

ALABAMA'S

TREASURED

FORESTS

SPRING 2005

A Publication of the Alabama Forestry Commission

- **Multi-Shift (Night) Logging in Alabama**
- ***Firewise* Communities**
- **Reforestation of Alabama's Abandoned Mines**
- **Trees and Wildlife: A Good Combination**
- **GIS Technology at the AFC**
- **Deer "Proofing" Your Property**

A MESSAGE FROM . . .



BOB RILEY
Governor, State of Alabama

Alabama is one of the most blessed states in our country with its natural beauty and abundant resources. Much of this beauty is located in one of our state's four national forests. The USDA Forest Service manages over 666,000 acres of land in Alabama that includes the Bankhead, Talladega, Conecuh, and Tuskegee National Forests. These treasures are working forests that are managed for multiple uses like recreation, wildlife, timber, fish, water, soil, and wilderness.

There is something for everyone in Alabama's national forests. Hundreds of miles of hiking, biking, horseback, and ATV trails run through this diverse land. Clean lakes and beautiful streams provide opportunities for swimming, boating, canoeing, and fishing. Hunting is allowed in the wildlife-rich management areas and the forests give generous opportunities for bird watching, photography, picnicking, and camping. Mile after mile of rural roads provide sightseeing or just that quiet spot away from everything. Around 41,000 acres of the national forests are kept as wilderness land where you can go and enjoy nature undisturbed.

The stewards of this valuable resource are the men and women of the USDA Forest Service. This year the agency is celebrating its centennial - 100 years of service to the land and the people that enjoy it. Alabama is most fortunate to have our national forests and the wonderful people who carefully manage it for all of us to enjoy. The job they do is invaluable to our state and every citizen living here. Congratulations to the USDA Forest Service on their 100th anniversary and keep up the good work of providing special places for each one of us. 🌲



TIMOTHY C. BOYCE
State Forester

This year the USDA Forest Service is celebrating its 100th anniversary. In this 100-year journey they have gone from an agency primarily responsible for protecting and conserving national forests and grasslands to one of the most valuable assets to state and private forestry in the nation.

Aside from being the caretakers of 192 million acres that include 155 national forests, 20 national grasslands, and 222 research and experimental forests, the Forest Service in the last century has become a vital and crucial part of the forest community at the grass roots level. They provide leadership across the nation in wildland fire management, operations, research, and technology. Much of Alabama's wildland firefighting program is dependent on the support of the Forest Service. It is only through their financial assistance that we are able to provide the fire protection that we do: through the purchase of equipment and gear, training of our firefighters, aerial detection, communications, fuel reduction, fire prevention, and education. Not only do they assist the Alabama Forestry Commission as an agency but they also have a large impact on rural volunteer fire departments. Through the National Fire Plan and the Rural Community Fire Protection Program, grant monies are administered by our agency for rural volunteer

departments. These funds provide for the organization, training, and equipping of fire departments in our state's rural communities.

The Forest Service is behind many of our forest management programs such as southern pine beetle and stewardship forests. They provide research and technology in the area of forest health for such things as non-native invasive species as well as insects and diseases. They support programs for water quality and clean air. Through us they help provide technical assistance and education to landowners and communities about how to care for their land. In addition, they are the leader in conservation education efforts not only through their national forests programs, but because they have become important assets in their local schools and communities.

In September Hurricane Ivan damaged and destroyed forestland and communities in much of south Alabama. It is through supplement emergency funds that the AFC has been able to reach out and provide assistance to landowners, communities, and fire departments in the initial response and recovery efforts. This assistance will continue for several years because of the USDA Forest Service.

In the early 1900's, Gifford Pinchot, the first Chief of the Forest Service, made a remark that has proved simple but true for 100 years. He summed up the mission of the agency as, "to provide the greatest amount of good for the greatest amount of people in the long run." The USDA Forest Service has met and exceeded their mission. On behalf of the Alabama Forestry Commission I want to say congratulations to the 37,000 employees of the Forest Service and I hope that you have many more years of service to our nation, state, and local communities. 🌲

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Cover: Although a sign of Spring across the deep south and a familiar sight in the forests of Alabama, did you know that the lovely wisteria is a non-native invasive species? Read about this creeping beauty on the back cover. *Photo by Coleen Vansant*

Background this page: Another springtime bloomer, the understated prettiness of flowering quince is fortunately *not* a favorite food of deer. Learn how to protect your lawn with other plants that are deer-resistant on page 27. *Photo by Coleen Vansant*

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Full Circle

By *Elishia Johnson*, Editor

Retirement. The word is not even in Raymond Newman's vocabulary. However, managing the land, making improvements, planting and enjoying watching pine trees grow . . . those are phrases you'll hear often if you talk to Mr. Newman for very long.

Born and raised "just down the road," he first bought the property in Lee County in the late 40s – 1,046 acres originally. It was not very well managed, mostly crop and pasture land. Now, some sixty-odd years later, the land is much improved and there are quite a few more acres. It's covered in pines and hardwoods, and wildlife thrives here.

Mr. Newman began converting Circle N Farm to timber back in the late 70's. He had originally farmed the land: cotton, corn, and vegetables. Next he had

tried his hand at the cattle business, also having horses and raising Shetland ponies for a while. He laughingly says he was "kicked, hooked, thrown, even chased by a Brahma bull." Then, when the cattle market started declining, he sold every one of them – more than 400 head. Growing pines just seemed to be the obvious choice. He remarked that in a way, it was as if he were coming back full circle to something he had always loved. He started planting timber, and hasn't regretted it one bit.

There are a few slash and long leaf pines, but the plantations are predominantly loblolly. The age of the pine trees at Circle N range from 1-year-old seedlings to 40 to 50-year-old mature stands. Having been in the timber business for over 50 years, it's not surprising that one of Mr. Newman's management



theories is thinning. He states, "It improves the quality as well as the growth of the trees." He prefers planting to natural regeneration, adding that it's smarter and more economical in the long run. He is also a firm believer in prescribed burning, another practice that he completes on an annual basis. He says they burn 700-800 acres nearly every February. It seems that he actually worked his land under the principals of the TREASURE Forest program prior to hearing about it, long before becoming a TREASURE Forest in 1980 (Certificate #115). Then in 2003, all the hard work and sound management paid off when he was honored as a Helene Mosley Memorial Award Winner for the Southeast Region.

Although it is obvious that Mr. Newman himself is the "overseer," he says his son, Mike, also helps at the farm. That is, when he's not busy running the family timber business – Raymond turned that enterprise over to his son a few years ago, so that he could devote all of his energies to the farm.

Right: This road leading through a stand of 30-year-old loblollies represents just a portion of the 135 miles of road that take Raymond Newman anywhere he wishes to go on his farm.

Below: Hardwoods and mature pines enhance the view from the hunting lodge.

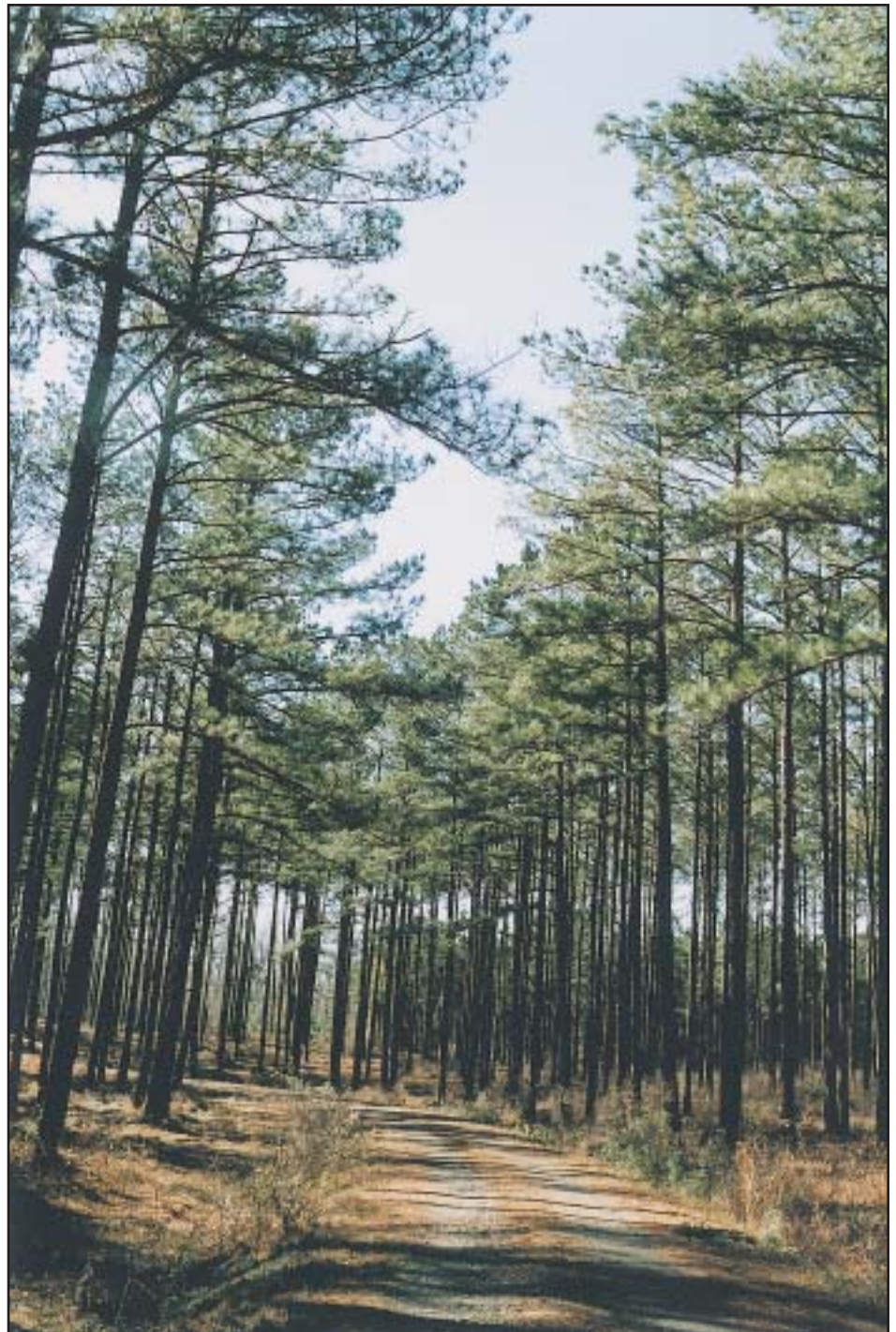
Over the years, they've received assistance and guidance from the Alabama Forestry Commission, as well as the Soil and Water Conservation folks.

With all of the effort he puts into timber, which is his secondary TREASURE Forest objective, you can just imagine the love and time Mr. Newman devotes to his primary objective: Wildlife! He is an avid quail hunter, and each year raises several hundred. With over 100 acres planted in food plots, there is also an abundance of turkey, deer, and doves. There are over 50 acres of grain sorghum and bicolor lespedeza for the quail, and

more than 40 acres of winter grazing plots of wheat, clover, and brown top millet. But planting of these grains is just the beginning . . . he has the equipment to do the whole process: a combine cuts the seed, then it is cleaned, bagged, and stored. Last year he harvested 70,000 pounds of wheat.

And don't forget the fish. There are three ponds at Circle N: a 17-acre, an 8-acre, and a 4-acre. They harvest blue gill, shell cracker, copper nose bream, and largemouth bass. In addition to fertiliz-

(Continued on page 6)



Photos by Elishia Johnson

Wildlife is the primary TREASURE Forest objective of Circle N Farm. Over 100 acres planted in food plots, such as this greenfield, attract an abundance of turkey, deer, and doves.

Below: An avid quail hunter, every year Mr. Newman raises several hundred birds from chicks. He loves to shoot birds and work with his five bird dogs.



Photo by Elishia Johnson



Photo by Elishia Johnson

ing, liming, and setting turtle traps, Mr. Newman states they keep the bass happy by feeding the bream. He says that he manages the ponds to promote good, quality fishing.

One of the most notable features of this TREASURE Forest is the road

building. According to Mr. Newman, there are 135 miles of road, all of which they build and maintain themselves. He says that there is nowhere on the property that he can't go and see

fruits of his labor with neighbors and friends. He also occasionally enjoys shooting at his regulation skeet range, and he's been known to host friends at the hunting lodge that he built about 30 years ago.

Meanwhile, Raymond Newman doesn't have any plans to retire. He hasn't got time . . . he's much too busy carrying out his timber farming philosophy which has proven quite successful: cut, spray, burn, then plant more! 🌱

what he wants to see! They quarry bronze rock out of three rock pits on the property, haul it with a 25-ton dump truck, use a D6 Caterpillar to crush it, then shape it with a 130G motor grader.

In all of his "spare" time, Mr. Newman attends to his hobby: the fruit orchards. He raises plums, pears, scuppernong grapes, as well as eight or ten varieties of peaches including Georgia Belle, Red Haven, and Lohring. He explains that it gives him great satisfaction to share the

Left: Raymond Newman, pictured with the skid steer that he says makes a snap of clearing the forest floor of sweet gum saplings and other undergrowth.

Right: The three ponds on the property are not only aesthetically pleasing, but also provide good fishing for bass and bream.



Photo by Elishia Johnson



Photo by Elishia Johnson

Truck drivers firmly attach a blinking yellow light to the longest log of each load as they continue their steady delivery to the sawmill.

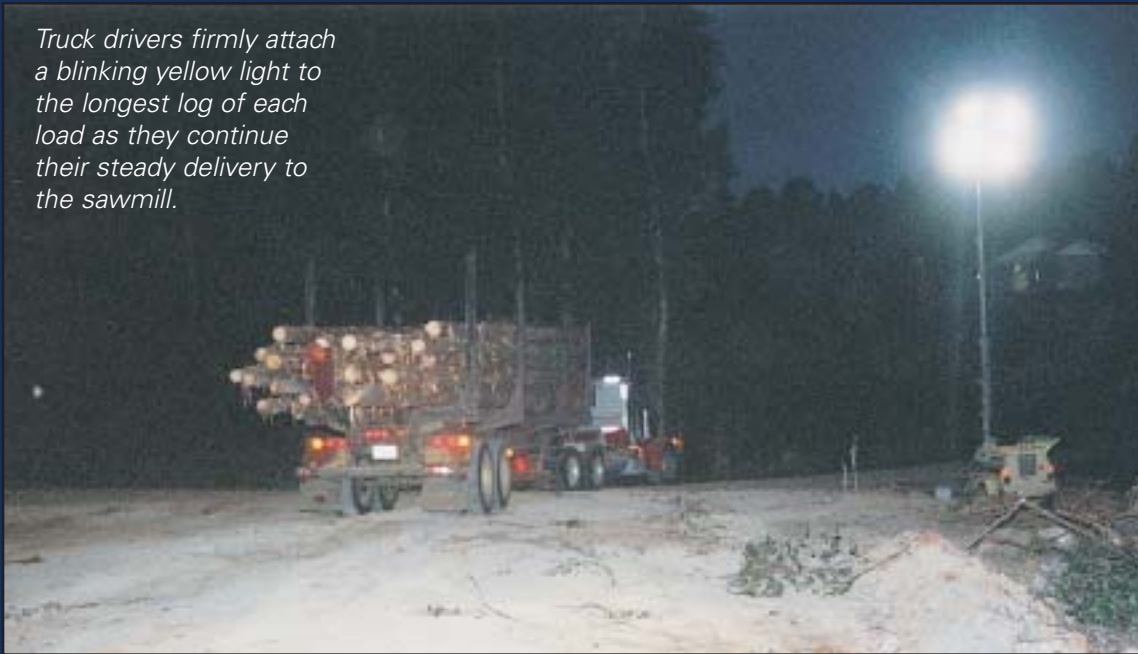


Photo by Tilda Mims

LOGGING UNDER THE NIGHT SKY: *Multi-Shifting* Comes to Alabama

By Tilda Mims, AFC Retired

Timber harvesting in Alabama, like logging in any other area of the country, is about more than just harvesting the forest these days. It is also about new harvesting methods, continuing education, sound environmental practices, and perhaps most important, sustainable forest resource management.

Add these concerns to cost controls, timely deliveries, and employee safety and it's easy to see some of the constant challenges facing logging contractors.

Responses to *Timber Harvesting* magazine's nationwide 2004 Logging Business Survey reported a "downsized and leaner logging force reeling from higher operating costs and poor profitability." More than 200 loggers from Alabama and 38 other states responded

to the study; one in four indicated their businesses lost money in 2003.

On the positive side, respondents were upbeat about their future in logging. A significant number indicated they plan to stay in business and pass it on to a son or daughter. While many reported diversification and cost-cutting strategies as coping measures, others are looking to a whole new way of logging to not just survive, but succeed.

Optimized logging, multi-shifting, double shifting, and night logging are terms to describe the practice of running a logging crew around the clock. Though typical in extremely cold climates where days are short and inclement weather is the norm, logging under bright lights is very new to Alabama.

Johnny and Michelle Kynard of Greensboro are good representatives of

the new type of logging contractors who are building their future on optimized logging. The Kynards are among the core contractors for Gulf States Paper Corporation. In 2003, Gulf States began exploring this new strategy in order to maintain a consistent wood flow for the Moundville Sawmill. They expanded the double-shift concept by using the term "optimized logging" to include maximized equipment utilization.

Rolfe Singleton, a harvest coordinator for Gulf States, was involved in the process from the start. "We offered the option of trying optimized logging to all of our core contractors and Johnny was immediately interested." They visited several sites to get a first-hand view.

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Skidders are equipped with specially-designed lighting packages to increase illumination on all sides.



Photos by Tilda Mims



Most new multi-shift operations in the South are running a 24/7 business with highly specialized cut-to-length equipment. Johnny says that when they came back to Alabama, he knew they could do it with his current equipment.

In late 2003, the Kynards started a second shift for a trial period using two trucks, one loader, and one skidder. According to Johnny, they tried cutting at night but it wasn't profitable or safe enough. So, they added a cutter to the day shift and concentrated on skidding, sorting, and loading during the second shift. "When we first started the trial period, it affected everyone's family life because we were learning as we went, but we never gave up," he says. "From a financial point of view, I had to do something. We worked only 221 days in 2002 due to weather and markets. I knew we had to try something new in order to keep the business going."

Optimized logging for the Kynards officially started January 1, 2004. From January 1 through July 2004, the crews missed only seven workdays.

Operating two shifts increases demands for maintenance. Both operators and the mechanic look over all equipment before each shift. This attention to preventive maintenance keeps all equipment in excellent condition.

The full crew works days, Monday through Friday. Nine experienced employees – two skidder drivers, two loader operators, and five truck drivers – work second shift Monday through Thursday. Johnny is there from "can to can't" working with Gulf States and motivating the crew to maintain high production, quality, and safety.

The goal is to work nine shifts a week and be off on the weekend. If weather is a factor during the week, they may work weekends to make up lost time.

Operating two shifts increases demands for maintenance and safety measures, and attention to detail becomes more critical. Johnny contends maintenance is even better than before because there are three sets of eyes checking out equipment, two times a day. Both operators and the mechanic look over all

equipment before each shift. Between shifts, crews discuss work progress and layout, machine problems, and other shoptalk. This attention to preventive maintenance keeps all equipment in excellent condition.

The harvesting operation centers on an on-site service truck. It is a well-equipped workshop and parts storage facility with hoses, fuels, hydraulic hose machine, welder, bolts bins, and many specialized tools. There are three mechanics in the crew and at least one mechanic available on each shift.

When computerized equipment needs repair however, they have to rely on specially-trained technicians. "We have a great working relationship with Warrior Tractor Company in Northport," Johnny points out. "I talked to them early in this process to make sure we would have the backing we needed to operate nights. We've had a mechanic down here at 2:30 in the morning to work on the computer in a piece of equipment." Reliable



Photos by Tilda Mims

mechanic support is critical to their success. "They help us get back to work," he said.

The equipment shows only normal wear and tear for the number of hours the equipment is operating. It will wear out faster, of course, but that isn't a problem because they are just as productive at night as in the day.

Safety is a concern on every logging site, but when visibility is limited, risks require more attention. Careful tract selection is the key. Rolfe says that not all tracts are suitable for optimized logging. "Steep terrain and old-growth timber requires people on the ground and that is not safe at night."

Once the site is approved for optimized logging, a Gulf States crew marks property lines and streamside management zones, and determines needed Best Management Practices. The day shift cuts and skids timber around edges of the tract to clearly mark lines for the night crew. Boundary lines cut during the day let the night crew know exactly where to

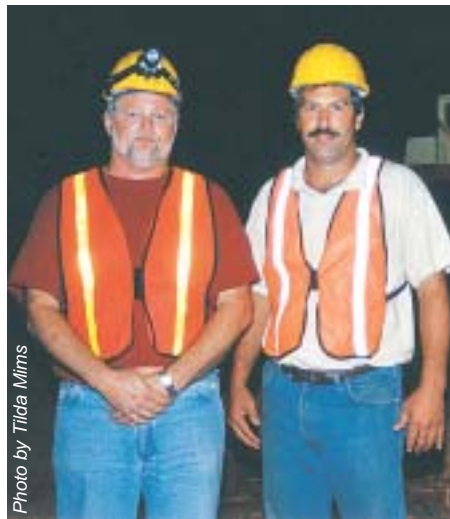


Photo by Tilda Mims

(L to R) Rolf Singleton and Johnny Kinard work together almost daily to ensure the productivity of the optimized logging operation.

begin and end. Extra set-up work performed by the day shift allows the 4:00 p.m. crew to continue the pace.

As the sun begins to set, the rhythm of the machines halts briefly while the crew prepares for a night's work under a starry sky. Poles of high-powered halogen bulbs are raised high, casting 8,000 watts of additional light over the entire work site. All personnel slide on reflective

vests and lighted hardhats, and skidders flip on specially designed lighting packages. Lighted roadway signs begin to glow in warning to passing drivers. Truck drivers firmly attach a blinking yellow light to the longest log of each load as they continue their steady delivery to the sawmill. One substantial advantage is quicker turn-around time at the sawmill. Night deliveries virtually eliminate waiting time, which is often 30-40 minutes during the day shift.

Casual observers in pick-up trucks often pull onto the side of the red dirt road, watching in fascination as the crew quickly resumes a steady pace of skidding, sorting, and loading.

Merchandising is the separation of species and products for loading on trucks. Lighting allows the experienced

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Lighting allows the experienced night loader/operator to be as accurate as the day operator.





Left: Three cutters work the day shift to ensure sufficient logs for the night crew.

Below: The day shift cuts and skids timber around edges of the tract to clearly mark lines for the night crew.

night loader-operator to be as accurate as the day operator.

An unexpected benefit is the ability of the skidder operator to pick out the smallest logs in his path. When working at night, skidder operators have very few distractions, with less interference from outside factors. This allows them to become more focused on wood nearest the skidder, bringing along every usable piece.

Safety Rule #1 is: **No worker on the ground when equipment is running.** Time spent in machines minimizes exposure to on-ground hazards. So, when an empty truck pulls up, the loader operator shuts down until he is certain of the driver's location and they have a chance to talk. When a skidder operator has to leave his equipment, others halt until he is back on the machine. Good coordination and full communication between all employees keeps everyone on their toes.

Experienced, capable employees are critical for the success of this new method of logging. Kynard says he has had no trouble attracting and retaining good employees. All crewmembers are trained in Best Management Practices and have attended Professional Logging Manager training. Experienced people came on board knowing it was for the night shift, he said. One big reason for its success is that it gives crews quality time at home with their families. They have a steady paycheck and their weekends are free.

Rolfe says the new process is providing a steady source of wood for the mill. Just a few years ago, he was juggling 17-18 different contractors. Today, he works



Photos by Tilda Mims

with only two, and both are optimizing. "It takes a lot of commitment and dedication to be successful in this," he said. "It has been a win-win situation for us."

Customer service is important in any business. For the private landowner, Johnny sees several reasons why a timber seller might like the idea of an optimized logging operation on his or her property, and all result from reduced time spent on the tract. A harvesting that might take three weeks in the standard system should take no more than one-half the time under normal conditions. This flexibility may offer landowners more freedom to plan timber harvests around nesting season, hunting parties, rainy season, and other special conditions to receive top dollar for their timber investment.

In addition, the seller can take full advantage of timber markets. If the market is good, the number of loads delivered at the better price could easily double.

Johnny and Michelle are confident this is a positive change for employee

morale and the bottom line as well. "We will never go back," Johnny says. "For us to survive as contractors, we had to be flexible and try something new. Optimized logging has been a good fit for us."

The double-shift approach to logging has attracted a lot of attention in its brief life in the South. It has been touted as a way to cut costs, become more efficient and productive, and help the U.S. compete in a tough global market. While some veteran loggers are reluctant to change, several Alabama loggers are watching the Kynards and others with optimism. 🌲

RESOURCES:

Southern Loggin' Times,
June 2004

Logging and Sawmilling Journal,
December 2003 and January 2004

Timber Harvesting,
May/June 2004

Firewise in the Wildland/Urban Interface and Firewise Communities/USA

By Stanley R. Anderson, Fire Division,
Alabama Forestry Commission



“Will Divide” – large tract of land in Baldwin County once owned by a major paper company.

Healthwise, travelwise, moneywise...and *Firewise*? Simply stated, *Firewise* is fire prevention. To a homeowner it means preventing fire by making the inside and outside of the home safe from fire hazards or identifying and minimizing hazardous situations which may cause structural fire. To a forest landowner/homeowner, *Firewise* means all of this, plus outside and beyond. To a homeowner in the wildland/urban interface (WUI), *Firewise* means making the home safe from wildland fire. In any case, *Firewise* looks at ways to prevent fires where possible and mitigate or lessen the hazards associated with fire spread and intensity, should a fire occur. The goal of *Firewise* is to prepare homes to withstand a wildland fire without the intervention of firefighters.

Wildland/Urban Interface (WUI)

The term wildland/urban interface describes the “meeting” of different land uses. For instance, natural or managed forestland or rangeland may join developed urban or suburban areas. This interface might be a wildland area meeting a community or subdivision, or an industrial area joining wildlands.

Wildfire has always been a natural part of many of the areas where we live. In fact, long before Europeans settled here, many forests were burned as a result of lightning and indigenous wildfires. As areas populate in modern times, accidental fire from escaped control burns and debris fires becomes more prevalent. And don't forget arson, our single biggest

cause of wildfire. As more and more people choose to live in the wildland/urban interface, it is important to make sure they understand the nature of their surroundings, including the dangers and patterns of wildfire.

There are many homes and communities being built without regard to the wildfire history or fuel conditions in and around the forest. Dense population in these areas increases the chance of wildfire. Therefore, great potential exists for loss of life, property, and ecological values due to fuel conditions located in the wildland/urban interface.

Forest Fragmentation

During the past ten years, forest ownership has experienced the biggest change since the late 1940s to early 1950s when the pulp and paper companies began buying large tracts of land to support their mills. There have been drastic changes in the corporate climate of the pulp and paper industry. Many large mills have closed; acquisitions, mergers, and leveraged buy-outs were almost daily news during the turn of the new century. Expensive mill modernization in order to meet environmental and production goals have influenced mill closure in some companies. Many companies have moved their resource and production assets to foreign countries with cheaper labor and environmental costs. As a result, several large companies sold their mill's land base.

Enter fragmentation – subdivision – development. Suddenly, the wildland/urban interface broadens. Large tracts of

timberland that were once managed (undeveloped but periodically thinned, harvested, prescribed burned, and protected from the spread of insects and disease) are now being divided and developed. For example, a 640-acre section of land that once had a single landowner with one management philosophy might now have twenty or more owners. Forest firefighters and firemen are now finding new challenges in dealing with 20 acres and a house, 10 acres and a house, 1 acre and a house, as well as associated roads, driveways, low weight limit bridges, cul-de-sacs, structures, utility lines, and fences. Enter *Firewise*.

Auburn University's Center for Forest Sustainability, in cooperation with the USDA Forest Service and the National Science Foundation, led a conference in Atlanta to explore the challenges and opportunities created by wildland/urban interfaces. Various sorts of issues of interest were presented to a wide spectrum of individuals, especially those charged with urban planning and others dealing with aspects of urban sprawl.

Firewise Communities/USA

The *Firewise Communities/USA* Recognition Program enables communities in all parts of the U.S. to achieve a high level of protection against wildland/urban interface fire as well as sustainable ecosystem balance. It is sponsored by the National WUI Fire Program. *Firewise Communities/USA* encourages and acknowledges action that minimizes home loss to wildfire in fire-prone com-

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Firewise

(Continued from page 11)

munities. The recognition program involves a coordinated effort by the community members.

Communities in fire-prone areas can earn *Firewise Communities/USA* status by working with local fire professionals and by observing the following standards:

- Enlist a WUI specialist to complete an assessment and create a plan that identifies locally agreed-upon solutions that the community can implement.
- Sponsor a local *Firewise* board which maintains the *Firewise* Community program and tracks its progress.
- Observe a *Firewise Communities/USA* Day each spring that is dedicated to a local *Firewise* project.
- Invest a minimum of \$2.00 annually per capita in local *Firewise Communities/USA* efforts (in-kind government employees or volunteers' time and equipment, as well as state/federal grants dedicated to that purpose can be used toward meeting this minimum).
- Submit an annual report to *Firewise Communities/USA*, documenting continuing compliance with the program.

In some areas, grant money is available for communities to do fire planning and mitigation.

Partners in *Firewise Communities/USA*

Firewise is a national initiative designed to reach beyond the fire service by involving homeowners, community leaders, planners, developers, and others to protect people and property from the ravages of wildfire – before a fire starts.

Thirty people from Alabama participated in a *Firewise Community/USA* conference last summer in Birmingham, to learn how to conduct fire hazard assessments.

Both paid and volunteer fire departments (VFDs) are major participants when fighting any fire in their jurisdiction. Saving lives is their highest priority, not only the safety of citizens but also of the firefighters. While volunteer firefighters take great pride in doing their jobs and are trained to respond to a variety of emergency situations, they are not full-

time paid firefighters. VFDs and municipal fire departments are constantly revising their emergency plans to deal with fire protection in the interface. Residents should take a more responsible role in protecting their own property and sharing the effort in making the community safer.

The Alabama Forestry Commission (AFC) began efforts to address fire prevention in the WUI in 1988 by encouraging formation of WUI councils and requesting the larger municipal and regional planners to consider fire protection in their land use planning and development ordinances.

The Jefferson-Shelby County WUI Council, formed in 1993, was Alabama's first coordinated WUI effort. Since then, this council has developed several



Photo by Stanley Anderson

brochures and other literature to inform the public about fire prevention and home protection in the interface. The council has also trained hundreds of firefighters and land management professionals in National Wildfire Coordinating Group (NWCG) courses through the Wildland Fire Academy. Alabama's first *Firewise Community/USA*, English Trace in the town of Clay in Jefferson County, was initiated through the efforts of the Jefferson-Shelby WUI Council. The council's latest undertaking is a grassroots educational and outreach program in the Cahaba River study area.

The Southwest Alabama WUI Advisory Council organized in 2001, serving Baldwin and Mobile Counties. This council purchased a portable tabletop education display and Smokey Bear costume to help educate school children and inform the public about *Firewise*.

Elected officials in Mobile and Baldwin counties were informed about the wildfire situation in their area and briefed on WUI and *Firewise* opportunities. The council also presented WUI information to regional planners. A draft model of planning and development ordinances will be presented to regional planners at the next strategic planning conference.

The Gulf Coast Resource and Development Council is in the process of establishing a *Firewise* community in Mobile, Baldwin, or Escambia County. The Council has proposed to identify a community at risk, prepare a wildland fire assessment, develop a mitigation plan, and pay for the cost of carrying out the mitigation work. The goal is to establish a base of support to propel the community toward achieving *Firewise Community/USA* recognition in the near future.

The Alabama TREASURE Forest Association (ATFA) has accomplished WUI familiarization in almost every ATFA county chapter. To assist in accomplishing this, AFC personnel presented a fire prevention training session to ATFA county chapter members raising awareness of ways to lessen the effects of wildfire on their property and homes.

Another great partner, Smokey Bear came along sixty years ago with the fire prevention message, "Only You..." Smokey's message is as valuable in wildfire prevention today as ever.

What the AFC is Doing

The Alabama Forestry Commission takes a proactive role in informing the public about the responsibilities of fire prevention in the wildland/urban interface to reduce wildland fires and structural losses. The AFC has two employees dedicated to fire prevention and wildland/urban interface programs: one is based in north Alabama at Florence, and the other in south Alabama at Bay Minette.

Targeted fire prevention plans have been prepared for the ten Alabama counties with the highest fire occurrence. General fire prevention plans were prepared for the moderate fire occurrence

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Promoting Native Foods: An Economic and Effective Tool for Wildlife Management

By *Tilda Mims, AFC Retired*

There is a legitimate debate on native vs. non-native species when it comes to selecting plant species for wildlife management. In some well-documented cases, non-native plants once eagerly planted as preferred wildlife foods have become very invasive, choking out acres of productive land and competing with natural food sources.

James and Wanda Altiere of Butler County are among many wildlife enthusiasts making native plant species their first consideration for wildlife foods.

They find this strategy not only a cost-effective tool but one that promotes nutritional sources popular with Alabama's native wildlife.

The types of native vegetation important for wildlife are often categorized as "early successional" species. This means they are usually found in the few years following some type of disturbance, such as prescribed burning, thinning, or disking. Herbaceous plants established in the first few years following the disturbance attract dove, quail, songbirds, and herbivores such as deer.

In their young pine plantations, James and Wanda continually capture early stages of succession through regular disking. Disking in the fall every few years allows them to set back the clock, promoting quail and songbird foods like ragweed and partridge pea on the site. Blackberries, large-seeded grasses, beggarweed, and many other soft-mast

species produce fruit most abundantly when disturbed on a three-year cycle. James also prunes the young pines and bushhogs around them regularly.

To maximize site productivity, the Altieres seek out fundamental practices for increasing understory weeds, grasses, forbes, and legumes in their wildlife management plan. Fencerows allowed to grow up in blackberry and greenbriar, and a buffer strip around the pastures foster a highly productive forest edge. Forty-one acres of hardwood bottom along a creek offer exceptional wildlife

the landscape of their home, Wanda enjoys watching woodpeckers, flickers, and black-capped chickadees in the few large dead trees in their side yard. Snags also provide many of the benefits of cavity trees, such as shelter, areas for roosting, hiding, and nesting.

Many introduced plant species, including agricultural crops, are welcomed additions to any landscape and pose no threat. The Altieres have added annual and perennial cover for targeted species, fertilizing and liming to encourage productivity. Cherrybark and sawtooth oaks as well as dogwood seedlings were planted to add soft and hard mast.

Photo by Tilda Mims



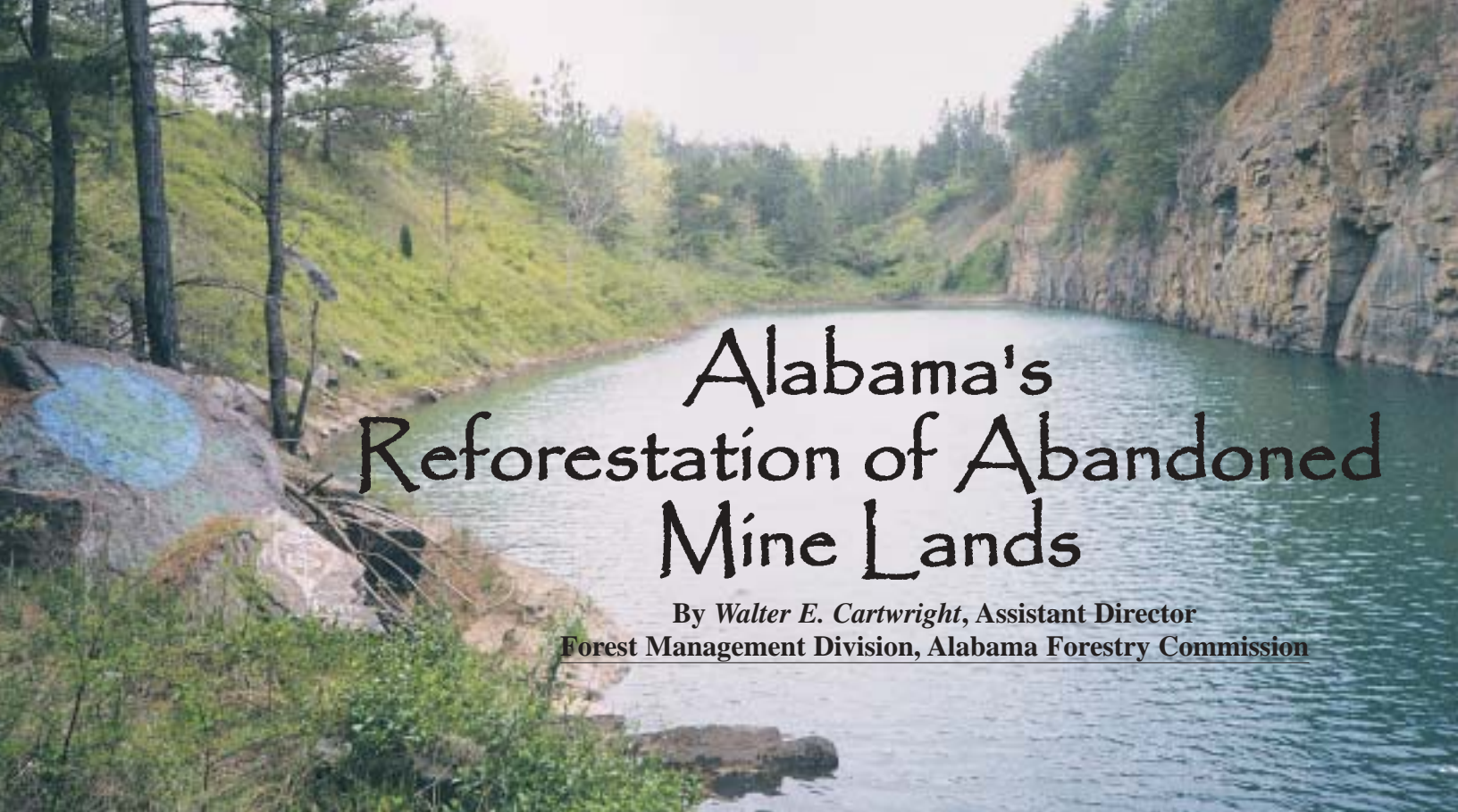
James, a wildlife biologist for the Alabama Department of Conservation and Natural Resources, is Hunters' Education Coordinator for South Alabama. He and Wanda have two daughters, Riley, a senior at Auburn University, and Fuller, an 8th grade student at Fort Dale Academy.

habitat for gray squirrels and forest interior birds while encouraging many species that require more than one habitat to make their homes.

Another excellent natural food source comes from snags that offer a buffet of insects for birds and mammals. While some people find snags unacceptable in

When they bought their 116-acre tract in 1992, they began working with AFC County Manager Paul Hudgins to develop a timber management plan that matched the needs of the species they hoped to attract. They examined opportunities to increase the wildlife value of pine stands while managing for a future timber sale. They also wanted to develop opportunities for horseback riding, target shooting, and hunting for family and friends.

By combining today's technology with the historic tradition of manipulating natural succession, they have produced habitat for a variety of wildlife species while producing recreational opportunities and timber stands, all on the same parcel of land. 🌲



Alabama's Reforestation of Abandoned Mine Lands

By *Walter E. Cartwright*, Assistant Director
Forest Management Division, Alabama Forestry Commission

Reforestation of abandoned mine lands not only heals scars created by past surface coal mining to fuel the nation's wars and the Industrial Revolution, but also establishes young forests for many uses. As trees grow, carbon dioxide is removed and oxygen is added to the atmosphere; carbon is stored in wood tissue and raw material is grown for forest products; soil is stabilized and enhanced; water quality is improved; and widely varied wildlife habitat shelters many terrestrial and aquatic communities.

Alabama leads the way in reforesting abandoned mine lands. Since 1977, the state's Abandoned Mine Land (AML) Reclamation Program in the Department of Industrial Relations has been committed to reclaiming and re-vegetating previously mined lands, with 87% being reforested. Loblolly pines account for 85%, with the remaining plants and trees consisting of autumn olive, sawtooth oak, bicolor lespedeza, cherrybark oak, sycamore, yellow poplar, and other wildlife shrubs.

Over the past 100 years, large draglines ripped through the earth and rock to create huge spoil piles of "overburden," left to erode and be inhabited with grass, weeds, non-commercial shrubs, and a few pines and hardwoods.

Most sites consist of rough, ungraded spoils, water impoundments, dangerous highwalls, coal refuse "gob" piles, as well as industrial and residential waste piles. Spoil piles are compacted by heavy equipment, heavy noxious weeds invade the site, and large rocks are scattered throughout the piles.

Naturally, all unwanted vegetation must be cleared, impoundments drained, and waste buried or removed to a solid waste landfill. Compaction must be reduced, especially in rows where trees will be planted.

Through the years, Alabama has developed a recipe for reforestation success:

- Proper site preparation
- Adding needed soil amendments
- Proper soil composition and moisture
- Rip and spray to reduce compaction to control competing vegetation
- Purchase quality seedlings from superior nurseries and take proper care of seedlings
- Use proper planting techniques and practice quality controls
- Plant seedlings at proper soil moisture and temperature

These ingredients must be discussed in some detail to explain how critical each and every one is to the reclamation process and final tree survival/growth.

Site Preparation

All impoundments are drained using ADEM-approved (Alabama Department of Environmental Management) de-watering procedures; unwanted vegetation is cleared and burned; trash and waste is buried on-site or transported to an approved landfill; then grading of spoils begins. All highwalls are backfilled with on-site spoil material, including impoundments, then sloped to a 3:1 or flatter slope. Slopes are stabilized by adding terraces at necessary intervals, which are protected by erosion control fabric or limestone riprap.

Soil Amendments

A comprehensive soil analysis is performed by certified soils laboratories to determine the type of amendments needed and quantities necessary for proper plant growth. In Alabama, large amounts of lime and high nitrogen fertilizer are required on most sites. These chemicals are spread, disked into the graded soils, and a mixture of native grasses and legumes is spread to germinate and stabilize the site until trees can be planted during the following winter. Heavy layers of hay mulch are spread and crimped to create a prime seed-bed while some areas are hydro-seeded with a mixture of wood pulp fiber, fertilizer, and grass seed.

Soil Composition and Moisture

Careful attention is devoted to the upper layer of soil in which roots of grasses, legumes, and seedlings must develop and survive, adding to the organic material and re-establishing topsoil. Hay mulch is added not only to hold seed and soil in place, but also to provide the initial head start on organic buildup in the soil. Proper amounts of mulch hold moisture in the soil, reduce sun and wind dehydration, and lessen erosion.

A mixture of Pensacola bahia grass, hulled common bermuda, hulled sericea lespedeza, browntop millet, and crimson clover are planted in spring and summer. A heavier mixture is planted in fall and winter, consisting of the same seed plus unhulled common Bermuda grass, unhulled sericea lespedeza, Kentucky 31 fescue, common annual ryegrass, and inoculated crimson and ladino clover. The mix of grasses works together to establish a thick root mass in the upper six inches of soil, while the legumes fix nitrogen in the soil, further promoting root growth and aiding soil micro-organisms in colonizing and building up organic matter over time. Site conditions vary across Alabama, so the mixture of grasses, legumes, and soil amendments is also tailored to each site, based on the comprehensive soil analysis.

Rip and Spray

As noted earlier, soil compaction, competing vegetation, and rocky soils are three limiting factors to successful re-vegetation and reforestation of graded mine spoils. A sub-soiler with a spray attachment was developed to spray a 4-foot swath along the ripped row where trees would be planted during the winter. Each row is ripped to a 14-inch depth and a 55-gallon herbicide mixture of 2.5 gallons of Roundup Pro, 10 ounces of Oust, and water is sprayed two feet on each side of the row. Ripping is done in October each year, opening a channel for planting bare root seedlings, moving rocks out of the row. Herbicides control competing vegetation to an acceptable level, allowing seedlings room to grow and develop a good root system during that critical first year. Rows are ripped on 10-foot spacings where possible, even in areas that require hand-planting, allowing trees to be planted on a 6-foot x 10-foot spacing to achieve 726 trees per acre. In Alabama,

this step is critical to control weeds and grasses for good seedling survival. The soil amendments and mulch almost always produce a lush carpet of grasses, stabilizing each site until trees can be planted and grown producing a forest to permanently hold the site in place.

Seedling Quality and Care

Once the site is prepared, stabilized with grasses, ripped and sprayed, the next step is to procure quality tree seedlings that have an excellent chance of survival. On jobs of this magnitude, trees must be ordered six months to one year in advance of actual planting which allows tree nurseries to grow what their customers need.

Almost all tree nurseries in the Southeast are members of a pine plantation cooperative which continually produces superior seedlings from genetically-improved seed orchards across the region. Seedlings are grown in soil mediums consisting of sand clay loam, decomposed sawdust, and pisolithus tinctorius fungus. The fungus attaches to the feeder roots of seedlings in a symbiotic relationship, greatly increasing the plant's ability to uptake moisture and nutrients. Genetic improvement results in trees that are resistant to both fusiform rust and root rot. They have increased growth rates, resulting in good form and right-angled limbs that prune with the least amount of bole exposure.

Seedlings at superior tree nurseries are undercut in August of each year to force root systems to branch out. This produces a really fibrous root system to support seedlings during that critical first year of growth. Most nurseries also grade seedlings to discard trees with Cronartium cankers (fusiform rust), forked trees, and weak seedlings.

Seedlings are planted in January through March of each year, being picked up at the nurseries and transported in covered trucks, vans, or trailers to prevent dehydration from wind and sun exposure. The trees are stored on racks in a humid cold storage building (at temperatures 40-45 degrees), designed to keep them dormant and moist until planting. When transported to the site, the seedlings are covered and kept in shade to protect from sun and wind exposure, preserving moisture.

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Photo by Jim L. Kitson



Photo by Michael R. Skates



Photo by Jim L. Kitson

The reclamation process on the abandoned sites includes draining impoundments and clearing debris. Highwalls are backfilled, sloped, and stabilized (top photo). After grading, amendments are added and all sites are planted in permanent grasses and legumes to stabilize the soil (center photo). During the following fall, rows are ripped with a sub-soiler on 10-foot intervals, and the herbaceous vegetation sprayed simultaneously to reduce competition. All areas are machine-planted where possible (bottom photo); steep slopes and wet areas are hand-planted.

Alabama's Reforestation of Abandoned Mine Lands

(Continued from page 15)

All this care is necessary to nurture seedlings until they are planted because each tree should be green, dormant, and healthy. They are, after all, “baby trees” and must be pampered somewhat. As we often say around planting sites, the best way to boost survival rates of trees planted is to “plant *live* trees.” This may sound ridiculous; however, seedlings may be green and look fine, but be completely dead.

All trees planted are bare root, and include hardwoods and wildlife shrubs. Most pine trees are loblolly, but some sites are planted with longleaf pines at the owner’s request.

Planting Techniques

In the beginning, contractors were hired to plant trees on reclaimed AML sites, which afforded little control over seedling quality, care, and planting techniques. Therefore, in 1987 the Alabama Department of Industrial Relations (ADIR) decided to take control of the reforestation program – planting good seedlings, properly, on all reclaimed sites. The Walker County Soil and Water Conservation District Board began plant-

ing seedlings under a long-standing cooperative agreement with ADIR’s Mining and Reclamation Division. Survival rates improved dramatically, then, in 1991, a Reynolds F-050 split-axle tree planter was purchased. The planter foot and colter were modified and strengthened for harsh soil and rock conditions. Frequent care and maintenance have kept the planter functioning properly, and many years of operation on mine spoils is anticipated.

A dual-wheeled farm tractor is used to pull the planter along previously ripped rows. Workers riding in the planter place trees on 6-foot spacings, and another worker follows to straighten trees and plant skips in rows. Steep slopes are hand-planted with dibble bars, using proper planting techniques. A professional registered forester oversees the process, performing quality-control checks to guarantee proper planting, packing, spacing, and seedling care.

Soil Moisture and Weather

Cold weather and good soil moisture are critical to seedling survival and growth. Sites are monitored for proper

planting conditions, and trees are planted during optimum conditions. Tree planting season is the number one priority when conditions are right, but planting will be suspended if soils become dry or the weather becomes too hot or cold. Surplus seedlings are returned to cold storage where they remain until adequate moisture and cold weather conditions return. Conditions vary widely across Alabama so crews can usually move to another location to continue planting, then return to a previous site as necessary. If soil amendments, mulch, and grasses have been added to graded mine spoils, organic matter will accumulate to hold soil moisture and provide much-needed nutrients for bare root seedlings. Moisture, organic material, and nutrients are concentrated in ripped trenches that have closed during the months prior to planting.

Seedling survival surveys are performed during the fall after planting to determine survival rates, health, growth, and any need for replanting. Such surveys are essential in monitoring any reforesta-



Reforestation and routine maintenance of reclaimed abandoned mine lands not only stabilizes the soil and ensures successful tree growth, but also provides cover and habitat for many wildlife species. While increasing land productivity, it also enhances the taxable value of property.



Photos by Rod Penuel

tion program and help identify problems such as poor planting techniques, weak seedlings, poor soil conditions, acid soils, and too much competing vegetation.

If all of the above ingredients are added to your reforestation recipe, you should have a successful program with good-to-excellent survival rates. Even during drought conditions, seedlings will survive and establish deep root systems to catapult them upward during the next spring growth season.

The Mining and Reclamation Division also surveyed older pine plantations for survival rates, growth, and stand density. Site index is good-to-excellent after reforestation and shows all indication that the new site index will be as good, or better, than the pre-mined site index. For example, many 11-year-old trees are 30-40 feet high and 6-8 inches in diameter at breast height. Projections to age 50 would not be reliable at this point, but all indications are excellent to show improvements over the original site index.

A study was completed in 1999 on 27 sites chosen at random by Dr. E. Sam Lyle, Jr., retired soil scientist, and Jim L. Kitson, Supervisor of the Walker County Soil and Water Conservation District Board in Boldo,

Alabama. The results showed survival ranges from 77.0 to 99.7%, with an overall average of 86.1%. The study also showed decreased survival rates with age; however, stands naturally lose unhealthy and undesirable trees, allowing the survivors opportunity to grow better without the added competition. Forest industry in Alabama establishes an average 726 trees per acre during planting, and desires an average 500 trees per acre at age five. Studies have shown that the maximum basal area of tree volume can be achieved at that stocking rate. Dr. Lyle's study revealed that reclaimed sites had more than 500 trees per acre surviving at age five.

The owners of the reclaimed mine lands have the option to thin plantations at ages 10-12 years, 20-25 years, and final harvest at age 30. ADIR has no control over the landowners' timber stand management, but provides them with healthy, quality forests to manage for wood production, recreation, and wildlife management. Many landowners are now having their forests certified through the Tree Farm Program and TREASURE Forest Program which require frequent and professional management.

This past year another successful tree planting season was completed by the ADIR on the state's abandoned mine lands. During the 2003-2004 tree planting season, 73,000 seedlings were planted (including loblolly pine, sawtooth oak, and various wildlife-food shrubs) on 134 reclaimed acres across 6 counties. The seedlings were planted by the Walker County Soil and Water Conservation District Board through a cooperative agreement with ADIR. The table below shows that since ADIR began reclaiming abandoned mines in 1976, over 7 million trees have been planted on 9,634 acres of reclaimed lands in 14 north Alabama counties.

A recent survey by the Interstate Mining Compact Commission of states' reforestation efforts indicated that Alabama leads the nation in both number of trees planted on abandoned mine lands, as well as highest survival rate after planting. This achievement is due to the availability of top-quality, genetically-improved seedlings, proper care and handling, supervision by qualified reclamation inspectors and registered foresters, and superior tree planting methods employed by the Board.

Although the Mining and Reclamation Division has reclaimed nearly 10,000 acres of abandoned mines, much work remains to be done. An estimated \$450 million is needed to reclaim all remaining sites in Alabama to eliminate these scars, safety hazards, and environmental problems. ♣

Editor's Note: For more information on Alabama's Abandoned Mine Land Reclamation Program, contact Michael R. Skates, Director, Mining and Reclamation Division, Alabama Dept of Industrial Relations, 649 Monroe Street, Montgomery, AL 36131-5200; telephone: (334) 242-8265; or email: mskates@dir.state.al.us.

TREE PLANTING SUMMARY					
TVA Orphan Mine Land Reclamation Program (1976 - 1980)					
and Abandoned Mine Land Reclamation Program (1983 - 2004)					
County	Acreage Treated	Pines	Wildlife Shrubs	Other*	Total Seedlings
Bibb	209	116,130	15,100	12,630	143,860
Blount	1,244	505,529	214,300	13,850	733,679
Cullman	389	96,300	167,300	4,300	267,900
DeKalb	40	25,450	0	200	25,650
Fayette	58	43,125	400	1,200	44,725
Franklin	27	19,650	1,450	1,600	22,700
Jackson	283	53,000	67,000	0	120,000
Jefferson	741	502,513	51,600	35,600	589,713
Lamar	29	11,800	1,500	1,800	15,100
Marion	1,414	578,600	221,700	2,800	803,100
St. Clair	152	82,000	6,200	9,810	98,010
Tuscaloosa	884	530,600	71,500	54,700	656,800
Walker	2,602	1,705,849	656,800	28,160	2,390,809
Winston	1,562	927,684	421,100	6,350	1,355,134
TOTALS	9,634	5,198,230	1,895,950	173,000	7,267,180

*Sawtooth oak, cherry bark oak, white oak, sycamore, yellow poplar, etc.



Touch of Country in the City

By Tilda Mims, AFC Retired

Although patches of farmland still dot metropolitan areas of Alabama, it frequently falls prey to housing areas and commercial development. Sometimes agricultural practices aren't compatible with city life. Other times, farmers struggling to make ends meet find selling or leasing land to developers a painful but sound economic decision.

Maple Grove, a TREASURE Forest within the city limits of Muscle Shoals, is proof that with careful planning a landowner can successfully blend productive agricultural land into urban landscapes.

Through inheritance and purchases, Pat and Martha Staley acquired 189 acres of the old Pond Creek Plantation in Colbert County, which they leased for cotton farming. In 1993, they learned the area had been designated as highly erodible, and farming row crops was no longer an acceptable practice for the land. Determined to keep the tract in their family, the Staleys began exploring ways to make it productive while minimizing soil erosion. Wayne Winstead, a forestry specialist for the Alabama Forestry Commission, introduced them to the Conservation Reserve Program (CRP), a cost-share program for converting cropland into forestland.

The site index on the property – a measure of the potential of a forest site to grow timber – ranked yellow-poplar and loblolly pine as equally productive, so they decided to go with yellow-poplar. The old cotton land had to be disked and subsoiled before planting, and they used a pre-emerge herbicide.

“We just wanted something different,” said Pat. “We planted 89 acres of yellow-

poplar on 10x10 spacing back in 1993 under the CRP program and have been tickled with the result.” Eleven years later, the typical yellow-poplar measures 7.5 inches in diameter and 40 feet tall. Also thriving are about 60 nuttall oaks and a stand of maples planted by their son, Patrick, which earned the land its nickname of Maple Grove.



(L to R) Johnnie Everitt, AFC Colbert County Manager, Martha Staley, Pat Staley, John-Patrick McCrary, Terry McCrary, and Patrick Staley. Not pictured are the Staley's daughter, Karen Collins and her son Michael, who also enjoy visits to the farm.

Today, the once fallow land is a highly productive TREASURE Forest managed for timber and wildlife. It is also a certified Tree Farm. Wildflowers abound amid the diversity of Maple Grove. Wetlands, shade, and sun promote a palette of color: jewelweed, oakleaf hydrangea, and spider lilies, among others. Regular bushhogging on the farm yields multiple advantages for the Staleys. Mowing between the rows of yellow-poplar reduces competing vegetation to promote tree growth. Disturbing

the soil also promotes fresh vegetation attractive to many animals, including woodcocks and three species of quail. Bushhogging also encourages reseeding of many native wildflowers.

Two ponds stocked with bass, bream, and crappie are fun recreational sites and offer a continuous watering source for wildlife. Permanent firelanes and well-designed walking trails present comfortable access for management and recreation. The Staleys like to get together whenever they can for a day of motorcycle riding and picnicking – just spending some family time together on the family farm, according to Pat.

The doors are always open to guests, particularly children with no experience in the forest. Pat is the driving force behind the Classroom in the Forest (CIF) program in Colbert County. His family hosted the Colbert County ATFA Chapter's first CIF at Maple Grove. Unwelcome guests are a rarity these days. Once they had a significant problem with trespassers, especially ones on four-wheelers, but Pat said, “Thanks to Mike Lanier, we are rid of them.” Mike is a forestry specialist in Colbert County with law enforcement responsibilities in the area.

Tucked away among residential and commercial property along a major roadway in Muscle Shoals, Maple Grove is a welcome neighbor easily identified by a prominent TREASURE Forest sign. Vivid fall foliage and brilliant wildflowers in an excellent hardwood stand allow adjoining landowners and passers-by to see that carefully designed forest management provides multiple-benefits in any vicinity. ☸

Trees and Wildlife – It's a Good Combination

By *Julie A. Best*, Public Affairs Specialist, USDA-Natural Resources Conservation Service

Field borders help trap water runoff and provide cover and forage for wildlife.

If you ask Jim Hughes of Lauderdale County what type of farming he does, his response is “trees and wildlife.” That has not always been the case, however. “I was raised on a farm, but I did not want to farm,” says Hughes.

Hughes was in the cattle business for 20 years. The transition from cattle to trees and wildlife was gradual. “I did not want to go out and spend a lot of money on equipment to farm a small acreage. I started looking at practices that would benefit trees and wildlife,” he states. Installation of field borders was his first experience with a practice that enhanced wildlife habitat. “When I was raising cattle, I was growing hay and sometimes corn. I noticed that about 15 to 20 feet from the tree line, the hay or corn just did not grow. So, I got into field borders to keep from spending money trying to grow something in the shade where the trees sucked all the moisture out of the ground. For some reason, sericea and partridge peas do fine up against those trees.” The sericea and partridge peas were an enhancement for wildlife habitat, and thus began Hughes’ experience with the benefits of buffers.

Before his retirement, Hughes was manager of the Water and Sewage Department for the City of Florence. In Spring 2005

that position, he spent his career addressing water quality issues. In his retirement, he is still focusing on water quality. He says, “I had some erosion on my farm. It had been a cotton farm, and the fields were planted so that the rows were as long as they could be.” To help with the erosion problem, he installed terraces, and then he learned of grassed contours. “I have about 26 acres in grass contours and field buffers. On that entire 26 acres, I planted clover, lespedezas, and partridge peas – forages that would attract wildlife,” says Hughes.

According to Tim Albritton, State Staff Forester with USDA-Natural Resources Conservation Service (NRCS), “Mr. Hughes is using grassed contours to serve a dual purpose. Not only do the contours improve the water quality by trapping the turbidity, but they also provide green fields that enhance wildlife habitat.”

The Conservation Reserve Program (CRP) was one that meshed very well with Hughes’ goals. CRP is a voluntary program for agricultural landowners. Through CRP, landowners receive annual rental payments and cost-share assistance to establish long-term, resource-conserving covers on eligible farmland. With assistance from CRP, he has taken numerous acres out of marginal cropland

or pastureland and planted trees. “In my opinion, site preparation is critical to the success of the program,” says Hughes. “When I plant trees, I want to get rid of the fescue. I do that for two reasons: 1) to ensure that the trees don’t have to compete with the fescue for moisture and nutrients, and 2) according to the wildlife literature I have read, fescue does not attract wildlife. Fescue is too dense and wildlife does not like it.”

In order to ensure that the fescue is killed, Hughes sprays herbicide in the spring and again in the fall before the trees are planted. Russell Harper, Lauderdale County District Conservationist with NRCS, says, “In the fall, we may be in a dry spell and the plant is not actively growing, so you don’t get a good kill. Jim has experienced a phenomenal kill in the spring when he sprays the fescue while it is lush and really growing.” The first time Hughes broadcast a spring and fall spray was 2001. According to him, “It has worked great.”

Hughes has also installed several acres of riparian buffers along creeks adjoining his property to enhance and protect aquatic resources from adverse impacts. “In addition to improving water quality, my ultimate goal on the riparian buffers is timber production,” he says. “I select

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Trees and Wildlife

(Continued from page 19)

the species that will be the most profitable for the commercial value of the trees. I stay with cherrybark oak and the white oak.” Hughes plants bare root seedlings. Installation of riparian buffers is another practice that plays right into his goal of timber and wildlife. “Any time you are growing trees, you are increasing the potential for wildlife habitat,” says Hughes.

“Wildlife habitat is probably an overlooked benefit of riparian buffers,” says Albritton. “A lot of the publications about buffers focus on the water quality issues and sediment filtering, and now they are even mentioning carbon sequestration. In Alabama, wildlife habitat enhancement is one of the primary benefits of riparian buffers.”

Jim Hughes appreciates the cost-share assistance provided by federal programs, but he also goes beyond those practices. “In some areas, I have broadcast wheat after the trees have been planted. I learned that the wheat does a good job of suppressing weeds. I plant the wheat for two reasons: In the winter it provides green grazing for the deer, and then in the spring the grain is available for the birds.” Harper says, “We can’t prove it, but if deer have something else to graze, they probably won’t browse the tree seedlings.”

Leasing a portion of his land for hunting, he is convinced that the conservation practices he is using make his land more

profitable as hunting land. “On the 175-acre farm that I lease, I have about 17 acres in riparian zone and 15 acres in grassed contours. Then I’m putting 22 acres in pine/hardwood combination. It’s a real plus to have 175 acres of hunting land with 15 acres of green fields – ‘the edge effect.’ If you use your contours with the right plantings, you can make green fields out of grassed contours,” states Hughes.

Tim Albritton says, “There can be substantial return on just leasing land for hunting. It’s something that the landowner should not ignore when considering management practices.” Hughes believes that his land has several pluses when it comes to hunting. “Frequently, hunting land is timber land. That landowner is in the business to cut timber and make a finished product, and hunting rights are just a little side line. In that situation, there is no guarantee of the condition of the land at hunting time. I have mature hardwoods, select-cut land, and some two-year-old trees coming on. On my farm, a hunter is leasing a farm that has everything for wildlife.”

Hughes wants to ensure that he, his family, and friends also have adequate recreational facilities. “When I was in the cattle business, I used one farm for hay production. Since I sold the cattle, I just work the entire farm for wildlife enhancement. There I plant sun flowers, milo, browntop millet, and wheat. I may have 30 to 40 acres of wheat and just leave it there for the wildlife,” he says.

Not only has Hughes enhanced the land for recreational wildlife, he has also

built a hunting lodge. When he sold his cattle, he made a deal with a friend who likes to barter. “I traded him my cattle trailer and a ton truck for sawing lumber to build a cabin,” he says. The poplar logs were cut from Hughes’ property and, with help on the massive fireplace, he built the cabin himself. Rock for the fieldstone fireplace came from Colbert County. The cabin is a beautiful get-away for family and friends.

When it comes to water quality, Hughes believes that buffers will definitely help improve the quality of the water. “I notice on the farm that the runoff is a lot clearer now than when it was just terraced and everything was plowed. The biggest problem with the Cypress Creek Watershed, the source of drinking water for the City of Florence and most of Lauderdale County, is the rapid change in the turbidity of the water. With the buffers installed, they trap a lot of that turbidity,” says Hughes. Cypress Creek has a high hydraulic rating. Because of the terrain of the surrounding area, water arrives very quickly. “You can almost see the change from clear to dingy,” says Russell Harper.

Jim Hughes is a real ambassador for the benefits of buffers. According to Harper, “Jim has experienced the value of buffers, and he encourages others to take a look at the program.” Hughes says, “I’ve taken advantage of about every federal program that will help me accomplish my goal of timber and wildlife. I have grass contours, riparian zones, and regular CRP land. I will not realize the value of the timber grown on the riparian buffers that I have installed, but hopefully my grandchildren will. The folks at the Service Center have been very cooperative in helping me accomplish my goals.”

Albritton says, “The federal government likes to push these programs for environmental benefits. It’s great to hear a first-hand account of the benefits to the landowner. Mr. Hughes has installed many acres of buffers. According to him, these conservation practices not only protect the environment but also provide financial benefits to the landowner.”

Trees and wildlife – it’s been a good combination for Jim Hughes. When he finds something that works, he likes to stay with it. 🌲



Photo by Julie Best

Riparian conservation buffer of grasses and trees offers wildlife habitat.

The Great Blue Heron

The Original Fish Finder

By Rick Claybrook, Wildlife Biologist, Wildlife and Freshwater Fisheries Division,
Alabama Department of Conservation and Natural Resources

As a young boy growing up in Tallapoosa County in the 1950s, a wading bird like the great blue heron would have been a sight to see. The widespread use of persistent agricultural pesticides and indiscriminate killing had reduced these birds to low numbers in some areas. Thankfully, wildlife conservation efforts have restored wading birds to stable populations across their ranges. Today, the sight of these beautiful birds is quite common on rivers, lakes, and other wetland habitats.

The great blue heron is the most widespread heron in North America today and also the largest, standing at almost four feet tall with a wingspan of nearly six feet. Despite its size, the adult bird weighs in at a mere five pounds, due to its thin, hollow bones. This weight-reducing feature greatly aids the bird in getting airborne. The great blue heron's coloration, as its name implies, is slate blue with white on the crown and throat. The breast is streaked black and white complemented by plume feathers protruding from its chest and back. Jet-black patches adorn the flanks, and adults have long black plumes above their eyes. The male and female are similar in appearance.

When in search of prey, the heron quietly stalks shallow waters with the aid of its long legs and large feet. Although fish make up the mainstay of its diet, the heron also dines on a variety of prey consisting of, but not limited to frogs, salamanders, crayfish, small mammals, and insects.



It is entertaining to watch a great blue patiently hunting for fish along the water's edge. The heron's stealthy physique gives it the edge and it will not be long before a catch is made. When fish are spied, the heron remains completely still, peering at the water with absolute concentration before delivering its lightning strike to unsuspecting prey. The heron actually uses its long yellowish spear-like bill as tongs to clamp down on, rather than stabbing its prey. Herons

are very territorial of their fishing grounds and quick to chase other herons away.

A unique physical feature of the heron is a specialized neck vertebra. This vertebra allows the heron to curl its neck up into an "S" shape, which aids it in delivering a strong accurate strike at prey. This feature also aids the bird when in flight by allowing the heron to fold its long neck back.

The great blue heron is mostly a loner until March when mating season begins. At this time herons become social, forming colonies and constructing a number of large stick nests high up in the branches of trees near good feeding grounds. The female lays a clutch of three to seven bluish-green eggs and incubation takes approximately four weeks.

The young are fed by regurgitation and fledge at approximately two months of age. Provided that habitat conditions do not degrade, herons will return to the same nesting area year after year. Active heron nesting colonies can be greatly impacted by human disturbance and should be avoided.

Thanks to conservation efforts, today the sight of the wading birds is common throughout the wetlands of North, Central, and South America. More importantly, good numbers of these beautiful birds are indicative of a healthy environment.

For more information, contact Rick Claybrook, Wildlife Biologist, at 1820 Glynwood Drive, Prattville, AL, 36066, or 334-358-0035. ☎

Map for: January-Pike-1

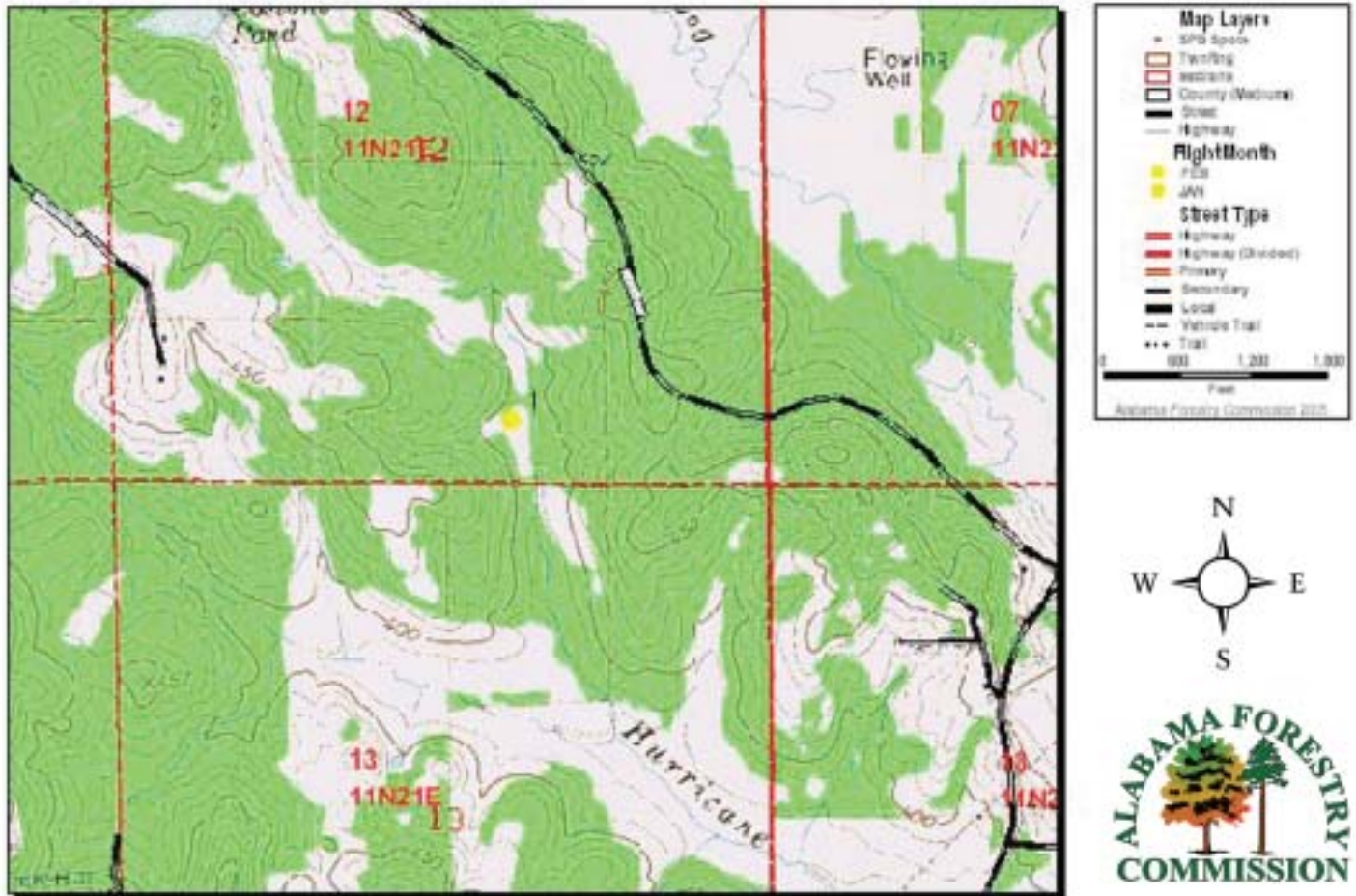


Figure 1 - Topographic map showing SPB spots.

On The Cutting Edge of Technological Advancement

By Dana McReynolds, GIS Coordinator, Alabama Forestry Commission

In a world of never-ending change, all realms of technology continue to make momentous leaps and bounds towards progress. This definitely holds true for the advancements in Geographic Information Systems (GIS) technology. GIS is a relatively new science that has made tremendous progress since its development in the 1960's. This field of study is the combination of map making and computer software. It entails the entire science of manipulating, ana-

lyzing, and illustrating spatial data from layers of information.

Even though GIS has come a long way, it would not have had much success without the continuous progress in computer technology. Because of these improvements, GIS continues to evolve the process of map making into the efficient procedure used today. With several GIS programs available, selecting a high quality and effective program for map

production and spatial analysis is much simpler.

The Alabama Forestry Commission (AFC) is also following the path of progress. Last year, the agency acquired a long-awaited and much-needed GIS program, but the process for obtaining it was deliberate and meticulous. A subcommittee at the Commission reviewed the mapping ability, cost effectiveness, and user complexity of several GIS programs to determine the best one for the agency.

After many discussions, the committee selected *Maptitude* as the GIS program for the AFC. *Maptitude* is a fully functional GIS program equipped with roads, streams, railroads, US census data, and other map features. This program can produce maps, charts, graphs, data views, and layouts by using a range of various file types. The geographic file type, unique to *Maptitude*, is the one generally used; however, this program can also read worksheets, shapefiles, images, and text. To make this mapping system complete for the agency's objectives, aerial pho-

tographs and topographic maps were purchased from an independent contractor.

The main purpose for purchasing *Maptitude* is to enable the Commission to produce professional looking maps for their valuable clients. All types of maps will be created, but the main ones needing a "makeover" were for the TREASURE Forest Plan of which several maps are required. A systematic routine was developed for producing maps depicting Forest Land Cover, the Southern Pine Beetle Hazard Rating, and the Annosus Root Rot Hazard Rating. A General

Location map is also needed with this plan. Now, every county office has *Maptitude* and can produce these specialized and professional TREASURE Forest Plan maps for landowners (*Figure 2*).

Another reason for purchasing a GIS program was to enable the Forestry Commission to produce Southern Pine Beetle (SPB) Infestation maps internally. Before *Maptitude*, the agency contracted with Alabama Power to print these maps, but the distinct capabilities of this program permit printing of SPB infestations

(Continued on page 24)

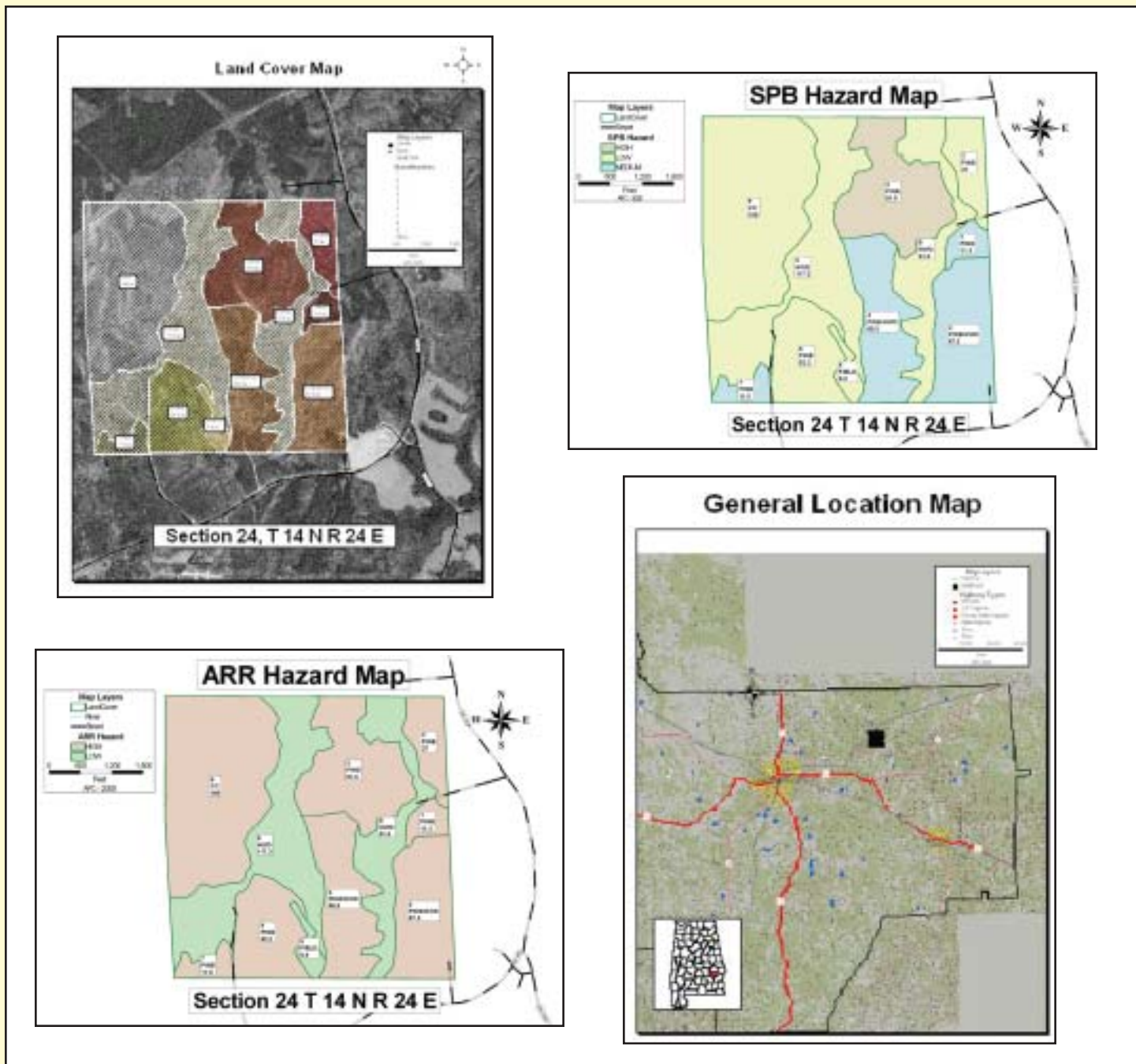
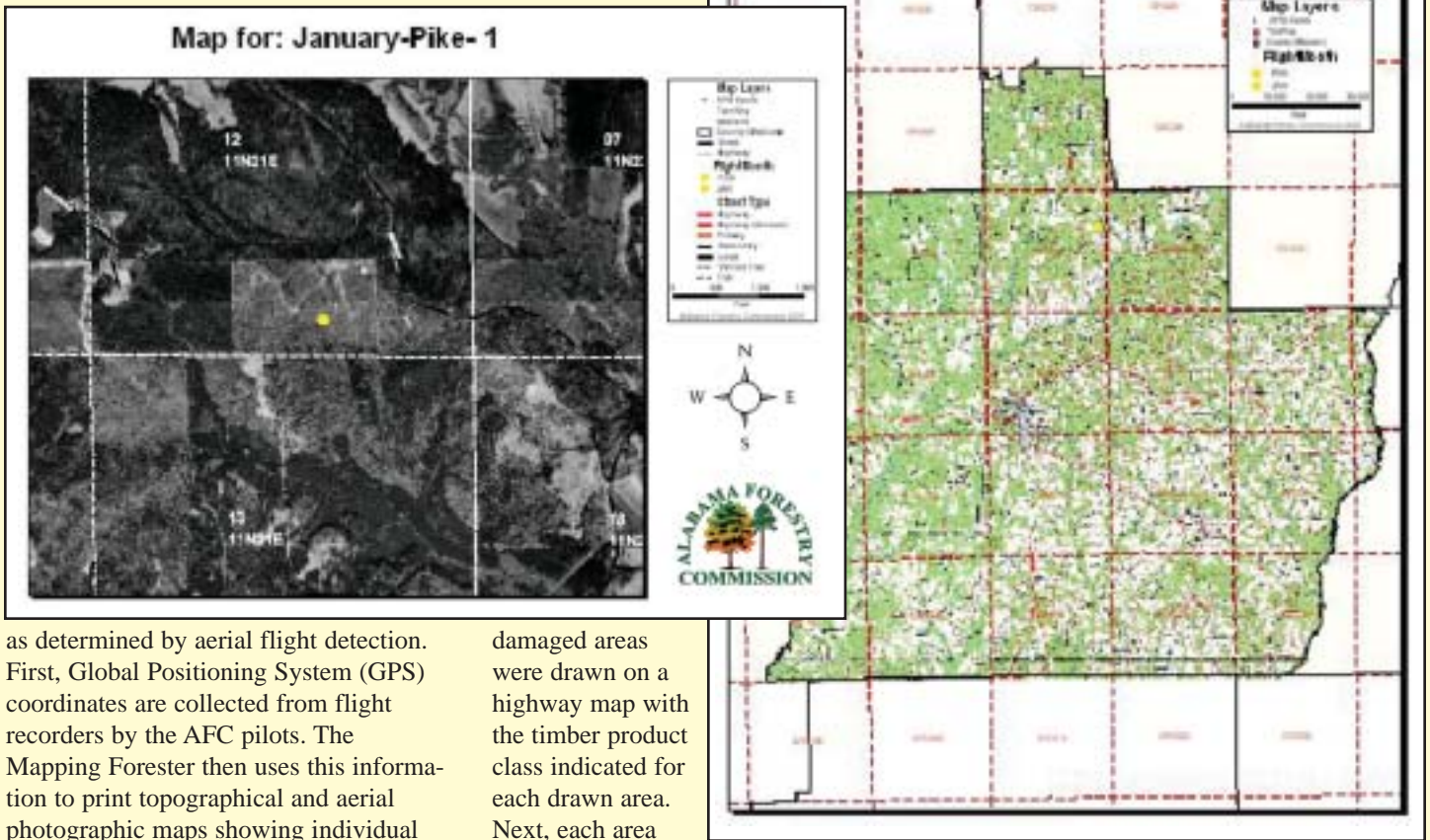


Figure 2 - *Maptitude* software assists AFC county offices in printing the required maps when preparing **TREASURE Forest Plans** for landowners.

Figure 3 - Using Maptitude, aerial photographic maps showing individual SPB spots (below), as well as overall county maps (right) are created to illustrate the location of SPB infestations.



as determined by aerial flight detection. First, Global Positioning System (GPS) coordinates are collected from flight recorders by the AFC pilots. The Mapping Forester then uses this information to print topographical and aerial photographic maps showing individual SPB spots. An overall county map is also printed to illustrate the location of the SPB infestation in that county (*Figures 1 and 3*). All maps are mailed to the county office. Finally, the individual SPB maps are mailed to the landowners having these infestations on their property.

For special projects and reports, *Mapitude* provides better analysis and illustration of information. Using tabulated data, this program creates maps, charts, and graphs. For example, the extreme damage caused by Hurricane Ivan in September 2004 required immediate emergency response from the AFC. Every division of this agency actively participated in the relief efforts. The Management Division completed a survey and assessment of all timber damaged by the storm and summarized the conclusions in the Hurricane Ivan Timber Damage Report. Both the graphs for the analysis and the maps locating damaged areas were created using *Mapitude*. The operation began with Commission pilots and selected employees flying over the concentrated areas immediately impacted by the hurricane. Moderate and severely

damaged areas were drawn on a highway map with the timber product class indicated for each drawn area. Next, each area was digitized into the GIS program and saved as a map. County maps illustrating these impacted areas were printed and used in local landowner meetings as well as in the final timber damage report. (*See Figure 4*)

The capabilities of *Mapitude* are countless, and the Commission has only tapped in on just a few of its possibilities. As the agency becomes more proficient with the mapping program, unlimited projects, analyses, and maps will be developed and used for special reports and presentations. As GIS technology continues to progress, so will the AFC continue to challenge and expand its technical knowledge. Implementing *Mapitude* into the work plan is proof of that. The Alabama Forestry Commission is definitely on the “cutting edge of technological advancement.” 🍄

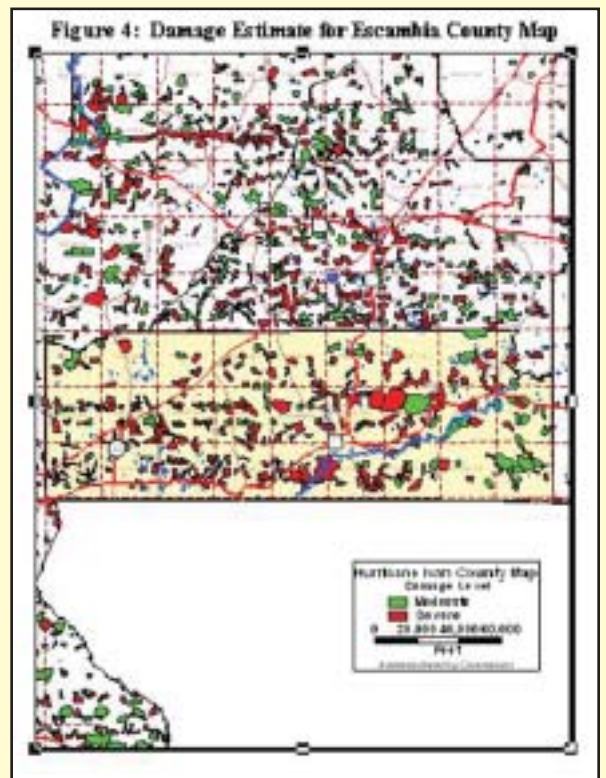


Figure 4 - Following **Hurricane Ivan**, special maps such as this one were created using *Mapitude* to locate damaged areas.

Fortenberrys Honored with Moody Award

Gary and Shirley Fortenberry of Choctaw County were recently honored with the Alabama TREASURE Forest Association's *Bill Moody Award*. It is given to honor individuals and/or groups who have made significant contributions to the advancement of the TREASURE Forest Program and the Alabama TREASURE Forest Association (ATFA). The award was presented in October at the 2004 Alabama Landowners and TREASURE Forest Conference in Tuscaloosa.

The Bill Moody Award is given in honor of former State Forester Bill Moody who is considered by many to be the "father" of the TREASURE Forest Program. He was also the founder of the State Forester's Advisory Board that later became the Alabama TREASURE Forest Association. The award has been given each year by the ATFA since 1996.

Mr. Fortenberry is currently serving as Chairman of the Alabama Forestry Commission's Board of Commissioners. ♣



Photo by Elishia Johnson

Shirley and Gary Fortenberry

Firewise

(Continued from page 12)

counties. These plans outline specific actions and timelines to accomplish a higher level of forest fire prevention. Regional fire prevention specialists and county managers will develop and implement these plans with guidance from the Fire Division and regional foresters.

The Commission has upgraded three helicopter water buckets and enhanced coordination with the Alabama Army National Guard flight facilities to provide water "drops" on wildfires in inaccessible areas and high intensity fires in interface situations.

Hurricane Ivan created even more challenges and opportunities for forest fire prevention. Every county was affected to some extent, but eight counties in particular were specifically identified to receive extraordinary mitigation attention.

The AFC brought in an out-of-state, NWCG-recognized, three-man team of Certified Fire Behavior Analysts to look at fuel types and timber damage caused by Ivan. Their task was to assess significant alterations to fuel types, look at potential fire behavior, and recommend ways to deal with the changes caused by Ivan. The Commission will use this analysis to enhance prevention efforts, readiness, and operations.

One post-Ivan mitigation tool is the program to rehabilitate firebreaks and forest access roads. The AFC has implemented a pre-suppression access program to provide this service to landowners who qualify. Ten additional Commission

firefighters received training on the operation of the AFC's three John Deere 750 dozers. These rangers will supplement the mitigation, rehabilitation, and fire-fighting efforts in the counties most affected by the hurricane by serving on fire mitigation and suppression teams.

Commission fire prevention teams are also being used to accomplish door-to-door contact, leaving literature developed specifically to publicize the Hurricane Ivan fire prevention message, while Ivan's destruction is still evident.

A media blitz is currently underway to capture the attention of citizens and communities most affected by the hurricane. Radio, television, and newspapers will publicize the AFC's message, presenting tips and stories about fire prevention.

Also, the informative and colorful 'Living with Fire' newspaper inserts that circulated statewide in 2004 were re-run in four counties.

What Can You Do?

Maintain your property to high standards and continue to mitigate hazards on your own property and in your neighborhood. Service your fire breaks and conduct prescribed burns in a safe and responsible manner.

The average person has no concept of how dangerous wild-fire can be – share the fol-

lowing fire prevention and mitigation tips with others. Continue to be aware of community growth, subdivision development, and fragmentation issues affecting property boundaries. Encourage your ATFA county chapter and other organizations to support the establishment of *Firewise Communities/USA* in your area. Everyone benefits when you use opportunities to educate your community on becoming more *Firewise*.

Conclusion

Homeowners and landowners must accept personal responsibility for learning to live compatibly with natural elements found in the wildland/urban interface – including fire. Your role as a fire prevention advocate will be a tremendous help. ♣

Firewise Tips for Homeowners

- Create a buffer zone (defensible space) between forest vegetation and the home.
- Use fire-resistant building materials and roofing.
- Safely store firewood, propane tanks, and other fuels.
- Keep lawns mowed and leaves raked.
- Clean roof and gutters of leaves, needles, and dead limbs.

References and Suggested Readings:

www.sfws.auburn.edu/urbanruralinterfaces
www.firewise.org
www.forestry.state.al.us
 WUI on-line course: www.usfa.fema.gov/applications/nfacsd/display

Legislative Profile

By *Coleen Vansant*, Information Manager, Alabama Forestry Commission

At the end of his current term, Senator Jack Biddle, III, of Birmingham will have completed 32 years of service in the Alabama Legislature. He served five terms in the House of Representatives, and is currently in his third term as State Senator. He is the only legislative member to be elected and serve as a democrat, independent, and republican.

This veteran statesman represents the 17th District that includes Blount, Jefferson, and St. Clair Counties. An Alabama native, he was raised in the Birmingham area and received his Bachelor of Science degree from Samford University. Senator Biddle is a real estate broker and developer and is Assistant to the CEO of Drummond Company. He also manages The Oaks Plantation, a quail farm in Albany, Georgia.

The Senator says that he has always been concerned with things that affect our farms and forests. He initiated legislation to donate funds for Auburn University to do a study on fire ant eradication, and he is also concerned with the southern pine beetle. He is currently serving as vice chairperson of the Senate Agriculture, Conservation, and Forestry Committee, as well as serving on the committees for Education, Energy and Natural Resources, Finance and Taxation Education, Tourism and Marketing, Rules, and Local Legislation #2.

Senator Biddle and his wife, Nena, live in Gardendale. They have two chil-



**Senator
Jack Biddle, III**

**Republican –
17th District
(Blount, Jefferson,
and St. Clair Counties)**

dren and two grandchildren, and are members of the Gardendale Methodist Church. He and his wife own 500 acres in Wilcox County, and they have about 90 acres on the lake in Chilton County. He notes that he stays “in the woods most of the time.” Although he is not a

TREASURE Forest owner, he says that he would like to be, and looks forward to receiving his *Alabama's TREASURED Forests* magazine.

Growing up, the Senator said he was a frequent visitor at his grandparents' farm in Mentone in north Alabama, one of the coldest places in the state. He laughs when he recalled that it was so cold there at times when he was a boy that he and his sister would fight to see who would get to sleep with the dog on the bed with them.

Senator Biddle is a veteran, having served as a Special Agent with Counter Intelligence Corps, Department of the Army, during the time of the Korean Conflict. He is a member of the Alabama Historical Society and the Alabama Archaeological Association. He loves Indian relics and historic places, and is interested in their restoration. Over the years, he has introduced legislation concerning these issues.

The Senator is also a member of the Alabama Wildlife Federation, the UAB Department of Psychiatry Advisory Board, and the Jefferson County Coroner's Medical Examiners Board. He is a former member of the Conservation and Natural Resources Advisory Board and formerly held a seat on the Board of Trustees for the Department of Mental Health and Mental Retardation.

Senator Biddle, a nine-time state champion in trap shooting, also enjoys hunting, fishing, and playing golf. ♣

Memorial

Mr. James Bernard Dollar, age 84 of Northport, died February 16, 2005. Mr. Dollar's Tuscaloosa County TREASURE Forest was honored as the state winner of the 1992 *Helene Mosley Memorial Award*, and was featured in the Fall 1993 issue of *Alabama's TREASURED Forests* magazine.

J.B. was a veteran of WWII where he served in Europe as a B-17 bomber pilot with the U.S. Air Force. Following the war, he attended the University of Alabama where he graduated with a degree in accounting and law. He is survived by his wife, Mrs. Betty R. Dollar, children, and grandchildren. ♣

**Visit the
AFC website
at
www.
forestry.
state.al.us**

Keeping Your Yard & Garden Off The Menu:



WAYS TO "DEER-PROOF" YOUR PROPERTY

By *Coleen Vansant*, Public Information Manager, Alabama Forestry Commission

Most landowners who live out in the county or outskirts of town have at least one story to tell about deer. They saw a deer do this or that as it made its way across their property, or they tell of the big buck standing at the edge of the field, or the doe as she brought her fawns to the creek to drink. Most of the stories are good ones – treasured memories that make you smile to yourself when you think of them.

Then there are the other landowners who have the stories that are not so pleasant. The stories about the deer that ate all of the blooms off of the heirloom rose bush, the pair that pulled all of the clothes off the line, or the pea patch that was destroyed in a single night. These are the ones you want to forget and hopefully never experience again.

If you have trouble with deer coming to the dinner table in your flowerbeds or garden, there are a few inexpensive things that you can do to deter or even repel them from the places you don't want them. If they have already made themselves at home at your place, you will have a harder time getting rid of them.

To succeed in discouraging deer from visiting your house, you have to know a little about deer. The first thing is that deer need a habitat with three basic elements to survive: water, food, and shelter. Deer prefer areas along "the edge" – the space along the edge of the forest, fence row, or roadside where they can eat or browse in the open but have the safety of the cover close by. They require about 7 pounds of food and 2-4 quarts of water a day. Deer will eat about 500 different kinds of plants, although they are similar to us – they have certain foods that are their favorites, and when food is abundant they will search for the things that tickle their taste buds. Also as with humans, they will leave the things alone that they dislike, the things that smell or taste bad. When food is scarce they will eat anything.

Deer are most active during the hours of early morning and evening. They are ruminants (they chew their cud to digest their food) and bed down in sheltered areas most of the day to do this. Deer tend to find shelter in old-growth forests, low overhanging trees, dense shrubs, tall grass fields, fencerows, and young pine plantations.

They like lush green gardens with tender new shoots of grasses and plants. Deer particularly have a taste for agricultural crops such as wheat, alfalfa, clover, beans, corn, and peas. Fruit trees are tops on their list, both the fruit and the young tender leaves. They will stand on their hind legs and strip a tree of its fruit as high as they can reach. During the winter months their diets usually consist of acorns and other things such as lichen, dead leaves, twigs, bark, and evergreen limbs.

Some of their favorite things that may be in your yard or garden are peas, beans, and other legumes (nitrogen-fixed plants), apples, peaches, strawberries, tulips, and pansies. They usually won't eat things that smell or taste bad, plants with a milky bitter sap, prickly or spiny things, tough plants, or plants with stiff needles. Deer are less likely to eat daisies, wisteria, yarrow, daffodils, geraniums and most of the aromatic herbs such as oregano, lavender, and thyme. If the food supply is good in a particular area they will usually revisit it again and again.

(Continued on page 28)



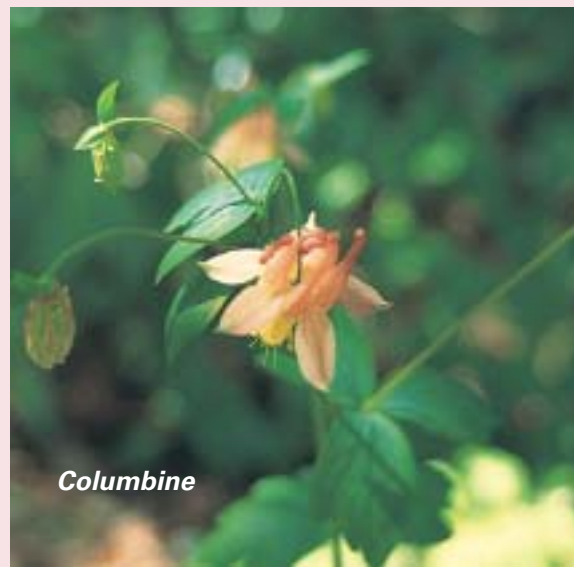
Crepe Myrtle



Zinnia



Wild Phlox



Columbine



Clematis



Eastern Hemlock



Lantana



Daffodil

There are many simple and inexpensive ways to keep the local deer from turning your yard into the best restaurant in town. All of these home remedies attack their senses of smell, taste, sound, and sight, or target their natural instinct to flee.



Choosing the Right Plants

If your yard is already established or if you are doing new landscaping, keep in mind there are different tricks you can do with plants. The number one thing to remember when selecting plants for your flower beds or vegetable garden is that deer are less likely to eat what is offensive to their noses or taste buds.

If you have existing plants that happen to be favored by deer, you can cut down on the likelihood of their finding them if you surround them with plants that they don't like. For instance, plant baby's breath with roses (roses are deer candy). Not only will it make a beautiful visual combination and be good for cutting a

Spring 2005

Deer Resistant Trees and Plants (Rarely or occasionally browsed)		
Trees	Quince	Garlic*
Ash	Rhodendron	Geranium
Black gum	Rose of Sharon	Grape Hyacinth
Black locust	Sweet shrub	Holly hocks
Box elder	Trumpet vine	Iris
Dogwood	Wisteria	Lambs ear
Eastern red cedar		Lavender*
Magnolia	Plants & Bulbs	Marigold
Maples (<i>most species</i>)	Aster	Mint (<i>most species</i>)*
Mimosa	Baby's breath	Morning glory
Oak (<i>most species</i>)	Bachelor's button	Onion*
Persimmon	Bee balm	Oregano*
Pine (<i>ornamentals</i>)	Black-eyed Susan	Peony
Sassafras	Blanket flower	Petunia
Spruce	Bleeding heart	Phlox
Sweet gum	Cactus	Red-hot poker
	Calendula	Rosemary
Shrubs & Climbers	Calla lily	Sage (<i>most species</i>)*
Boxwood	Cannas	Salvia
Butterfly bush	Chives*	Shasta daisy
Clematis	Colombine	Snapdragon
Crepe myrtle	Daffodil	Tarragon
English ivy	Dalai	Thrift
Forsythia	Delphinium	Thyme*
Holly	Dianthus – Pink	Verbena
Hydrangea	Dill*	Vinca
Jasmine (<i>most species</i>)	Dusty Miller	Yarrow*
Juniper	Echinacea	Wild ginger
Lantana	Fern	Zinnia
Lilac	Forget-me-not	
Mountain laurel	Foxglove	

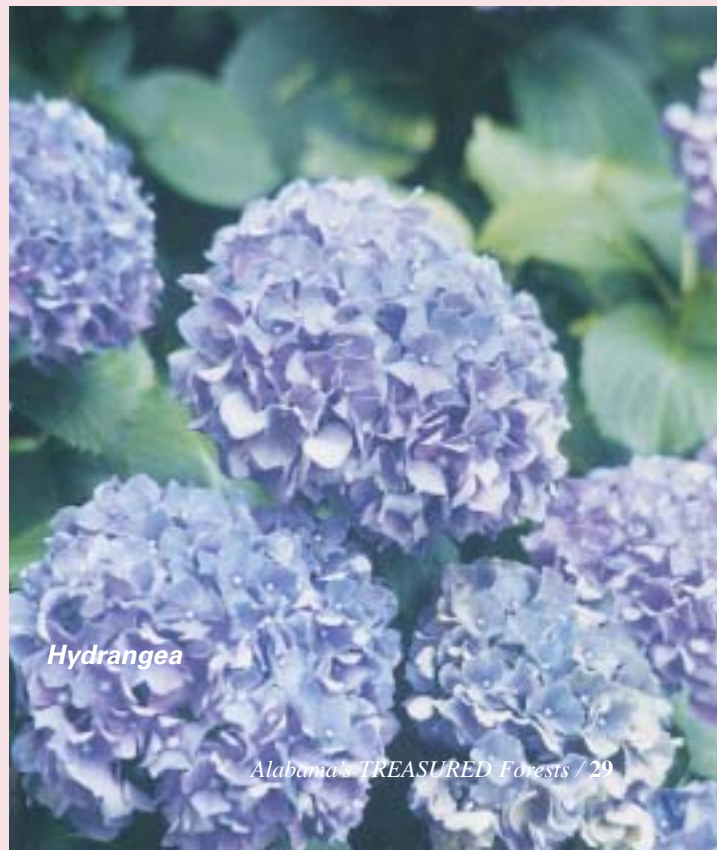
* considered the best deer repellents

bouquet, but the baby's breath is not a deer favorite – they will be less likely to browse the rose buds if they have to go through the baby's breath to get to them.

Plant things deer prefer in the back of your flowerbeds, and plant fragrant flowering herbs such as sage, lavender, and rosemary along the outer edges. The strong smell of the herbs may keep the deer from stepping further into the flowerbed to eat your azaleas. Disguise a spring tulip bed by dotting it with plants such as thyme or creeping phlox.

In your vegetable garden you might save your corn

(Continued on page 30)



Hydrangea

Ways to “Deer-Proof” Your Property

(Continued from page 29)

and peas if you plant a row of zinnias, asters, bachelor’s button, or cosmos (or a mixture of all) on either side. Or you may want to consider planting aromatic herbs, onions, garlic, or marigolds along the outer edges of the garden, while planting beans, peas, and other deer-delectable items on the interior. It will not hurt to mix a deterrent plant or grouping of them sporadically throughout the garden.

If you have a bird bath, garden pond, or fountain in your yard that would serve as a source of water for thirsty deer, you may wish to consider placing it in a setting of various blooming bulbs and plants that deer don’t find appetizing. Place among daffodils, cannas, iris, and other plants that will provide blooms from early spring to late fall. A variety of plants may keep deer from drinking from your birdbath or fountain.

Trying Home Remedies

Most home remedies work for a time, but eventually deer will become accustomed to unusual sights, smells, or sounds if they are exposed to them long enough. They will walk over it or through it to get to a favorite food. It is best to rotate your tactics and devices periodically so they won’t become accustomed to the deterrent.

Sprinklers and floodlights – Hook sprinklers and floodlights to a motion sensor. Deer will flee when the bright light magically shines or when they are suddenly sprayed with water.

Fishing line – String a strand of deep-sea fishing line around what you don’t want eaten at a height of about three feet. It is said that deer bump into the invisible line and instantly retreat to safety. Be sure to mark the line with flagging or cloth so that you won’t get caught in your own trap.

Fabric softener/moth balls/human hair

– Hang fabric softener strips or cheesecloth bags filled with mothballs or human hair around the yard at varying heights. The unpleasant smells will deter deer from the area.

Soap – Drill holes in bars of scented soap, tie a piece of fishing line through them, then tie onto fences, bushes, and tree limbs. Soaps with a tallow base work best.

Garlic – Fill cheesecloth bags or sections of nylon panty hose with crushed garlic. Hang at varying heights around what you want to save.

White Flags – A

raised tail on a white-tailed deer is a signal to other deer to run like heck. You can mimic this alarm system by tying white flags round your garden and yard. Tear old t-shirts, cloths, etc. into strips about one foot long and tie them at different places around your yard. You might even want to tie several clothesline-style on fishing line around the edge of your garden. This works best with a little wind that will make the “tails” move.

Noise – A string of tin cans, pie pans fluttering and shining in the breeze, or even the tinkling of wind chimes or bells can help deter deer from your flowerbeds and garden. Play a radio in the yard periodically, or connect it to a timer that will go on and off at dusk and dawn.

Remember, in order for these “scare tactics” to work, you have to change them up from time to time.

Plants that Deer Prefer

Trees

(both fruiting & ornamental)

Apple
Cherry
Cypress
Crab Apple
Eastern Red Bud
Peach
Pear
Plum

Shrubs

Juniper
Rhododendron
Azalea
Yew
Burning Bush

Flowers & plants

Beans
Blackberry
Broccoli
Cantaloupe
Cauliflower
Chrysanthemum
Daylilies
Hosta
Lettuce
Pansies
Peas
Roses
Spring Bulbs
Strawberries
Sweet Corn
Trillium
Tulips
Watermelon

A Dog - If you live in the country and are not restricted by leash laws, the best deterrent you can have is a dog running loose in your yard. Besides humans, dogs are the number one predator of deer. Having Rover or Spot on guard may be the best answer to your problem.

Another way that deer can damage or destroy trees is rubbing on them. During the fall, bucks will rub their antlers aggressively to remove the velvet covering. The constant vigorous rubbing will remove the bark from the tree. This can be remedied by installing a protective wrap or fence around the tree or by using several of the home remedies mentioned above. ☞

Author’s note: If you have any remedies that have deterred deer on your property please share them. You can send them to me at vansantc@forestry.state.al.us.

Resources:

http://www.hgtv.com/hgtv/gl_wildlife_other/article/

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<http://gardening.about.com/library/hotto/htdeer.htm>

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Alabama Forestry Camp 2005

By James Jennings, Outreach Forester, Alabama Forestry Commission

The 2005 session of Alabama Forestry Camp, in its eighth year, is coming up soon. Held at the Federation of Southern Cooperatives facility near Epes, Alabama, in Sumter County, the camp will run from Sunday, June 5 through Thursday, June 9.

This five-day camp for high school students interested in forestry, conservation, and/or natural resources is designed to introduce basic forestry concepts through classroom instruction and outdoor activities. However, the week is not "all work and no play." There are also fun evening activities and recreation. The purpose of Alabama Forestry Camp is to provide a positive learning experience.

At this year's camp, students will participate in sessions covering tree identification, forest management, forest products, wildlife, water quality, urban forestry, and forest history. There are also off-campus visits to recreational parks, a private landowner's property, and forest industry facilities. During Career Night, students will have the opportunity to talk to college recruiters about careers in forestry and natural resources. The final day of the camp includes a graduation ceremony and luncheon for students, instructors, counselors, and family members. All students will receive a certificate of completion of the camp.

Alabama Forestry Camp is **free** to anyone who qualifies to attend. Open to both boys and girls, the student must be 15-18 years old and have completed the

9th grade, but not graduated from high school. Camp participants will be housed in dormitories with 24-hour adult supervision. Each attendee is responsible for providing his or her own transportation to and from camp. All other transportation, meals, and snacks will be provided. The application should be completed and signed by both student and parent. All applications must be postmarked by **April 15, 2005**. Space is limited.

If you know of someone interested in attending Alabama Forestry Camp, have them call any county office of the Alabama Forestry Commission for an application or for more information. Applications are also available on the Alabama Forestry Commission website at www.forestry.state.al.us. ☎

For current information on the Southern Pine Beetle situation in Alabama, visit the Alabama Forestry Commission web page at: www.forestry.state.al.us

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Wisteria

Chinese wisteria, *Wisteria sinensis* (SIMS) DC.
Japanese wisteria, *Wisteria floribunda* (Willd.) DC.

By Coleen Vansant, Information Manager, Alabama Forestry Commission

Wisteria is a deciduous high climbing, twining, or weeping woody vine that can grow up to 70 feet in length. It was first introduced into the South from Asia in the early 1800's as a porch vine. Before the days of air conditioners, the thick leafy vine not only provided much needed shade but the blue-lavender blooms also gave a most delicious fragrance on spring nights.

It is a very hardy and adaptable plant, and because of its aggressive proliferation it is now considered a non-native invasive species in all of the southern states except Oklahoma. The two most common non-native species of wisteria are the Chinese and Japanese varieties. Over the years they have become difficult to tell apart due to possible hybridization. These two have become a problem in many areas of Alabama where they have escaped from old home sites and quickly invaded forested areas. In warmer climates it will climb high into the tree canopy.

The woody vines can grow to 10 inches in diameter and have frequent alternate branching. The older bark of the Chinese variety is dark gray with light dots. The Japanese vine has a white bark. Older established plants may have a twisted picturesque trunk several inches in diameter.

Leaves of the plant are odd pinnately compound, 4 to 16 inches long. The Chinese variety has 7 to 13 leaflets while



the Japanese has 13 to 19. The stalks have swollen bases. Leaflets are oval to elliptic with tapering pointed tips 1.5 to 3 inches long and 1 to 1.5 inches wide. When young, the leaves are silky and hairy but turn hairless when mature.

Wisteria's pea-like flowers are very fragrant and can show colors of purple from lavender to blue-violet, as well as pink and white. The white Chinese variety is said to be the most fragrant. The Asian species bloom from March to May in grapelike clusters appearing when the leaves emerge. They are from 4 to 20 inches long and 3 to 3.5 inches wide. The

Chinese blossoms open all at once while those on the Japanese type open in succession.

The fruit and seeds appear as flattened legumes from July to November. They can be 2.5 to 6 inches long and about 1/2 to 1 inch wide. They are velvety and greenish brown to golden, and split on two sides to release one to eight flat round brown seed.

Wisteria grows on wet to dry sites and can reproduce from seed or runners. It prefers sun to partial shade. All parts of the plant are poisonous if ingested.

Once wisteria is established, particularly the non-native species, it is hard to control. If you want to grow wisteria there are two native species that are not as aggressive as the Asian species: American wisteria, *W. frutescens* (L.) Poir., has blooms 4-5 inches long and 9-13 leaflets; and Kentucky wisteria *W. macrostachya* that has blooms 6-12 inches long and 9-15 leaflets. Both prefer wet bottomlands and stream banks and bloom in the summer months. They are bushier than the exotic species and can be purchased from many nurseries.

With constant pruning, wisteria can be trained to a small tree. It is a very popular bonsai plant and all varieties adapt well to this. You can enjoy the wonderful fragrance of wisteria year round in soaps, candles, and perfumes. ☸



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