison Control Center telephone number (1-800-222-1222) in case of an emergency.☎

HARDWOOD CORNER

Recent Events

By James P. Jeter

BMP Forester/Hardwood Specialist, Alabama Forestry Commission

To try and keep you up-to-date with ongoing activities as they relate to hardwood management, this article will briefly cover two meetings I attended in April, as well as a practice being offered by the Natural Resources Conservation Service under the Conservation Stewardship Program.

Alabama Invasive Plant Council (ALIPC)

The first meeting I attended was the *Ninth Annual Alabama Invasive Plant Council Conference* in Auburn. This conference just keeps getting better and I encourage any landowner to attend one in the future. Not only are some of the presentations technical in nature but there is also an abundance of common sense, something you do not see much of any more. Some of the presentations included:

- The biofuels boom and invasive plants: what the future holds for the U.S. – *Dr. Pat Minogue, University of Florida*
- North Florida Invasives: incoming threats to Alabama – *Ken Langeland, University of Florida*
- NPDES Permitting and Pesticides: The changes you need to know about! – *Dale Mapp, Alabama Department of Environmental Management (ADEM)*
- New herbicides for invasive plant control – *Dr. Stephen Enloe, Auburn University*
- Alabama Tropical Soda Apple Eradication Program Update – *Lee Tuten, USDA Animal and Plant Health Inspection Service (APHIS), and Travis Taylor, Alabama Department of Agriculture and Industries (AGI)*

The afternoon included the following field stops covering topics led by experts such as Fred Nation, Nancy Loewenstein, Kim Pope, Stephen Enloe, Jimmy Cobb, Jim Miller, and Erwin Chambliss:

- Native plant identification and cogongrass “look-alikes”
- Invasive plant identification
- Herbicides and eye protection
- Box store herbicide update
- Kudzu control

Many invasive plants and/or their seeds travel and relocate through the abundant streams that run through the coves, stream bottoms, and river bottoms where our best hardwood species grow and thrive. Therefore, you must learn to manage plants such as privet (and others) if you want to grow quality hardwoods. This is one of the meetings where you can learn to do exactly that.

Google or Bing “Alabama Invasive Plant Council” . . . they have a great website full of information (www.se-eppc.org/alabama/).

Southern Forestry Hardwood Group

The next meeting I want to share with you is the *Southern Forestry Hardwood Group*. The purpose of the group, according to its constitution, is to “provide a medium for exchange of ideas on the management and utilization of hardwood timber for all those actively engaged in this pursuit within the states of Alabama, Arkansas, Louisiana, Mississippi, and Tennessee, as well as for other individuals who express a genuine interest in hardwood timber management and utilization.” This purpose has expanded through the years to include wildlife habitat management and other ecological values. The group usually meets twice per year, once in the spring and again in the fall.

The spring meeting was held on the William B. Bankhead National Forest. Hosting the meeting was Dr. Callie Schweitzer with the U.S. Forest Service, Southern Research Station. Stops included a series of mixed upland hardwood stands on the Cumberland Plateau that are being managed towards a dominant hardwood desired future condition, using a combination of thinning and prescribed burning. Stands observed included those that have been thinned only, burned only, thinned and burned once, and burned twice. The analysis includes parallel studies involving the “Response of Ground Layer Vegetation to Thin and Burn” and “Response of Breeding Bird Communities to Forest Prescribed Thinning and Burning Treatments.”

Basically these practices involve converting (over time) mixed pine hardwood stands and mixed hardwood pine stands to mixed hardwood-only stands with an oak component. Let me

remind you that this area and the practices involved are being utilized to meet a wildlife habitat objective.

This is an excellent Alabama study that has been needed for years and that will give good factual data related to burning in upland stands to promote oak regeneration. Thanks should be given to the staff at Bankhead for working so diligently with Dr. Schweitzer and her associates. This study may change my opinion about burning in hardwood stands, but not at this time. As the old saying goes, 'the proof of the pudding is in the eating.' I will leave it at that.

April Tornado Devastation

In between starting this article and finishing it, Alabama suffered what may very well be the largest catastrophic natural disaster in the state's history — the April 2011 Tornadoes. The first series of tornadoes hit us on April 15. We (in the areas that were hit) were starting to get our arms around the extent of damage caused by these storms when April 27 rolled in, making history. First the storms that morning, then watching in shock that afternoon as the day culminated with over 31 tornadoes touching down or forming across the state.

The timber damage is excessive, with some partial loss of stands, and many stands and complete ownerships being completely destroyed. The hardwood stands that have been affected may need a silvicultural clear-cut harvest while some stands may only need partial harvest. Please get someone to help you evaluate your stand.

The USDA Natural Resources Conservation Service (NRCS) offers an enhancement practice under the Conservation Stewardship Program (CSP) that may help you re-establish some of your hardwood stands: ***Plant Enhancement Activity – PLT12 – Patch Harvesting to Improve Degraded Hardwood Stands.***

As with any practice, certain criteria must be met before the practice is allowed. This practice is an "Enhancement Activity" under the current Conservation Stewardship Program so I really do not know if it can or will be applied to storm-degraded stands. Some of the criteria follow:

1. Offered forested acres must be harvested during contract period.
2. Offered acres must have an "acceptable growing stock" level below 50 square feet per acre.
3. Site condition must be of medium or higher quality.
4. Forested acres targeted for patch harvesting must contain species for regeneration from the NRCS state list. Species on this list were selected based on their abilities to

regenerate from seed, sprouts, or other natural regeneration sources.

5. For the oaks, advance regeneration must be present or developed prior to the harvest-cut in order to be competitive with other faster growing species.
6. Size of patches to be treated can vary from one to ten acres, be distributed throughout the forest, and cannot total more than 50 percent of offered acres.
7. Trees removed during patch clear-cut can be sold if of marketable quality.
8. Slash and cull trees must be managed to allow for natural regeneration to occur. This can be accomplished by windrowing, wildlife piles, chipping, or cutting for firewood.
9. Burning of slash is prohibited.
10. Patch harvesting shall not be done in or directly adjoining areas with established populations of invasive species unless specific control strategies will be implemented.



Additional Criteria for Patch Harvesting:

The species likely to be present following the regeneration harvest will vary for each stand, and will depend upon many factors including advance regeneration, seed, and sprout sources. Desirable species such as red oaks and white oaks should be favored. Recognizing the regeneration sources, site productivity, and the growth habit of each species and how they all interact in their associated competitive environments will assist in your placement of these patches for successful regeneration of the favored species.

While most hardwoods regenerate quickly and readily following a disturbance of the stand, oaks present special regeneration problems. For the oaks, advance regeneration must be present or developed prior to the harvest-cut in order to be competitive with other faster growing species.

Oaks have to be present in the existing stand if you desire oaks to be naturally regenerated.

Patches should be one to ten acres in size with attention being paid to distribution throughout the stand as desired. **The patches must total at least 20 percent of the offered stand, but must not be more than 50 percent.** Many smaller landowners may only need patches to be one to five acres in size based on their ownership. Attention needs to be given to the density of the deer population on the tract. If you have a one-acre patch in a mature stand with a high deer population, there is a high probability the patch will be browsed down every year, damaging your regeneration efforts. It is suggested for high deer density counties that patch harvests be no less than three to five acres in size.

For additional details, call your local NRCS office. ☎



(Right): GET THE PICTURE? — Auburn horticulture professor and veteran Alabama Ag Experiment Station researcher Billy Dozier takes close-up shots of a young burr-loaded “AU Buck III” Chinese chestnut tree growing in a research orchard in Camp Hill. Dozier took the photo about 10 years ago when long-time horticulture professor and chestnut research leader Joe Norton retired and Dozier took over the long-term project.

Wildlife-Attracting Chinese Chestnuts

Debut on Market This Fall

An Auburn University research project that began more than 75 years ago has yielded six new Chinese chestnut varieties and two dwarf cultivars that have been selectively bred to drop an abundance of high-quality nuts in succession from late August through November, providing a continuous high-energy food source for wildlife throughout the fall.

When the new cultivated varieties hit the market this fall, they will come as package deals. Four of them — *AU Buck I*, *AU Buck II*, *AU Buck III*, and *AU Buck IV* — produce large crops of medium- to large-sized nuts and will be marketed together as the Chinese chestnut deer package. The other four — *Gobbler I*, *Gobbler II*, and the two dwarfs (or seguns): *AU Premier* and *AU Encore* — bear smaller chestnuts that are ideal for wild turkey and together will comprise the “turkey package.”

“These cultivars have been developed for wildlife purposes,” veteran Auburn horticulture professor and researcher Billy



just prior to nut drop, and then collecting the nuts from those above-ground tarps every day until the last nuts fell.

The eight cultivars are third-generation descendents of Chinese chestnuts that U.S. Department of Agriculture scientists and Auburn horticulture personnel gathered in China's Hubei province in the early 1930s and planted on a horticulture research farm on the Auburn campus for breeding research.

The breeding project was motivated in large part by a fungus — specifically, a ferocious chestnut blight fungus that had accidentally been imported from Asia in 1900 and, by 1940, had destroyed the 4 billion American chestnut trees that had dominated U.S. forests for centuries. Chinese chestnuts, however, were immune to the disease, and thus became a subject of interest to the research world. Most of the research

Dozier says. "They have staggered chestnut-drop dates, so if you plant all the trees in a package together in a group, you'll have a constant supply of chestnuts on the ground all the way from about the end of August on up till the end of November every year."

Auburn's Office of Technology Transfer, which serves as the link between Auburn researchers and the commercial marketplace, has licensed the patented cultivars to The Wildlife Group, and that Macon County nursery will introduce limited supplies of both the deer and the turkey Chinese chestnut packages to the market later this year.

Though each of the cultivars has been developed for its specific desirable traits, all share several important characteristics that make them an excellent option for landowners looking to enhance wildlife habitat on their property. They are prolific, highly adaptable, blight-resistant trees that grow quickly and produce large crops year after year. Plus, they need little to no maintenance.

"They're easy to grow," Dozier says. "We don't use and never have used fungicides or insecticides on any of our chestnut trees, and through all these decades, we haven't found a disease or pest yet that bothers them."

With the exception of AU Premier and AU Encore, the new varieties grow to heights of 30 to 40 feet. As sequin cultivars, the Premier and Encore average only 15 to 19 feet in height. The chestnuts produced by the different trees vary in size, but Dozier describes the taste of all the cultivars as "excellent, very sweet."

Wildlife apparently agree.

"We couldn't get accurate yields on these cultivars because of extremely heavy wildlife feeding, so we rated the trees for crop load instead," he says. They did so by installing 6-foot-tall chicken wire cages around individual trees, placing tarps beneath the canopies

focused on breeding the Chinese species' blight-resistance gene into American chestnuts, but at Auburn, the goal was to develop new, improved varieties of the foreign tree.

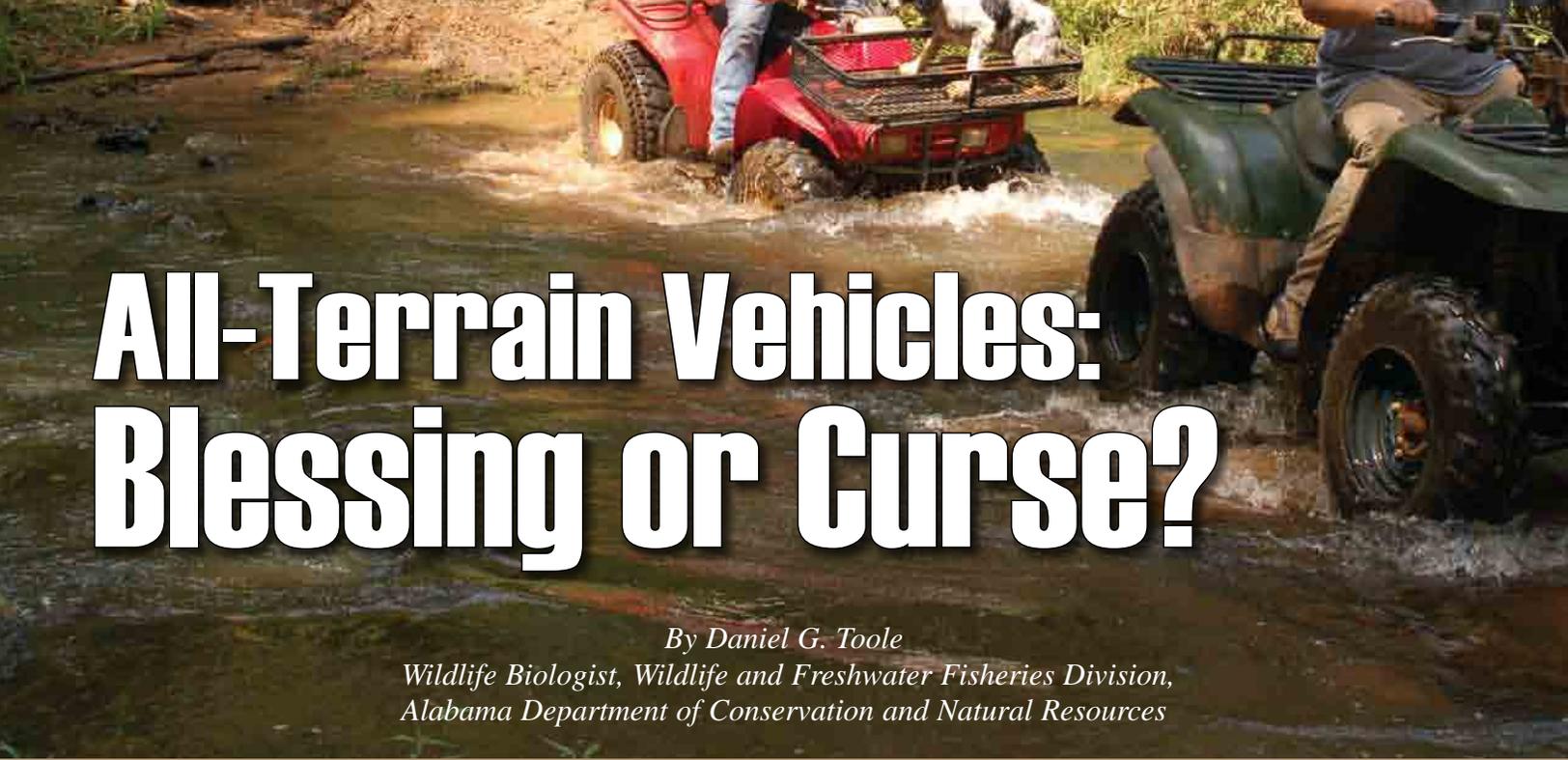
From the initial planting at Auburn, researchers selected about 2,000 seedlings from the top-performing female trees and, using controlled mass pollination techniques, produced the second generation of Chinese chestnuts at the Alabama Agricultural Experiment Station's Piedmont Research Unit in Camp Hill. Researchers released three cultivars from that generation in the early 1980s: *AU Cropper*, *AU Leader*, and *AU Homestead*. In 1990, the best seedlings from those three varieties were chosen, and scientists established the third generation via the mass pollination method. The newly patented "wildlife" cultivars, then, all are offspring of Cropper, Leader, or Homestead.

Wayne Bassett of The Wildlife Group said the two four-cultivar packages will be available later this year, though supplies may be limited. Each package will consist of four individually-grafted seedlings in three-gallon containers, standing from 12 to 24 inches tall. The trees grow vigorously and should be producing nuts within two to three years, he said.

Though bred for wildlife purposes, the nuts that the new cultivars produce are excellent for human consumption, too. Dozier says, however, that he will start the patent-application process soon on another cultivar that produces exceptional chestnuts. Selling the nuts fresh from the farm or to local grocers and restaurants could provide a new source of income for growers. ☞

PREPARING TO LAND — "AU Buck II" Chinese chestnuts are ready to drop from the spiny burs in which they developed. The Buck IIs are good-sized nuts that are too large for turkeys but perfect for deer. They are part of a four-tree package Auburn researchers have developed to provide wildlife a constant supply of chestnuts throughout the fall.



A photograph showing two all-terrain vehicles (ATVs) crossing a river. The ATV in the foreground is green and is partially submerged in the water, with a person riding it. The ATV in the background is red and is also crossing the river, with a person riding it. The water is splashing around the tires of the vehicles.

All-Terrain Vehicles: Blessing or Curse?

By Daniel G. Toole

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

Many of us own – and even more of us wish we owned – an all-terrain vehicle, commonly called an ATV or four-wheeler. They are fun to ride and can be a great asset while hunting or maintaining property. Occasionally, it is good to be reminded of the responsibilities that must be assumed by all ATV users. ATVs used responsibly can be a blessing to have. Used irresponsibly, they can be a curse to landowners, hunting clubs, and drivers on public roads.

ATVs were first mass produced in the 1970s, but did not become readily seen in the field until the 1980s. Farmers and other landowners found that these vehicles filled a valuable niche between a pickup truck and a farm tractor. Today, ATVs are often used to do a variety of chores such as carrying tanks to spray herbicides along road edges, field borders, fence rows, and other hard-to-get-to places, as well as assisting with patrolling boundary lines, checking or repairing fences, and even checking on the condition of livestock. The list for these useful vehicles is endless for a farmer or landowner.

Hunters also have found these vehicles to be useful in the field. ATVs often provide easy access into hard to reach places by using old logging roads or other trails that are impassable for a pickup truck. Elderly or disabled hunters have greatly benefited from the use of ATVs for this reason. Others have found that they do not need a four-wheel-drive truck with expensive mud grip tires if they have an ATV. Some hunters have also found that they can manage small wildlife openings without the need of an expensive tractor. Many brands of smaller farm implements are now available as attachments for ATVs and can handle such maintenance chores as mowing, disking, or seeding small wildlife openings. Openings can even be located in areas that were previously inaccessible by a farm tractor.

Hunters are also using their ATVs to assist them with carrying materials and supplies into secluded areas to build tree stands or shooting houses. Probably the most common use of an ATV by the average hunter is to assist with transporting a harvested deer or other large game back to their vehicle at the end of a successful hunt.

Unfortunately, some users have forgotten how to use, or refuse to use, their ATVs responsibly. Unwanted guests driving around gates or signs, crossing creeks, or other natural barriers, to access private properties without permission are plaguing landowners and hunting clubs across Alabama. Some ATV users seem to believe they have the right to ride their ATVs anywhere, at anytime, and on anybody's land. Others seem to think it is okay to operate ATVs on public roads, even though they do not meet the safety requirements of the Department of Transportation. Some parents are even allowing or giving their approval for children to operate ATVs without their supervision, often with devastating results. As with any type of vehicle, owners should familiarize themselves, and others who may use them, with their safe and responsible operation. Users should always read and understand their owner's manual and safety guidelines, and understand their legal and ethical responsibilities when operating an ATV.

Wildlife populations need periods of rest from human disturbances, especially during nesting season and while rearing their young. ATVs can negatively affect wildlife during these crucial times. Many ground nesting species, such as wild turkey, quail, and rabbit will nest along the edges of roads and trails. If there is too much disturbance in the area, nests may be abandoned. The nests and young of small mammals and birds may even be run over by an ATV without the operator being aware of it. ATVs on many public areas are only allowed to be operated on regularly-used roads or designated trails to prevent habitat damage, soil erosion, as well as conflicts with hunters and other users. On these lands, ATV users are legally bound to abide by all laws for the protection of wildlife, wildlife habitat, landowner rights, public safety, and even the ATV user's safety.

ATVs fill a valuable niche, providing a useful utility vehicle to landowners and hunters that can assist them with completing a variety of tasks. ATVs also provide a means of enjoying the outdoors, transporting users around and over a variety of obstacles, for long distances. ATVs are beneficial in many ways, but they should always be used safely, legally, and responsibly. 



ATV SAFETY

*By Karl Byrd
Forestry Specialist, Alabama Forestry Commission*

All-terrain vehicle usage is at an all-time high. They can be used for all types of tasks and jobs in city, urban, and woodland environments. From simple transportation, to hauling, to more specialized tasks, these versatile machines make the modern woodland farm more efficient and productive. Forest landowners employ all-terrain vehicles (ATVs) to inspect property, do property maintenance, aid in management work, and many other activities. Several companies have joined in the market to produce ATVs to meet the needs of any and all users.

While versatile, ATVs pose a safety hazard if they are not operated properly. Although the most common use is recreational, the ATV is not a toy. It is a powerful motorized vehicle. Many models weigh over 600 pounds and have the capability of traveling over 60 miles per hour. Even the best-trained individuals lose control of their ATVs. A collision or rollover can happen quickly at high rates of speed. These accidents often result in severe or debilitating injuries, even death. Some of the most common contributors to injuries include not wearing a helmet, carrying one or more passengers, lack of mature judgment, lack of adequate strength and coordination, and an ATV that is too big for the rider's size and age. According to the U.S. Consumer Product Safety Commission, there were 214 deaths reported in Alabama between 1982 and 2006.

Protective gear, inspections, and proper handling can reduce ATV hazards for operators in the field of forestry. Protective gear keeps the rider safe and in control of the ATV. The ATV Safety Institute recommends that riders use motorcycle helmets that are certified by the U.S. Department of Transportation (DOT) and/or the Snell Memorial Foundation. Helmets certified for ATV use provide head protection and cut the death risk by half. They should be secure and impact resistant, yet still allow peripheral vision. A helmet face shield, goggles, or glasses protect the eyes from flying dirt, rocks, insects, or vegetation. Gloves and boots protect the hands and feet, and allow the rider to maintain a firm grip and control over the ATV. Long sleeves and pants protect exposed skin.

(Continued on page 31)

Conducting a Simple

Timber Inventory

By David C. Mercker, Extension Specialist and Jason G. Henning, Assistant Professor
University of Tennessee Department of Forestry, Wildlife and Fisheries

Timber inventories are the main tool used to determine the volume and value of standing trees on a forested tract. A timber inventory, like any inventory, involves taking stock of how much material is available. While timber inventories have traditionally been performed to place a value on a stand before sale, they are also useful for providing information for the development of management strategies, estate planning, tax basis, or litigation. A timber inventory will establish two key pieces of information: 1) the number of *trees per acre* (tpa) on a forested tract, and 2) the *volume per acre* of wood that could be extracted from those trees.

The two most common products of a timber harvest are *saw timber* and *pulpwood*. Saw timber is generally more valuable than pulpwood. The volumes of standing trees designated as saw timber are typically estimated in *board feet* (bf). The volumes of standing trees designated as pulpwood are often estimated in *cubic feet* (cu. ft.), *cords*, or *tons*.

To estimate volume, a professional forester will normally use a diameter tape (d-tape) or Biltmore stick to measure *diameter at breast height* (DBH). *Merchantable height* is also measured and is the number of logs that a tree will be sawn into when harvested. Professional foresters will generally use a clinometer or Merritt hypsometer to measure merchantable heights. Merchantable heights are measured to a minimum top tree diameter. The minimum top diameter depends on whether the tree represents pulpwood or saw timber. Minimum top diameters can differ by market, so check with local mills for limits in your area.

Once you have measured the DBH and height of a tree, you are ready to determine the tree's volume. Saw timber volumes for each combination of height and diameter can be found in a volume table. There are a number of available volume tables, each differing in how they estimate the volume that could be extracted from a standing tree.

There are different types of inventory. This is too involved to discuss in detail here, but the types are: 1) 100 percent tally, 2) fixed radius plot sampling, and 3) variable radius plot sampling. The sampling methods have some error because the entire tract is not being measured.

The boundaries of your forested tract should be clearly marked before undertaking any sampling to avoid accidentally

sampling outside the tract of interest. In many cases, boundaries are obvious, but in cases where there might be some confusion, flagging or paint can be applied to boundary trees.

Often there will be considerable variation in the size, distribution, and species of trees across a forested tract. These variations can result from previous land use, soil conditions, slope, etc. To maximize the accuracy and utility of your inventory results, prior to collecting field data it is best to map your tract into stands that are similar in the size and species of trees present. For instance, a forest stand that originated following abandonment of row cropping would have different attributes than a stand that had been continuously forested. By mapping the forest into different stands and collecting and summarizing data for each of those stands, you can gain valuable insight into which stands would be best to harvest and what treatments may be necessary to increase the value of other stands.

One way to help ensure a successful timber inventory is to plan properly before you start measuring trees. Good preparation will increase your efficiency in the field and increase the accuracy of your final estimates. You should be comfortable finding your way around the forest. Before you begin an inventory, it is important that you understand how to measure tree DBH and merchantable height, as well as how to navigate in the woods using compass and pacing. Foresters rely on a hand-held compass for direction determination and on pacing for distance determination. The use of both are necessary for determining the location of plots.

Timber inventory can be a very complex and subjective process, and this article is a very brief introduction to the terminology and methodology. Even trained professional foresters and experienced loggers often arrive at differing volumes and values when inventorying timber. Because most private forest landowners are not comfortable with inventorying their own timber, professional assistance is highly recommended. This is particularly the case when decisions related to timber value have lasting consequences. 

Editor's Note: For more information, refer to Conducting a Simple Timber Inventory by Jason Henning and David Mercker, 2009. PB 1780. The University of Tennessee Extension. <https://utextension.tennessee.edu/publications/Documents/PB1780.pdf>

ATV SAFETY

(Continued from page 29)

Before riding, learn how to properly use all the mechanical controls and safety devices of the vehicle. Read the owner's manual. Maintenance and pre-use inspections should be performed prior to any use of an ATV. Tires should be in good condition and maintained at the manufacturer's recommended air pressure. The ATV should have adequate oil and fuel levels. The chain, chassis, nuts, and other connections should be checked and secured. Brakes, controls, and cables should be functional, properly adjusted, and operate smoothly.

Preventing serious injury starts with training. ATV riders with at least one year of experience have a much lower risk of injury than new riders. However, training can bridge the gap. Most importantly, all ATV riders should take a hands-on ATV safety course from a certified instructor. These courses are offered by the ATV Safety Institute, local ATV rider groups, and agencies responsible for regulating their own ATV use. The National 4-H Council also sponsors educational seminars on safe riding for children and teenagers. Learning to drive an ATV safely can be a challenge, but proper fundamentals will help the rider maintain control of the ATV. Good training teaches new riders how to handle many different riding situations, and helps to aid in judgment of the individual's capabilities and the limitations of the ATV.

All riders need practice and instruction on ATV handling techniques prior to field use. Learn how to shift your weight and maintain speed during turns and uphill/downhill maneuvers. When riding, scan ahead and to the side for obstacles, uneven

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terrain, other vehicles, people, and animals. Reduce speed to at least 15 miles per hour if you see a potential hazard. Pay attention to hazards such as guy wires and barbed wire fences; they are low profile and difficult to see. Never ride on a public road except to cross it. If you must cross a road; use extreme caution. Remember that ATVs are low to the ground and may not be visible to other vehicles. Lights, reflectors, and flags can make the ATV easier to see.

Remember to heed the warnings posted on the ATV. Don't carry passengers on ATVs that are designed for single individual usage. Finally, never operate an ATV that is too large or powerful for your capabilities.

For more all-terrain vehicle safety information, to take a hands-on ATV RiderCourseSM, or to enroll in a free online e-course, visit the All-Terrain Vehicle Safety InstituteSM (ASI) website at www.atvsafety.org or call (800) 887-2887. ☎

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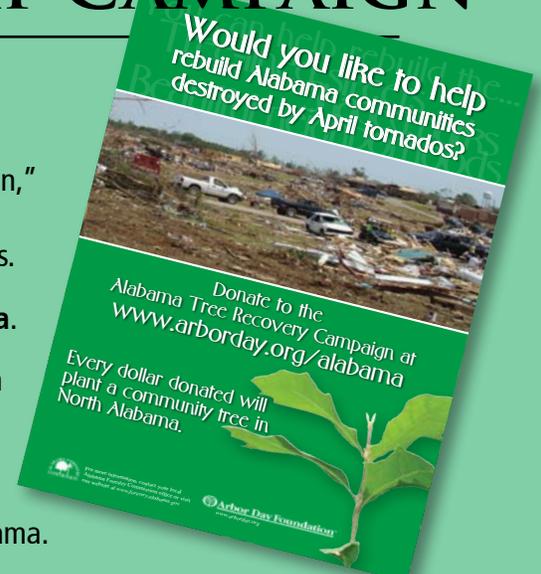
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Flowering Dogwood

(*Cornus florida*)

By Fred Nation, Environmental Services, Baldwin County

Throughout Alabama and most of the Eastern United States, dogwood flowers in our landscapes are beautiful promises of spring. The American native flowering dogwood, *Cornus florida*, is one of the most widely planted and most beloved of the world's trees. To a mischievous little "woodsie," many years ago in Montgomery County, clouds of lovely white dogwood flowers in the forest were a clear sign that it was finally time to go barefoot, and the bream were moving onto their beds!

A small, irregularly shaped understory species, dogwood is most often found in partial shade, beneath larger trees. The leaves are deciduous, opposite, to about 5 inches long, 2 inches wide; entire, or with minute marginal teeth. Leaf shape is variable, almost round to lanceolate, with abruptly sharp-pointed tips. The flowers are small and yellowish, surrounded by four large, showy white or pink bracts which resemble petals, appearing in early spring with the leaves. Dogwood fruits are bright red, oval, berry-like drupes, containing a pit with two seeds. These pretty red fruits provide an important winter food source for birds and squirrels. The bark is dark gray-brown, thick, broken into small squarish plates. *Cornus florida* is a larval host for spring azure butterflies.

Dogwoods occur in Europe as well as North America. The wood is quite hard and strong, yet flexible. In England the cornel, as dogwood is called, was valued in ancient and medieval times for weaponry such as bows, arrows, and lance shafts. The

common name, in fact, is derived from the old English word *dagge*, a dagger or sharp-pointed object.

Indian uses of dogwood include a red dye made from the roots to color quills and basketry. They made poultices from the bark to treat sores, and dogwood bark teas were brewed to treat diarrhea and fevers. It was a wood of choice among the North American Indians, along with osage-orange and hickory, for making bows. Dogwood is too small to be of much value as lumber, but its hardness and durability have made it useful for tool handles, loom parts, spindles, and wheel hubs.

Smoke was widely believed by North American Indians to be mystical – a way to communicate with the spirit world – and pipe smoking was an important element of their ceremonial lives. The leaves and inner barks of many plants, including, sumac, willow, cherry, and tobacco were smoked in calumets, as Indian pipes were often called. The inner bark of dogwood was a frequent ingredient in these Indian smoking mixtures.

Among the European settlers and their herbal doctors, dogwood enjoyed a reputation as a "febrifuge," a treatment for fevers that was equaled by very few native plants. Some sources even placed the bark above quinine as an anti-malarial. During the Civil War, the Confederate government placed ads in newspapers, offering to purchase dogwood bark. *Cornus florida* was listed as an "official" medical preparation in the *United States Pharmacopeia* from 1820 to 1894.

Flowering dogwood is the state flower of Virginia and North Carolina, and the official state tree of Missouri. The Alabama State Champion *Cornus florida* is a giant – 70 inches in circumference, 38 feet tall – located in Cleburne County. 🌳

