

ALABAMA'S

# TREASURED

FORESTS

*A Publication of the Alabama Forestry Commission*

SPRING 2004

- **Forest Legacy: Coon Gulf**
- **Urban Planning**
- **Controlling Privet**
- **Boundary Lines**

# A MESSAGE FROM . . .



**TIMOTHY C. BOYCE**  
State Forester

In the past year the state's financial situation has been one of the most critical issues affecting our state. During this current budget year the Alabama Forestry Commission (AFC) is operating under an 18 % decrease in general fund appropriations from last year. As with any financial cut of this amount, things have to change. We have initiated several cost saving initiatives that will affect the way we do business in the future. I have outlined our situation below.

## The Facts

- Seventy-one percent of Alabama's land base is covered with forests.
- Alabama is the second largest commercial forest in the nation with 22.9 million acres of forestland. Our neighbor Georgia is number one with 24.4 million acres.
- The forest products industry is the number one manufacturing industry in the state contributing \$13 billion to the state's economy annually.
- There are approximately 440,000 forest ownerships in Alabama.
- Private family forest landowners own approximately 78 % of Alabama's forests. These are the people the Commission serves on a day-to-day basis.
- There are 1,936 certified TREASURE Forests in Alabama managing approximately 1,833,000 acres of land under the TREASURE management concept.
- During the 2002-2003 fiscal year, the AFC handled 1,350 fires that burned approximately 12,406 acres. This is the lowest average for both fires and acreage since 1941. The five-year average for number of fires and acres burned is 4,000 fires and 40,000 acres.
- Last year AFC firefighters personnel kept the average size fire to 9.1 acres and saved 382 homes and 146 other structures.
- The Commission supports approximately 1000 rural volunteer fire departments.

## The Budget

- Since the 1994 budget year, the Commission total budget has decreased from just over \$26 million to below \$24 million.
- The AFC ranks 11th in the south in dollars spent per forested acre, \$1.23. We are below the southern average of \$1.76 per acre. Florida is number one with \$3.86, North Carolina number two spending \$2.71, and Georgia number three at \$1.91.

## Our People

- Seventy-five percent of the AFC budget goes to personnel.
- In the 1991 budget year the Commission had 529 employees. Today the AFC has approximately 342 employees – 187 less than 1991.
- Although the Commission saw an 18 % decrease in state General Fund appropriations, only those positions not already filled were lost.
- Currently there have been 47 budgeted positions cut (or 14 % of our manpower) in the Commission.
- Alabama is second among the southern states in forested acres with 22.9 million acres, but 13th or last in number of agency personnel per million acres of forestland.

Although the Alabama Forestry Commission will not be participating in many of the activities and programs that we have in the past, we will remain the leader in wildfire suppression and we will be providing technical assistance to landowners just as we always have. Unfortunately, one of the cutbacks will be *Alabama's TREASURED Forests* magazine which will be limited to three issues per year.

The Alabama Forestry Commission is one of the most cost effective forestry agencies in the nation and we will continue to provide the best services possible to the citizens of our state with the appropriations we are given. ☪

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COVER: This scenic waterfall is one of the treasures found on Coon Gulf in Jackson County, Alabama’s first “Forest Legacy” property. More photos accompany the story starting on page 9. *Photography by Brigetta Giles*

BACKGROUND: Spring dogwoods bloom beautifully in the forests of Alabama. *Photography by Coleen Vansant*

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# Welcome to The Hahn-da-rosa

By *Tilda Mims*, Information Specialist, Alabama Forestry Commission

**T**he Hahn-da-rosa is a fitting name for Fred Hahn's 960-acre spread in the Hale County community of Sawyerville. "My boys came up with 'Hahn-da-rosa' back when I bought this place. The name was just tossed out and it seemed to stick."

While a clever word play on "The Ponderosa," the family ranch in the popular television western, *Bonanza*, it also represents the sense of family and tradition evident on this TREASURE Forest. Since purchasing it in November 1994, the Hahn family has committed time and resources to make it a true family farm, earning it the honor of being named the 2003 Helene Mosley Memorial TREASURE Forest Award winner for southwest Alabama.

Fred became interested in owning land while a member of a hunting club with some other gentlemen. He had ideas for management that he wanted to implement for himself and his sons, and started looking for a suitable place around West Alabama. "Once I saw this place, I knew we could do something with it," he said. He particularly enjoys the excellent diversity - hilly terrain, swamp areas, hardwood bottoms, planted and natural pines.

Originally a large cotton plantation, the only farming done on the property for years was the planting of green fields for deer hunts. Hunting rights were leased to Dale Earnhardt and Neil Bonnett until it sold to the Hahns about ten years ago. While the management plan is extensive and highly diverse, all activities primarily promote wildlife habitat with timber production as a secondary objective.

**WILDLIFE FOODS** – There is still a good bit of farming going on at The Hahn-da-rosa but it is strictly for wildlife. Food plots of corn, soybeans, wheat, fruit trees, autumn olive, clover, pears, persimmons and more are cultivated each year for game and non-game species making their homes there. Three five-acre sawtooth oak groves have been established and are routinely fertilized and maintained.

Permanent and seasonal wildlife plantings have significantly improved wildlife forage and edge effect. Food plots are irregularly shaped, creating maximum edge, and follow natural contours to minimize soil erosion. After hunting season, they put out supplemental feeders – about 20 – in primarily soybeans and corn.

Existing mast trees such as cherry, dogwood, persimmon, and oak – as well as shrubs such as blackberry and honeysuckle – are cultivated. Eight honeysuckle beds formed with wire mats are placed around the farm and more are planned. Openings are planted in annual or perennial grasses and legumes, or allowed to revert to native weeds and grasses for turkey, quail, other birds, and rabbits. To enhance vegetation quality for deer, selected openings are maintained by mowing, disking, or burning.

"One of my Christmas presents was 150 persimmon trees and 500 autumn olives from one of my sons," Fred said. The mast-producing trees were soon thriving in protective shelters to prevent grazing damage and add an extra boost in initial growth.

While intensive management at the Hahn-da-rosa has resulted in a dramatic increase in the wildlife population, Fred says the most significant improvement is in the size of the deer and turkey, and the deer antlers. Before, the average buck size was about 175 pounds. Today, it is more than 220 pounds.

Non-game species benefit from supplemental plantings, too. Bluebird and wood duck boxes as well as butterfly boxes are erected throughout the farm.

Fred says they encourage all types of wildlife. "We make them feel at home."

**QUAIL HABITAT** – The Hahns work diligently to increase the number of quail living on the farm. Quail have the same basic habitat requirements for survival as other wildlife: water, food, cover, and space. With a few strategic adjustments, they found their overall wildlife management program enhances quail habitat, as well.

"When we first came here we burned on a three-year rotation but stepped it up to every two years to maintain suitable nesting habitat for quail populations," Fred said. Quail often locate nests near summer food sources such as blackberries, beggarweeds, and ragweed that benefit from burning.

Chicks need a high-protein diet during the first ten weeks of life which includes invertebrates such as beetles, grasshoppers, ants, and spiders. Disking or mowing every one or two years helps maintain adequate brood rearing habitat. Interspersed cover among feeding areas provides the best protection and creates escape cover for avoiding predators.

Of course, turkeys love the results of burning, too, Fred says, and many other species are enjoying these areas. They think they are controlling sweetgum a little better, too.

**POND MANAGEMENT** – An attractive 30-acre lake built in 1995 adds a nice focal point near the camphouse. Existing trees and shrubs remain along the shoreline, casting reflections on the water, providing shade, and blending the



Photo by Tilda Mims

Three five-acre sawtooth oak groves are fertilized and maintained.

pool into the surrounding landscape. Other trees and shrubs have been added at different locations around the perimeter of the lake. Nesting boxes for wood ducks are placed over the ponds. A shoreline gazebo adds interest and invites visitors to linger.

Blending water structures into the landscape has encouraged use by fish, amphibians, waterfowl, reptiles, and insects. Allowing plants and trees to shade areas of the lake encourages fish habitat and promotes frequent use by a variety of wildlife year-round.

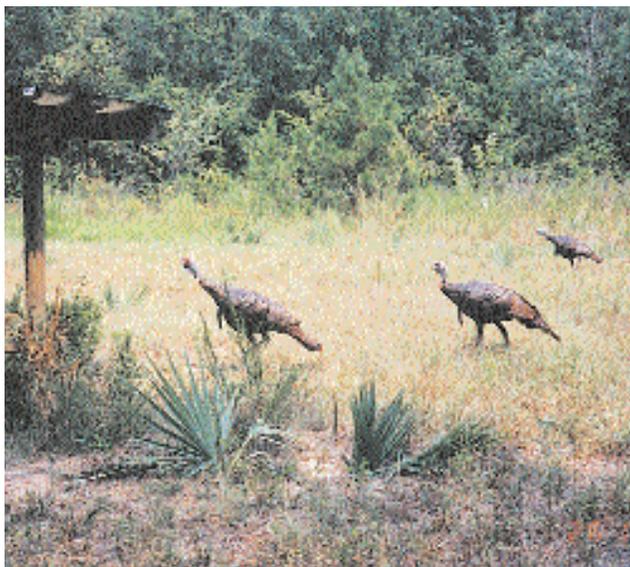
Shoreline vegetation attracts water birds, shore birds, rabbits, turtles, frogs, and snakes.

Establishing good vegetation is not only beautiful and beneficial for wildlife; it has prevented erosion and siltation that affect the life of a pond.

The objective of this lake is to grow trophy bass, so there is a catch-and-release program in effect for bass. Since it is stocked with Florida bass, North American bass, bluegill, and shellcracker, there are still plenty of fish for eating and for recreation. Fred works with Alabama Sports Fishermen to manage the lake. "The last time we measured the bass was a few years ago. They were about 7 pounds and growing about 18

*(Continued on page 6)*

Photo courtesy of Fred Hahn



Wildlife cameras capture the activity of deer and turkey on the farm.

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Photo by Tilda Mims

An attractive 30-acre lake built in 1995 adds a nice focal point near the camphouse.



Photo by Tilda Mims

*Fred's Christmas present of 150 persimmon trees and 500 autumn olives from one of his sons are thriving in protective shelters to prevent grazing damage and add an extra boost in initial growth.*



Photo courtesy of Fred Hahn

*Three Generations: (L to R) Greg Hahn, Philip Hahn holding Thomas Hahn, and Fred Hahn holding Paul Wesley Hahn.*

ounces a year. We expect them to weigh between 8-10 pounds now.”

The second water structure built on the farm is a lake stocked with crappie, bream, and sunfish. “People tell me I can’t have a crappie lake but we are going to try it.” He submerged evergreens, treetops, and other natural elements to promote successful crappie bedding.

**TIMBER** – When the Hahns bought the property, fields along the county road were highly visible and attractive to night hunters. Planting 8-10 rows of pines between the fields and the road provided a needed screen within a few

years. A few years later, they planted 8-10 rows behind these and did the same thing again after another few years. Today they have abundant coverage from night hunters for years to come.

Most of the pine plantations were thinned a few years ago to get rid of smaller trees and crowded trees. They prescribe burn every other year, burning half one year and half the next. “We don’t harvest hardwoods,” Fred notes. “If it makes an acorn, we keep it.”

**TREASURE FOREST** – Fred had heard of the TREASURE Forest program but says he did not know much about it until Hale County manager Jim Junkin

talked to him about it. “Jim was instrumental in getting us qualified for the award.”

Fred says his family has been blessed with advice during the last ten years, crediting the Alabama Forestry Commission; local forester Steve May; and wildlife biologists Jay Haffner and Jeff Makemson with Alabama Game and Fish as tremendous assets. “We seek help, so a lot of it comes our way.”

The Hahn family agrees that Earnest Cochran deserves a lot of credit for the success of their day-to-day forest management program. He has been working on the farm since the second year they owned it. “We knew we couldn’t do everything we wanted to do and operate our businesses, so we got Earnest to take care of it. It is our hobby and we use it as that.”

Fred says he can see nothing but a bright future for The Hahn-da-rosa. “We will continue, mainly because my sons have the same interests I do. What little improvements I make, they do that much and more. That is why I keep doing something to it every year to make it better and better. I get my thrill from watching my sons and grandsons enjoy it.”

“I have a saying, ‘If I don’t run out of time or money, I am going to make something out of this place.’ This is going to stay in the family a long time. My sons and their sons, and then their sons, I hope, will enjoy it for years to come.” 🍷



Photo courtesy of Fred Hahn



# New TREASURE Forest Certifications

Congratulations to the 45 landowners who were awarded TREASURE Forest certification at the last two meetings of the TREASURE Forest sub-committee. This makes a total of 1,936 certified TREASURE Forests with 1,832,699 acres of forestland being managed under the guidelines of the TREASURE Forest program in Alabama.

*Editors Note: In the Fall 2003 issue, we incorrectly identified the Washington County TREASURE Forest belonging to the Parks Family Trust. We apologize for the error and any inconvenience it may have caused.*

Landowner	Location of Property	Region	Landowner	Location of Property	Region
Eldon Barham	Pickens	NW	Meador, Jr. & Linda B. Jones	Marengo	SW
Donald Barkley	Marengo	SW	Floyd D. Knight	Butler	SE
<i>Cherokee Heritage Treasure Forest</i>			John T. Lide	Dallas, Lowndes	SW
John F. Berryhill	Marion	NW	Danny Lott	Mobile	SW
Jan & Ellen Black	Butler	SE	Grady Motes	Pike	SE
Roger Boyington	Covington	SE	<i>Talladega County Board of Education</i>		
Roger & Donna Brothers	Bibb	NW	Munford Elementary	Talladega	NE
George C. Bucher	Marshall	NE	Charles Murphy	Choctaw	SW
Brag & Debbie Carter	Covington	SE	<i>Neill Timber Company</i>		
<i>Downhome Plantation</i>			Bill Neill	Washington	SW
William F. Church	Geneva	SE	John & Carolyn Oliver	Marengo	SW
<i>San Francisco Land Company</i>			Lee & Katie Pearson	Jefferson	NW
W. R. Davis	Pike	SE	Joe Pride	Franklin	NW
Tildon Drake	Franklin	NW	C. A. Robinson	Coosa	NE
Don Ezzell	Franklin	NW	<i>C &amp; J Creekside Bucks, LLC</i>		
Charles E. Gilliam	Limestone	NW	Chris Robinson	Houston	SE
<i>Swampy Acres</i>			Carol Ryals	Conecuh	SW
Earnest L. Hanks	Conecuh	SW	Doug & Jackie Shipp	Choctaw	SW
Don Hendry	Mobile	SW	Jessie R. Taylor III	Shelby	NW
<i>Big Creek Farm</i>			Olie & Cynthia Tillery	Lauderdale, Bibb	NW
Billy Hildreth	Dale	SE	William N. Ward	Covington	SE
Frances Hood	Montgomery	SE	Michael Weddington	Colbert, Franklin	NW
<i>Feathers Plantation LP</i>			Glen Whiteside	Lawrence	NW
Steven Hutto	Bullock	SE	Anna Williams	Barbour	SE
John Jenkins	St Clair	NE	Gary Wood	Covington	SE
<i>Camp McDowell</i>			Norman David Wright		
Mark Johnston	Winston	NW	& Martha Wright	Dallas, Autauga	SW
James & Sara Jones	Walker	NW	Betty Yarbrough	Monroe	SW

Photo by John Dickson



## The TREASURE Forest Program

Alabama has over 22 million acres of forestland. These forests provide valuable resources which directly affect the quality of life of every Alabamian. They provide wood products that we depend on every day. These same forests also provide habitat for wildlife, clean the air, purify water, protect valuable topsoil, and provide scenic beauty and recreational opportunities. For all these reasons, Alabama's forests are vitally important.

Recognizing both the economic and social importance of Alabama's forests and its multiple resources, the Alabama Forestry Planning Committee, made up of forestry and natural resource agencies and groups in the state, initiated the TREASURE Forest Program in 1974. TREASURE is an acronym that stands for **T**imber, **R**ecreation, **E**nvironment, and **A**esthetics for a **S**ustained **U**sable **R**esource.

The TREASURE Forest Program is a voluntary program that seeks to promote sound and sustainable, multiple-use forest management. This type of management encourages landowners to use their forests wisely to meet their own needs while at the same time protecting and enhancing the environment. The TREASURE Forest Program promotes this management ethic through two avenues: education and recognition. Education is provided through information and on-the-ground technical assistance from the member agencies and groups of the Alabama Forestry Planning Committee. *Alabama's TREASURED Forests* magazine is a quarterly publication that offers valuable insight on management according to TREASURE Forest principles. Recognition occurs through the TREASURE Forest Award.

The TREASURE Forest Program has been a tremendous success. In fact, it has been so successful that it was used as the model for the National Forest Stewardship Program, passed by the U.S. Congress in 1990.

The TREASURE Forest Certification Award is earned by private landowners who display their commitment to the TREASURE Forest ethic through the physical management that takes place on their land. The TREASURE Forest Certification Award includes a numbered and signed TREASURE Forest Certificate, a TREASURE Forest sign to display on the property, and a TREASURE Forest hat. When the award is given, the land is called a Certified TREASURE Forest and the landowner is called a TREASURE Forest landowner. "TREASURE Forest" and "TREASURE Forest landowner" are earned titles that represent good stewardship of the land, protection and/or enhancement of the multiple values of the forest, and providing benefits to both present and future generations.

Since the inception of the TREASURE Forest Program in 1974, over 1,900 TREASURE Forests have been certified, collectively totaling over 1.8 million acres of Alabama forestland. 🌲



## Six Steps to Success

Anyone owning ten or more acres of forestland can be considered for TREASURE Forest certification. To be eligible, a landowner must do the following with respect to all their forestland in Alabama:

1. Identify one primary and at least one secondary management objective for the property based on the following list of choices: Timber Production, Wildlife, Recreation, Aesthetics, and Environmental Education.
2. Possess or acquire a written multiple-use management plan for the property. Your local Alabama Forestry Commission (AFC) office can help you identify options for obtaining a written management plan. (A written management plan is encouraged but not required for TREASURE Forest certification.)
3. Actively practice multiple-use management on the property consistent with TREASURE Forest standards.
4. When you feel that your property qualifies for the TREASURE Forest certification award, contact the AFC to begin the nomination process. You may also complete a nomination form, which is located on the AFC website at [www.forestry.state.al.us](http://www.forestry.state.al.us).
5. The property must be inspected by a registered forester and certified wildlife biologist.
6. The nomination and inspection report must be submitted to the TREASURE Forest Subcommittee of the Alabama Forestry Planning Committee for review and approval. This step will be arranged following the property inspection.

If you would like to be considered for a TREASURE Forest Certification Award, or know of someone else who may qualify, contact your local office of the Alabama Forestry Commission or your County Chapter of the Alabama TREASURE Forest Association or Alabama Forestry Planning Committee. They will be happy to assist you with the certification process. 🌲



Photography by Brigetta Giles

# Forest Legacy

By *Brigetta Giles*

Stewardship Coordinator, Alabama Forestry Commission

**T**here are approximately 10 billion acres of forest on this planet we call home. This represents only about one-third of the earth. However, nearly 42 million acres of this forest disappear each year. This trend will continue as cities and populations grow, with more and more forest being converted into residential and commercial development.

As urban expansion increases, there is a greater need for public access to nature and a desire for sanctuary from the hustle and bustle of our busy lives. There is

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also a great need for protecting sensitive landscapes and endangered species.

In a step toward protecting some of these forest lands, the Alabama Forestry Commission – through an alliance with the USDA Forest Service, the Alabama Department of Conservation and Natural Resources (ADCNR), and the Alabama Forest Resources Center – is proud to announce the acquisition of the first Forest Legacy property in the state of Alabama: the Coon Gulf-Dixon Tract, located in Jackson County.

## **What is Forest Legacy?**

A national program, Forest Legacy is a partnership between participating states and the USDA Forest Service. Its purpose is to assist landowners and private land trusts, as well as state and local governments, in identifying and protecting sensitive landscapes and “environmentally important” forest lands being threatened by present and future conversion to non-forest uses. Created by

*(Continued on page 10)*



Congress in the 1990 Farm Bill, the Forest Legacy Program was designed to assure that both traditional uses of private lands and the public values of America's forests resources are protected for future generations. Through the utilization of conservation easements and fee-simple purchase, the program has already conserved over 600,000 acres across 26 states and territories.

Environmentally important forest lands include those offering:

- Wildlife and fish habitats including rare, threatened, or endangered ecosystems
- Ecological values such as forest buffers that filter potential stream pollutants and stabilize soil.
- Beautiful scenery and recreational resources for wildlife photography, fishing, hiking, camping, canoeing, and swimming
- Culturally significant values such as unique geology, historic settlements and artifacts

## Forest Legacy in Alabama

In 2000, Governor Don Siegelman appointed the Alabama Forestry Commission (AFC) as the lead agency to develop and administer a Forest Legacy Program in consultation with the Alabama Forest Stewardship Advisory Committee. Since that time, the AFC – through the Alabama Forest Resources Center – has prepared the required

Assessment of Need document that explains both the criteria and processes of enrolling and purchasing properties through the program. Completed in 2002, this document allowed Alabama to submit its first Forest Legacy tract for approval: the Coon Gulf-Dixon Tract, which was purchased in 2003.

The Forest Legacy Program requires a 25 percent match for each project, which can be donated by landowners or other organizations. For some states, coming

up with this match has been a challenge. However, Alabama is very fortunate to have its own program that already preserves unique and important land and water: the "Forever Wild" land trust program. Created in 1992 and administered through the State Lands Division of the ADCNR, Alabama's Forever Wild provided the needed match for Coon Gulf. To date, that program has purchased 36 tracts totaling 102,650 acres.



Coon Gulf's "Saltpeter Cave" has both biological and historical significance.

Photography by Brigetta Giles

Other parties supporting the Forest Legacy purchase of Coon Gulf include The Tennessee Valley Authority's Resource Management Office and Natural Heritage Program, The Nature Conservancy of Alabama, The Land Trust of Huntsville and North Alabama, the Alabama Forest Resources Center, and the ADCNR.

The State Lands Division of the ADCNR will manage the property.

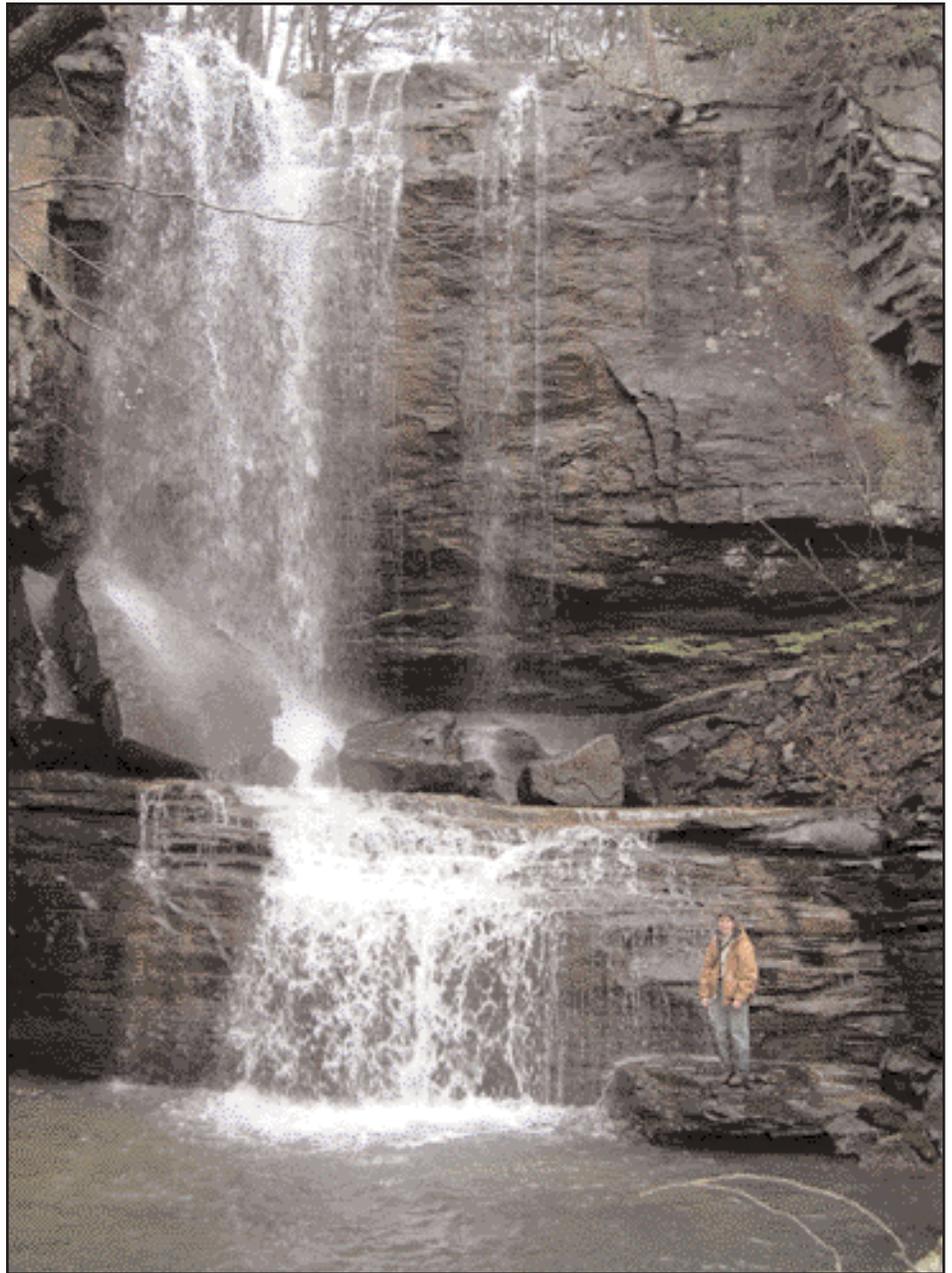
## Coon Gulf

Situated within the Sequatchie Valley district of the Cumberland Plateau and "Southern Appalachia," Coon Gulf is very scenic. Raccoon Creek has cut a large rugged canyon through the tract as it flows north off Sand Mountain into the Tennessee River. Defined as "karst" topography, its 656 acres are comprised of sandstone brow, limestone caves, and waterfalls. This upland deciduous forest, described as "cove" habitat, contains mesic pine and hardwood slopes (mature oak and hickory) and is one of the oldest communities of this type in Alabama.

In a survey conducted in the early 1990s, the Alabama Natural Heritage Program documented the presence of 33 species of plants and animals tracked as "rare or sensitive" for Alabama in the Coon Gulf area. This report also described the property as the very least disturbed of all "wild" lands in public ownership in the state. Bald eagles can be seen from the property, and a pair of bald eagles has successfully nested on the adjacent tract for the past several years.

Access to Coon Gulf is through the adjoining Tennessee Valley Authority (TVA) Raccoon Small Wild Area. These 2,366 acres surrounding the Raccoon Creek embayment of the Guntersville Lake currently provide various recreational activities.

Geological diversity is another of this region's attributes, being ranked in the top four in the nation in regard to cave density. One of the features of Coon Gulf is "Saltpeter Cave," which is both biologically and historically significant. Listed by the US Fish and Wildlife Service as a priority cave, it is presently a refuge for two federally listed bats: the gray bat (*Myotis grisescens*) and the Indiana bat (*Myotis sodalis*). It also serves as a maternity colony for the rare Rafinesque's big-eared bat (*Corynorhinus rafinesquii*).



*This photo emphasizes the magnitude of the Coon Gulf waterfalls as the author stands beside them.*

*Photography by Gary Wilkinson*

As tradition has it, the dark recesses of this sandstone cave provided both shelter and refuge to numerous Cherokee families during the Indian Removal of the 1830s. During the Civil War, Saltpeter Cave was also the site of historic mining activities by Confederate troops.

The scenic beauty and unique natural features of the Coon Gulf-Dixon Tract, combined with its invaluable forest community systems and wildlife make this property an excellent benchmark for the first Forest Legacy project in our state. Although much work remains to be accomplished, forthcoming public recreational opportunities at Coon Gulf will

include camping, hiking, backpacking, birding, fly-fishing, picnicing, and horse-back riding.

For more information on the Forest Legacy Program, or to submit a tract of land for consideration, contact Dan Dumont with the Alabama Forest Resources Center at (251) 433-2372. Additional information on the program is available at [www.forestry.state.al.us](http://www.forestry.state.al.us) or you may contact Brigetta Giles with the Alabama Forestry Commission at (334) 240-9323. ♻️

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Source: *USDA Forest Service*

# Get Involved With URBAN PLANNING

By *Bruce Springer*

Forest Management Division Director, Alabama Forestry Commission

As populations expand in the South, forests are increasingly affected by human activities. In the Wildland-Urban Interface (WUI), that area where homes or other structures are adjacent to or within forests, city planners and natural resource professionals face increased challenges. These challenges include wildfire control, natural landscape protection, soil, water quality management, and wildlife management as urban areas expand. As unplanned WUI areas increase, devastating wildfires will destroy homes and property (figure 1). These challenges have a direct impact on public safety, welfare, and quality of life.

Fire management is a challenge in every interface community, but it is not the only concern. Management of increasingly fragmented parcels of forestland is more difficult and less economical. The number of these parcels is increasing as people purchase small tracts in the WUI area – but this is the American Dream!

Clearly, there must be a balance between growth and protection. The only way to minimize the effects of urban growth is by getting involved in the planning process to ensure growth is well organized, concentrated, and provides adequate natural landscape in a manner beneficial to the environment and people.

Land use decisions have often been made without regard to the sensitivity of the landscape or its suitability for development. In communities across the nation, there is a growing concern by some that current development patterns, dominated by what some call “urban sprawl”, are no longer in our long-term interest. Forecasts predict about 12 million additional acres of southern forests will become urbanized by 2020. (Figure 2 shows the current incorporated towns and cities in Alabama.) Though supportive of growth, communities are questioning the economic costs of abandoning existing infrastructure in the city, only to rebuild it further out.

Sensitivity to the conservation of natural resources should be a major component of any community planning process, especially in the WUI, balancing what we want with the limitations of the resource. The first step to ensure that planners understand the vital need to incorporate WUI and natural resource management issues into the planning process is to be present at the table when the plans are being developed (figure 3). Other professionals that you can expect to encounter include: land developers, water quality experts, fire officials, home builder representatives, neighborhood coalitions, environmental preservation groups, real estate associates, and representatives from the

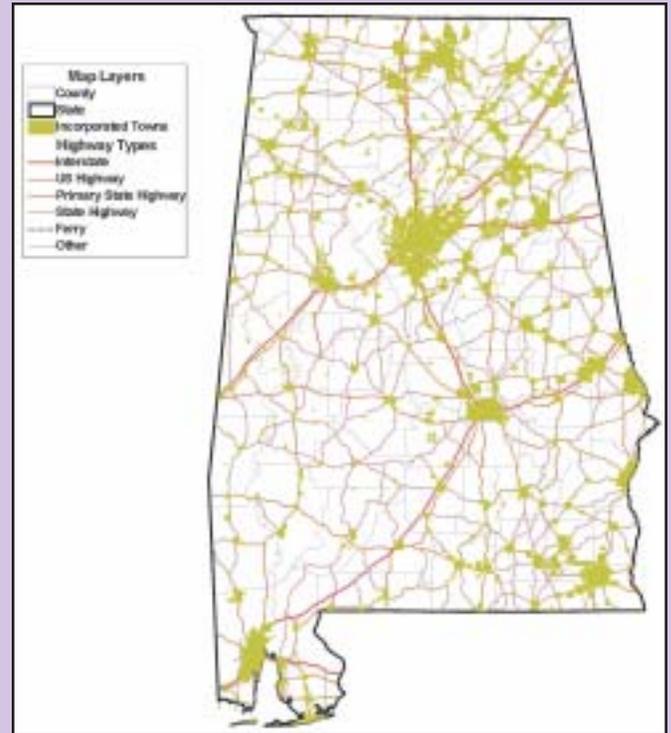


Figure 2: Incorporated Towns and Cities in Alabama

various media. Often these individuals will have specific interests and goals for the planning process.

## Organizational Structure For Alabama Planning

Planning in Alabama is organized throughout the various levels of government and private associations. At the



Figure 1: Wildland-Urban Interface Scene  
(Courtesy of National Oceanic Atmospheric Administration)



Figure 3: Urban Planning Meeting  
(Courtesy Paul Kennedy)

state level, the Governor's office, the Alabama Development Office (ADO), the Alabama Department of Economic and Community Affairs (ADECA), and similar offices serve as organized agencies that lead planning throughout the State. The Alabama Association of Regional Councils (ALARC) also serves in a statewide capacity. This non-government organization consists of twelve regional councils (see figure 4) that are key players in the planning process. These councils usually have a professional staff and resources to perform planning work.

To find out more about these groups, visit their web sites: <http://www.governor.state.al.us>, <http://www.ado.state.al.us>, <http://www.adeca.state.al.us>, and <http://www.alarc.org>.

County commissions usually direct county-level organizations, such as county industrial development boards. They normally have several county employees to assist with development work. Cities usually have dedicated planners on staff and work in conjunction with a zoning board.

## The Planning Process

Most planning is done at a regional-to-local level. Regionally, the Environmental Protection Agency (EPA) recently published a report, "Southeast Ecological Framework Project." Also, the Southern Group of State Foresters established the

Southern Forest Urban Interface Council, and is working with the USDA Forest Service to establish a center for Wildland Urban Interface Research and Information. There are also many other groups and organizations trying to address these issues. Many of these groups, which are often well funded and organized, have specific goals, which may not often reflect urban planners and landowner goals.

The planning process differs with each community, but generally involves a combination of local elected officials, paid planning staff (from planning, zoning, and inspection departments), and various standing advisory committees of appointed citizens. The planning process must incorporate a constantly changing list of federal, state, and local laws and regulations. Examples include the National Pollution Discharge Elimination System (storm water discharge rule), the Farmland Protection Policy Act, Clean Air Act, Clean Water Act, Safe Drinking Water Act, Endangered Species Act, and the National Environmental Protection Act. The list of people and regulations involved with the planning process is almost endless!

Local citizen advisory committees have a surprising amount of influence on the development of the comprehensive urban plan. Required by most states in communities with a population of 20,000 or more, or with a significant trend of



Figure 5: Aerial view of an Urban Development Area

(Courtesy Paul Kennedy)

growth or change, the comprehensive plan is a long-range guide for the physical growth and development of a community. It guides decisions on land-use zoning, expansion and location of major infrastructure (e.g., sewer, water, and transportation), and major public investments (e.g., schools, fire stations, and parks). Comprehensive plans are revamped every five to ten years, depending on the size and growth rate of the community.

A significant component of the comprehensive plan is identification of prime agricultural and forest land and water resources with the goal of conserving these resource uses as a viable part of the community's culture and landscape. Comprehensive plans that minimize growth to the smallest and least environmentally sensitive lands will do the most good in preserving large blocks of rural land for long-term forest and agriculture uses (figure 5).

## How To Get Involved

The task for natural resource professionals and landowners is to get involved to influence the planning process to minimize the area of impact by urban development. You should help communities and planners understand ecological systems so they can make their planning and development decisions in an informed, science-based manner. Be sure to respond to their requests for comments.

Here are a few additional steps that you can take:

- Visit your local courthouse or city/county government services center. Go to the planning department and inquire about the planning process. Find out if there is a planning commis-



Figure 4: Alabama Association of Regional Councils

(Courtesy <http://www.alarc.org>)

(Continued on page 14)

## Getting Involved with URBAN PLANNING

(continued from page 13)

sion or zoning board. Find out when these groups meet.

- Obtain a copy of your local comprehensive plan and zoning ordinances.
- Obtain information on where utility projects are planned or ongoing. Many of these are federally funded. They indicate where growth is occurring.
- Attend the planning meetings to see how the process works.
- Volunteer your time to a community-planning group.

### Tools For Implementing Urban Planning

The process of urban planning is extremely complicated with many different organizations and agencies involved using a multitude of programs. A few of these programs and other considerations are presented in the following section to show a sample of what is available. Many other programs across the nation provide additional resource tools.

#### “Firewise” Communities

Firewise is sponsored by the National Wildfire Coordinating Group (NWCG). Its goal is to encourage and acknowledge action that minimizes home loss to wildfire. The program includes planning and development resources and various publication information that planners, developers, and homeowners can use to make their communities and homes fire safe. The program provides this information through various publications and workshops using state-of-the-art mapping and wildfire simulations. Once a community becomes “fire safe” it can be recognized for this accomplishment by becoming a Firewise Community/USA. The Alabama Forestry Commission is actively supporting wildland-urban interface councils, partially funded through the USDA Forest Service grants. By reading Firewise publications or attending workshops participants will learn how to:

- recognize interface fire hazards
- design Firewise homes and landscapes
- deliver fire education materials, and
- incorporate Firewise planning into existing and developing areas

To learn more about Firewise, go to the web site <http://www.firewise.org> or contact the Fire Division of the Alabama Forestry Commission.

#### “Smart Growth” Network

In 1996, the US Environmental Protection Agency (EPA) joined with several non-profit and government organizations to form the Smart Growth Network. The Smart Growth Network was formed in response to increasing community concerns about the need for new ways to grow that boost the economy, protect the environment, and enhance community vitality. The Smart Growth partners include environmental groups, historic preservation organizations, professional associations, developers, and local and state government representatives.

Smart Growth includes mechanisms to identify priority and development areas, and limit growth to these areas. This creates more compact and efficient communities and preserves open space and environmentally sensitive areas. The Smart Growth partners pool their experience and follow several key principles as a framework for urban growth:

- Mix land uses (residential, retail, etc.)
- Take advantage of compact building design (multi-unit housing/retail stores)
- Create a range of housing opportunities and choices
- Create walkable neighborhoods
- Foster distinctive, attractive communities with a strong sense of place
- Preserve open space, farmland, natural beauty, and critical environmental areas
- Strengthen and direct development towards existing and historical communities
- Provide a variety of transportation choices to reduce automobile mileage
- Make development decisions predictable, fair, and cost effective

- Encourage community and stakeholder collaboration in development decisions

Christine Todd Whitman, former Governor of New Jersey, says the following about Smart Growth, “With Smart Growth we will save acres, save money on roads, and sewers, keep homes more affordable, and make our cities and town centers thrive. That’s good growth.”

Maryland implemented Smart Growth for the entire state in 1998. Under their program, they have limited growth by only allowing federal and state development grants, such as water and sewer construction, to go only in priority funding areas. Only these designated areas get federal and state funds (figure 6). To learn more, visit the website at, <http://www.smartgrowth.org>.

Not all agree with the principles of Smart Growth. Portland, Oregon, was the first city to incorporate Smart Growth, with the response from increased regulation producing a decrease in the quality of life, increases in traffic congestion, air pollution, and taxes. People were not willing to move back into densely populated cities with multi-purpose housing/retail stores and give up the freedom of automobiles for mass transit transportation. While

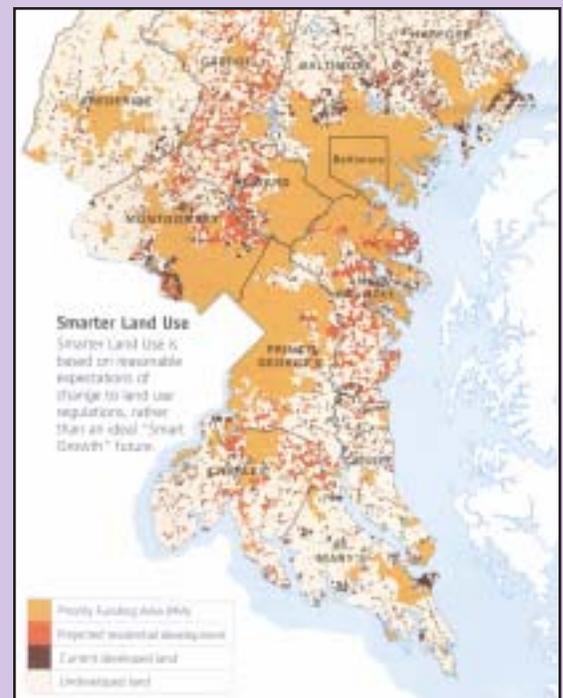


Figure 6: Smart Growth Priority Funding Areas in Maryland

(Courtesy <http://www.smartgrowth.org>)

some principles are extremely useful, it is important to weigh any program's guidelines with expected outcomes.

### **"Your Town Alabama" Program**

One way you can learn more about urban, suburban, and rural planning is by attending a "Your Town Alabama" Workshop. The Your Town Alabama Program is a first step in meeting the development needs in rural Alabama. The workshop format is an intensive engagement of citizen leaders and professionals. The three-day workshop is highly participatory with lectures, case-study presentations, and interactive group problem solving, including work on realistic issues in a hypothetical small town. The goal of the program is to provide advanced leadership skills supported by information and planning tools that can be taken home to all corners of our state and applied to the process of "Designing Our Future."

Your Town Alabama was established in 1998, spearheaded by Paul Kennedy, a Your Town graduate, of the Cawaco RC&D Council. With the help and support of several planning and development groups in the state, Your Town Alabama has held seven adult workshops, reaching nearly 330 people from 90 towns in the state. The citizens of the Alabama small towns that have participated in the program include: Brighton, Chelsea, Gadsden, Lanett, Lineville, Marion, Montevallo, Slocumb, and Valley.

For more information on this program visit <http://www.yourtownalabama.org>.

### **Watershed Management Plans**

The Alabama Department of Environmental Management (ADEM) operates under the guidance and direction of the EPA. One of their top priority tasks is the development of Watershed Basin Management Plans for the ten main watersheds in Alabama. The Alabama Clean Water Partnership, a coalition of public and private individuals, companies, organizations, and governing bodies is working with ADEM on this project. The plans will have a direct impact on urban development in each basin, and natural resource professionals and landowners should be involved in their development.

To find out more about activities in your area, visit one of these websites:

<http://www.cleanwaterpartnership.org> or <http://adem.state.al.us>.

### **Green Infrastructure Planning**

Many planning programs have been developed. One course textbook that details the planning process with emphasis on protecting important green space was published in 2002 by The Conservation Fund, "Green Infrastructure: A Strategic Approach to Natural Resource Planning and Conservation." The workbook shows a user how to set up an urban development plan using GIS (Geographical Information Systems) mapping technology. First, a planner must identify and establish landscape features, both natural and man-made. Then the planner must identify what areas would be beneficial for development (hubs), what areas need to be protected (green space), and how the landscape "links" the various sites together.

The workbook uses the Land Evaluation and Site Assessment Program, developed by the USDA Natural Resources Conservation Service (NRCS), to determine the quality of land for agricultural uses and to assess sites for their agricultural economic viability. It also uses other resource GIS data, such as wetland sites, as layers of information to create a scientifically based analysis of the landscape and its development potential. For more information about this program, visit <http://www.greeninfrastructure.net>.

### **Conservation Easements and Land Purchases**

Increasing pressures of urban development around a landowner's property increases the property value. Many times landowners sell their land for "higher and better" uses. To reduce these pressures and prohibit development of rural land for "the good of the public," tax incentives and credits, as well as private and government funds are becoming available to purchase property or conservation easements.

Conservation easements allow a land trust or government agency to accept a transfer of land rights through a deed. The conservation easement identifies conservation values on a specific property and restricts activities that may diminish those values. Conservation easements most often limit subdivision or urban

*(Continued on page 30)*

## **SMART GROWTH Legislation in Alabama**

Two Smart Growth legislative bills passed the House of Representatives during the recent session, House Bill 309 and House Bill 116. "Both (bills) are considered smart growth initiatives as they encourage economic development while protecting the special places that Alabamians have come to love and appreciate," said Pete Conroy, Chair of House Speaker Seth Hammett's Smart Growth Working Group. "It's described differently as smart growth, sustainable development, and long range planning, but most call this week's actions taken by the Alabama House of Representatives as nothing more than good old-fashioned common sense," stated Speaker Hammett.

House Bill 309, sponsored by Representative Bill Dukes, makes technical changes to the state's municipal planning code. The revised code would allow individuals to serve on a planning commission who reside either inside a municipal area or within the jurisdiction boundaries (5 miles) of the municipality. It would also require that a planning commission prepare and recommend a comprehensive plan for the physical development of the municipality, including any areas outside of its boundaries, which, in the commission's judgment, bear relation to the planning of such municipality. The municipality would then formally adopt a plan prior to constructing roads, public buildings, or utilities.

House Bill 116, sponsored by Representative Terry Spicer, supports the cleanup and development of old industrial sites. The bill provides for a local tax abatement for Brownfield development properties that are voluntarily cleaned up, pursuant to the Alabama Land Recycling and Economic Redevelopment Act. This bill allows county and municipal governments to provide substantial tax incentives to recover and restore abandoned property in urban areas. ♣



Photography by Dana McReynolds

# Mountain Longleaf National Wildlife Refuge

## A Way To Preserve This Precious Ecosystem

By *Dana McReynolds*

Staff Forester, Alabama Forestry Commission

**W**hen you think of the Alabama state tree, the longleaf pine, you probably think of an evergreen flourishing in the coastal plain region of the state. True, longleaf pines usually thrive in the hot and humid climate of south Alabama, but these pines also exist in the mountains. These mountain-inhabitant trees are most commonly referred to as mountain or “montane” longleaf pines. These pines currently exist on shallow, rocky soils in the southern stretch of the Blue Ridge and the Ridge and Valley regions of Alabama, the lower end of the Appalachian Mountains.

At one time, the range of both coastal plain longleaf pines and mountain longleaf pines expanded from Virginia to Texas, encompassing 92 million acres. Today, only three percent (approximately 3 million acres) of longleaf pines remain. Of these two longleaf species, the mountain longleaf pine inhabits even fewer acres. The main concentration of mountain longleaf pines in Alabama occurs in areas of the Talladega National Forest, Fort McClellan National Wildlife Refuge, Cheaha State Park, and Oak Mountain State Park.

Many theories are discussed as to why the mountain longleaf pines still exist in

certain areas of Alabama. The generally accepted theory is the continuous use of fire. Before the settlers came, the native people living in the region hundreds of years ago incorporated burning in their hunting and horticultural practices. The fires suppressed woody competition in the understory and induced the growth of grasses, asters, forbs and legumes that were very beneficial to wildlife. Because longleaf pines are so well adapted to fire, the frequent occurrence of it ultimately encouraged the growth of these stands. Another profound explanation as to why mountain longleaf pines was preserved in this area is because the very nature itself

of the mountainous region isolated it from the practice of agriculture by the settlers. Thinning these stands has also been important in maintaining the health of this ecosystem. Both thinning and burning are necessary for seed germination and pine regeneration.

This ecosystem is one of the most biodiverse forest systems in the United States, and despite the decline in area, many different plant and animal species thrive in this forest setting. Whitetail deer, bobwhite quail, and plants such as ferns and wiregrass are all inhabitants of the mountain longleaf pine community. The decreased acreage has prompted over 30 plant and animal species to be endangered or threatened, including the gopher tortoise, the red cockaded woodpecker, and the Indiana bat. Now, this ecosystem must rely on the co-existence of its current plants and animals for diversity. Without proper continuous management, this unique forest type will be gone forever.

Public awareness grew because of the uniqueness and historical value of the area, and the community voiced interest in preservation of the mountain longleaf pine ecosystem. By the 1990's, action was being taken to support public demand. Of the predominant areas in Alabama that contain this forest type, Fort McClellan was chosen as the area to preserve. Before September 30, 1999, Fort McClellan used its natural forestland as a military training base and firing range. The unintentional fires caused by artillery training inadvertently preserved



Photography by Dana McReynolds

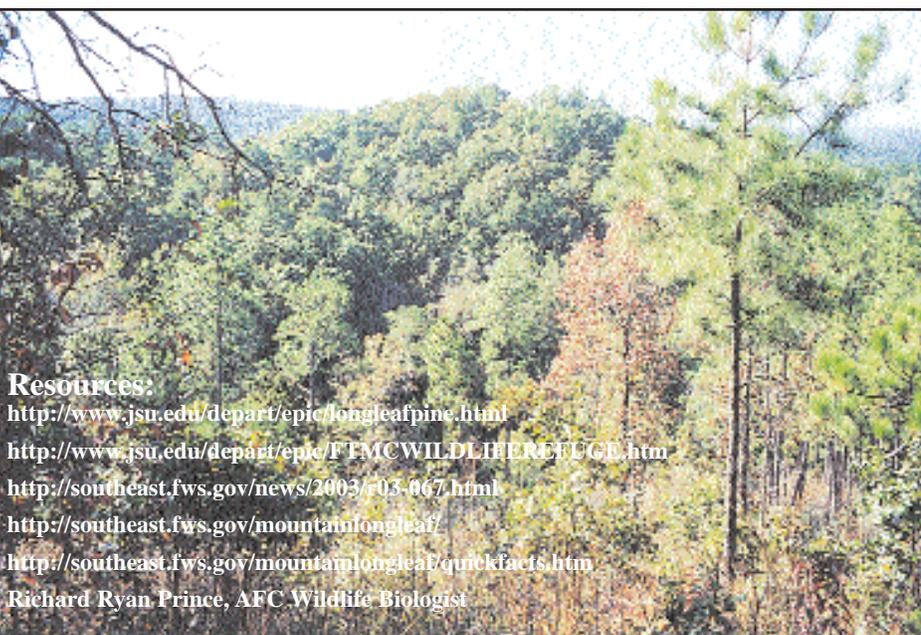
the unfragmented forest containing 250-year-old mountain longleaf pines. When the military base closed and training ceased in 1999, so did the fires. If the occurrences of fire desist entirely, the result could be the loss of this precious ecosystem.

To prevent this inevitable situation, prominent citizens and local dignitaries lobbied politicians to maintain this old growth forest with its beautiful vistas and rugged landscape. Through the successful negotiating and legislative efforts of Senator Jeff Sessions, the Mountain Longleaf National Wildlife Refuge (MSNWR) was dedicated on June 1, 2003. The property combined 7,759 acres of Army land (Fort McClellan) and 1,250

acres of the Joint Powers Authority land and was transferred to the Department of the Interior and the U.S. Fish and Wildlife Service. Although it was the 542nd refuge in the United States, it was the first mountain refuge established in the Southeast. The significance of establishing the new wildlife refuge in 2003 is that America celebrated 100 years of wildlife and habitat conservation in that year: the National Wildlife Refuge System was launched in 1903 by President Theodore Roosevelt.

In addition to preserving the ecosystem of diverse fauna and flora, the refuge is to perpetuate species of neo-tropical migratory birds. Special emphasis will be given to the red-cockaded woodpecker and other endangered and threatened species. Finally, the refuge will provide recreational opportunities, wildlife observation, environmental education, and ecosystem interpretation.

Presently, the Mountain Longleaf National Wildlife Refuge is closed to the public. It will remain closed until the army completes clean up requirements and determines that no unexploded ordnance contamination exists from former military training. The Longleaf Alliance conducted a specially scheduled field tour of this newly established refuge during their October 2003 Conference. Like attendees of that conference, soon everyone will be able to view Alabama's mesmerizing mountain longleaf pine forest and enjoy the spectacular beauty it provides. 🌲



Photography by Dana McReynolds

**Resources:**

- <http://www.jsu.edu/depart/epic/longleafpine.html>
- <http://www.jsu.edu/depart/epic/FTMCWILDLIFEREFUGE.htm>
- <http://southeast.fws.gov/news/2003/r03-067.html>
- <http://southeast.fws.gov/mountainlongleaf/>
- <http://southeast.fws.gov/mountainlongleaf/quickfacts.htm>

Richard Ryan Prince, AFC Wildlife Biologist

# Cross Sectional View of a Topographic Feature

Part 6 in a Series  
by **Douglas A. Smith**  
Fire Operations Officer,  
Alabama Forestry Commission

The last article in our series (the Fall 2003 issue) explained features of topographic maps. If you now understand those principles you may be interested in converting that information into a side or cross sectional view. Most of you will be able to look at a topographic map and visualize what the terrain would look like as viewed from the side or the viewpoint of a traveler. Others may not. In either case, it may be interesting to plot the view for additional study.

The starting point is to take a topo map and draw a straight line between two points. See figure 1. Below that area, construct a graph that includes a scale to accommodate all elevations on your straight line.

To graph the side view of your line, draw a vertical line down from each point where your line intersects a contour line. Extend each line down to the appropriate line on the graph. Connect the dots and that will be a side or cross sectional view of the area along your line.

If you were traveling perpendicular to your line, you can now see the lowest areas or the easiest route of passage. This is a neat exercise but it is more practical to practice mentally visualizing the side view after interpreting the contour lines. ☪

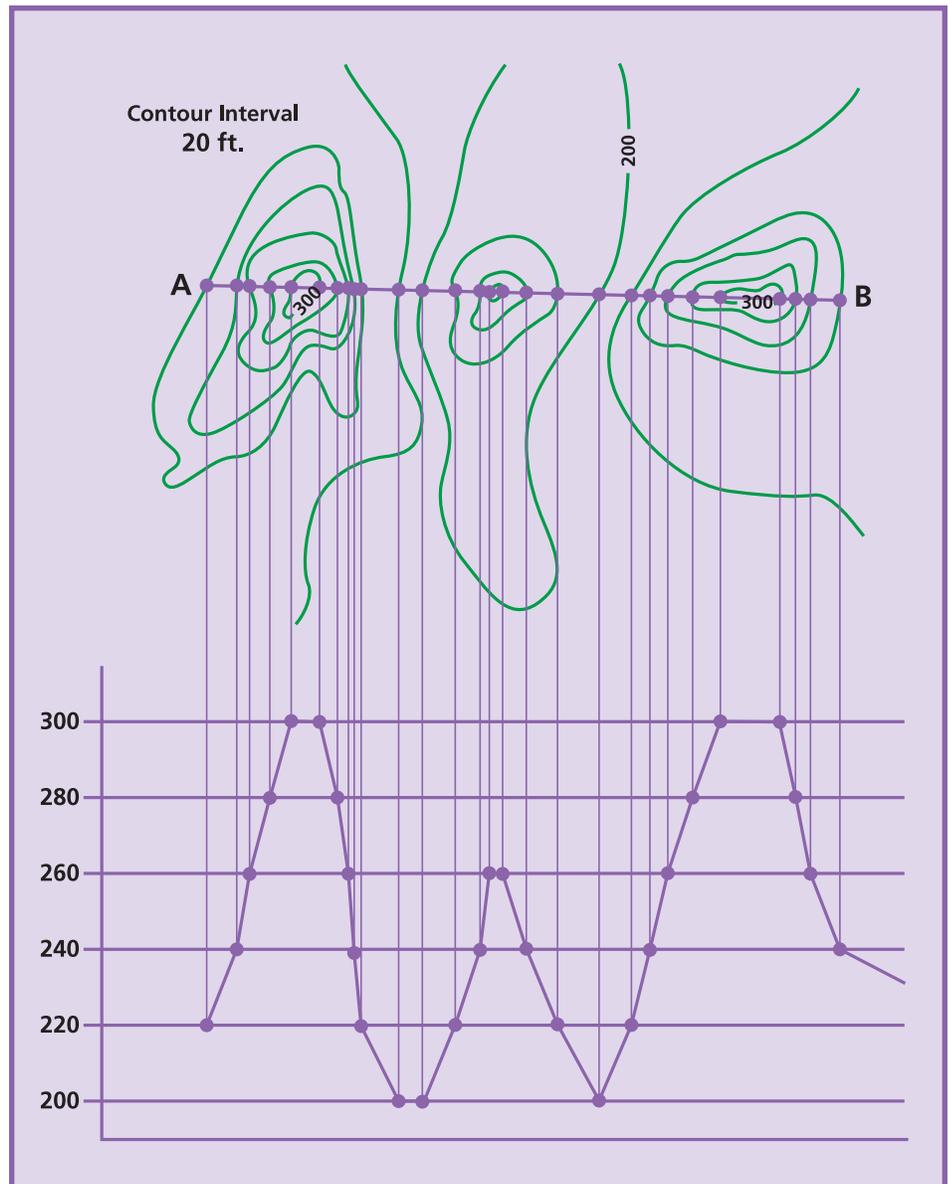


Figure 1 -- Cross Section of Line A-B

# Map Distance vs. Ground Distance

Part 7 in a Series by **Douglas A. Smith**  
Fire Operations Officer, Alabama Forestry Commission

Previous articles provided information about direction, distance, location, and topography. Another asset to utilizing your map knowledge is the understanding of the relationship between map distance to

ground distance. This is a valuable tool for practical application.

Determine the scale of your map. It is often both explained in text and depicted as a graph bar. Take a ruler and measure the distance between two points on the map. Suppose the map scale was 1" =

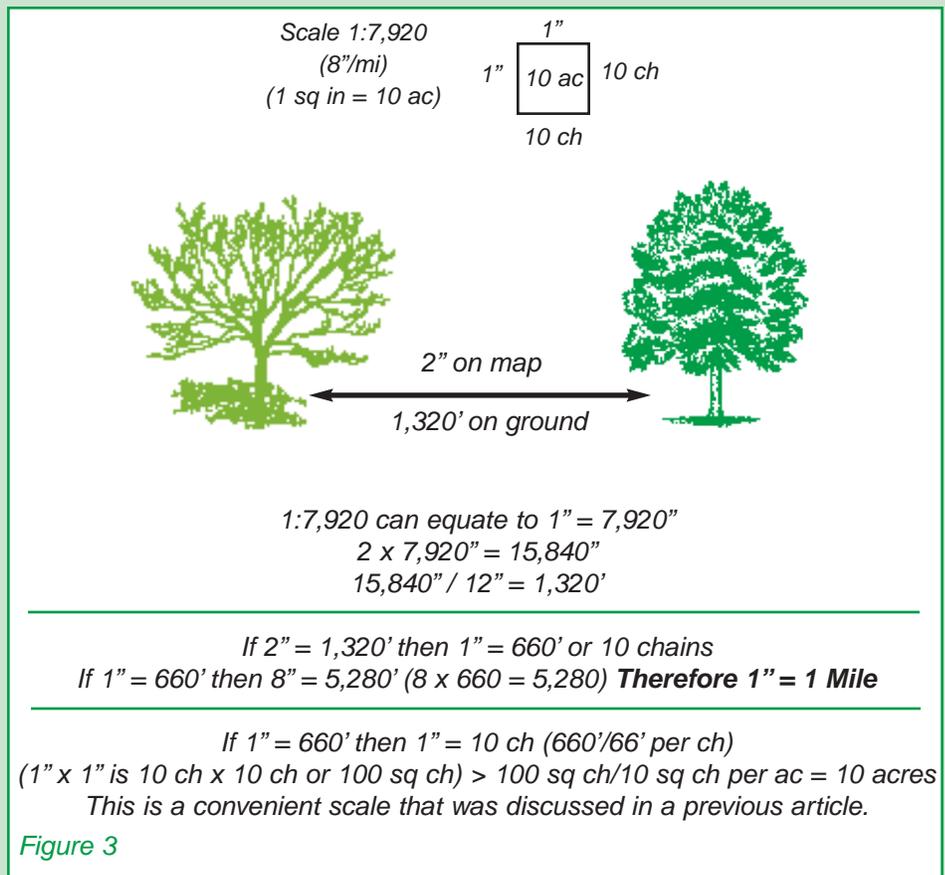
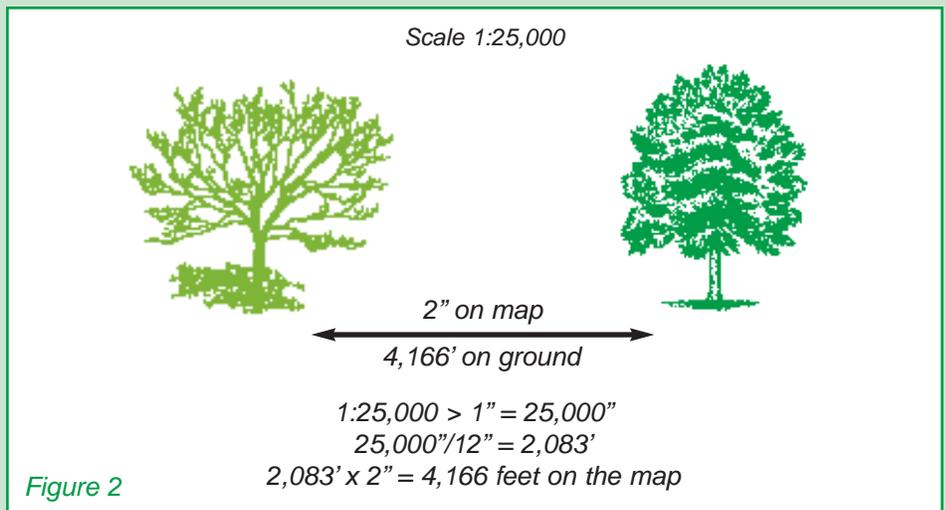
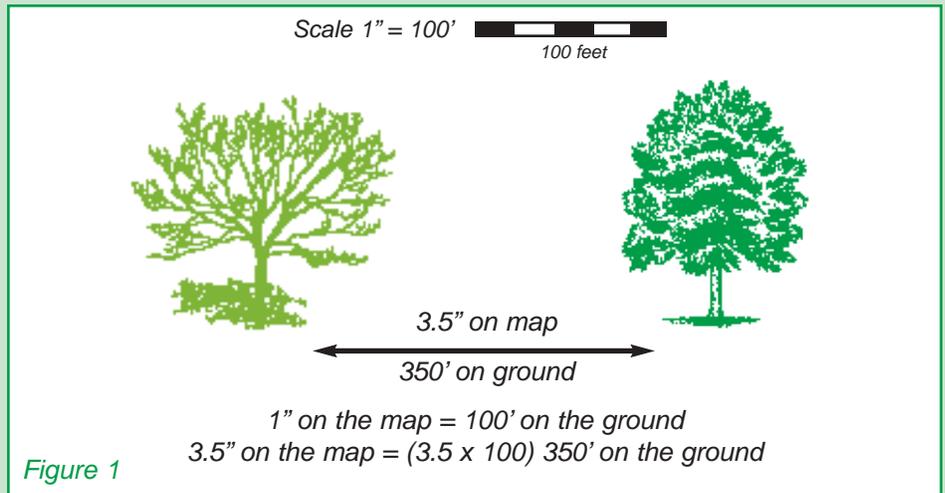
100'. This means that one inch on the map equals 100 feet on the ground. The distance you measured on the map was 3.5 inches. If each inch is 100 feet and you measure 3.5 inches then multiply the two ( $3.5 \times 100 = 350$ ) to determine the distance if you were actually on the ground. The distance between the two points would be 350 feet. Of course you can apply the opposite approach if you measure ground distance and want to convert it to map distance. See Figure 1 at right.

Another type of scale is the RF or Representative Fraction. This type of scale is common on federal government topographic maps as well as aerial photographs. One example would be a scale of 1:25,000 which is common on topographic maps. This means that one unit on the map equals 25,000 units on the ground, or one inch on the map would equal 25,000 inches on the ground. Of course, 25,000 inches is equal to 2,083 feet ( $25,000''/12'' = 2,083'$ ). The map distance on figure 2 would be  $2 \times 2,083'$  or 4,166'.

One foot on the map would equal 25,000 feet on the ground. Since the units are relative, the conversion process must start with both figures being the same unit. The answer can then be converted into any units desired by the user.

If you look at an aerial photograph from the Farm Services Agency (formerly the ASCS), it is likely to be 1:7920. This seems like an odd number but a computation produces information that is easy for you to understand and use. If  $1'' = 7,920''$ , then divide 7,920'' by  $12''/\text{foot}$  and discover that  $1'' = 660$  feet (10 ch) or  $8'' = (8 \times 660)$  5,280 feet or one mile. The 1:7920 scale is often called the "8 inches per mile" scale. It also computes to 1 square inch per acre. See figure 3.

Try working with scales and applying your knowledge in a variety of hypothetical and practical situations. This is a great exercise for youngsters who may not enjoy the normal classroom approach to mathematics. 📏



# Privet is a Plague: You Can Help Stop It

By *James H. Miller*  
Southern Research Station,  
USDA Forest Service

and

*Tim Albritton*  
USDA Natural Resources  
Conservation Service

**H**ave you noticed how privet appears to be exploding across the landscape? Privet is that rampant small-leaved shrub that stays green in winter and can be seen along many fencerows and forest edges, as well as invading interior forests. What at one time was considered the staple farm house shrub is now completely out of control. It has become a plague. In fact, it is spreading through our most precious forests — bottomland hardwoods and forest preserves. What was once considered beauty to grace our homes has turned against us to rapidly spread along roadsides and stream-sides to infiltrate our forests.

Landowners and managers can either stand by and watch the takeover or start the process to battle this plant plague. To begin, we want to tell you how to identify the different species of privet that are invading our forests, and then explain how you can combat them.

While a few flowering privet shrubs in spring was once a beautiful sight, thousands of plants have now become hideous and dominating. The dense stands prevent forest regeneration by displacing native trees and plants, and also deny management and recreational access. Recent surveys show that there is even more privet now in southern forests than kudzu. This explosive occupation by privet has been documented by a Natural Resources Conservation Service survey of privet shown in Figure 1. This figure shows the increasing invasion of only one species of privet — Chinese privet. Actually there are more than three different species that are causing us increasing problems.

## How to Identify Privets

The most invasive non-native privet is Chinese privet (*Ligustrum sinense*) or what we often call “common privet.” It was introduced into the United States from China in 1852. Like many introduced plants of that time, it was actually imported here from England after being transported there from China. Figure 1 shows how Chinese privet remained docile for about 100 years, occurring in only a few counties in the Southern US; then for some unexplained reason, it began to spread rapidly in the 1950’s and continues to do so today.

Chinese privet is the smallest leaved privet (0.5 to 1.5 inches long). It is termed semi-evergreen to evergreen, meaning it

retains mostly green leaves during the winter. All privets have leaves that are opposite to one another along the branches. The other two species of privet that are increasingly invading our forests are truly evergreen, thick-leaved species, mainly glossy privet (*Ligustrum lucidum*) and Japanese privet (*L. japonicum*). Their leaves range from 2 to 6 inches long. As the name implies, Japanese privet came from Japan (through England), with introduction in about 1845, while glossy privet originated in China and was introduced way back in 1794. Only Japanese privet is still widely sold as an ornamental, while sales have stopped for the most part for Chinese and glossy privet because of their extremely invasive nature.

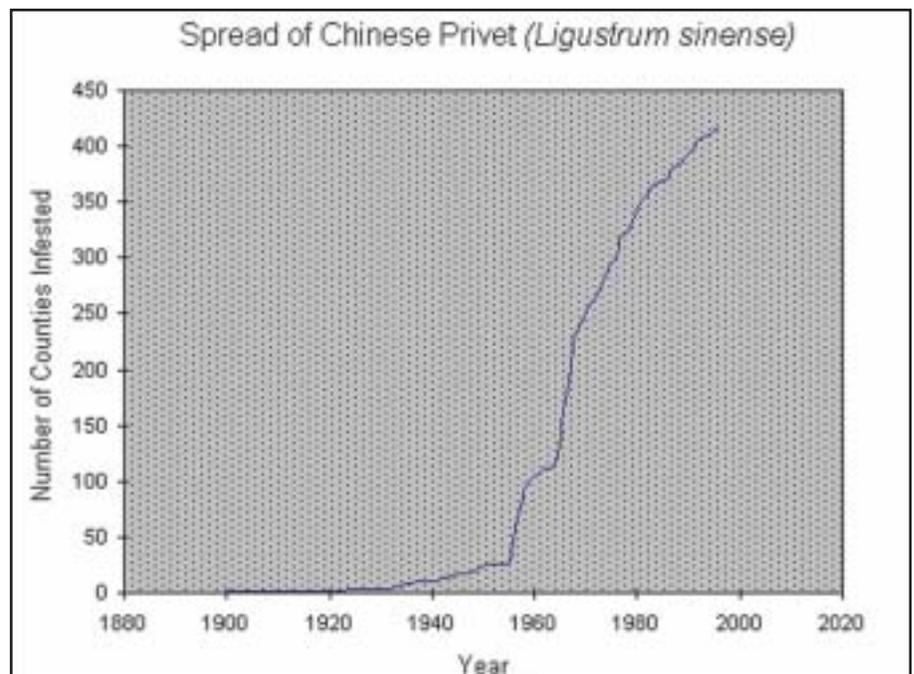


Figure 1. Spread of Chinese privet in the Southern US by counties.

There are at least two other species of ornamental privet escaping into southern forests: European privet (*L. vulgare*), which closely resembles Chinese privet, and border privet (*L. obtusifolium*), which resembles glossy and Japanese privet. All of these species can occur in the same infestation. Thus, the privet plague will be gaining new recruits. The good news is that all these privet species are controllable.

Because privets retain their foliage during fall and winter, they have the competitive advantage over native plants that go dormant. During warm sunny days in fall and winter, privets can produce and store sugars from photosynthesis while native plants sleep. Another big advantage is their abundant fruity seeds, just perfect for spread by birds and animals. Privets are in the olive family and just like the olives we buy in a jar, there is a thin fleshy fruit covering a hard seed in the center. These dark-purple or blackish fruit often dangle in huge clusters on privet branches in winter and early spring when most birds are migrating north. Birds are the main means of spread and are the most probable cause of the privet explosion since the 1950's. Birds have learned to count on privets during their northern migration. Another factor for the explosion has been the removal of so much southern lands from cultivation during this period, a prime invitation for invasion.

Deer is another species of wildlife that browse seedling plants of Chinese privet, often on the expanding edges of privet patches. Of course, the rapid growth of Chinese privet soon puts the tender twigs out of reach. It does not take but a few years for privets to reach their maximum heights of 20 to 35 feet. Chinese privet has multiple stems from a base that will eventually lean and arch. Glossy and Japanese privets grow more as central upright stems. The prolific root sprouting of Chinese privet yields thousands of sprouts per acre that spread and intensify a patch, along with a horde of seedlings.

Regardless of the use by birds and deer, many more species of wildlife are denied suitable habitat by privet infestations and the infested lands become worthless for timber production, recreation, and native plant conservation.

## Successful Privet Control

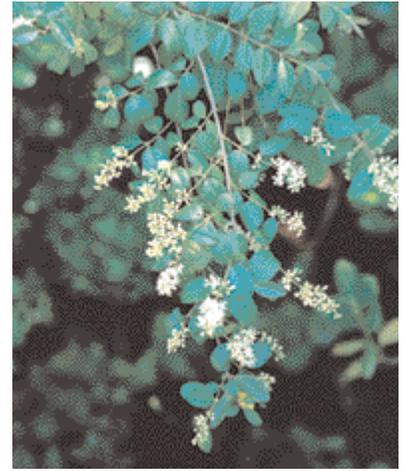
Privets can be controlled with concerted efforts and by using methods that have proven to be effective. A combination of treatments in an integrated manner usually will provide the most effective strategy for successful eradication. Many forms of treatment can be used such as: prescribed burning; tractors with rootrakes and shredder-mulcher heads; brushsaws; pulling and digging plants; and safe and effective herbicides. The right combination depends on the extent of your privet infestation, the size of the privet, your objectives, and your budget.

The usual objective is to first eradicate the privets and then facilitate native plant re-establishment. Selective removal of privets before they become an infestation is the best situation to address, using treatments that have minimal impact on associated native plants. But large infestations can be eradicated with a more concerted effort.

For multi-acre infestations of large privet, tractors with rootrakes or mower heads are often the best approach. Some of the over-sized bush hogs or mulcher-shredders used on utility right-of-ways can grind large privet shrubs to chip mulch. Another approach would be to chainsaw or brushsaw large privet. Of course, all stumps should be immediately treated with *Garlon 3A* or a glyphosate herbicide as a 20% solution (2.5 quarts per 3-gallon mix) in water with a surfactant to prevent resprouting. If safety to surrounding trees is not an issue, then *Arensal AC*, *Chopper*, or *Velpar L* as a 10% solution (1 quart per 3-gallon mix) can be used, staying mindful of soil activity. With all cut stump treatments, sawdust and chips should be swept from the stump before herbicide application to prevent de-activation. Applications can be made with a backpack sprayer or utility spray bottle, or a wick applicator, dropper bottle, or paintbrush.

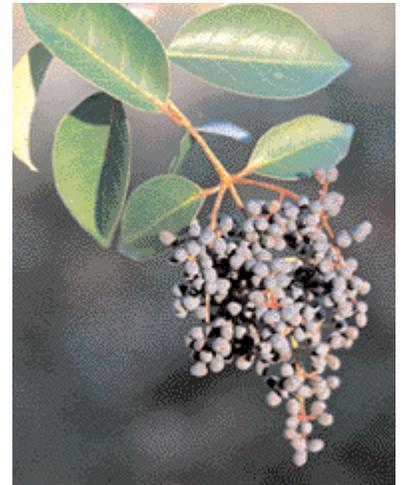
Tree injection, hack-and-squirt, and basal stem sprays are other methods for treating privet stems larger than one inch in diameter. Privet injection and hack-and-squirt are difficult because of the multiple stems and the need to treat each one. The long tube of an E-Z-ject injector permits easier treatment of the multi-stemmed base while a machete and squirt bottle will aid with treating each stem.

(Continued on page 26)



### Chinese Privet

Up to 30 feet in height.  
Leaves: thin, 0.5 to 1.5 inches long, tip often indented.



### Glossy Privet

Up to 35 feet in height.  
Leaves: thick, 3 to 6 inches long, yellowish rimmed.



### Japanese Privet

Up to 20 feet in height.  
Leaves: thick, 2 to 4 inches long, under veins protrude.

Alabama's TREASURED Forests / 21

# BOUNDARY LINES: Why They Should Be Well Established and Maintained

By *Joe Mullins*, Consultant

Our state was born as the result of the division of the Mississippi Territory. The governing body that was in charge of seeing that the new state of Alabama would be divided into manageable and marketable size parcels was the United States General Land Office (GLO). In 1819 an office was established in Alabama by the GLO to facilitate the dividing of the state into a series of 36 mile squares called townships. Within those townships were 36 one-mile square (or nearly square) sections containing approximately 640 acres.

Today, we are trying to maintain boundary lines that may or may not have been marked as the GLO said they were to be 175 years ago. It has been estimated that less than five percent of all the original GLO corners have ever been found and proven. Because of the ingredients in the recipe for the GLO and its handling of the public land survey of Alabama, we have been left with very little to hang on to in relation to true section corners, section lines, and quarter quarter lines.

Originally, each section was intended to have 16 nearly equal sized parts called quarter quarter sections, or what we commonly know as a forty (i.e. 40 acres). The GLO was responsible for hiring contractors to establish the outer boundaries of the sections and the townships. They left it up to the settlers to determine the interior boundaries when tracts smaller than 640 acres or a section were sold. Some of the circumstances involved in the original survey of the public lands included: 1) the US governmental agency, "GLO", in charge of overseeing programs resulted in poor supervision; 2) Corruption within US governmental agency at the state level; 3) Incompetent or corrupt contractors

were often understaffed and unsupervised; 4) Poor working conditions such as warring Indians, disease, harsh weather, and low pay (\$2.00 per mile); and 5) Fallible men trying to accomplish an almost impossible task, when items one through four are considered.

Most likely the legal description in the deed that describes your land begins much like this: "Commence at the NE corner of Section 12, run thence due West along the said section line for 3100 feet to the East margin of County Road 14." Usually the section corner in question is not a GLO section corner, and more often the section line does not have a true bearing of due West. The truth of the matter is that 95 percent of all deeds call reference to the GLO corners (i.e. NE corner of Section 12), which are actually "monumented" and represented in the field by a rock pile, pine knot, concrete, iron, axle, etc. None of these items were used by the GLO to monument corners. So, sometime over the past 175 years, someone besides the GLO contractor set or placed the corner of the section referenced in your legal description. Without the original charred 6x6 pine stake set by the GLO contractor or the original "witness" trees, we are left to assume that the Section corner referenced in said legal description is something else. Boundary case law defines this "something else" as "monumentation by acquiescence and recognition." As you look at your legal description, which is the essence of what you say and think you own, you may find evidence of a line consisting of old barbed wire in trees, mature trees in a straight line marked with blazes, rock piles and pine knots at each half mile corner, or something close to that. All of these elements are, void of GLO corners, boundary by recognition and acquiescence. Deed ref-

erencing to the "NE corner of Section 12" usually means "the locally accepted" NE corner of Section 12.

To maintain the integrity of your boundary lines, use high quality products such as boundary line paint and paint your boundary line every five to seven years. A good boundary paint will last longer than five to seven years, but one would need to walk the boundary line at least every five to seven years to inventory what the outer boundary looks like and determine if there are any problems from trespassers, poachers, timber cutting, etc.

Take care in marking trees to be painted, as they should not be more than 3 feet from the line. A good way to mark a boundary line is to use a brush hook to place two hacks on the neighbor's side of the line and three hacks on your side of the line. Space the hacks 10 to 14 inches apart on trees larger than 6 inches DBH. Painted trees should not be further apart than 1 Chain (66 feet). At each corner or break point, find three suitable trees that are within 25 to 30 feet of the corner and that create somewhat of a triangle around the corner and scrape the outer bark and moss off. Be careful not to penetrate through into the cambian layer; this will cause the tree to bleed and may invite disease. Scrape all the way around the tree and create a band 6 to 8 inches wide. Paint the entire band 360 degrees around this tree.

While in the process of managing your land and maintaining your boundaries, always show class by not harvesting the boundary line trees. Occasionally a tree will reach full maturity or become inferior and need to be taken. If this is the case, discuss it with your neighbor before doing so. Good boundary line establishment and a maintenance program will prove valuable if there is ever

*(Continued on page 27)*

# Legislative Profile

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



**Allen Layson**  
Democrat  
District 61

**A**llen Layson will proudly tell you that he is the only registered forester in a state House of Representatives in the nation. This fact, along with many other interests in forestry and natural resources, has made him a key champion in the state legislature for forestry, forest industry, and volunteer fire departments.

Representative Layson is a native of Georgia where he received his degree in forestry from the University of Georgia. His experience in the forestry industry is extensive, including 14 years with Bowater Incorporated and 18 years at Weyerhaeuser Company. He is currently employed with Midsouth Forestry Services as a consulting forester. He and his wife JoAnn have called Reform home for many years and have five children, “all grown” according to Layson.

Currently serving in his fifth term as representative of the 61st District, which includes Pickens and Tuscaloosa coun-

ties, Layson is chair of the Agriculture Sub-committee of the Agriculture, Forestry and Natural Resources Committee. He also serves on the Health Committee, the Legislative Forestry Study Committee, the Oil and Gas Interim Committee, and the Energy and Environment Committee.

Through his experience and knowledge as a forester, Representative Layson has been able to help the Alabama Forestry Commission and fire departments, as well as forestry and natural resources across the state over the years, not only in the House of Representatives, but also by his involvement in many private organizations. He sponsored the legislation which created the Alabama Prescribed Burning Act. Passed in 1995, this legislation declared that prescribed burning is a landowner property right that benefits the environment and the public. The Act limited the liability of landowners for prescribed burns which are conducted in compliance with the law. Additionally, he has sponsored numerous pieces of legislation which benefitted volunteer fire departments. Prior to his election to the Legislature, he served on the committee which drafted Alabama's Best Management Practices (BMPs) for forestry.

Layson served from 1979 to 1983 as a Commissioner of the Alabama Forestry Commission. He is one of the first life members of the Alabama Wildlife Federation and has served two terms as president of that organization. He is a past member of the Board of Directors of the Alabama Forestry Association and is past chairman of the Alabama Division for the Society of American Foresters. Currently, he is serving on the Advisory Council of Auburn University's School of Forestry and Wildlife Sciences.

He also serves on many national committees including the American Legislative Exchange Council, the

Council of State Governments, and has been an Alabama delegate to the National Wildlife Federation for five years.

Representative Layson has been honored as a recipient of the Governor's Conservationist of the Year Award in Forestry, the Kelly Mosley Environmental Award, and the American Pulpwood Association's Southwestern U.S. Technical Writing Award.

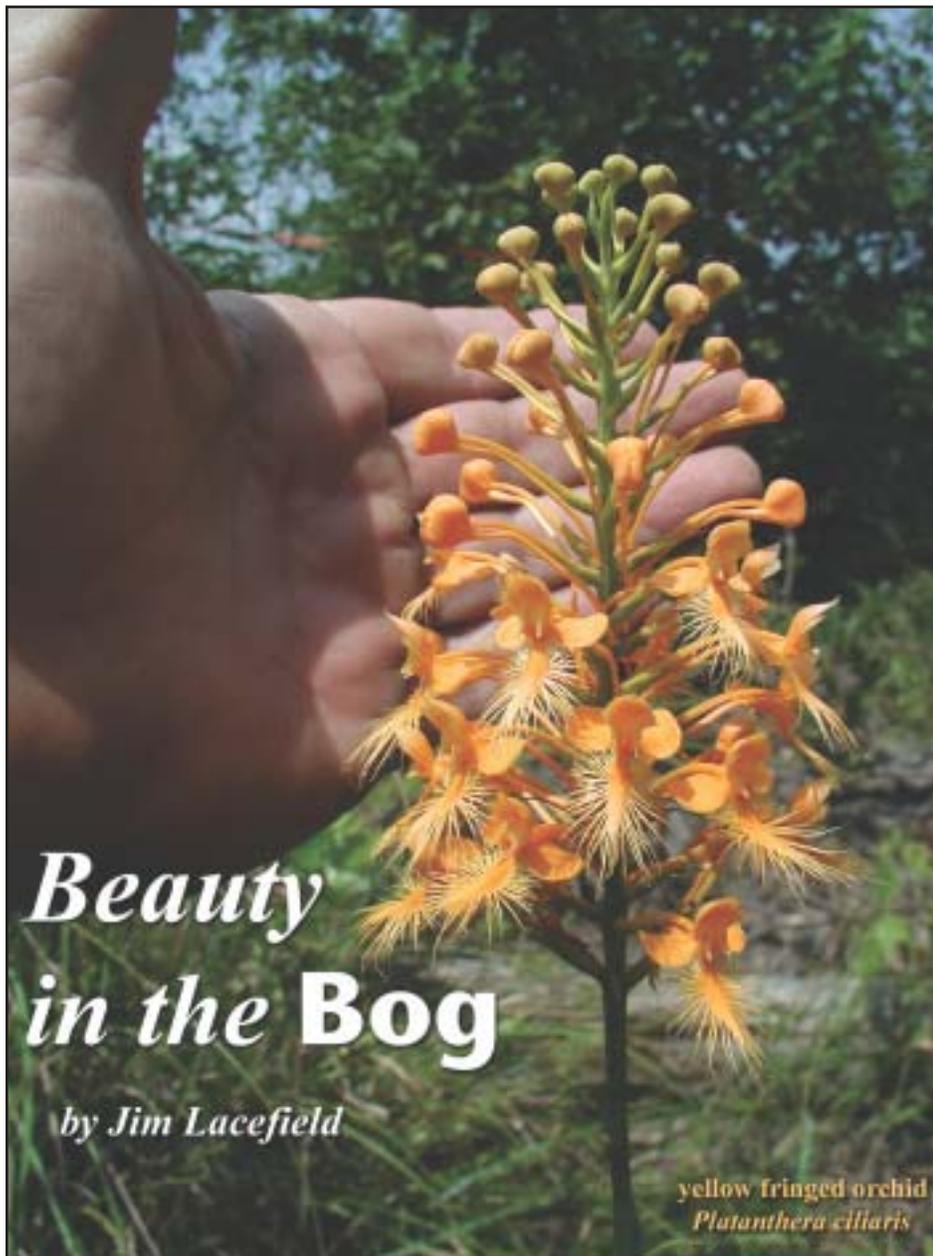
At home in Pickens County he is equally involved in his community. He is a Lay Leader and Lay Speaker of the United Methodist Church, a founder of the Reform Area Public Library, a past President of the Reform Rotary Club, a member of the Pickens County Mental Health Association, a Master Mason, a member of the American Legion, Sierra Club, Alabama Cattlemen's Association, Boy Scout Troup Committee, and is a proud member of 16 fire departments.

According to Wayne Strawbridge, Alabama Forestry Commission Northwest Regional Forester, “Allen has an excellent knowledge of how we operate and as a registered forester he understands the job that we do.” Strawbridge, who has known Representative Layson since he (Layson) first came to Alabama “34-35 years ago,” says, “Allen has always been willing to help with forestry and volunteer fire department matters in any way he could. He is more than willing to help us in the legislature and he will listen to us and our concerns.” ☛

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*Editor's Note: **Legislative Profile** is a new segment of the **Legislation and Policy** department. Its purpose is to spotlight state legislators who have been a friend of the Alabama Forestry Commission, forest industry, and Rural Community Fire Protection (RCFP) over the years. We extend a special thanks to Representative Layson for agreeing to be the first “profile.”*

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[www.forestry.state.al.us](http://www.forestry.state.al.us)**



## One More Reason to Appreciate Those Damp Areas on Your Property

If you are out in the woods during the hottest, stickiest part of an Alabama summer, your attention might be captured by a burst of extravagant color in a most unexpected place. Along the margins of damp upland bogs and seasonally wet forested areas during the peak of summer, one of Alabama's most beautiful and fragile wildflowers blooms. It is the yellow-fringed orchid, known to botanists as *Platanthera ciliaris*. If you can remember trick-or-treating as a youngster, the flower's bright orange and yellow coloration might remind you of the candy

corn that was such a common Halloween night bounty a generation or two ago.

This delicate native orchid's flowers are borne in an elongated cluster that may contain as many as 30 to 60 individual blooms. The showy orange blossoms with yellowish, feathery tips open first near the bottom of the cluster and progress upward over the course of several days. Its flowering period lasts only a few weeks in July and early August during the hottest, most humid part of summer. For this reason it often goes unnoticed by those who tend to spend this part of the year indoors near the air conditioner. The thin, otherwise nondescript plant itself may range from under a foot to nearly three feet in height. When not in flower it may lie concealed

within a background of huckleberries, native azaleas, buttonbush, and sedges. In northern parts of the state it might be spotted growing within a shady bed of sphagnum or *Polytrichum* moss. Typical tree species that may share the orchid's damp habitat are water oak, red maple, loblolly pine, swamp black gum, and sweet gum. At times it may spread to open sandy woods, but it never seems to be far from boggy ground. This strikingly beautiful wildflower ranges widely across the state, probably being found in every Alabama county, but its habitat requirements are such that it is far less common than in past years.

The yellow-fringed orchid is unusually selective in where it chooses to live, and this is the key to why it might be considered a threatened species within the state. Among its basic life requirements is a stable, undisturbed environment in which to grow. Like many of our native orchids, the yellow-fringed orchid depends upon maintaining a mutually beneficial ("symbiotic") relationship with special fungi that live in the surrounding soil. These companion fungi are fragile in the sense that they rarely survive attempts to transplant the orchids to the home garden or greenhouse. Because these delicate, unseen partners are essential to the plant's survival, it explains why these orchids cannot be moved successfully from their natural environment to an artificial one. Thus, this beautiful native plant grows wild and unfettered, and must remain so.

Like so many other of Alabama's endangered and threatened native species, the major reason for declining numbers of the yellow-fringed orchid plant is not from over picking, pollution, or competition from some invasive exotic species, but from a simple loss of suitable habitat. The sites where the plant is most at home have disappeared through changing land use practices through the years. Many landowners have considered the seasonally wet areas they inhabit to be valueless except when put to work in pine production or when converted to pastureland. A more informed understanding of the benefits of these areas' special hydrology, or natural water budget for rainfall, runoff, and infiltration would surely cause most landowners to rethink these ecologically and economically destructive attitudes.

## *The Importance of Subsurface Hydrology to Forest Productivity*

While it may be true that sites where water stands throughout parts of the year may not be the ideal spots for cultivation and harvesting of trees on a commercial scale, these areas are valuable for other reasons. Much has been learned recently about the tremendous value that wetlands, both large and small, offer in improving water quality, providing drought insulation, and as prime wildlife habitat. The contribution that wetlands make to environmental quality goes far beyond the benefit they have for individual landowners, but also extends out to benefit systems far removed from their immediate locations.

Forestry scientists as well as the public in general are becoming increasingly aware of the importance wet areas have in larger hydrologic and conservation systems. The hydrology of an area – the dynamics of rainfall, runoff, infiltration, and the underground movement and storage of fresh water – plays a key role in the land's productivity and sustainable use for forestry and agricultural purposes. All watersheds have localized areas whose natural topography and soil characteristics are such that rainfall runoff is temporarily stored. These areas may be as small as a fraction of an acre in size, but they have an oversized role to play in the way rainfall is made available to the land. Hydrologists use the term "catchments" for these temporary storage basins for rainfall runoff. The size and storage ability of a catchment may be influenced by land relief and slope, drainage pattern, geographic orientation, and the characteristics and structure of underlying earth material such as soil and rocks.

Forest productivity depends on having adequate availability of soil moisture, a need that is particularly critical during the hot months of summer when rainfall amounts may be highly variable and rapidly growing trees are at their peak of water loss through transpiration. Low, damp areas that were once seen as economic "under achievers" are now becoming recognized for their hydrologic value as catchments, helping to slow down rainfall runoff and allowing the infiltration of water both into the soil and

into deeper aquifers for longer term storage. Small bogs and topographic depressions – "loblollies" as they were known to Alabama's early loggers and timber men in the flat woods of the southern part of the state – are like savings banks that hold water for later withdrawal during drier parts of the climate cycle. No Alabama timber producer should need to be reminded of the economic importance of maintaining supplies of soil moisture after the recent years when drought stress in forests led to near catastrophic losses from pine beetles across the state. Trees use water not just in photosynthesis for producing new tissue, but water loss through leaves during transpiration helps to lower surface temperatures and keep enzyme systems at peak efficiency for maximum growth to occur.

How land is managed can greatly affect the availability of soil moisture. Much of Alabama's landscape is underlain by sand and clay layers that serve important roles in storing and transporting water underground. Sandy horizons can store large amounts of subsurface water between individual sand grains. Clay layers serve to slow the gravity-driven downward movement of water into zones where it is inaccessible to plant roots. Transpiration by trees exerts a pressure on this underground supply, and capillary attraction helps draw moisture back toward the surface. With their natural subsurface "plumbing" intact, small catchments scattered across the landscape help recharge the water table by encouraging a higher level of rainfall infiltration into subsurface zones. Stored here it can re-supply the soil during drier months and provide a natural insulation against drought and the accompanying stress it produces in forests. Human-induced landscape modification such as channelization of streams or draining of wetlands to accelerate runoff disrupts collection and storage of rainfall in these natural catchments, and likely has long-term adverse consequences on the potential productivity of the surrounding forest community. Heavy equipment such as skidders used in harvesting trees in these sensitive areas can also compact soils

*Dr. Jim Lacefield teaches biology and earth science part-time at the University of North Alabama and is a TREASURE Forest landowner. He and his wife, Faye, developed Cane Creek Canyon Nature Preserve, a 413-acre scenic natural area in Colbert County. Many rare and endangered plant species – including the yellow-fringed orchid – occur on the preserve which is open to the public. Contact Dr. Lacefield at lacefiel@hiwaay.net.*

**THREATENED & ENDANGERED SPECIES**

and reduce their capacity to absorb and store rainfall for many years.

## *Sound Reasons to Protect Those Streamsides and Boggy Areas*

So you see, bogs are beautiful! There are a number of contributions, both economic and aesthetic, that even small wetlands make to your property. Let's summarize here some of reasons why you, as a forest owner or manager, should value these parts of your land. If you have an eye on the economic returns from timber production, you can recognize the importance woodland catchments have in extending forest growth into dry seasons and periods of drought. They help buffer the forest's moisture supply during dry times and help to reduce stress and disease in your trees.

If you are a wildlife lover you are probably already aware of the year-round benefit that wetlands offer to local and migratory populations of mammals, frogs, fish, and birds. Maintaining these wet areas protects many of the key habitats that allow Alabama to boast such a rich variety of plant and animal life.

If you support the wise use of Alabama's resources and the pursuit of a healthy environment you undoubtedly know of the protective and cleansing properties of wetlands. Slowing water down in its path to the sea reduces its often-damaging effect on the land and makes it better available to all life. Streamside management zones reduce soil erosion and siltation in downstream areas, improving water quality in our lakes and rivers.

If you need yet one final reason to appreciate those wooded stream margins and damp environments on your property, then the chance to glimpse a radiant yellow-fringed orchid rising out of the boggy area at the peak of summer might just do it for you. 🍄

# Privet is a Plague

(Continued from page 21)



A mulcher-shredder or “brush-hog” can be used to tackle large privet.

The herbicides and mixtures specified previously can be used with the same considerations for the safety of non-target plants.

Basal stem sprays using *Garlon 4* as a 20% solution (2.5 quarts in 3-gallon mix) in commercially available basal oil, diesel fuel, or kerosene with a penetrant (check with herbicide distributor) are effective on stems up to 3 inch diameter. Some herbicides, such as *Pathfinder II* and *Pathway*, are sold ready-to-use with these ingredients. Thoroughly wet the lower one foot of each privet stem with this mixture.

Foliar spray treatments are the most cost-effective way to eradicate privets and should be used whenever the foliage can be reached using spray applicators. Resprouts of privet that are topkilled by burning or brush mowing can be more easily treated with foliar sprays. A test of forest herbicides as foliar sprays was conducted in resprouted Chinese privet near Auburn, Alabama using September applications. The results shown in Table 1 reveal that glyphosate herbicides (such as *Accord*) were the most effective with *Arsenal AC* being next most effective at the rates tested. Additional tests have shown that glyphosate used during warmer days of winter and spring are even more effective than September, while treatments during summer dry periods are least effective.

For Chinese privet control, thoroughly wet all leaves with one of the following herbicides in water with a surfactant (April or October to January): a glyphosate herbicide as a 3% solution (12 ounces per 3-gallon mix); or *Arsenal AC* as a 1% solution (4 ounces per 3-gallon

mix). Remember that *Arsenal* can injure or kill desirable plants having roots in the treated area and is not advisable for use under desirable hardwoods and pines.

For the waxy-leaved glossy and Japanese privet, thoroughly wet all leaves with one of the following herbicides in water with a surfactant: August through January — *Arsenal AC* as a 1% solution (4 ounces per 3-gallon mix), or *Garlon 4* as a 3% solution (12 ounces per 3-gallon mix); and March to June or October to January — a glyphosate herbicide as a 3% solution (12 ounces per 3-gallon mix).

Depending on the area to be treated, foliar sprays can be applied using a backpack sprayer or sprayers mounted on tractors, ATVs, or helicopters. Directed foliar sprays are applications that are directed towards the target plant with care to minimize spray to desirable neighboring plants.

With any invasive plant control strategy, one to many treatments will be required to be successful. In addition, follow-up surveillance and treatment of new arrivals will be a must. It may be necessary to coordinate your treatments with your neighbors to prevent re-entry.

## Getting Assistance

The Environmental Quality Incentives Program (EQIP) is sponsoring a special project this year to address invasive species. Privet is one of the seven invasive species listed in the Invasive Plants Management Project. For more information about this project and how to apply for assistance contact your local NRCS office.

The Alabama Agricultural and Conservation Development Commission Program (AA&CDC) can provide cost share assistance for landowners interested in forestry improvement practices. However, funding may be limited. There are two elements within the forestry improvement section that apply:

1) One practice authorizes cost sharing for clearing land occupied largely by scrubby brush of no economic value (this would include privet), and reforesting the site with a desirable species.

2) If privet is invading where there is already a stand of desirable trees, another cost share practice authorizes a herbicide

release treatment of desirable seedlings and young trees.

Additional information on EQIP programs is available at this website: <http://www.al.nrcs.usda.gov/programs/cost-share/EQIP/index.html>.

## Rehabilitation

Rehabilitation is the most important final phase of an integrated invasive plant eradication and reclamation program. This phase requires establishment and/or release of fast-growing native plants (such as loblolly pine, waxmyrtle, and sweetgum) that can out-compete and outlast any surviving invasive plant while stabilizing and protecting the soil. Recommendations for preventing and managing plant invasions like privets on a specific site include maintaining forest vigor with minimal disturbance, constant surveillance, treatment of new unwanted arrivals, and finally, rehabilitation following eradication.

## Cautions and Disclaimer

Registered herbicides are deemed safe by the US Environmental Protection Agency (EPA) for treating invasive plants when used properly. Herbicides used improperly can be injurious to humans, animals, and plants. Special precautions should be exercised when using herbicides in wetlands and around water. Always carefully read and follow label instructions. Follow recommended practices for the disposal of surplus herbicides and pesticides and their containers.

Use of trade names is for reader's information and does not constitute official endorsement or approval by the US Department of Agriculture to the exclusion of any suitable product or process. ♻️

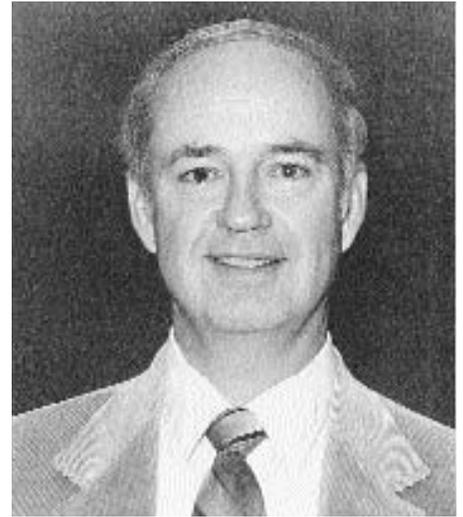
Herbicide	Rate per Acre	% Control
Accord	1.5 gal	97
Arsenal AC	24 fl. oz	80
Escort	3.3 oz	70
Garlon 4	1.5 gal	24
Oust	6 oz	22
Vanquish	1.5 gal	5
Tordon K	0.5 gal	5
Transline	21 fl. oz	0

Table 1. Third-year Privet Control with Forestry Herbicides.

# Tribute to a True TREASURE

## *In Loving Memory of Jerry Johnson*

By *Joel Glover*,  
Wildlife Biologist, Alabama Department  
of Conservation & Natural Resources



**T**he TREASURE Forest Program and Alabama's natural resource professionals lost a true treasure when Jerry Johnson passed away on December 31, 2003.

As state forester for the Natural Resource Conservation Service, Jerry was a member of the original group that developed the criteria and guidelines for the TREASURE Forest Program. Serving on the TREASURE Forest subcommittee since its inception, Jerry personally reviewed every single TREASURE Forest nomination. Jerry stated that he felt blessed to have been given the opportunity to work with so many landowners who were practicing good stewardship of their forest and wildlife resources. In turn, the landowners of

Alabama were blessed to have Jerry caring for our natural resources.

Jerry was not one to seek recognition for his accomplishments, however he received many honors and awards during his career. He was the first person to receive the Outstanding Young Forester Award in Alabama; he received the Bill Moody TREASURE Forest Award, the Alabama Wildlife Federation Governor's Soil Conservationist of the Year Award, and was elected to the Alabama Foresters Hall of Fame.

Although Jerry was charged with many duties, TREASURE Forest always held a special place in his heart. He once commented that being closely associated with TREASURE Forest was a highlight of his career. Maintaining the integrity of

the TREASURE Forest Program was his passion.

Those who knew Jerry knew that he was passionate about his Lord, his family, and his profession. He served them all very well. Jerry's funeral was a celebration of his life and his Lord, Jesus Christ. Although he will be sorely missed, we should not be sad. We should know, as Jerry knew, that goodness and mercy followed him all the days of his life and he will dwell in the house of the Lord forever.

Until we meet again my friend . . . ☩

*A native of Centreville, Alabama, Mr. Johnson received his B.S. degree in Forest Management from Auburn University. He began his career with the Soil Conservation Service in 1970.*

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## Boundary Lines

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*(Continued from page 22)*

a dispute over property lines. After having a survey of your land, record the survey plat in your local probate or chancery clerk's office. In most cases you can have the survey recorded and placed in the probate office for less than \$45.00, which is relatively inexpensive. Surveying costs are tax deductible. Our right to own land is sacred. Maintain the corners and lines around your property.

When purchasing any land, have it surveyed and platted by a reputable land surveyor before closing. Also, any land you own that has not been surveyed within the past twenty years should be surveyed. When choosing a surveyor, there are some basic questions that you should ask in order to evaluate their qualifications. 1) How many years have

they been licensed? 2) How many years have they been the surveyor of record for their firm? 3) Have they ever testified as an expert witness in court? 4) At any time, have they ever been sued in a boundary line case and what was the outcome? 5) Do they have Errors & Omissions insurance and are their workers covered by workman compensation insurance? 6) Will they give you a written estimate? 7) Will they draft a written contract for the work to be done? 8) Ask for a list of ten clients. 9) Has the Board of Licensure ever sited their firm, or any individual in their firm in the last five years? 10) Do they have a current certificate of authorization from the Board of Licensure? Have them give you that certificate number.

If after requesting this information from a surveyor or surveying firm, you are not comfortable in making a choice, contact the Alabama State Board of Licensure for Professional Engineers and Land Surveyors at 334.242.5568 or visit their website at [www.bels.state.al.us](http://www.bels.state.al.us). ☩

*Joe Mullins has been licensed in the State of Alabama since 1978 (certification # 12,709) and is also licensed in the State of Mississippi. He is a member of the Alabama Society of Professional Land Surveyors. He also helped organize the West Alabama Society of Professional Surveyors and served two terms as president. Mr. Mullins worked for a private forestry industry for over 15 years before opening his own consulting business. Mullins and Associates, Inc. is located at 1701 Queen City Avenue, Tuscaloosa, Alabama 35401 (Telephone: 205.752.3702; Fax: 205.758.8168).*



# Swamp Turkeys

By *Steven W. Barnett*, Wildlife Biologist  
Wildlife and Freshwater Fisheries Division,  
Alabama Department of Conservation and Natural Resources

**T**he wild turkey thrives in many habitat types throughout Alabama. From the Appalachian Mountains south to the Mobile-Tensaw Delta, turkeys have adapted to specific habitats and changes to landscapes for thousands of years. The diversity of these ranges is numerous and turkeys do well in most areas. Perhaps the management and hunting of this great game bird poses no greater challenge than in the habitats of the river swamp.

Nearly all biologists agree that the most critical time of the year for turkey populations is the spring and summer nesting and brood-rearing seasons. Even under optimum habitat conditions, losses from spring poults to fall jakes or jennies are high (around 70 percent). Nest depredation, predation to broods, and the poults' exposure to inclement weather conditions account for other losses.

When discussing swamp turkeys, losses from floodwater must also be considered. Contrary to a belief held by some people, turkeys do nest and raise broods in floodplain regions of the state. Even though floodwater takes its toll on

*When the waters rise, so will turkeys, flying into the tree crowns . . .*

nesting attempts occasionally, population data indicates high turkey numbers are generally found in bottomland hardwoods.

Since many river/swamp areas encompass thousands of contiguous

acres, brood habitat should be managed similar to upland sites. Some of the ingredients for optimum brood habitat management include planting, maintaining, and retaining mast producing trees; conducting prescribed fire in mixed pine/hardwood for habitat enhancement; thinning stands to allow sunlight to the forest floor to aid in the germination of native forage and cover plants; and providing warm and cool season forages in wildlife openings, especially in linear openings (roads).

Although there has not been extensive research done on turkey movements during high water periods, some studies have shown that nests and newly hatched poults are the most at risk. Sometimes hens will delay nesting or may not nest at all due to flooding. Nevertheless, most bottomland hardwoods are considered prime turkey habitat.

The numerous and diverse array of acorn producing oaks found in most river swamps are extremely important to a wild turkey's diet in the fall and winter. Fat reserves from acorns provide energy needed for the spring gobbling season. When the waters rise, so will turkeys, flying into the tree crowns to feed on buds, leaves, flowers, and insects.

Hunting turkeys in swamps can be very challenging, but quite gratifying. In bottomland hardwoods, the gobbler is more difficult to pinpoint in terms of location and distance to roosting toms than in hill country. Typically, ground cover is limited, so your approach must be done cautiously not to flush the gobbler. Also, with a myriad of creeks, sloughs, and ponds to navigate, getting on "good ground" with a longbeard can be difficult.

For those who hunt in these areas, it is important to know that Alabama regulation prohibits hunting game from floodwater or game taking refuge on any island less than 40 acres in size created by flooding or backwaters. Migratory waterfowl are the only exception. When the floodwaters rise, it may be necessary to forgo hunting until the water recedes.

For more information on wild turkey habitats and management, contact Steven W. Barnett, Wildlife Biologist, Alabama Division of Wildlife and Freshwater Fisheries, P.O. Box 247, Daphne, AL, 36526 or call 251-626-5474. 🦃



Photo by Tim Albritton

Contrary to a belief held by some people, turkeys do nest and raise broods in floodplain regions of the state. The photographer saw the hen leave the nest of these eggs, found within 200 feet of the banks of the Tallapoosa River in Elmore County.

**For current information  
on the Southern Pine Beetle situation  
in Alabama, visit the  
Alabama Forestry Commission  
web page at:  
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Gary M. Stolz, US Fish and Wildlife Service



## Getting Involved with URBAN PLANNING

(Continued from page 15)

development on enrolled property. The entity pays landowners for agreeing to the restrictions. In addition, the value of a qualified conservation easement donation may be deducted from your taxes. The federal tax code for conservation easements is found in section 170(h). Alabama conservation easement policies are also identified in the Alabama Conservation Easement Law (AL Code Sec. 35-18-1). Other economic incentives and compensation to landowners for public benefits from their forests include setting aside riparian buffers, habitat for endangered species, carbon sequestration, and greenspace.

There are many non-profit organizations and government agencies that are actively purchasing sensitive lands that are in danger of being converted through urban sprawl. For example, according to the Land Trust Alliance, in 1999, out of 102 local initiatives voted on in the United States to devote public funding to protect open space, 90 percent won approval, committing \$7.3 billion. The USDA Natural Resource Conservation Service, US Fish and Wildlife Service, EPA, ADEM, and the State Lands Division of the Alabama Department of Conservation & Natural Resources are a few of the many government agencies that have funds available to purchase conservation easements. Non-profits include the Alabama Forest Resource Center, Alabama Land Trust Alliance, and The Nature Conservancy. Thousands of acres in Alabama have already been purchased and set aside as conservation easements.

### Tax Implications

Depending upon how they are structured, taxes can accelerate development at the wildland-urban interface or help shape development to meet the needs of a growing population while retaining as much land as possible in a rural condition. Generally, lower property taxes, taxation based on current use, and lower inheritance taxes provide the greatest incentives for landowners to retain their property. These can be offset by greater severance taxes if needed.

Under the Alabama severance tax law, the timber is not taxed until it is harvest-

ed. The deferred tax on the timber most often is based on the amount, or yield, of the harvest. The economic effect of severance taxes is minor – it has the minimum effect on a landowner's management or decision to sell land. It may, however, sometimes provide a disincentive to harvest timber.

### Laws and Regulations

Local governments have traditionally held the authority to make land use decisions because, in addition to being seen as more sensitive and responsive to local concerns, they are perceived as having more expertise in implementing fair and efficient land use policy. These local land use policies, however, often have the effect of increasing development and expanding the wildland-urban interface. Local governments receive most of their funding from property and sales taxes. Therefore, they have little incentive to attempt to limit land development in their jurisdictions, except perhaps to reduce infrastructure costs.

While the states generally delegate their authority over land use to local governments, state legislatures can review or supersede local zoning where statewide interests are at stake. The State's police powers are usually delegated through enabling statutes, frequently patterned after the Standard State Zoning Enabling Act (SSZEA) of 1924. A 1997 survey conducted by the American Planning Association revealed that many southern states lack modernized planning statutes. This deficiency makes it more difficult for these states to effectively manage growth and change in the interface.

There are also many federally mandated laws which must be followed. As previously mentioned, the Clean Water Act, for instance, contains provisions for area-wide land use planning to address pollution from non-point sources. The EPA mandates some development regulations through this law. In addition, under the Clean Air Act, states create air-quality control regions and prepare State Implementation Plans (SIP) that are designed to enable each region to attain federally set numerical limits for ambient concentrations of specific pollutants. If a region fails to meet its SIP obligations or

fails to prepare an adequate SIP, federal highway funds can be jeopardized and new construction can be halted. The Coastal Zone Management Act attempts to minimize adverse impacts of development in coastal areas by providing federal funding and guidelines for states to develop coastal management plans tailored to fit their specific needs. The Endangered Species Act is another example of a federal law with a purpose to conserve and protect natural resources. The US Fish and Wildlife Service has funds to purchase critical habitat areas to protect endangered species, but can also regulate land use to protect endangered species.

### Urban Forestry Programs

Even after growth reaches an area, the work continues. Urban growth places tremendous pressure on the surrounding natural resources. Reduced tree cover and an increase in impervious surface area take their toll on air and water quality and energy consumption. For example, a recent study showed that the greater San Antonio area has lost 45,000 acres of heavy tree canopy over the last 15 years, costing its citizens \$9 million a year for air pollution abatement and \$146 million for storm water management. They also lost \$17.7 million in residential summer energy savings, according to the study.

The Stormwater Management Authority (SWMA) is conducting a study of 26 cities that places a dollar value on tree canopy (<http://www.swma.com>). In March 2001, SWMA, Trees for Alabama, CAWACO, and Southern Environmental Center at Birmingham Southern College received a grant from the USDA Forest Service to establish a baseline of information on the forest cover and related information in Jefferson County Alabama, and to inform the local governments and the public at large on the findings of the study. The project will apply current technology to forestry applications in a deteriorating urban and suburban forest. Benefits of this study include documentation of the existing forest cover, education of the general public, and establish the environmental and utility value of the forest canopy in Jefferson County.

The urbanizing forest becomes more valuable because it reduces heat islands and air conditioning needs, slows and absorbs storm water, and improves air and water quality. Individually, every tree provides benefits and, cumulatively, the forest provides enormous services that can reduce the need for regional power generation stations and equally costly water treatment and processing facilities. Some people still have the notion that tree benefits are purely aesthetic. Urban planners can use the new technologies to show how trees will impact their city and plans for new development.

For example, CITYgreen is a GIS software application, developed by American Forests, which merges science and technology to help calculate the values of trees. It allows users to calculate the environmental and economic benefits of forests and trees. City planners use CITYgreen to map and measure tree cover changes and to calculate the benefits urban trees and forests provide, including reduced stormwater runoff, energy savings, carbon sequestration, and the removal of pollutants. CITYgreen is part of a method of land assessment used by American Forests called Regional Ecosystem Analysis. To learn more about this program visit the web site: <http://www.americanforests.org>.

## Current Research In WUI

To understand the impact of expanding human populations on multiple forest resources and, ultimately, our quality of life, two dozen researchers affiliated with Auburn University are participating in a research project about the many ways a landscape changes when it is developed. Each scientist is working on an individual aspect of the project, which eventually will be tied together in a single model.

These scientists are studying the influence of urbanization on local economies, faunal and floral biodiversity, water quality, and community sociology. The specific study area is a forested landscape in west-central Georgia, in an area of rapid population growth. This site was chosen over sites in Alabama because of its proximity to the scientists. However, both the soils and the rates of growth are similar to those in the rapidly growing Birmingham and Atlanta areas.

Their goal is not to halt development; rather, to understand the effect of devel-

opment. If they can identify what that threshold of greenspace might be, then that information might be useful to residents of the area, policy makers, planners, and others interested in the development. They are trying to learn what is occurring and then give that information to people who might be able to make some use of it. This will allow direct comparison of a broad array of urbanization influences through conversion of each biological value to a monetary scale.

The USDA Forest Service and other organizations are building resources to further address these issues. You can learn more by visiting their web site, <http://fs.fed.us>, or the Interface-South web site, <http://www.interfacesouth.org/>.

## Summary and Action Plan

There are more than 69 million acres of urban forests associated with the nation's 45,000 communities, and in which reside nearly 80 percent of the nation's population. The forests provide tremendous ecological, economic, and social benefits vital to everyone. It is everyone's responsibility to do a better job of directing urban sprawl to ensure that there is a balance between growth and the protection of our natural landscape.

The location of where you live and your perception of the severity of the urban sprawl situation will no doubt influence your beliefs on what, if anything, needs to be done. Past surveys indicate that most landowners do not want regulations. On the flip side, they would like to have some input on development in their area. As citizens of this great State of Alabama, you have a right to be involved in important public planning policy decisions currently being made by your elected officials and urban planners.

You must get involved with this process. Find out how you can participate in your community. Attend planning meetings and workshops. Support and promote citizen-based volunteer organizations. Form partnerships with urban planners and resource professionals to prepare landscape-level urban development plans. Determine ways to grow without fragmenting forested landscapes. Identify the most important, imperiled ecosystems to conserve and manage and plan urban growth in more condensed areas away from these sensitive ecosystems. 🌳

## References:

- Macie, E.A. and L.A. Hermansen, eds. 2002. Human Influences on Forest Ecosystems: The Southern Wildland-urban Interface Assessment. Gen. Tech. Report SRS-55. Asheville, NC, USDA, Forest Service, Southern Research Station. 161 p.
- Wear, D.N., Gries, J.G, eds. 2002. Southern Forest Resource Assessment. Gen. Tech. Report SRS-53. Asheville, NC, USDA, Forest Service, Southern Research Station. 635 p.
- DeCoster, L.A. 2000. Summary of Fragmentation 2000 – A Conference on Sustaining Private Forests in the 21st Century: September 17-20, 2000. Sampson Group, Inc., Alexandria, VA. 389 p.
- Southern Group of State Foresters. When the Forest Becomes a Community: A Forester's Handbook for the Wildland/Urban Interface.
- Benedict, M.A., Bjornlund, L. 2002. Green Infrastructure: A Strategic Approach to Natural Resource Planning and Conservation (Course Textbook). The Conservation Fund. 196 p.
- Jenkins, D.H., Goerlich, D.L. Local Land-Use Planning: How to Make a Difference. Journal of Forestry. Jan/Feb 2003. Pages 5-6.
- Kollin, C. 2003. San Antonio: Ripples of Change. American Forests. Spring 2003. Pages 7-10.
- Stribling, L. 2002. Conserving Forest Resources for Future Generations. Alabama Agricultural Experiment Station Magazine, Volume 1, Number 1, October 2002. Pages 5-9.
- Brinker, R.W. 2003. Peak of Excellence – An Update. Alabama Forests. Spring 2003. Pages 10-11.
- Yanong, Q. et al. 1998. Forestry: A Community Tradition. National Association of State Foresters. 40 p.
- Samuel, Peter & Randal O'Toole. 1999. Smart Growth at the Federal Trough: EPA's Financing of the Anti-Sprawl Movement. Cato Institute, Policy Analysis #361. (<http://www.cato.org>).
- O'Toole, Randal. 2001. The Folly of Smart Growth. Regulation Magazine, Fall 2001. Pages 20-25.



# Eastern Hemlock

*Tsuga Canadensis (L.) Carr.*

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

**A**lthough not found in very many places in Alabama, the Eastern hemlock with its graceful lacy foliage is one of our most beautiful trees. If you want to see one, you'll have to go to the northern part of the state.

For those who have ever seen an Eastern Hemlock, particularly when they are in a small stand, the most memorable thing about it is the smell. It's indescribable yet unforgettable. Most people say it smells spicy, piney, sharp, crisp, clean, or any combination of these.

Native hemlock grows from Labrador west to Wisconsin and Minnesota and south to the mountains of north Georgia and north Alabama. Jefferson County is the southern limit in the state. The largest concentration in Alabama is in the Bankhead Forest and Sipsey Wilderness area in Winston and Lawrence counties.

The Eastern hemlock prefers acid soils and is most often found with hickories, yellow-poplar, and oaks. It is the most shade tolerant of the eastern conifers. It is usually found in moist cool valleys, on north facing slopes, in older forests, and along rocky stream valleys. Hemlock grows slowly, but can grow up through almost any forest type when healthy. When growing in a pure stand, they are almost magical with their dark shade, their straight, tall trunks and their clear forest floor. Hemlock may remain in the understory in natural stands for hundreds of years. Very few plants can grow with the little light in a hemlock stand.

The tree is usually 60-80 feet high with a trunk diameter of 2-3 feet. It often has a broad-based pyramidal shape with the lower branches drooping and sweeping the ground.

Hemlock is the only conifer that has the shiny green needles on short thread-like stems (petioles). The needles are dark green and two-ranked, flat, blunt pointed, silvery white beneath, with



Photo by Coleen Vansant

two pale lines on the underside. They are one-third to two-thirds of an inch long. The bark is dark silver and flaky on young trees and branches, turning gray brown to cinnamon red. It is thick and roughly grooved when older. Both male (yellow) and female (pale greenish violet) flowers appear on the same tree in May. Hemlocks have the smallest cones of all conifers, about 1/2 inch long, short-stalked, red brown. They remain on the tree during winter and slowly release the winged seed in spring. Although there may be 400,000 seed to the pound, reproduction is rare because few are blown into shady places, which is necessary for germination.

The wood of the hemlock is light, soft, brittle, and difficult to work. There is no distinction between heartwood and sapwood. Both shock and decay resistant, it is used occasionally for rough or construction lumber and for pulpwood. It is also used to build boxes, crates, pallets, casks, shingles, and siding. The bark was once the principal commercial source for tannic acid, used in tanning leather. Pioneers made tea from the leafy twigs and brooms from the branches. It makes a graceful shade or ornamental tree and it can also be trimmed into hedges.

Ruffed grouse, wild turkey, and songbirds find food (seeds) and shelter in this tree. Deer browse it heavily when deep snow makes other food scarce.

Eastern hemlock is the official state tree of Pennsylvania. The National Champion can be found in Great Smokey Mountain National Park in Tennessee. It is 202 inches in circumference, 165 feet tall, with a crown spread of 38 feet for a total point value of 377. The Alabama Champion, located in Winston County, has a circumference of 150 inches, a height of 126 feet, and a spread of 43.5 feet for a total point value of 286.88. 🌲



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