ALABAMA'S TREASURED FORESTS

A Publication of the Alabama Forestry Commission

SPRING 2006

A Message from . . .

Timothy C. Boyce
State Forester

The Farm Bill is a legislative vehicle through which federal programs are created or changed to promote and facilitate the sustainable management of private forestland. The National Association of State Foresters (NASF) has established the following guiding principals to help shape and guide the next generation of forestry and conservation programs.

- ☞ Meeting the goal of sustainable forestry is best achieved through a Forestry Title.
- ☞ Maintaining working forests is a top priority.
- ☞ Program implementation should focus on state priorities and targeted implementation.
- ☞ Farm Bill programs should leverage private sector support.
- ☞ Landscape scale implementation of programs aids success.
- ☞ Program accomplishments and outcomes should be clearly defined and demonstrated.
- ☞ Strengthen the role of forestry in conservation programs.

Several of our state programs receive funding through the Farm Bill. They are: Stewardship, Legacy, Urban Forestry, Community Fire Assistance and Forest Land Enhancement Program.

Two-thirds of our nation's forestland is owned by private landowners (78 percent in Alabama). Private forests supply two-thirds of the nation's drinking water and over 60 percent of the nation's wood fiber. It is imperative that the 2007 Farm Bill be a tool to provide assistance to landowners so that they can best manage their land for the benefit of us all.

ALABAMA'S TREASURED FORESTS

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DEPARTMENTS

On the Cover: In early spring, longleaf pines produce pollen catkins (male flowers) such as this photo captured in the Coosa County Wildlife Management Area.
Photo by Harold Raleigh

Background this page: Dogwoods signal the arrival of Spring in Alabama forests.
Photo by Jim Hybart

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Mathis Creek Farm . . .

"It's All About Family"

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

Most all of us have ridden along a rural highway and suddenly drawn in our breath when we came upon a beautiful view before us. One of those scenes that is postcard perfect – one that makes you want to get out of the car and step a little closer. There is one of those snapshots along Highway 78 in east-central Walker County. That place is Mathis Creek Farm – the TREASURE Forest of Dr. Jeff and Kathy Barton and their son Scott.

For the Family

Named for Mathis Creek that runs through it and empties into the Black Warrior River, the history of the property is a long one for Jeff and his family. His great grandfather purchased the original 80 acres around the turn of the last century and cleared the land by hand for pasture. His grandfather worked the farm through the depression and according to Jeff, "was lucky enough to hang onto it." Jeff's father was a rural mail carrier and farmed on the side. Jeff and his brother were raised on the land, both involved in helping on the farm. To them it is all about family – the recreational opportunities the property offers and the fellowship of sharing it with their family and friends.

For years the family had wanted to add more property to their farm. "My dad had tried to buy adjacent property since he was 25 years old," Jeff stated. He added that he had been in his medical practice about six months when his father called him one day and said that

an adjoining landowner was considering selling his property. Jeff said he immediately went to the bank, borrowed the money, and bought his first tract. Since 1994 he has purchased adjoining land on both sides of Highway 78, and now he himself owns about 335 acres. With the additional property owned by his father and brother, the farm is currently about 400 acres. Timber production and aesthetics are the Bartons' primary and secondary objectives on the property.

Kathy and Jeff Barton with son Scott (middle), niece Elizabeth, grandson Kaleb (in red shirt), and Clifford the family dog.

Reclaiming the Property

Most of the newly purchased land was old mined strip pits that had been cut over. They were overgrown with pine, brush, and other native plants. In the early 80s, the property had been clearcut and seed trees left. In 2001 a pre-commercial thinning was done and the farm was started on a prescribed burning rotation. The property was just recently burned by the Alabama Forestry Commission, and according to Walker County Manager Dan Jackson, it is one of the hardest he has ever burned. Because of the property's location (Highway 78, one of the busiest highways in the state, runs through the middle of it), all smoke management precautions must be taken. Dan said it had to be done on a day with a south wind to keep the smoke off the highway, and even with trucks and flashing lights on the highway to warn motorists, the 911 office still got around 200 phone calls from concerned citizens.

Although they don't live on the land (Jeff is a practicing physician in Albertville), it is of most importance to them. "Our daily lives are pretty stressful," Jeff explained. "Our family comes here for fellowship and recreation. It's very important to us."

Currently there are 150 acres in pasture for cattle grazing and hay production. The rest is in timber. They have around 60 primarily mixed breed cattle on the farm, and their goal is to increase their herd to 100.

Although wildlife is abundant on the farm now, that wasn't the case when Jeff was growing up there. "From the '70s to '90s, deer were almost nonexistent on this property," he stated. Now they are almost part of the scenery at Mathis Creek Farm. Turkey are also thriving, and seeing a large flock bugging on the edge of the pastures is not unusual. The family said that once they saw 43 turkeys in one group! Dove is plentiful and there are some quail, although they are hoping to manage for more.

Getting Assistance with Goals

With land management comes the need for help from time to time. Years ago, Jeff's dad began a close relationship with the Walker County Soil and Water Conservation District office and received assistance from them in managing the property. "AFC Forester Dan Jackson has been a tremendous help," Jeff explained further. "We were novices as far as forest management. We'd be lost without all of the assistance." By learning that there was help available for landowners, the Bartons have been able to get assistance with their pine planting, pond, and pastures. Another big help is Jeff's brother-in-law Harold who serves as the full-time farm manager.

Aside from just the natural beauty, one of the most unique features of the farm can be seen from Highway 78. What appears to be an old covered bridge sets the stage from the highway and as you enter the property. The family built on to an old bridge on the original Highway 78 and made a covered bridge out of it. Now it is the centerpiece as you look down the valley towards the cove where the farm is located. Jeff said his dad remembers stopping on the school bus at this bridge when he was a boy because the road was flooded.

Many landowners would call it education, but the Barton family seems to see it more as "sharing" their land with others. The couple has hosted many educational and landowner programs over the years. The local Alabama TREASURE Forest Chapter/Walker County Forestry Planning Committee has held several events there. They are the host of the county FFA forestry judging competition, have had outdoor women groups there,

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Opposite page: Valley view with covered bridge. Right: These seed trees have regenerated the current forest.

Photos by Coleen Vansant

Photo by Coleen Vansant

Beautiful Mathis Creek is visible from U.S. Highway 78 in Walker County.

and are proud to have the boy scouts use their farm. This tradition goes back many years since Jeff and his brother were young scouts, both of whom earned the prestigious Eagle Scout rank. And then there are what Jeff calls "various and sundry kids" that enjoy the farm such as his son Scott, grandson Kaleb, and a variety of nieces and nephews.

Jeff said he heard about the TREASURE Forest program from his dad. He was trying to develop sound land management practices on his farm and TREASURE Forest seemed to fit with that. He is a member of the Alabama TREASURE Forest Association and the local planning committee.

As with all TREASURE Forest owners, the work is not nearly complete. In addition to the Bartons' plans to increase their cattle herd, they are also in the beginning of a kudzu eradication program. The prescribed burning program will be an ongoing project. Planting more pines is in the future picture, as well as working on their wildlife management program. At some time they also want to build a 10-acre pond for the family to enjoy. When retirement comes in a few years, they have plans to return to the property to live.

Jeff takes a lot of pride in his property . . . not only in the long family heritage that it holds for him, but also in seeing the growth and development that have taken place over the years. However, the greatest thing for him is being around family. For the Bartons, "It's all about family."

Pines on the right were burned after a pre-commercial thin. Contrast: The stand below was not thinned before being burned.

Photos by Coleen Vansant

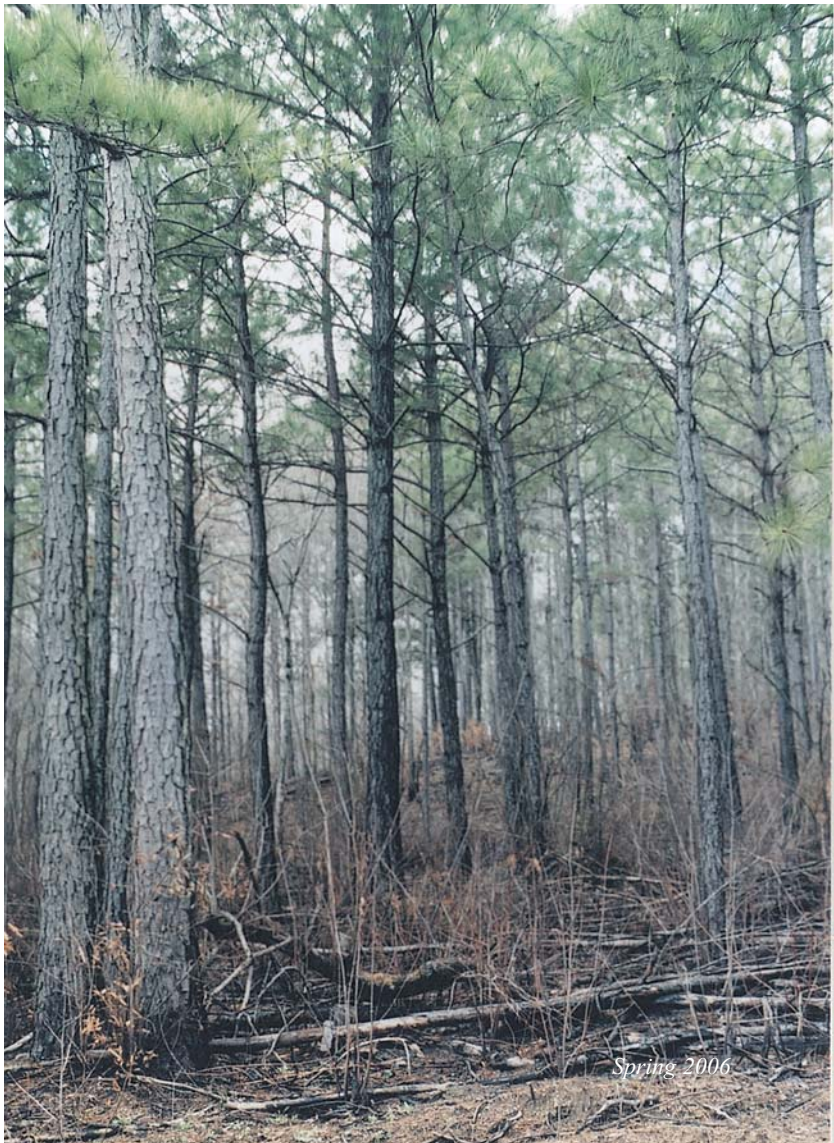

Photo by John Pirtle

Why Do We Burn?

By *Swamp Fox*

From the days of our youth, we are warned about the hazards of fire. Through sometimes painful experience, we learn about it firsthand. Smokey Bear brought us the same message concerning fire in the forest. Wildfires that destroy homes as well as timber show us that Smokey had a valid message; but as we know, fire has a positive side, too.

Fire is a natural part of many ecosystems. Before man appeared on the scene in North America, fires burned through many areas periodically, with most of these fires being started from lightning strikes. These fires influenced vegetation and wildlife found in an area, and the vegetation and wildlife sometimes influenced the fire regimen.

Native Americans observed these patterns and intentionally set fires to achieve different goals on the lands where they lived. Early settlers used fire in forest areas as well. These efforts sometimes had less than desirable results.

Over the years, through trial and error as well as research, prescribed burning has been developed into a science and an art. Today, planned, controlled burning is one of the most useful tools we have for land management, and it can be used to achieve multiple goals. Although prescribed burning is a valuable tool, it should not be attempted without careful planning, desired conditions, a burn permit, and experienced personnel and equipment to carry out and contain the burn.

Possibly the most important use for prescribed burning is to reduce hazardous fuels. When fire is excluded from an area – especially pine forests – fuel builds up rapidly in the form of pine needles, fallen branches, and understory vegetation. After several years of fuel accumulation, if a wildfire breaks out – whether by natural causes, accident, or arson – the fire can burn very intensely. The fire can do great damage to timber in the stand, as well as spread to surrounding areas.

Prescribed burning can be used periodically to keep these fuel levels low, with burning intervals determined by fuel buildup. If a wildfire does break out between controlled burns, the fire burns with less intensity, does less damage to timber, and is easier to contain and extinguish.

Regenerating southern pine often involves some form of controlled burning. For direct seeding or natural regeneration, fire can be used to expose mineral soil to ensure a good seed catch. For mechanical or hand planting, fire can be used to reduce debris for better access by machinery or hand-planting crews. Along with other mechanical or herbicide site prep treatments, fire may be

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Photo by John Pirtle

Why Do We Burn?

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used to help control competing vegetation until seedlings can get a head start.

Once the pine stand is established and of adequate age and size, prescribed burning may be needed to help control competing understory hardwoods. Fire is most effective when used to control small diameter hardwoods. A series of burns at different seasons may be required to obtain the best results. In a particularly rank hardwood understory, it may be necessary to team fire with selective herbicides to achieve control.

An often overlooked use of prescribed burning is disease control. Brownspot disease in longleaf pine, as well as root rot, are controlled or lessened with fire.

Trying to wade through an understory thicket of greenbrier, blackberry, and hardwood brush will make clear how useful prescribed fire can be to improve access by burning off underbrush. The improved access will greatly aid in marketing timber products, or just provide pleasant walking conditions through the forest.

Prescribed fire is useful for more than timber management alone. As stated earlier, fire is a natural part of many ecosystems. It actually helps to create and shape wildlife habitat by influencing the types of vegetation that occur in an area. The vegetation types influence the wildlife species, both game and nongame, that will occur in an area.

Among the wildlife species in the southeastern U.S. that use or depend on areas maintained by fire are quail, doves, turkey, deer, gopher tortoise, red-cockaded woodpecker, and numerous songbirds. As with other uses for prescribed fire, burning to enhance wildlife habitat calls for a well thought-out plan geared to the needs of the wildlife species being considered.

Another use for prescribed fire that often occurs as a byproduct of burning for other reasons – but could be a primary purpose – is to improve aesthetics . . . enhance the view. As discussed before, burning can remove dense underbrush, creating open understory pine forests. These open understory conditions often result in more herbaceous vegetation and wildflowers, more wildlife species, easier access, and greater visibility.

Just as prescribed burning can improve understory vegetation conditions for wildlife, the same can hold true for grazing conditions when cattle are allowed to graze in pine stands. The growth that follows a burn is usually more desirable to cattle and has a higher nutrient quality.

One of the best attributes of prescribed burning is that a burn carried out primarily for one purpose may actually achieve a number of other desirable results at the same time. Fire used to control understory hardwoods may also reduce fuel, enhance wildlife habitat, and improve access and aesthetics. With proper planning, experienced personnel, and exacting conditions, it is one of the best tools we have for land management. For more information on prescribed burning, contact the Alabama Forestry Commission office in your county.

Editor's Note: Be sure and watch for the next story by Swamp Fox about ivory bill woodpeckers, "Listen for the Double Knock," in an upcoming issue of ***Alabama's TREASURED Forests.***

Photo by John Pirtle

PRESCRIBED BURNING
and Landowner Assistance Programs

By *Arthur Hitt*, Landowner Assistance Forester, Alabama Forestry Commission

Prescribed burning is one of the most cost effective forest management tools that the forest landowner has at his disposal for pine stand management. It provides multiple benefits for both timber and wildlife. Prescribed burning controls undesirable vegetation as well as low value woody plants and shrubs. Over time, a regular program of prescribed burning will actually change the species mix of herbaceous weeds to a more palatable and desirable food mix for wildlife. In turn, controlling competing vegetation will make water, sunlight, and soil nutrients and minerals more available to the individual pine trees in the stand.

Where is the Rx in Prescribed Burning?

Why is the application of fire in forest management called "prescribed burning?" Looking at one widely accepted definition, one can see that prescribed burning is more than just controlled burning. Consider the following:

Prescribed burning is fire that is…

- ***Applied in a skillful manner***
- ***under exacting weather conditions***
- ***in a designated place***
- ***to achieve specific results.***

Let's see what you get when you examine this definition more closely.

Fire ***applied in a skillful manner*** means that you can achieve various results by applying fire in different ways. For example, you would want a more intense fire on a site preparation burn in a clearcut for tree planting, and a less intense fire for a fuel reduction burn in a young pine stand.

Add ***under exacting weather conditions*** and you have to take into consideration air temperature, relative humidity (RH), surface wind speed and direction, transport wind speed and direction, atmospheric stability, mixing height, and how these and other weather factors affect the way the fire burns. Fires burn much hotter and faster in March with 25 mph winds and 22 % relative humidity than in December when it is overcast, with light and variable winds and 85% RH.

Prescribed burn in a young longleaf plantation, with disked fire break in the foreground.

The ***designated place*** in the equation takes into account both fuels and topography. Light, flashy fuels such as sage grass or pine straw on flat ground will burn differently than heavy logging slash on the side slope of a mountain. The physical characteristics of fuels such as their shape, size, arrangement, volume, and moisture content, in addition to the terrain, determine how a fire will burn. Combine your fuel, weather, and topography with the right mix of skill and the knowledge of how those ingredients affect fire behavior, and you have a "prescription" for a successful burning program.

The ***specific results you wish to achieve*** will come with periodic burning in the right amounts.

What are the Results of a Burning Program?

During my fire suppression days of not too long ago, I would hear all sorts of reasons for burning. (Most often it was someone else's property that ended up burnt.) People would tell me they were burning to get rid of rats, bugs, pine worms, flies, trash, snakes, "haints," ghosts, insects, brush, ticks, chiggers, "'*cause I can't see through the woods,*" "*the deers are eating up my pea patch,*" and my all-time favorite: "*everybody knows my Daddy's allergic to grass pollen.*" I had to think about that last one for a while, but I finally decided that it may have been the most legitimate reason of the whole bunch.

You may not have a "haint" or grass pollen problem on your property, but consider the list below for some additional benefits from a prescribed burn program:

- **Manage Competing Vegetation** – Understory trees and shrubs less than three inches in diameter can be controlled by fire.
- **Improve Wildlife Habitat and Forage for Grazing** – Burning stimulates growth of forbs, herbs, legumes, and open grown plants preferred by wildlife and livestock.

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Prescribed Burning and Landowner Assistance Programs

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- **Control Insects and Disease** – Brownspot disease in longleaf is one of the most well known diseases controlled by fire. Annosus root rot and the white pine cone beetle are controlled to a lesser extent by controlled burning.
- **Manage for Threatened and Endangered Species** – Everyone knows about longleaf pine being dependent on fire, but other plant species such as pitcher plants and types of orchids are also maintained by fire.
- **Enhance Appearance and Improve Access** – Burning underbrush can increase recreation and aesthetic values by improving access and visibility in timber stands.
- **Reduce Hazardous Fuels** – Wildfires in stands with heavy fuel buildup (pine straw, leaves, etc.) can damage or kill valuable timber.
- **Dispose of Logging Debris** – Tops and limbs can take up planting space, clog roads and trails, hinder access to the tract, as well as be a hazardous fuel problem.
- **Prepare Sites for Seeding or Planting** – Fire can control small woody stems and herbaceous plants that would compete with pines. Fire can clean up areas for site preparation for planting.

Additional Benefits

Prescribed burning, especially when done through a cost share program, is one of the most cost effective tools the landowner has for managing his property. A periodic burning program does not have to be limited to pine stands. Mixed pine-hardwood stands will also benefit if managing the midstory and understory is an objective.

The benefits from a burning program are worth the cost, even if not done under one of the landowner assistance cost share programs. Prescribed burning costs can be expensed out on your income taxes in the year they are incurred. Burning is a great timber stand improvement (TSI) activity. Permanent firelanes, initiated as part of a prescribed burning program, provide multiple benefits by serving as roads or trails (horseback, ATV, walking, nature, etc.) and linear food plots for wildlife. One of your management objectives should be locating the firebreaks where they not only serve as access to your property, but also delineate different timber types.

What Help is Available for Prescribed Burning?

Currently, there are several state and federal programs that provide cost-share assistance to landowners for prescribed burning. These programs have different sign-up periods and certain criteria that must be met in order to qualify. Contact the appropriate agent for more details on the various programs.

Cost Share Programs

Conservation Reserve Program (CRP) – Contact the US Department of Agriculture (USDA) Farm Service Agency (FSA) for details.

Environmental Quality Incentives Program (EQIP) - Contact the USDA Natural Resources Conservation Service (NRCS) for details.

Wildlife Habitat Incentives Program (WHIP) - Contact the USDA Natural Resources Conservation Service (NRCS) for details.

Forest Land Enhancement Program (FLEP) *(the Alabama Forestry Commission Prescribed Burning Program)* – Specifications for this program have not been finalized at this time. However, cost share funds will be available for prescribed burning and firelane construction practices, with priority given to longleaf stands. Contact your local Alabama Forestry Commission (AFC) office for details as they become available.

New programs will be forthcoming in the hurricane damaged areas. See your county forester for details.

If you have questions about managing your property, seek advice from a professional forester or biologist. They may give you other options to consider. Contact your local AFC county office for more information or visit the Alabama Forestry Commission's website at **http://www.forestry.state.al.us.** This website has links to more articles on prescribed burning, telephone and address lists of registered foresters and wildlife biologists, and a lot more information on becoming a good steward of your property.

Source: *A Guide for Prescribed Fire in Southern Forests,* USDA Forest Service, Rev. 1978.

Program Guidelines

Program Information	CRP	EQIP	WHIP	FLEP
Administering Agency	FSA	NRCS/FSA	NRCS	AFC
Sign-up Location	FSA	NRCS/FSA	NRCS	AFC
Cost-Share Rate	50%	60%	60%	50%
Length of Contract (Years)	10-15	5-10	5-10	1
Prescribed Burning for Site Preparation	No	Yes	Yes	Yes
Stand Improvement Burning	No	No	No	Yes
Permanent Firelanes	No	No	Yes	Yes
Habitat Improvement Burning	No	No	Yes	Yes

Fire's Effect on *Threatened and Endangered Species*

By *Sarah O'Sullivan*, Forester, Alabama Forestry Commission

If you are in Tennessee, Kentucky, or northern Alabama in August or September and pass a grassy area located near an open forest, you might see the Eggert's sunflower *(Helianthus eggertii)* in bloom. These yellow flowers will release seed and cause new plants to grow. If you are particularly observant you might notice that many of the sunflowers are in clumps. This is due to the formation of rhizomes (roots) which spread and form new plants. Glancing at this plant, it may be hard to believe that this 1 to 6 foot perennial with lance-shaped leaves was once on the brink of extinction.

The Eggert's sunflower was listed as an endangered species in May of 1997, due mainly to the decrease in fire, loss of suitable habitat, and competition with other plant species. In the distant past, frequent fires either caused by lightning or set by Native Americans prevented succession and decreased woody plant competition. When the number of fires was decreased, succession continued, eventually shading out the Eggert's sunflower. Other competition has resulted from the encroachment of invasive species which can take over an area. As if this weren't bad enough, the amount of suitable habitat has decreased due to the loss of fields for crops or development.

To help with this situation, fire was re-introduced to many communities. According to the US Fish and Wildlife Service's Recovery Plan, the Arnold Engineering Development Center in Tennessee and the Nature Conservancy conducted controlled burns to reduce woody competition and restore suitable habitat. This, along with the protection of existing habitat, led to the Eggert's sunflower being delisted in August of 2005.

Fire has also aided in the restoration of habitat for the gopher tortoise *(Gopherus polyphemus)* as well. This threatened species, the only tortoise who is a southeastern native, can be found in the southern part of Alabama. Well-

Alfred R. Scholz, Alabama Natural Heritage Program

drained sandy soil and open areas rich with grasses that allow sunlight to reach the forest floor are needed in order for an area to be considered suitable habitat. Without these sunny open forests to lay their eggs, the gopher tortoise will venture to more hazardous areas such as roadsides and firelanes for egg laying. A closed canopy forest also shades out the necessary grass-like plants and legumes which are used as a food source. Prescribed burning and tree thinning provide necessary openings needed for the gopher tortoise and encourage herbaceous growth which can promote suitable food sources.

These are just two examples of how prescribed burning can directly benefit threatened and endangered species. The flatwood salamander *(Ambystoma cingulatum)*, American chaffseed *(Schwalbea americana)*, green pitcher plant *(Sarracenia oreophilia)*, Alabama canebrake pitcher plant *(Sarracenia rubra ssp. alabamensis)* and possibly the Gentian pinkroot *(Spigelia gentianoides)* also benefit from the use of fire for the purpose of habitat restoration.

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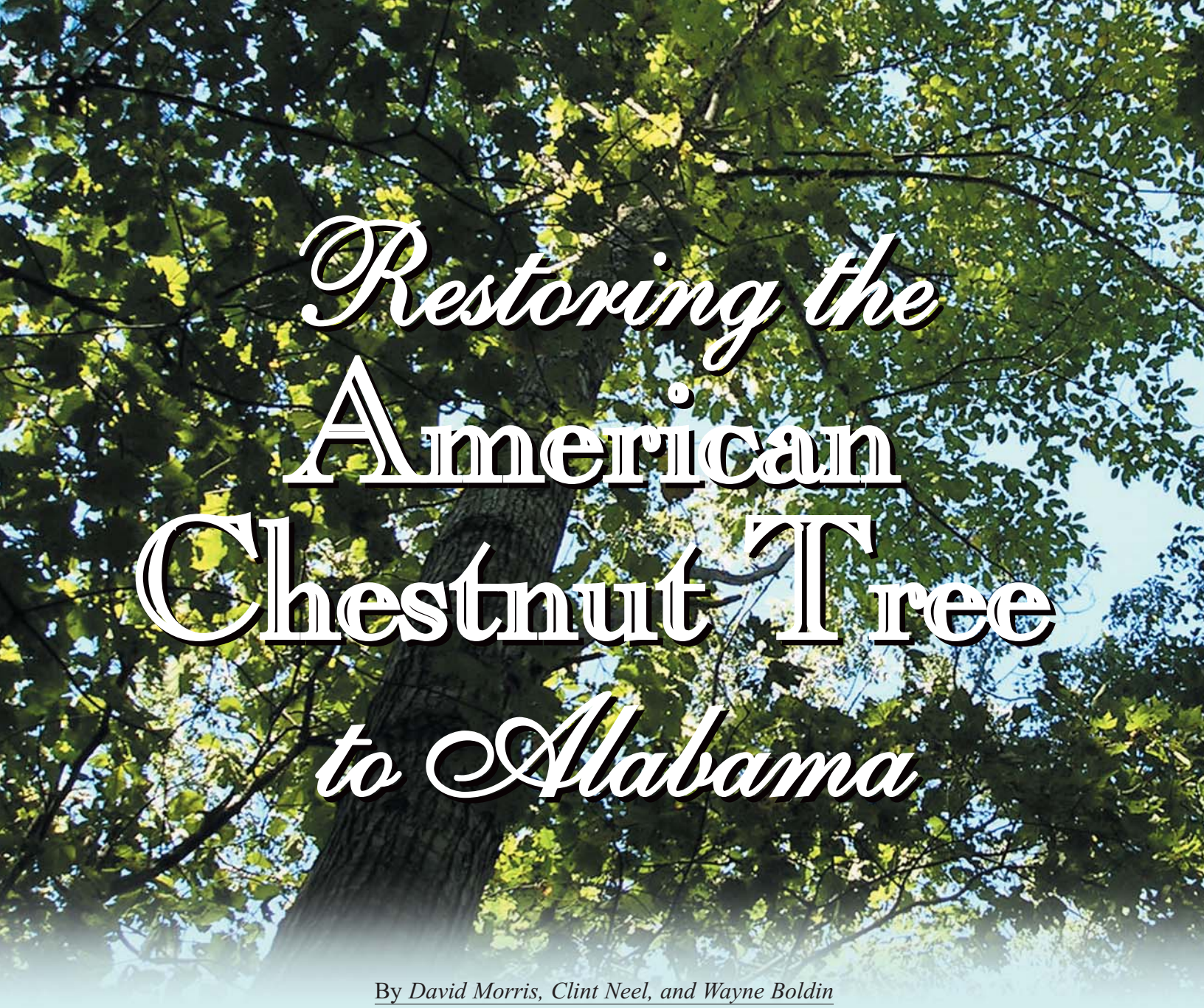

Restoring the American Chestnut Tree to Alabama

By *David Morris, Clint Neel, and Wayne Boldin*

"We lived next to a big forest and there were giant American chestnut trees growing there. We'd walk to our little school, Clear Creek School, that went through the sixth grade, and we had a young teacher at the time that would take a group of us to the forest to collect the nuts after they'd fallen. We brought cloth bags from home made from feed and guano sacks especially for gathering the chestnuts. The largest trees were about 100 feet tall, and when the burs would fall off the tree, they'd crack open because they fell from such a great height. When those burs had fallen, we'd have to be careful about stepping on them because they were so sharp. I remember my father saying how he could split one hundred rails because the chestnut wood was so easy to use. We weren't too aware of the blight when it first happened since I was away at college; while we were aware the trees were dying we didn't realize the importance of the blight at the time. I hope The American Chestnut Foundation can bring the tree back." *– Julius Brasher, age 91, Brasher Springs, Etowah County*

The American chestnut, known as the "King of the Forest," once accounted for nearly 25% of hardwood trees growing in forests reaching from Alabama up to Maine, and west across the Ohio valley. The trees grew straight and tall, sometimes stretching 80-100 feet skyward. Nuts from the tree fed man and beast alike, and families throughout the Appalachian Mountains sold the nuts as a cash crop to vendors in major cities including New York and Philadelphia at Christmastime. Wood from the trees was strong, flexible, and rot resistant – good for building homes, furniture, and barns. In short, the American chestnut was one of the most important trees to Americans

Photo by Arthur Hitt

living in the United States at the turn of the 20th century.

Today, the American chestnut no longer achieves the height nor the grandeur of its ancestors. By 1954, approximately four billion American chestnut trees had been destroyed, and an entire generation of Americans would never know the beauty and strength of this most beloved of trees.

Before the chestnut blight came to Alabama, the American chestnut tree dominated the upland forest canopy of northern and central Alabama. The tree once known for its rot-resistant wood and reliable nut production was reduced to sparsely scattered stump sprouts, rarely reaching over 20 feet tall. The chestnut blight, an Asiatic fungus to which the American chestnut has no resistance, had completely devastated the tree within its native range.

Luckily, volunteers in the Alabama chapter of The American Chestnut Foundation (TACF) are working hard to bring back this tree seemingly lost to posterity. As part of a national breeding program, and using pollen from blight-resistant chestnut trees at TACF's Meadowview Research Farm in Virginia, volunteers breed the extremely rare flowering American chestnut trees in Alabama called 'mother trees.' Starting with Chinese chestnut trees, which are resistant to the imported chestnut blight, researchers have made three backcrosses to American chestnut trees while selecting for blight resistance at each generation. The objective of this breeding effort is to dilute out the Chinese chestnut characteristics, while maintaining the blight resistance of the original Chinese chestnut.

The goal of the 'mother tree' breeding effort in Alabama, which is being replicated in twelve other state chapters across the eastern U.S., is to capture the genetics of locally-adapted chestnut trees before reintroduction. At this point, TACF is two tree generations from producing the trees that can be released to the wild. First, backcross seed from Alabama 'mother trees' must be grown in chapter orchards and tested for blight resistance after about five years of growth. Next, the selected backcross trees will be crossed with each other to produce what is called an intercross generation, and only the offspring with the highest levels of resistance will be selected. It will be from these trees that the seeds used for reintroduction will be harvested.

Several Alabama researchers and volunteers are working in areas of chestnut silviculture, genetics, and breeding to make chestnut reintroduction possible. One such individual is Dr. Jimmy Maddox, a specialist in plant physiology and a recent retiree from the Tennessee Valley Authority (TVA). Dr. Maddox has volunteered many hours to grow both blight-resistant hybrids and study the beneficial effects of different mycorrhizal fungi on chestnut growth at his orchard in Muscle Shoals. By growing blight-resistant hybrids at his research farm, the Alabama chapter can obtain pollen from local trees for breeding Alabama 'mother trees.'

Dennis Whiteside, a Gadsden native, has been growing American chestnut trees transplanted from the woods, and since 1998 he's been crossing them with his own Chinese chestnut trees. Starting

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Photo by Arthur Hitt

AFC Forestry Specialist Philip Horne stands beside one of the only blight-free mature American chestnut trees in the nation.

Restoring the American Chestnut Tree to Alabama

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with trees that were one-half Chinese and one-half American, Dennis has performed two generations of backcrossing and currently has trees that are only one-eighth Chinese, with the rest being Alabama American chestnut. Dennis is also a reservoir of local Alabama chestnut germplasm, including countless grafted trees and two trees transplanted to his yard, with one reaching 30 feet tall. One of his grafts produced 50 pure American chestnut seed, which were the only native Alabama chestnut seed produced in the state last year.

David Morris, president of the Alabama chapter, is leading the chapter toward its restoration goals. This Birmingham native enjoys searching out rare American chestnut trees in the wild. Together with his 92-year-old father, David found and marked fourteen American chestnut trees at his family's farm on Lacon Mountain in Morgan County. Many of these trees were over 30 feet.

David is especially looking forward to pollinating the Talladega National Forest American chestnut tree. This majestic, record-setting size tree measures over 65 feet tall and has a diameter at breast height of 14 inches. This American chestnut, like several others in eastern Alabama and Georgia, appears to have hybridized with local chinkapins. According to Dr. Fenny Dane, geneticist at Auburn University, this tree has chinkapin chloroplast DNA, which could have been inherited from a distant female ancestor, and mostly American chestnut nuclear DNA. Regardless, the tree has all chestnut characteristics, except some unusually wide leaves, and will be used in the chapter breeding program this coming year.

Under the umbrella of The American Chestnut Foundation, the Alabama chapter has joined twelve other states in a network that has a single goal – to restore the American chestnut to its native Eastern forests. With more than 5,500 members nationwide, TACF is positioned to achieve this goal with the help and encouragement not only from fellow plant breeders and geneticists, but also from "volunteer" scientists. These volunteers help stake out new breeding orchards, plant nuts or seedlings, pollinate trees, and finally, in the fall, help harvest nuts to be used in TACF's national breeding program.

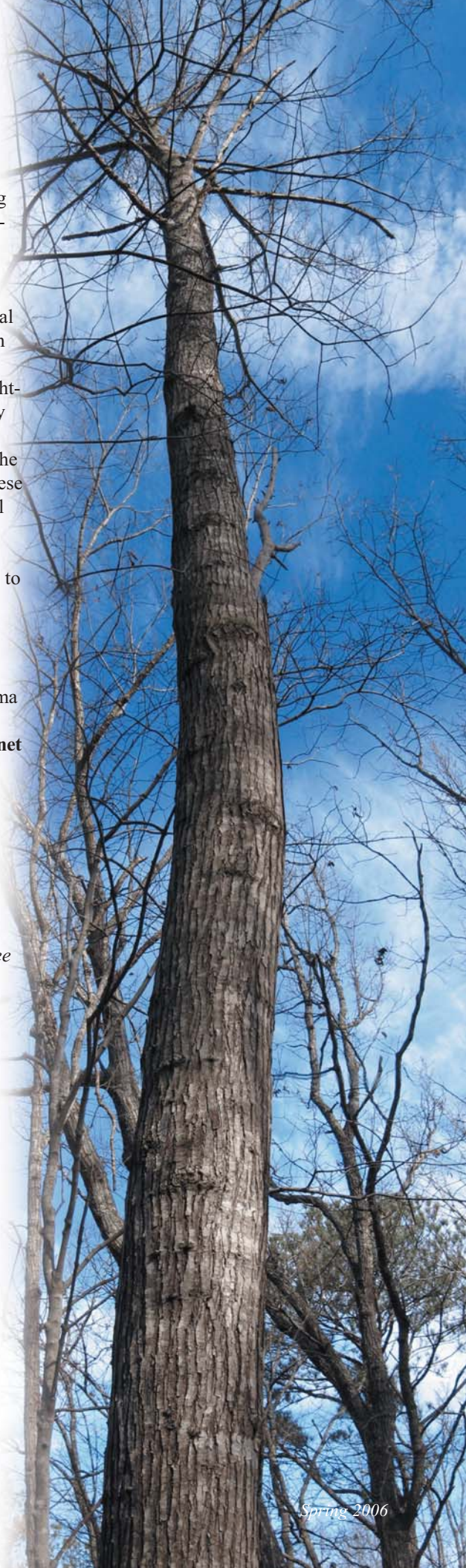
Scientists are closing in on their goal of seeing the American chestnut regain its place in eastern forests, and they expect to have small quantities of blight-resistant seeds with limited availability within the next five years.

"We simply could not accomplish the amount of work that we do without these volunteers. They are the heart and soul of TACF, and with the addition of the Alabama chapter, we are excited to expand our national breeding program to another region," says Marshal Case, President and CEO of the foundation.

For more information about The American Chestnut Foundation, visit **www.acf.org.** Please contact the Alabama Chapter of the American Chestnut Foundation at **alachestnut@bellsouth.net** to find out more about local events and happenings.

About the authors . . .

David Morris is president and Wayne Boldin is secretary of the Alabama Chapter of the American Chestnut Foundation. Clint Neel is the Tennessee Chapter president.



Achieving the Perfect Wildlife Habitat

By *Elishia Ballentine*, Editor

Have Gun, Will Travel . . . many readers will remember the popular western of the '60s. However, it's not just a television show to Dr. Frank Jones, it's his life slogan!

From a young age, he hunted, just as most boys in Alabama. However, as an adult, Frank Jones has had the opportunity to travel all over the United States and Canada in pursuit of deer and, grand slam turkeys, and other wildlife. He's even made the long journey to South Africa on a couple safaris. Trophies of Eland (the largest antelope), Gemsbok (another antelope), and zebra adorn the walls of his hunting cabin. But if you ask Dr. Jones where he enjoys hunting most, he'll smile and tell you . . . right here at home on his Autauga County property. And his favorite prey? Quail . . . usually wild birds, but lately he has been experimenting with the pen-raised variety.

He not only hunts birds for his own personal pleasure, but for the past four years he has opened his quail preserve to friends during the months of October through March. Some of his guests travel from as far away as Arizona, California, and Montana just to hunt the birds in Alabama. They also enjoy staying in the re-modeled cabin (built in 1934 by his father, just before marrying his mother) with its privacy and the charming amenity that Dr. Jones has added . . . a wood-burning hot tub on the back porch!

That's how his 367-acre TREASURE Forest near Prattville turned into an ongoing project. A veterinarian for 35 years, in his spare time he is constantly making improvements and enhancing the land for wildlife. When he moved back to the area in the mid 1970s, the family property was mostly pasture and cropland. His father had farmed cotton, corn, and grains. Over time, Dr. Jones has converted it to plantation pine, with the oldest planted in 1985. There are both loblolly and longleaf of different ages.

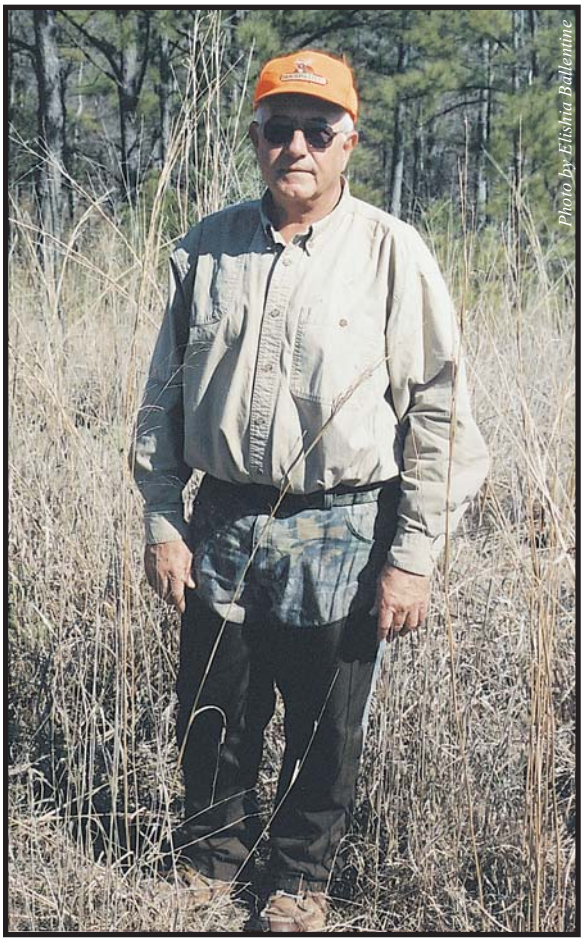


Photo by Elishia Ballentine

Dr. Frank Jones is currently experimenting with improving quail habitat on his TREASURE Forest through use of native grasses such as the swtich grass in which he is standing.

To promote diversity, he uses a thin and burn program which creates different habitat for deer, turkey, and quail. The oldest pines have already been thinned twice, some have only been thinned once, and others are now ready to be thinned. Carefully placed openings also create edge for all wildlife.

In addition to the pines, Dr. Jones maintains pecan groves, several stands of sawtooth oak, and he has planted Chinese chestnut trees alongside all the roads. He also plants chufa for turkeys and clover for the deer.

One of the biggest challenges he faced on his property was a ravine covered with kudzu. Although it took several years and a lot of persistence, he finally eradicated it by first burning and then treating it with Roundup. He planted the area in hardwoods (predominantly sawtooth oaks) to both prevent erosion and provide for wildlife.

Not one to sit back and glory too much over his accomplishments, he moved on to tackle other goals for improving wildlife habitat. In the last few years, his pet project has been experimenting with different grasses for quail. He learned that grain sorghum did not work, but he did attain some success with alfalfa.

These days however, he is concentrating his efforts on native prairie grasses such as Alamo switch grass and Indiangrass. Both are drought-resistant and provide excellent cover. He will quickly tell you that he is still learning, but so far, he is pleased with the results . . . and so are the birds.

Firewise Landscaping Your Home in the Wildland Urban Interface

By *Gerald Steeley*, Wildland Urban Interface Specialist, Alabama Forestry Commission

Almost every wildfire in the southern United States today threatens individual homes or communities. The reason for this is twofold. One, there are more wildfires in the South than in any other region of the country, and two, there continues to be a steady rise of new homes being built in undeveloped areas. In an average wildfire year, Alabama will experience 4,000 wildland fires that will burn about 40,000 acres. (These numbers are probably low, because not all wildfires get reported.) Furthermore, the South is experiencing unprecedented population growth, resulting in rapid land-use change and profound effects on forest ecosystems. With this increase of human presence and activity, we can only expect that the risk for wildfires (whether arson or accidental) will continue to increase as a result of the influx of new residents in the wildland urban interface.

When people move from the cities to live in the wildland urban interface (where the forest and suburbs blend), they often are unaware of the hazards that wildfires can pose in fire-prone areas to homes and other structures. But, by being informed of these hazards and by developing a basic understanding of the factors that determine fire behavior, interface residents can take action to reduce their homes' vulnerability to wildfire. These homeowners, who take personal responsibility in making their homes "Firewise" will then become partners with the fire service in order to better protect their homes.

On 97% of wildfires, firefighters are able to effectively suppress the fire. But, for the other 3% of the time, wildfires burn so intensely that there is little firefighters can do. Ultimately, the most important person in protecting a house from wildfire is the homeowner who takes steps to **mitigate** or lessen the wildfire hazard or risk before the wildfire occurs.

In its simplest terms, a wildland urban fire is where the fuel feeding a wildfire changes from wildland fuel to urban fuel (homes and other structures). For this to happen, the wildland fire must be close enough for its flying embers and/or flames to contact the flammable parts of the structure. To determine your home's wildfire risk, see the articles in the Summer 2005 and Fall 2005/Winter 2006 issues of *Alabama's TREASURED Forests* magazine, or go to **www.interfacesouth.org/fire/WildfireRAGH.pdf**.

Wildland fires are a natural process. They are nature's way of clearing dead materials from the forest, enriching the soil, and preparing the earth for new growth. Making your home compatible with nature can help save your home and, ultimately, your entire community during a wildfire.

Fire Season in Alabama

In a typical year, fire season in Alabama begins in the fall and goes through the following spring. Dry weather and frost in the fall cause grasses and trees to become combustible. The annual fire season finally ends with summer green-up around the first of May. However, under drought-like weather conditions, the fire season can extend into the summer months, making our fire season virtually year round. This makes the problem difficult to deal with in terms of public and political awareness.

Wildfire Behavior

The landscape surrounding a home or other structure can become **fuel** for a wildfire. This fuel can be in the form of woods, fields, or overgrown vacant lots. Vegetation that is overgrown, continuous, and in close proximity to a home increases the home's vulnerability to wildfire. However, if managed effectively, landscaping can serve as a fuel break, protecting a home in the event of a wildfire.

Topography (terrain) is another factor that influences fire behavior. Fire behavior refers to the intensity at which a fire burns and how it moves. A home located on a steep slope is endangered by a wildfire climbing the slope, because the vegetation ahead of the fire is pre-heated by the fire, causing the fuel to be more flammable, to spread faster uphill, and to produce longer flames. This situation can be mitigated by extending the defensible space from 30 feet to 100 feet on the downhill side *(Figure 1)*. When possible, select a home site on level terrain or back at least 30 feet from the edge of a hillside. Forests on southern or southwestern slopes generally have lower humidity and higher temperatures because of the path of the sun.

Consequently, the fire hazard is often higher on these hill sides.

Weather is the third factor that influences fire behavior. Several links to Alabama's fire weather forecast and fire danger rating can be found by clicking on "Fire Weather" on the Alabama Forestry Commission's website at **www.forestry.state.us**. Dry conditions, low relative humidity, and high winds increase the risk of wildfires. Knowing the current weather conditions before burning leaves or other debris, and avoiding burning on high fire danger days will reduce the number of debris fires that escape and become wildfires. The Alabama Forestry Commission, volunteer fire departments, and city fire departments frequently respond to fires caused by homeowners who were burning small trash fires that escaped and ended up threatening entire subdivisions.

Fire Behavior refers to the intensity at which a fire burns and how it moves. Three factors interact to determine fire behavior in wildland fires: fuels, topography, and weather.

Consider composting or mulching as an alternative to debris burning. Leaves can be composted to produce organically rich soil amendments for gardens and flower beds. Branches and larger brush can be chipped and used as mulch in flower beds to help hold moisture in the soil.

Burning permits can be obtained from the Alabama Forestry Commission by calling the number for your area that is listed on the first page of your local phone book or on the Commission's web site. Before burning trash or other debris, be sure that you are knowledgeable of proper burning techniques and local burning laws.

Firewise Landscaping

To be "Firewise" is to be adequately prepared for the possibility of wildfire. Firewise landscaping, while just one component of Firewise, is an effective tool that homeowners can use to reduce the risk of the wildfire threat by creating a defensible space around their homes.

Firewise planning is a valuable service that landscape architects and designers can offer to homeowners living in fire prone areas. First, a schematic design of the property *(Figure 1)* is developed that provides the starting point for which more detailed plans evolve. Information on soil conditions, property contours, property boundaries, irrigation plans, plant descriptions, and plant placement contribute to the final plan. However, there are some simple steps that homeowners can do on their own to make their property Firewise.

A key principle when landscaping to reduce the wildfire risk is to create an area of **defensible space** that extends at least 30 feet outward from the house in all directions. Within this defensible space, vegetation should be modified to break up the continuity of the plants. The extent to which vegetation is modified is generally determined by the distance from the house, with the areas closest to the house being the most critical.

The practices listed below will help to disrupt the spread of fire through the landscape, and will provide firefighters with sufficient room to operate:

- Highly flammable plants should be removed or isolated.
- Vertical and horizontal separation between plants or plant groups should be created.
- Dead plants and plant materials (e.g. fallen leaves, dead branches) should be removed.

The goal then of Firewise landscaping is to develop a landscape with the design and choice of plants that offer the best fire protection. The selection of plants and mulches, the placement and construction of patios and decks, and areas such as driveways and walks, all provide opportunities both to enhance the property and to provide an added degree of fire protection.

Contrary to what some people might think, Firewise landscaping doesn't mean barren. But on the other hand, we should not "over" plant. A Firewise landscape lets plants and garden elements reveal their innate beauty by leaving space between plants and groups of plants. If we can modify the fuel (vegetation) to produce smaller flames, we don't have to cut everything down within the defensible space around our homes.

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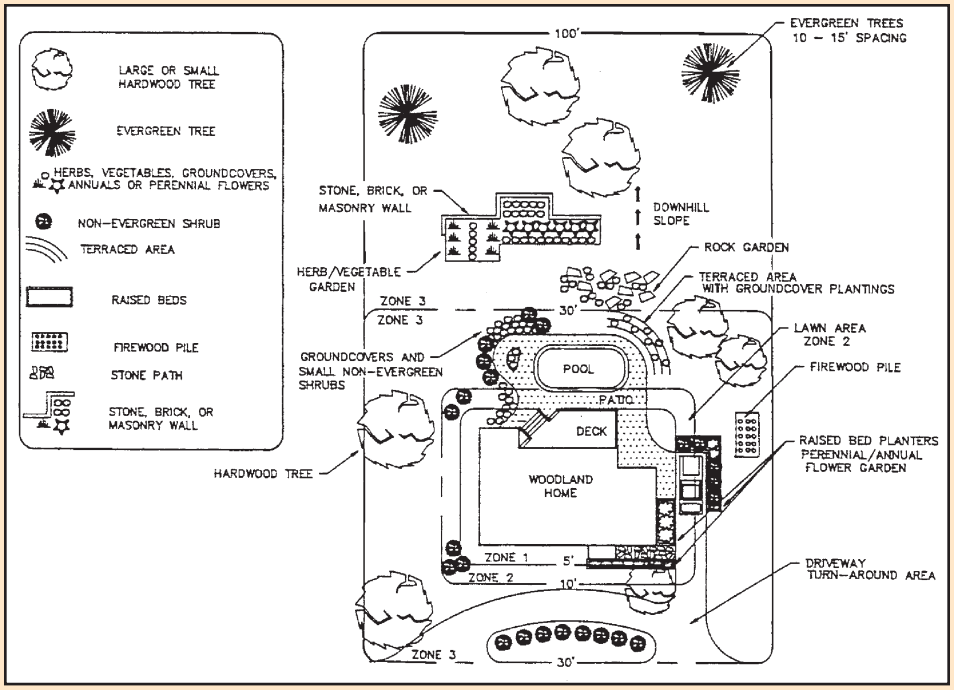

Figure 1. An example of a Firewise landscape site plan depicting zones and plant arrangements. Note that Zone 3 extends out to 100 feet on the downhill slope. The pool can be used as an emergency water supply for fire fighting. *(Firewise Landscaping for Woodland Homes,* Virginia Cooperative Extension, Publication 430-300)

Firewise Landscaping

(Continued from page 17)

By keeping larger flames (crown fires) further away, we reduce the amount of heat reaching the structure. Most wildfires will burn "fine fuels" in less than one minute and move on. The idea that their forest can burn and their house will survive is foreign to most homeowners. If there isn't any fuel close to the house, the fire won't stay long enough to get the house hot enough to burn. This allows firefighters the ability to protect the home, or if they have to disengage from fighting the fire for safety reasons, they can return to the scene and follow up after the initial flame front goes through. The flame front of a raging forest fire outclasses any equipment available to firefighters today. Consequently, the firefighters may actually be working a half mile from the fire front. But, in the absence of firefighters, Firewise landscaping allows the home to better survive on its own. After the fire passes your home, you should maintain a fire watch for several hours, rechecking for smoke and fire throughout the house.

Three things can set a house on fire: (1) sparks that land on pine needles in the gutter or other nearby flammable material, (2) direct flames from shrubs or bushes close to the house, or (3) intense heat from burning vegetation that causes the house to burst into flames.

Zone Concept

The design objective of the zone concept is to progressively reduce vegetation flammability and fuel volume as we near the structure. Not all publications classify zones the same, but fire officials consistently recommend a defensible space of at least 30 feet of vegetation clearance around the structure on gently sloping ground, and 100 feet or more on slope grades 30% or greater downhill from any structure *(Figure 2)*.

To meet vegetation clearing recommendations, consider designing zones surrounding the structure and extending outward. The zone concept can be applied to a single structure or to a group of structures in a developed community. If the recommended distance goes beyond your property boundaries, contact the adjacent property owner and work cooperatively on creating a defensible space. Remember, fire burns where the conditions are right (fuel, heat, and oxygen) and does not acknowledge property boundaries or jurisdictional lines of government agencies.

For some areas or subdivisions, substantial removal of wildland vegetation may not be allowed. Please become familiar with local requirements and restrictions before removal of wildland vegetation.

Zones can effectively slow a wildfire's approach, while reducing its intensity. The basic idea is to break up the continuity of the fuel in order to create a defensible space. These protection zones offer a flexible design technique that may vary for each property, depending on several factors, such as the slope of the terrain, the type of vegetation involved, property boundaries, and many others.

Zone 1: Represents an area 2 to 5 feet from the house cleared of all vegetation. This is the protective area immediately surrounding the house that is maintained as bare ground or covered by rock/gravel. It is the most critical area for fire protection. Have nothing flammable next to the house, including trees, tall grass, leaves, firewood piles, and mulch. The build-up of leaf litter and other debris can give fire a chance to start under porches, decks, and on roofs. Carefully examine decks, overhanging dense vegetation, and trees overhanging the house for possible fire transfer. Regularly clean all pine needles and leaves from the roof, eaves, and rain gutters. Remove tree limbs within 15 feet of your chimney.

Zone 2: Extends at least 30 feet out from the house as the primary zone of defensible space. Zone 2 consists of plants that are fire resistant and low growing. Maintain a well kept lawn, remove yard debris, and avoid evergreens that catch fire easily and burn quickly, such as red cedar. Use raised beds, rock gardens, herb or vegetable gardens, stone walkways, walls, and patios to create visual interest while maintaining a fuel break. Pine bark mulch in large chunks can be used in this zone. Any trees used in this zone should be kept small and should be at least 10 feet from the house. Allow 10 to 15 foot spaces between tree crowns, and prune trees to a height of 10 to 15 feet up from the ground. An irrigation system will help keep this protection zone green and healthy.

Zone 3: Represents the area between 30 feet to 100 feet away from the house where the reduction in shrub and tree density is less severe. Depending on the slope, leave from 10 to 30 feet separation distance between tree canopies. Clear and thin up to 100 feet on the downhill side from the structure, using a rake or a leaf blower to remove leaves and twigs. On steep slopes, keep soil disturbance to a minimum when removing shrubs and fallen trees to prevent erosion. Although dead leaves can allow fire to spread, removing all leaf litter depletes the soil of nutrients. Shrubs and groundcovers should be well maintained, kept free of dead material, and kept small. Control

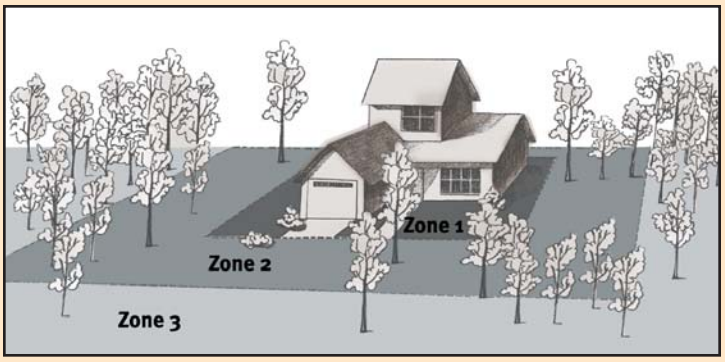

Figure 2. Diagram of defensible space utilizing the zone concept. The area closest to the home needs the most attention. As we extend to the outer zones, there is less danger of a fire igniting a home.
(Wildfire Risk Assessment Guide for Homeowners in the Southern United States, University of Florida)

brush and weeds annually. Steep slopes can be terraced to slow wildfires down. Keep firewood stacks and propane tanks at least 30 feet from the home. If you live in a pine forest, maintain a defensible zone of at least 75 feet on all sides of the house. Give yourself added protection with fuel breaks such as driveways, gravel walkways, and lawns.

Defensible space surrounding a home allows for easy access by firefighting equipment and personnel, and increases the chances of a home surviving even if firefighters are unable to reach the home. This distance varies by the type of wildland vegetation (grasses, shrubs, and trees) growing near the house and steepness of the terrain. Recommendations for defensible space suggest maintaining an area extending at least 30 feet outward from a house with plants that are low in flammability (referred to as Firewise plants).

Land Managers

Individuals who manage larger tracts of woodlands surrounding developed areas can reduce the risk of high intensity fires. Fuel reduction on these lands should focus, but not be restricted to, creating 30-foot wide buffers (fire breaks) at the edges of the property next to residential or commercial developments. When prescribed fire is used by qualified professionals to manage these buffers, a zone extending from 50 to 100 feet into the forest or natural area is usually burned. Removal of highly flammable plant species offers further protection.

In addition to prescribed fire, other options for land managers to reduce fuels such as piles of brush and dead branches include selective thinning, mechanical chippers, herbicides, and grazing animals (goats, sheep, or cattle). Land managers need to check local ordinances on the use of these treatments.

Horizontal Separation Distance Between Tree Canopies

Slope	Gently Sloping	Moderately Steep	Very Steep
	0-20%	21-40%	+41%
Canopy Separation	10 feet	20 feet	30 feet

Note: Horizontal separation distances are measured between canopies (outermost branches) and not between tree trunks.

Plant Arrangement

Plant arrangement is an important factor in affecting the survivability of a home during a wildfire. Plant arrangement involves surface fuels which include trees up to 6 feet, shrubs, grasses and other herbaceous plants, litter (fallen leaves or pine needles), and downed woody material. There should be both vertical and horizontal separation of plants surrounding a home within the defensible space *(Figure 3)*. Branches of trees should be separated from plants beneath them by at least 10 feet. There should also be at least a 10-foot separation between branches of individual trees, and between branches and structures.

Vegetation is often present at varying heights, similar to the rungs on a ladder. Under these conditions, flames from fuels burning at ground level, such as a thick layer of pine needles, can be carried to shrubs or vines which can ignite still higher fuels, like tree branches. Vegetation that allows a fire to move from lower growing plants to taller ones is referred to as "ladder fuel." The ladder fuel problem can be corrected by providing a vertical separation between the vegetation layers. This could be accomplished by pruning the lower tree branches at least 10 feet from the ground or from the fuel beneath, removing vines from trees, and by removing or reducing the height of the shrubs.

Carefully grouping plants can reduce flammability problems. For example, when it is not practical or desirable to remove a fire-prone plant, surrounding it with more fire resistant plants reduces danger while sustaining the overall visual impact. Trees can be surrounded with low growing ground cover. Larger growing shrubs can be placed in more open areas or massed in smaller groupings.

Firewise recommends grouping plants in islands at least 10 feet apart to create fuel breaks. The "islands" are separated

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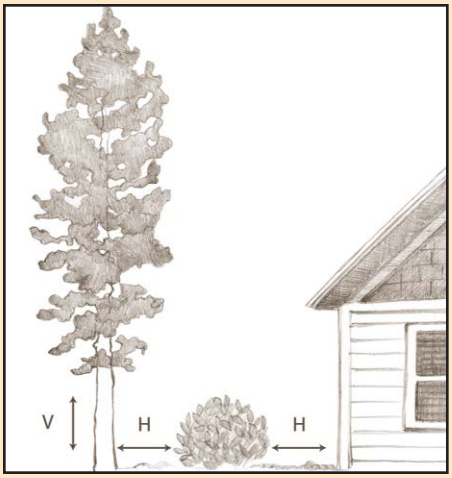


Figure 3. Vertical separation (V) should be maintained between plants and plant groups by removing ladder fuels from this area, and pruning lower branches on trees up to 10 feet from the ground. Horizontal separation (H) should be maintained by separating groups of plants or landscape beds by non-flammable areas (e.g. decorative gravel or stepping stones), and keeping plants at least 2 to 5 feet out from the home.
(Reducing Wildfire Risk While Achieving Other Landscaping Goals, University of Florida and the USDA Forest Service)

Non-Native Invasive Plants and the Urban Landscape

By *Harold P. Taft*, State Urban Forestry Specialist

Non-native invasive plants are sometimes transmitted by migrating birds, but in most cases, man is the culprit. It may be an ornamental found while on a visit to a tropical island, or, a new species of animal fodder or ground cover (such as kudzu) brought in by the Soil Conservation Service in the mid 1930s. Many of the invasive species were introduced to this country in the 1800s when we were a heavily agrarian society. As we became an industrial society and moved off the farm, we forgot some of these non-native species and they took over the landscape, presenting us with a problem. We are particularly susceptible in the South due to a temperate climate and long growing season, allowing several generations in a year.

The USDA Forest Service publication, *Non-native Invasive Plants of Southern Forests* by James H. Miller, identifies 33 species or groups that are invading the South at an alarming rate. Other invasive plants are identified on the list as of growing concern. Many of these plants are of vital concern since they present a wildfire hazard due to the rate of spread or an unfair competitive edge to our native initial species such as pines and shade-tolerant hardwoods.

Some of the better known non-native tree species (common name, followed by *scientific name in italics*) include:

- **Tree-of-Heaven**, *Ailanthus altissima* (P. Mill) Swingle.
- **Silktree, Mimosa**, *Albizia julibrissin* Durazz.
- **Princesstree, Paulownia**, *Paulownia tomentosa* (Thunb.)
- **Chinaberrytree**, *Melia azedarach* L.
- **Tallowtree, Chinese tallowtree, Popcorntree**, *Triadica aebifera* L.
- **Russian Olive**, *Elaeagnus augustifolia*. L.

The tallowtree (shown above in fall and summer) is also known as the "popcorntree" because of its white berrylike fruit containing seed. The tallowtree berry can be melted down for candles.

A vine and a grass deserving special mention as non-native invasives are kudzu and bamboo. The kudzu vine, as previously mentioned, was brought into this country as a cheap, rapidly growing cattle fodder and ground cover on highly erodable soils. As farms were abandoned, the vine took over, easily topping trees and structures alike. Control of kudzu is done by prescribed burning and the application of herbicide to the exposed crowns. Control can take up to four years. Many's the young forester who has spent a summer's afternoon cutting his way out of kudzu wrapped snugly around the rear axle of his pickup!

Bamboo can easily get out of hand in a yard planting or forest cover. The thickness of the grass will prevent herbicide control in a yard planting, or traditional fire control in a forest setting.

Selection of a proper species for a yard planting will eliminate headaches in the future. Be sure to read the label regarding future heights and make sure you are not planting a non-native or invasive plant.

Control of the non-native invasive species in the urban landscape is relatively simple. A list of herbicides can be obtained from your local county forester who should be certified as a pesticide applicator.

Legislative Profile

By *Elishia Ballentine,* Editor

In Memory of Representative Jack Venable

Democrat, District 76
(Elmore County)

The citizens of Alabama and the state government lost one of its most respected and influential legislators when Jack Venable passed away on November 18, 2005, after a lengthy battle with leukemia. Alabama's forestry community, as well, lost a true friend.

During his tenure in the Legislature, Rep. Jack Venable was a strong supporter of the Alabama Forestry Commission (AFC) and the state's volunteer fire departments. One of his last legislative efforts involved a proposal to simplify the way distinctive vehicle tags are issued to firefighters. He drafted legislation to require the AFC and the Alabama Fire College to prepare a list of certified fire departments, rather than a list of individual firefighters, for distribution to counties. Under the bill, each fire chief will complete a form authorizing individual firefighters to purchase their tags. Venable believed that this legislation would make the process of issuing firefighter tags more efficient, and would save state and county governments time and money. Following Venable's death, his bill was handled by Rep. Allen Layson and Sen. Ted Little. It passed the Legislature and was signed by the governor five months to the day after his death.

A native of Elmore County, he graduated from Wetumpka High School in 1956 and received his BS in Business Administration from Auburn University in 1961. Between 1956 and 1969, he served a total of 13 years in the Army Reserve and the Alabama National Guard.

As a journalist, he worked at various radio and television stations before landing as News Director with WSFA-TV in Montgomery. He later joined the staff of Congressman Bill Nichols in Washington D.C. (3rd District of Alabama), serving as his Administrative Assistant from 1967 to 1970.

After he and his wife, Jo, bought the *Tallassee Tribune* in 1970, Venable had been editor and co-publisher. He was past president of the Alabama Press Association and a member of the Professional Journalism Society. He was a long-time member of the Chancel Choir at the First United Methodist Church in Tallassee, and was active in the Tallassee Rotary Club. One of his great loves was Auburn football, and he served on the Auburn University Board of Trustees from 1989 until 2003.

Venable was elected to the House of Representatives in 1974 and served continuously for 31 years. During his long tenure in the legislature he chaired several committees including the Committee on Constitutional Revision, the Standing Committee on Constitution and Elections, and the Rules Committee. He was nominated by House colleagues as one of the 15 outstanding members each year from 1983 until 1991, the only legislator to have been nominated each year the award was presented. He was voted Outstanding House Member among 15 nominees in 1985. Rep. Venable was one of ten legislators to receive the Montgomery Advertiser-Journal's "Meritorious Public Service Award" in 1989, 1991, 1993, and 1995. The 2002 "Legislative Conservationist of the Year," he also received the "CLAS Legislative Leadership Award" in 2004.

Rep. Venable is survived by his wife, Jo, and two children Cameron and Ben.

Editor's Note: Jack Venable was not only a personal friend, but a mentor. The author is honored to note that he taught her most everything she knows about journalism.

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

Beaver – "The Engineer"

By *Syd Coleman*, Retired Forester

The beaver is one of the few species of mammals who alters his environment to custom fit his needs. Most animals will build or dig out some form of shelter, or will occasionally change the landscape to oblige their eating habits. A beaver will form lakes and ponds for its own protection, all the while creating an environment that makes obtaining food and building supplies readily available. Their engineering feats create great dams on public and private land which may cause flooding of pastureland needed for grazing, destruction of crops, felled timber, destruction of fishing streams, blocked culverts, and flooded roadways. Their work ethic is consistent. Beaver can be a boon or an abomination, depending on whose trees are being cut down, whose land is flooded, or whose streams are "jammed."

We know that much of America was founded on the fur industry. The majority of that fur being beaver pelts, they were heavily trapped in the eighteenth and nineteenth centuries. By the middle of the nineteenth century, the beaver population in a handful of states had been reduced to the point that there were none to be found. These eastern states enacted laws to protect the beaver from being trapped out, and by the late 1940s and early 1950s, the beaver population had recovered to allow trapping on a limited basis.

Beaver are strict vegetarians, eating most any species of shrub or tree. They enjoy a varied diet, with particular favorites being twigs and bark. Generally speaking, the sticks the beaver uses for building its lodge have been debarked and eaten as a meal. They eat anywhere from 1½ to 2 pounds of food each day. In the spring, "eager beaver" feed on sprouts, roots, assorted grasses, sedges, ferns, and water plants. Algae forming in warm water becomes an important mid-summer high protein food. When beaver venture on to nearby farmlands they will eat wheat, oats, and corn. Adhering to the old adage, "waste not, want not," they will even use the corn stalks to construct dams. Beaver will consume carrots, apples, potatoes, turnips, alfalfa, clover, and a variety of grasses. Here in the Deep South, their preferred diet is sweetgum, yellow popular, pine trees, bushes of privet hedge, and almost anything growing near the stream or pond edge.

Beaver mate for life and form colonies. In their first year together, a couple will have two to four young, which are called "kits." The family doubles in size in the second year. Year three finds the kits leaving the den to set out

Photo by Syd Coleman

on their own to form new colonies. They will search for suitable habitat where they can set up housekeeping, requiring plenty of water and a food supply nearby. When deciding to camp on a stream, they will dam the stream to raise the water level. They will either build their new lodge in the flooded area or construct bank dens. These bank dens are a kind of "safe house" built as an escape from predators who also hang out in shallow water.

Beaver are rodents and are characterized by front teeth which are adapted for gnawing and cheek teeth which are for chewing. They have four incisor teeth in the front of their mouths, two upper and two lower. The foreparts are bright orange in color and as with all rodents, these four teeth continue growth throughout the life cycle. They "work" to keep the teeth worn down, using them to cut wood for building activities. You will seldom see a beaver who is "long in the tooth." A full grown beaver will weigh from 40 to 60 pounds. The heaviest beaver on record (in 1938 in Wyoming) weighed a whopping 115 pounds.

Beaver have few natural enemies. Here in the South, bobcat and coyotes will kill a few who venture too far from the water. In areas where alligators and large snapping turtles exist with beaver, some small beaver will be taken. I have even heard of fishermen seeing alligators go on a raid of beaver dens. Since beaver have few predators, we are having a population boom. When the fur market bottomed out in the South and the majority of trapping ceased, the beaver began replenishing our area in a very abundant way.

When you have a beaver problem on your land, you must first determine if you, as a landowner, can control the population in your own backyard. You must combine vegetation control with use of fences, and clean out drainage ditches. If fruit trees or a variety of other trees are on your property, encircle the trees with wire fencing for protection. To be effective, these fences need to be at least 8 inches away from the trees and at least 3½ feet in height.

If you feel the job is one for a professional, seek a reliable animal damage control specialist. Check for references to learn of their prior experiences and success rates. Some specialists do year-round maintenance control which creates a consistency in controlling the problem. Cost will vary according to the size of the job and distance the professional must travel. If you have a large land area that is affected, a land manager may show interest in learning to do this damage control.

In most cases, removing beaver or reducing their numbers is not a one-time event. Flowing stream or suitable habitat on your property is enticing to the beaver, so keeping them on a manageable level will be an ongoing process.

Sources:

Rue, Leonard Lee III and William Owen. *Meet the Beaver.* New York: Dodd, Mead, 1986.

Prevention and Control of Wildlife Damage, University of Nebraska Cooperative Extension, University of Nebraska; USDA Animal and Plant Health Inspection Service, Animal Damage Control.

About the Author

Syd Coleman is a retired forester with over 34 years of service with the US Department of Agriculture. He and wife Jean live in Centreville, Alabama, and are active in the Bibb County Chapter of the TREASURE Forest Association. Since retiring, he has operated Coleman Animal Damage Control Service, specializing in beaver control in the central and western parts of the state.

Beaver bank den.

Beaver den in open water.

Photos by Syd Coleman

Photo by Dr. David Mercker

Swamp chestnut oak acorns from bottomland hardwood site.

By *Dr. David Mercker*, Extension Forester, The University of Tennessee
and *Dr. Jennifer Franklin*, Assistant Professor of Tree Physiology,
Department of Forestry, Wildlife & Fisheries, The University of Tennessee

Each year during the spring months, there is harried activity as various organisms - the plants and animals – get about their work. Adequate conditions for growth (temperature, moisture, light, etc.) that have been scarce over the winter months, suddenly become available, and are a smorgasbord for the taking. Each species tries to position itself to benefit from the resources, in order to better perpetuate its kind. Oak trees are no exception, so shortly after the buds begin flushing, energy is directed into flower production in the hopes that a cache of acorns will be available by fall.

Like many trees, the oaks are said to be monoecious. This means that both the male (staminate) and female (pistillate) flowers are on the same tree, and that potentially every tree is capable of producing acorns. In contrast, other trees, such as persimmon and white ash, are dioecious, whereby the male and female flowers are produced on separate plants. Only those trees with female flowers produce seed.

The male flowers of oak trees are quite noticeable. Normally by late March, oaks have produced long, worm-like looking structures that droop downward off of the base of newly forming branches. These structures, called catkins, will have a number of small flowers, resembling bumps, persisting along the stem. From these flowers comes the pollen that by mid-April affects so many allergy sufferers.

The female flowers are much more discrete, requiring a hand lens for identification. They are also located on newly forming twigs, specifically at the base of emerging leaves, and are easily overlooked because they closely resemble

buds. Unlike buds, however, the female flowers will have very small, reddish stigma (which are like small pedestals) that rise up from the ovaries to receive the pollen. There may be five or six ovaries at the base of each female flower, of which rarely will more than two become fertilized.

Year-to-year acorn production is very unpredictable due mainly to external factors. For instance, acorn production can be restricted by: late freezes (damaging the flowers), high wind (affecting pollen distribution and damaging male flowers), insects (such as weevils feasting on the seeds), nutrition, humidity, and soil moisture. Oak trees often abort acorns during periods of stress. Inherently, in an attempt to conserve resources such as water or nutrients, trees will abort seeds, then redirect resources away from seeds and into more critical life-sustaining processes.

It is also known that genetics play a role in acorn production. Certain trees typically produce more acorns than others – a phenomenon that deer hunters keenly observe. Trees appear to begin producing acorns at about 20 years old, with peak production from about 50 to 80 years, then tapering off. Healthy trees with dominant crowns (crowns decidedly higher and larger than those of surrounding trees) will produce more acorns than unhealthy, suppressed trees.

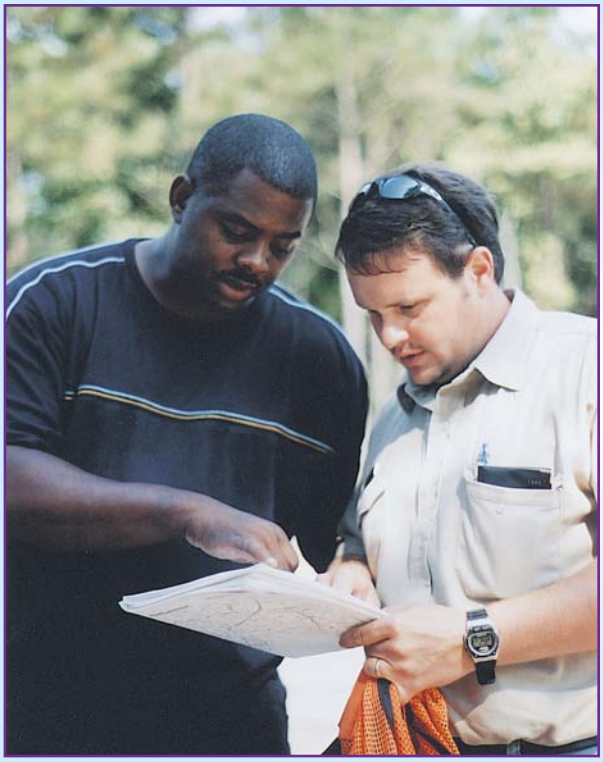
Oak trees are essential to Alabama for wildlife, aesthetics, and lumber production. It is important to keep oak trees and forests healthy in order to perpetuate this species for future beneficiaries.

Photo by Dr. Jennifer Franklin

The male flower of an oak tree.

Below: Red oak acorns germinate in the spring, whereas white oak acorns germinate in the fall.

Photo by Dr. Jennifer Franklin



Need help with your forest?

The Alabama Forestry Commission** provides a variety of forest management assistance. Services include written stand and forest management plans, insect and disease indentification and recommendations, prescribed burning, as well as construction of permanent fire breaks and fire lanes. If you need assistance, contact your local Alabama Forestry Commission office or visit our web page at **www.forestry.state.al.us.

Cullman County landowner Nate Henderson (left) gets assistance from Cullman County Manager Michael Jones regarding forest management on his property in Colony.

Restoration of Shortleaf Pine in Alabama

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

It seems a bit strange to use the term restoration with a species as widely distributed as shortleaf pine. In Alabama, however, natural shortleaf pine *(Pinus echinata)* is often harvested without replanting. If the site is replanted, it is replaced with loblolly pine plantations. This is because loblolly pine is thought to be superior in growth compared to shortleaf. The soils and climatic conditions in many counties of north Alabama, however, often favor shortleaf over loblolly. One benefit to shortleaf is that it is less susceptible to ice damage than the longer-needled loblolly.

You might assume the threat of ice damage in Alabama is minimal, but it is not as infrequent as you may think. The Federal Emergency Management Agency (FEMA) keeps track of all major disasters across the United States. In the FEMA library listing major disaster declarations, Alabama has been listed four times since 1993 for winter storms, ice storms, or freezing rain. That is approximately one ice storm every three years or nine ice storms during a 30-year rotation. Makes you think, doesn't it!

Until recently, landowners that wanted to plant shortleaf pine were unable to do so with cost share assistance. Just this year, the USDA Natural Resources Conservation Service added shortleaf replanting to the Environmental Quality Incentives Program (EQIP). It was included in the Forest Health and Wildlife portion of EQIP to provide north Alabama landowners with a practical alternative to loblolly pine, without having to compromise their timber production goals.

If you are not familiar with shortleaf pine, it is one of the four most important southern pines. Shortleaf has the widest geographic range of any of its counterparts, and is second only to loblolly pine *(Pinus taeda)* in standing timber volume. Shortleaf's expansive success can be attributed to its ability to grow on a wide range of soil and site conditions. It can withstand competition from other vegetation longer than most other pines. Found on drier ridge sites where there is less competing vegetation, the species will grow best on deep well-drained soils. Shortleaf is one of the few pines that can sprout from the root collar if the stem is damaged or killed by fire or other injuries, but only until age 8 to 12 years.

Common names include: Arkansas pine, Arkansas shortleaf pine, Arkansas soft pine, bull pine, Carolina pine, forest pine, North Carolina pine, old-field pine, short needle pine, and others.

One of the problems associated with shortleaf pine is "littleleaf disease." Littleleaf is the most serious disease of shortleaf pine in Alabama and the southern United States. The disease is caused by a complex of factors including the fungus *Phytophthora cinnamomi* Rands, low soil nitrogen, and poor internal soil drainage. Often, microscopic roundworms called nematodes and species of the fungal genus *Pythium* are associated with the disease. It is a particular problem on worn out, highly-eroded lands.

Because of the littleleaf disease problems in central and south Alabama, shortleaf pine planting under EQIP is only eligible in the following counties: Blount, Cherokee, Cullman, DeKalb, Etowah, Jackson, Lawrence, Limestone, Madison, Marshall, Morgan, Walker, Winston, and those eastern portions of Colbert, Lauderdale, Fayette, Franklin, and Marion that are outside of the coastal plain soils.

Human uses: Lumber, plywood, pulpwood, structural materials, boxes, crates, and ornamental vegetation. The lumber is often of better quality than that produced by loblolly. Many log-home builders and owners prefer shortleaf logs to other pine species for its dense wood, aesthetics, and sound structural qualities.

Wildlife uses: Provides habitat and food for bobwhite quail *(Colinus virginianus)* and wild turkey *(Meleagris gallopavo)* after mid-rotation thinning and burning. Also, the early stages of a shortleaf plantation provide habitat for eastern cottontail rabbit *(Sylvilagus floridanus)*, white-tailed deer *(Odocoileus virginianus)*, and a variety of songbirds.

Courtesy of BASF

Shortleaf Pine Headlines of Interest

The Georgia Forestry Commission is helping landowners plant shortleaf pine in low density stocking rates in an attempt to prevent, or minimize, impacts of future southern pine beetle infestations or to restore areas already impacted by these destructive insects.

The USDA Forest Service is studying the effects of restoring a closed, densely stocked shortleaf pine forest to the open pine woodland conditions described by early explorers in southern Missouri.

In the National Register of Big Trees, the champion shortleaf pine is located in Georgia and the co-champion is in Mississippi.

Editor's Note: The Alabama champion, located in Madison County, stands 84 feet high with a crown spread of 64.25 feet and a circumference of 138 feet.

The Hunt for Forestland Revenue: Improved Wildlife Habitat Boosts Hunting Lease Premiums

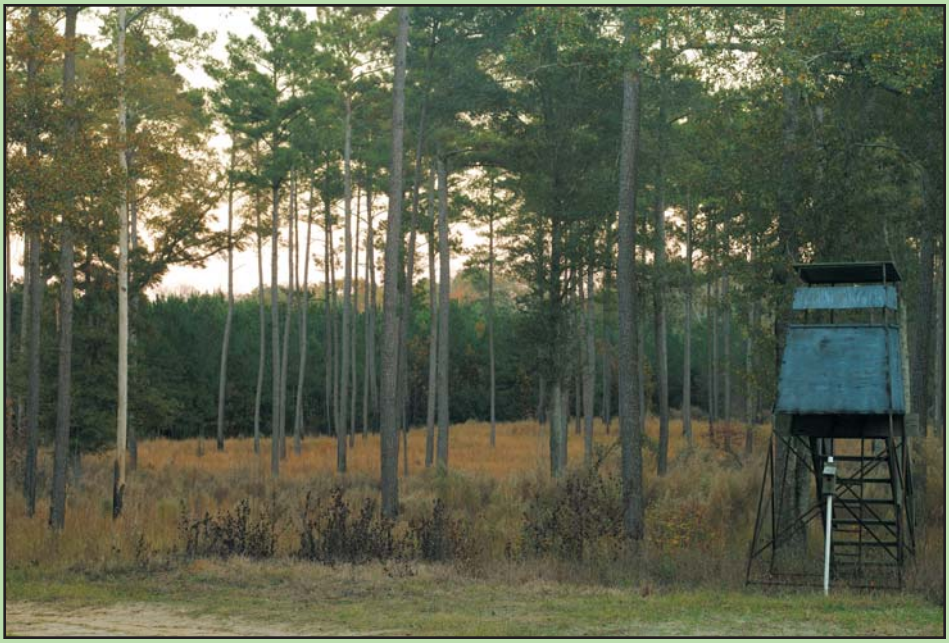
By *Amie Dunn*, Marketing Communications Manager,
BASF Professional Vegetation Management

While timber production can be a profitable venture for Southern landowners, those with an especially enterprising nature always watch for new ways to maximize revenue from their land.

According to a survey conducted by the School of Forestry and Wildlife Sciences at Auburn University, fees from hunting leases in Alabama annually range from $5.00 to $12.00 per acre statewide[1]. This means a forest landowner could potentially make up to $6,000 each year from 500 acres of leased hunting land. Over a ten-year period, such hunting leases could potentially yield a net of around $60,000.

However, simply owning potential hunting land doesn't mean checks come flying in overnight. The amount forest

(Continued on page 28)



Courtesy of BASF

To command premium hunting lease rates, forest landowners must invest in wildlife habitat improvements through proper forestland management practices.

The Hunt for Forestland Revenue

(Continued from page 27)

landowners can charge for a hunting lease varies greatly depending on the quality of the habitat and the number of desirable wildlife that live on a property. To command premium hunting lease rates, forest landowners must invest in wildlife habitat improvements through proper forestland management practices.

Using Quality Vegetation Management™ to Improve Nature

Knowledgeable hunters know that deer, turkey and other game animals survive on nutritional vegetation like forbs, grasses, legumes, rubus, and various seeds and berries – all of which are shade-intolerant, low-level vegetation. However, many forest landowners fail to recognize that in the Southeast, this type of wildlife-preferred vegetation faces an uphill battle to thrive unless the forestland is properly managed.

One of the most beneficial ways to manage land is to follow the principles and practices of Quality Vegetation Management™ (QVM). QVM helps landowners create and sustain healthy habitats through professional, ethical, and responsible practices. It also supports using trained professionals as needed for timber consulting and application.

Many southeastern pine systems have dense undergrowth and are dominated by thick mid-story hardwood trees such as water oak and sweetgum. Over time, this developing mid-story shades preferred wildlife plants by preventing sunlight from reaching the forest floor and stealing valuable nutrients and moisture from the soil. As the food sources disappear, so too do the animals and birds.

Applying the principles and practices of QVM can help recapture pine stands and allow wildlife food plants on the forest floor to flourish. Landowners should work with a consultant or applicator to devise a plan for controlling competition

The amount forest landowners can charge for a hunting lease varies greatly depending on habitat quality and the number of desirable wildlife that live on a property.

Active forestland management creates a win-win financial situation – both from a wildlife and timber production standpoint.

from mid-story hardwood brush and trees. This type of control can increase pine tree growth, maximize revenues, and enhance forest aesthetics and accessibility.

Landowners can increase the nutrients, moisture, and sunlight available to their pine stand by using herbicides to eliminate competing vegetation. In addition, the combination of herbicides followed by a cool season prescribed burn in late winter or early spring has multiple benefits. In addition to enhancing pine growth, this management technique enhances habitat for wildlife species, such as Northern bobwhite quail, whitetail deer and turkey, as well as many non-game bird species.

Practical research by Mississippi State University on privately-owned forestland near Macon, Mississippi, reports the positive effects of Arsenal herbicide Applicators Concentrate and fire on preferred wildlife food plants. The study took place on 1,800 acres composed of 92% pine and mixed pine-hardwood stands, as well as diverse plant communities. Approximately 100 acres of mature pine forests were treated with herbicide in October 1998 at a rate of 16 ounces per acre using a skidder-mounted sprayer. A prescribed burn followed the sprayed areas in March 1999. Adjacent forestland was not treated with herbicide and fire.

Pine stands treated and then burned in March exhibited much higher wildlife food and cover plant abundance than untreated stands. The study recorded more than 90 different native plant species in the treated pine stands – 75% of which consisted of preferred food sources for upland game birds, non-game birds, rabbits, and white-tailed deer.

In addition, browse, seed and fruit-producing plants such as panic grasses, wild grape, blackberry, beauty berry, common ragweed, beggarlice, partridge pea, and lespedezas comprised more than 50% of the ground cover. Shade-intolerant grasses, forbs, and legumes increased approximately eight-fold in two growing seasons following treatment.

In contrast, leaf litter and downed logs populated the forest floor in the untreated stands. In fact, less than 10% of the forest floor featured plant cover. The stands featured only 38 different plant species, mostly young hardwood trees, such as oak, hickory, and maple, as well as shrubs, such as blueberry. Why the difference in ground cover vegetation? The difference, in part, can be attributed to the shading effects of the mid-story woody plants. Treated stands exhibited less than 10% mid-story, while untreated stands exhibited more than 60% mid-story plant coverage.

A Bountiful Hunt

Many forest landowners mistakenly give little or no consideration to wildlife habitat as a byproduct of proper land management practices. In fact, there are still many who do not practice any type of forestland management. Some simply harvest, sell timber, and hope their next stand of pines reaches healthy maturity naturally.

But enterprising and ecologically perceptive forest landowners realize that active forestland management creates a win-win financial situation – both from a wildlife and timber production standpoint. And for forest landowners seeking a viable way to generate annual income from their land, a hunting lease is an obvious choice.

Those looking to maximize lease premiums should be willing to make an up-front investment in proper forestland management. It pays off in the long run. For more information on how you can improve your forestland, visit **www.vmanswers.com**. Always read and follow label directions.

Source:

[1] Hussain, Anwar, Daowei Zhang, and James B. Armstrong. "Willingness to Pay for Hunting Leases in Alabama." School of Forestry and Wildlife Sciences, Auburn University. Reprinted from *Southern Journal of Applied Forestry*, Vol. 28, No.1, February 2004.

Firewise Landscaping

(Continued from page 19)

by less flammable landscaping materials, such as a well maintained lawn or rock.

Basic Firewise Landscaping Guidelines

1. Reduce fuels
2. Eliminate ladder fuels
3. Create fire breaks
4. Provide a defensive space
5. Carefully space trees

Mulching

Mulching can be used in and around landscape beds, but because the flammability of different landscape mulches is still unclear, some precautions should be taken. It is recommended that an area 2 to 3 feet out from the sides of the house be kept clear of mulches. Mulch from yard debris should not be used in the area of defensible space (within 30 feet of the house). Mulches composed of large chunks of wood and bark may maintain moisture for a longer time and ignite slower when exposed to a fire; therefore, they may present less of a fire hazard. Pine straw mulches, which dry out quickly, are highly flammable and should be avoided altogether in a Firewise landscape.

Firewise Plant Selection

One of the more critical elements of Firewise landscaping is the selection of plants. Although all plants burn, some species are less flammable than others. The less flammable plants are more desirable for Firewise landscaping. Selecting landscape plants based on their flammability can be challenging for homeowners and landscapers, as few existing plant guides list Firewise plants or rank plants by their flammability. One publication entitled *Virginia Firescapes Firewise Landscaping for Woodland Homes* (430-300), can be found by going to the Virginia Cooperative Extension Service web site at **http://www.ext.vt.edu/pubs/turf/430-300/430-300.html.** This publication gives a flammability rating of high, medium, or low for deciduous trees, deciduous shrubs, evergreen trees, evergreen shrubs, groundcovers, and vines.

Homeowners can create their own Firewise plant list by following the step-by-step method in the University of Florida Extension publication, *Preparing a Firewise Plant List for Wildland Urban Interface Residents* (Circular 1453), at **http://edis.ifas.ufl.edu/FR151.**

The steps involved in ranking the flammability of landscape plants in the above publication are as follows:

Step 1: Identify the plant species.

Step 2: Select representative plants (refer to southern landscape plant identification books for reference information).

Step 3: Use the flammability key (included in Circular 1453).

Step 4: Rate the species and prepare your document.

> *"Firewise measures can help make homes and landscapes as beautiful as they are safe. Firewise landscaping techniques can actually improve the aesthetic quality of your home by clearing out dry and dead vegetation, and allowing space between trees and plants."*
>
> *Jim Smalley,*
> *Firewise Communities*
> *Program Manager*

Characteristics of Firewise Plants

- **High moisture content.** The moisture content of leaves and branches is the single most important factor influencing the flammability of individual plants. Deep and infrequent irrigation during establishment can encourage a plant to grow deeper roots, reducing plant stress during dry periods.
- **Broad and thick leaves.** Thin leaves or needles tend to dry out quickly and ignite easily.
- **Low chemical content.** The presence of oils or other chemicals in the leaves and branches can increase flammability.
- **Open and loose branching patterns.**
- **Deciduousness.** Deciduous plants (those that lose their leaves) are generally less flammable than evergreens.
- **Low amounts of dead materials.** The accumulation of dead leaves and branches on plants can increase flammability.

Invasive Plants

The USDA Forest Service lists invasive species as one of four major threats having the greatest impact on the health of our nation's forest and grasslands. Invasive, or exotic plants, can change the fire behavior of an **ecosystem** and are a growing problem in Alabama. Invasive plants are species not native to an area which have invaded and become dominant. Because they have few or no natural enemies, they reproduce and spread unimpeded at the expense of native plants. Some of these exotic species are highly flammable, such as cogongrass, and can increase the risk to structures in a wildfire. Kudzu is known as "The Vine that Ate the South." In the spring, kudzu vines can grow up to a foot a day, covering trees and buildings, and adding to the fuel load when a wildfire strikes. Not all non-native plants are invasive, but only those that are fire resistant should be planted or allowed to remain in a Firewise landscape.

Maintenance

It is important to note that a plant's fire performance can be seriously compromised if not maintained. Over time, plants grow and spread, mulches dry out, leaves and pine needles accumulate. Because the landscape is constantly changing, proper maintenance is the key to keeping it Firewise. A Firewise landscape is a healthy landscape – one whose plants are durable, fire resistant, compatible with the terrain and climate, and well maintained. Plants that are not properly irrigated or pruned, or that are planted in climate zones not generally recommend-

ed for the plant will have increased fire risk and will likely make the mature plant undesirable for landscaping in high fire-prone areas. During drought conditions, most plants will burn if exposed to enough heat, regardless of their flammability.

Irrigation Systems

Irrigation systems help to keep plant tissues filled with water, reducing their flammability. Consider using drip irrigation to save water in shrub beds or with young trees, and sprinklers for the lawn. Trees and shrubs should be deeply watered every 20 to 30 days during the dry season. Regardless of the type of system, proper care after installation will help ensure that the vegetation will remain as Firewise as possible during the most critical times of the year. Any plant or grass that becomes dry because of drought is going to become more prone to fire. However, the results of over watering and under watering can be the same – damaged plants and increased flammable litter. Proper watering is essential. An irrigation system will keep the moisture there, making the plant less fire-prone and more Firewise.

Pruning

As trees grow, careful pruning preserves their appearance, structural integrity, and functional values. But pruning also maintains its ability to resist fire. A well-pruned tree heals quickly while poor pruning results in scarring and possible disease. Young, vigorous trees can withstand more severe pruning than older, weaker trees.

Follow these guidelines for healthy pruning:

1. Pruning tree branches at least 6 to 10 feet from the ground helps interrupt the fire's path.
2. Pruning cuts should be clean and smooth, avoiding flush cuts and stubs.
3. No more than 1/3 of a tree's live foliage should be removed at one time to avoid stress.
4. Remove dead and diseased branches from trees. This reduces the potential for fire spreading into the crown.

Fuel Removal

Brush and cuttings from landscape maintenance create another fire hazard. This debris should be promptly and legally disposed of, leaving a clean, neat landscape.

Summary

As we begin to move into the wildland urban interface areas, we must take into consideration both nature and man, and balance the needs of both. We should encourage those who live there to be "Firewise" about the landscape. With an understanding of the concepts of fire behavior, you can anticipate the intensity and movement of a fire. Furthermore, by altering the conditions around your house, you can improve the survivability of your home. Additional fire protection can be gained if homeowners, local landowners, and officials work together to develop fire protection services, water sources, and defensible space for an entire community.

No matter how well something is planned and installed, the maintenance over the long term will determine just how Firewise a given location and a given property remain.

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Florida Anise

Illicium, Illicium floridanum, Ellis
(anise stinkbush, red bay, polecat-tree, purple anise, star anise, starbush)

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

OF ALABAMA Plants

The aroma of this native plant was so pleasing to botanist William Bartram in the spring of 1778, that he saw fit to record his experience, *"Now I am come within the atmosphere of the Illicium groves, how reanimating is the fragrance! Every part of this plant above ground possesses an aromatic scent, but the large stillated pericarpe is the most fragrant part of it, which continually perspires an oleaginous sweat, as warm and vivific as cloves or mace."*

Bartram was returning to Georgia from Mobile through the heart of the Alabama River Basin. According to his journal he was somewhere in the boundaries of the Creek Indian nation.

This large, handsome shrub grows 6 to 10 feet tall and can be as wide as 6 to 8 feet. It is an evergreen, resembling a bay, and is very fragrant when it blooms.

Its leaves are also aromatic, having a very strong odor similar to that of anise when crushed. They are dark green, thick, smooth, entire, elliptic, tapering at both ends, and 3 to 5 inches long with a lighter color below. They are clustered at the end of the limbs. The twigs are gray and angled.


Photos by Kim Nix

The flowers are large, showy, red to maroon and are borne singly on long stalks, 1 to 2 inches across with numerous long thin petals that appear in the spring. A very rare and uncommon yellow variety grows wild only in Florida. A white cultivar "alba" does exist and can be purchased from many nurseries. The bloom, appearing in April and May, grows on the end of a leafy shoot with 3 sepals and 30 to 40 narrow linear petals and numerous stamens. Some say the flowers smell like decaying fish while others find the smell very pleasant.

The fruit is a round flattened pie-like disc, 1-1½ inches in diameter, composed of pointed spreading valves which free the seed. The fruit is toxic to livestock.

The anise likes shade to partial shade, and you'll quite often find it growing on the edges of swamps, creeks, and streams. It grows on the coastal plain, from Florida to Louisiana. It is abundant in a broken range across the central part of Alabama except in the extreme half of Baldwin and Mobile counties. It is cold tolerant.

The plant's primary use is an ornamental, and it is gaining more and more favor with nurserymen and landscapers because of its desirable characteristics.

Alabama is home to the National Champion which also serves as the State Champion. Located in Perry County, it stands 29 feet high, has a crown spread of 20 feet, and has a circumference of 15 inches. Its total point value is 49.

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