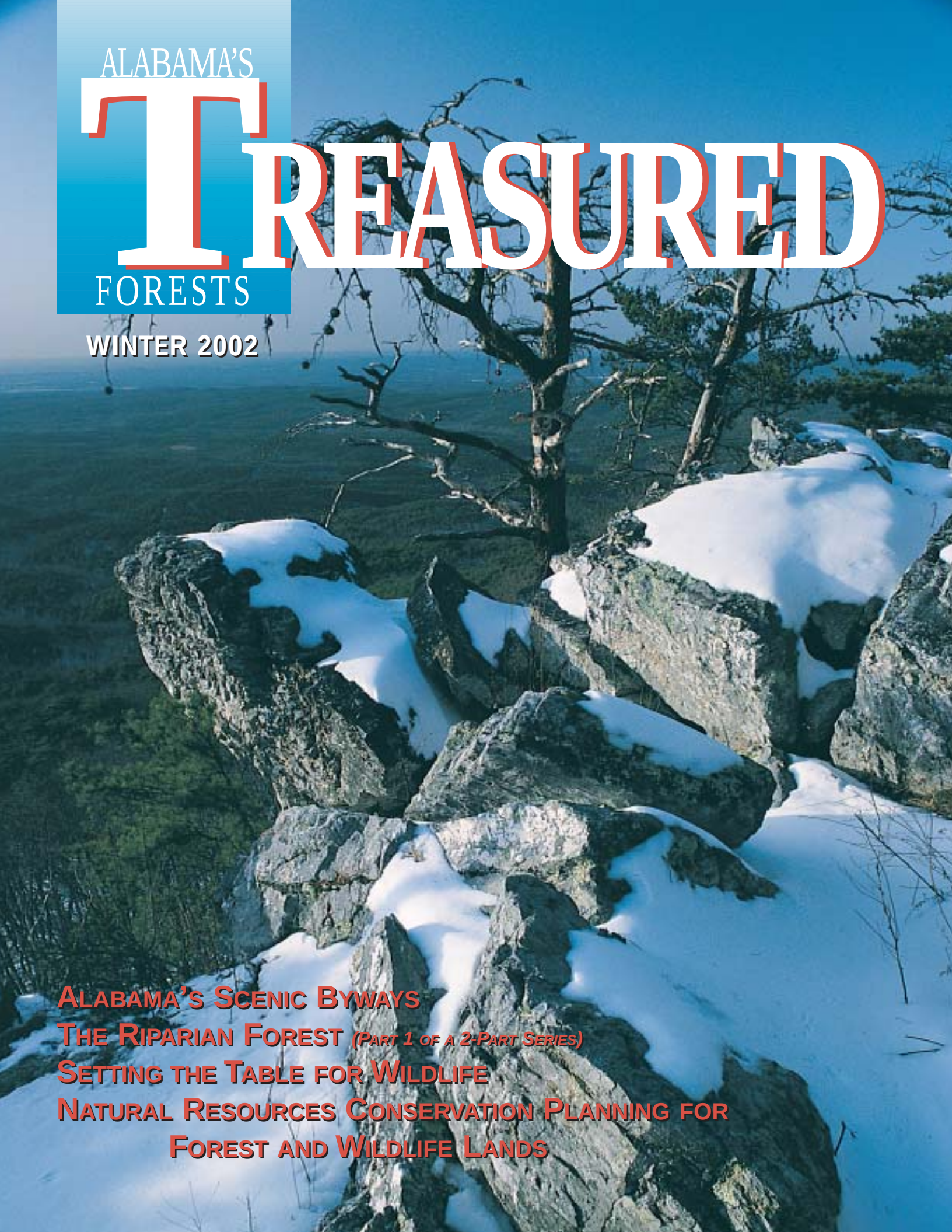

ALABAMA'S TREASURED FORESTS

WINTER 2002

Alabama's Scenic Byways

The Riparian Forest *(Part 1 of a 2-Part Series)*

Setting the Table for Wildlife

Natural Resources Conservation Planning for Forest and Wildlife Lands

DON SIEGELMAN
Governor, State of Alabama

TIMOTHY C. BOYCE
State Forester

From Mt. Cheaha National Forest to the Talladega National Park, from Selma to Gulf Shores and across the state to the Governor's Trail in Barbour County, Alabama is an extraordinarily beautiful state with much to offer for all tastes and interests. In April of 2000, the state Legislature enacted the "Alabama the Beautiful" Act, creating the "Alabama Scenic Byways Program." Alabama's Scenic Byways are roadways that boast beauty, interest, activities, and have emotional appeal for every Alabamian. The program will help highlight those characteristics and encourage others from across the country to seek out what we already know is special.

The Scenic Byways Program is an excellent way to showcase the scenic beauty, historical sites, recreational areas, cultural and natural areas, and the archaeological sites found across our great state. Roadways that provide these unique features deserve special consideration for designation in the highway system. Byway designation can encourage economic development through tourism, improve the transportation system, and educate residents and visitors on the history, culture, and natural beauty of this state. Most importantly, the Scenic Byways Program will bring together community participation.

The Legislation set forth a committee consisting of a designee from the Alabama Forestry Commission, Department of Conservation and Natural Resources, the Department of Transportation, Bureau of Tourism and Travel, Historical Commission, Council on the Arts, Department of Economic and Community Affairs, a State Legislator, a State Senator, and a member of the House of Representatives. This group of diverse interests is charged with the responsibility of designating roadways as scenic byways.

An Advisory Council, appointed by the Designating Committee has been meeting to develop the state byway program. Over the past year nominations for possible byways have been received from all over the state.

Various marketing plans will be initiated in order to inform Alabama residents and out-of-state travelers alike of all that Alabama has to offer. The Alabama Scenic Byways Program promises to bring an economic boon to each community while protecting the beauty, history, and intrinsic values of all of Alabama's extraordinary roadways.

In Alabama, as with her sister southern states, the majority of the forestland is owned by private non-industrial landowners. According to the recently released "Forest Inventory Analysis," 78% of our state's 22.9 million acres of forested land is owned by private individuals. This land and the resource it nurtures provides fuel to Alabama's number one manufacturing industry, the forest products industry.

These same landowners are the heartbeat of the TREASURED Forest Program. At the end of the 2001 fiscal year approximately 1,681 landowners have been certified in the program since its inception in 1974, bringing with them almost 1.8 million acres of land. In the last three years the induction into the TREASURE Forest Program has seen a significant increase. From 1998 through the 2001 fiscal year Alabama averaged 167 landowners and over 80 thousand acres a year being certified under the standards of the program. These numbers represent a 111% increase in the annual number of landowner certifications and an a 81% increase in the number of acres coming into the TREASURE Forest program as compared to the average from the previous five years.

This brings up a question. What has the difference been in the last three years that was not there in the previous years? The primary answer is the involvement of the Alabama TREASURE Forest Association (ATFA) and the development of county chapters. The development and involvement of these local chapters has been a catalyst for new landowners. Local TREASURE Forest owners help other landowners better manage their land and bring to the attention of hometown people the forestry-related issues of their individual communities. Local TREASURE Forest chapters have been the single greatest denominator in bringing new landowners into the program.

I commend the work of the ATFA and the active county chapters. You are making a difference because of your hard work and commitment to the TREASURE Program.

ALABAMA'S TREASURED FORESTS

Vol. XXI, No. 1 Winter 2002

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DEPARTMENTS

COVER: Believe it or not, this IS Alabama! This rare vision of winter splendor on Mount Cheaha was captured by Dan Brothers along one of many "Scenic Byways" found in the Heart of Dixie, courtesy of the Alabama Bureau of Tourism and Travel.

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Recreation and Research on Hawk Pride Mountain

By ***Tilda Mims***, Forest Education Specialist, Alabama Forestry Commission, Northport

Members of the Lauderdale County Alabama TREASURE Forest Association enjoyed a tour of Hawk Pride Mountain, home of Dr. John Mims (center of photo in green shirt).

Dr. John Mims of Tuscumbia began his college career studying soil science at Auburn University. Although he changed to medicine after WWII, his interest in experimenting with plant species and comparing cropland, pastureland and forestland prevailed.

He began by purchasing small pieces of land to work with and improve. He liked to sell the tracts to young couples at a reasonable price and start again. It wasn't until 1962, when he bought a tract on nearby Hawk Pride Mountain, that his family liked the land so much they didn't want him to sell it. They nicknamed it "R&R" for Recreation & Research, because he enjoyed using it to experiment with trees and soils.

"In 1962 this place looked so desolate," Dr. Mims recalls. "It was known as a moonshine area. No one came on the property except a few revenuers. I heard that more came on the place than off. They grew a little corn and sold bits of timber here and there. There was no wildlife and very few trees that would make a log. We worked on it one acre at a time, trying to visualize what it could look like, managing each spot differently because each spot had different capabilities."

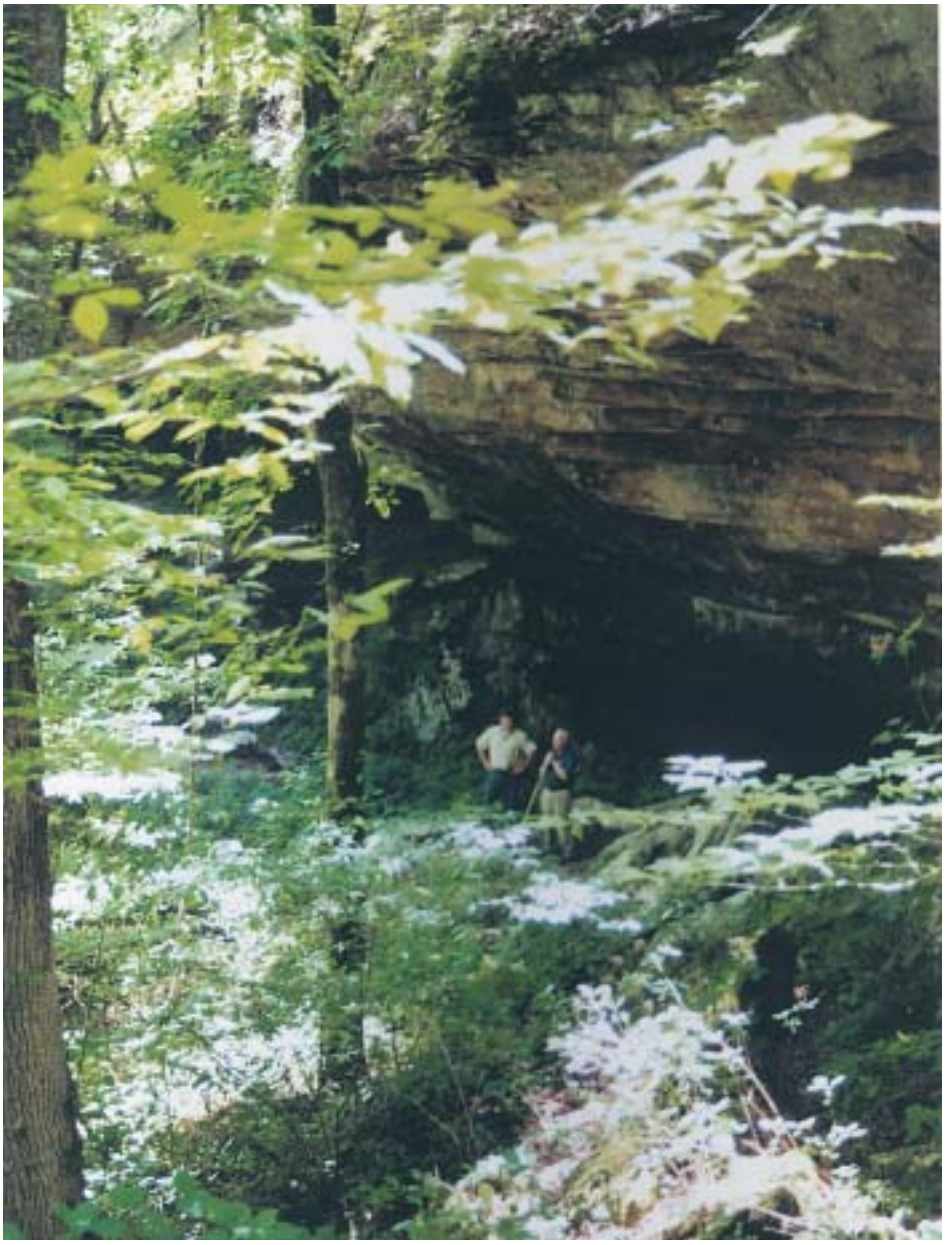
They cleaned up the land and began putting it back into production by building terraces, planting pines, and experimenting with spacing, prescribed burning, and herbicides.

Green fields of clover, oats, wheat, barley, turnip greens, bicolor and soybeans began to attract whitetail deer and other wildlife back into the area. In 1975, they introduced wild turkey by releasing three hens and two gobblers. Today it is not surprising to see 30 turkeys in a flock.

Experimenting With Seedlings

In 1989, Dr. Mims planted 100 acres of marginal cropland in Alabama Forestry Commission second generation loblolly pine. At the same time, he planted regular seedlings on better soil. The plants went through an ice storm in 1993 and a second severe storm in 1998. By then, the second-generation trees were large enough to salvage for pulpwood. At 8-10 inches dbh (diameter at breast height) the trees brought $312 per acre when cutting every fifth row and storm-damaged trees. The regular seedlings planted on better soil had not grown as well.

He believes the difference was the genetics of improved seedlings. "We also had about five acres of 15-year-old pines harvested at the same time. They were taller and heavier but no bigger around. We got just about the same amount of



Colbert County manager Johnnie Everitt (left) and Dr. Mims explore part of Counterfeit Hollow.

Mary Mims (center) likes to entertain family and friends at the farm.

In 1975, three hens and two gobblers were released on the farm. Today it is not unusual to see 30 or more turkeys in a flock.

money for each," he said. "We got in ten years what you normally get in fifteen."

He advises landowners to look at each individual tract and consult with a forestry expert about thinning early. "This was a special situation when all trees were growing like mad, but in areas with genetically enhanced trees the growth was amazing." Among other projects, he has planted more than 900 American chestnut seedlings, a variety of wildlife foods, and is experimenting with planting methods to protect trees from severe ice storms.

Preserving History

No visit to "the mountain" is complete without a trip into Counterfeit Hollow, so named because confederate soldiers made bogus money there during the Civil War. In the early 1800's, there was a silver robbery in the area and the thieves were killed before the silver was recovered. Police investigations indicated that the loot was buried in an area similar to Counterfeit Hollow prompting years of plundering by locals. Although the silver was never recovered, many Civil War and Native American artifacts were salvaged and are displayed in museums today.

Forty years later, the original purchase has grown to nearly 1,000 acres but Hawk Pride Mountain remains the heart of this TREASURE Forest. "I take pride in all of the land I own," says Dr. Mims, "but I am particularly proud of this area

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Dr. Mims cut the logs and laid the rocks to build this cabin.

because it has gone from a wasteland to something productive and useful. God gave us our natural resources to use, and it's our duty to use them to feed and clothe his people and let his people enjoy them."

His family's commitment to stewardship was honored in 2001 when he was named winner of the Helene Mosley Memorial TREASURE Forest Award for the Northwest Region.

"This place is a hobby to me. I love the soil; I love watching things grow. I was a conservationist and an environmentalist before it was popular. The most rewarding thing has been seeing my neighbors doing the same things - building terraces and green fields, planting trees. I smile when I see them doing these things."

Dr. John Mims is one of the most interesting people you would ever meet. As a WWII pilot, he flew in the Pacific, Africa, Europe, and Asia. He had a rewarding medical career in Tuscumbia delivering 3,500 babies and performing 20,000 operations before he retired, and he also made missionary trips to Africa.

Whitetail deer frequent one of the many green fields.

The tree slice on the left is from Commission second-generation seedlings planted on marginal soil. The slice on the right is from a regular seedling planted on better soil.

He makes wooden furniture, puts up jelly each year, and makes some of the world's best peanut brittle.

He tells amazing stories about past events and people he has known, but his greatest joy is clearly his role as proud husband, father, and grandfather. John and Mary Mims have three children: Dr. Park Mims, an endodontist in Huntsville; Dr. Rosemary Fisk, a professor of English at Samford University in Birmingham; and daughter Emy Carlson, who completed graduate studies in education and lives with her family in Tuscaloosa.

Although stories and mementos of his colorful life will surely be passed along by future generations, his legacy on Hawk Pride Mountain will remain a living **TREASURE** for the family of John and Mary Mims.

Forest Landowner Mentors

By ***Chad Fincher***, Alabama TREASURE Forest Association

For many years the forestry community has struggled with its inability to reach the many uninformed or inactive forest landowners. We have an opportunity to change this! The question is, "Do we seize this opportunity?"

We have over 250,000 private forest landowners in our state. However only 10% have had any meaningful involvement with state or federal programs; state, federal, or local agencies; private or industrial professionals; and private landowner organizations. They have not been reached with the opportunities that are available to better manage their forestland. The Forest Landowner Mentors Program is designed to reach out to the 225,000 private forest landowners that still need to be contacted and provide the opportunity to educate them on the importance of sound forestry management. It is time to demonstrate to landowners the benefits that can be gained from actively implementing some type of management practice on their forestland. We want to identify these landowners and draw them into the information network, into our community of forest stewards.

Forest Landowner Mentors (FLM) is designed to reach out to the many forest landowners who may not be aware of the myriad of benefits, economic and otherwise, they can gain from their forestland and the opportunities for becoming involved in activities with other forest landowners. This program is a national pilot program developed by the Alabama TREASURE Forest Association (ATFA) and Private Forest Management Team (PFMT), in partnership with the Alabama Forestry Commission (AFC) and USDA Forest Service, industry, and forestry consultants.

The program will identify landowners who are not actively managing their property from a new database that is being developed by the PFMT and AFC. In an effort to contact the landowner, a forest mentors publication will be sent to them describing the benefits of sustainable forestry management. Articles will be written specifically to educate the landowner about the potential benefits of forest and natural resource management. A cover letter will be provided with the publication to explain the purpose of the material and give the landowner the name and phone number of a forest mentor in their county that can provide them with additional information.

After a landowner has been contacted the forest mentor will invite the landowner to a group field trip and sharing session in their county. Individual one-on-one mentoring will also be offered where a forest mentor will invite the landowners out to their forest to show them first-hand the importance of sustainable forestry management.

The FLM training will not focus on providing professional assistance to the landowners. Rather, it will try to improve the mentoring landowner's knowledge of forestry management practices, how these best can be conveyed to uninformed landowners, and how they can motivate these landowners. The forest mentor will educate the landowner on the economic value of their forest and assist the landowner in the process of claiming that economic value while continuing to practice sustainable forest management. They will reach out to a neighboring landowner in their community and encourage that landowner to become involved in county and state forestry activities. If the landowner needs and desires professional forestry assistance, the forest mentor will direct them to appropriate state, private, or industrial professionals.

The FLM National Pilot Program will interact with private forest landowners on the state, regional, and national level. ATFA members in Alabama will be trained in county sessions as forest mentors on how to best approach the landowner, what they should and should not say, do, or recommend. On the regional level, three southern region states that wish to participate in the program will be identified. An FLM coordinator from each state will be trained and the program's progress will be monitored in each state. Nationally, a state representing three regions of the U.S. (South, North East, and West) will be selected and the regional process of training and follow-up will be conducted at this level.

This project has the potential to reach a large number of forest landowners in Alabama and motivate active landowners to share their forests and values with the community. It will take a coordinated effort among a variety of organizations to accomplish this project, but the potential rewards are tremendous.

For more information about the ***Forest Landowner Mentors Program,*** please contact:

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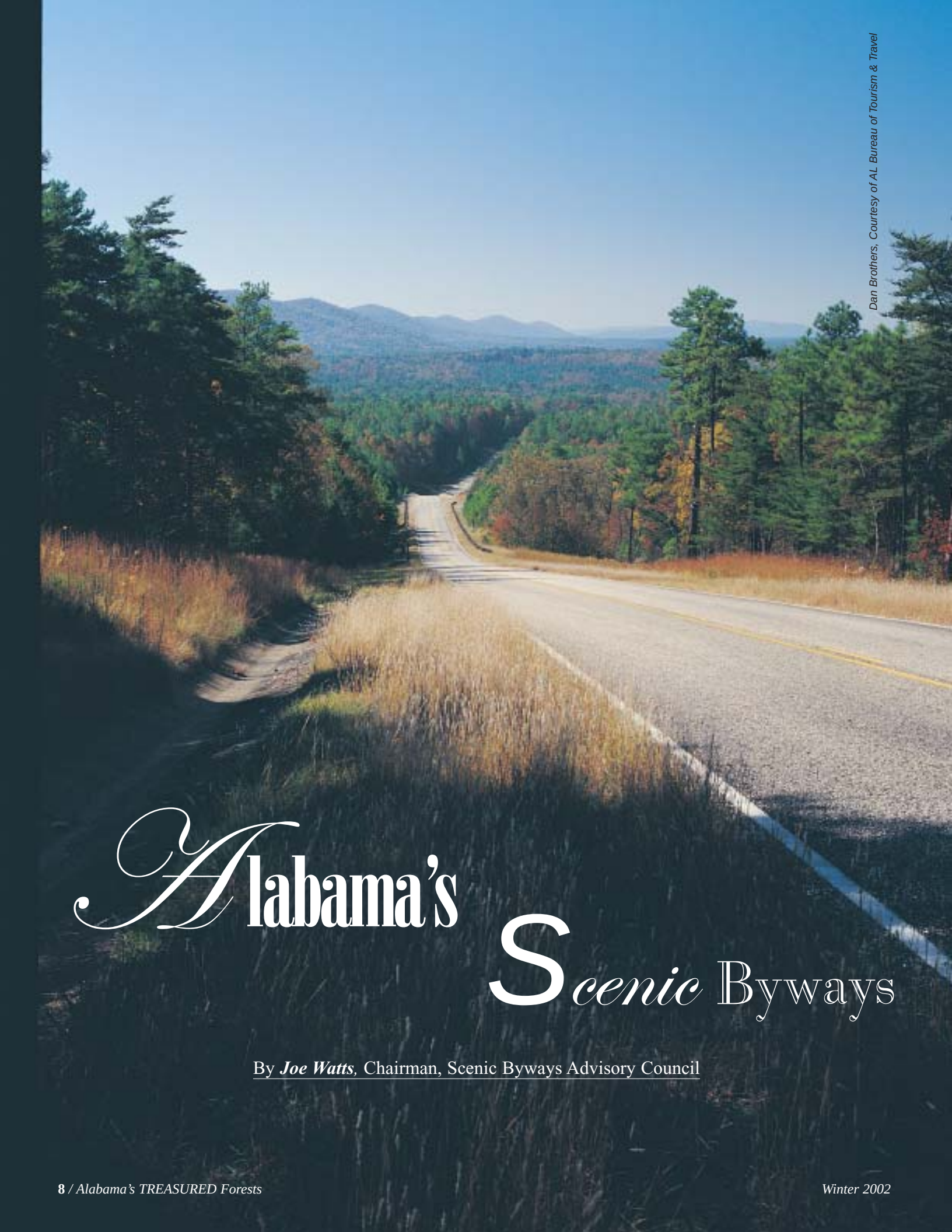

Dan Brothers, Courtesy of AL Bureau of Tourism & Travel

Alabama's Scenic Byways

By ***Joe Watts***, Chairman, Scenic Byways Advisory Council

"Two roads diverged in a wood, and I - I took the one less traveled by, And that has made all the difference."

— Robert Frost

Dan Brothers, Courtesy of AL Bureau of Tourism & Travel

The natural beauty of Desoto Falls *captures the imagination and a top vote for one of north Alabama's Scenic Byways.*

The roads less traveled in Alabama are often our most beautiful. Everyone uses roads – they are the backbone of our transportation system and without them, not much could get done. They are how we get to our jobs . . . how timber finds its way to the lumberyard. But they are so much more, particularly when we open our eyes to them. Roads are how we most often interact with our environment. Mostly, we see the world through our windshield.

Take the old-fashioned Sunday drive. No one got into the car after lunch on Sunday expecting to go anywhere — it wasn't the destination that mattered, just that the wheels rolled and the scenery went by.

It is the idea of a Sunday afternoon drive that is the foundation of any pleasurable driving experience. If you've ever gone riding just to ride, you know. You know too if you've been on one of America's most well known scenic drives, the Blue Ridge Parkway in North Carolina. The road **IS** the destination. Over ten million visitors drive some part of this 430-mile Parkway every year, stopping to purchase gas, food, crafts, lodging, and services along the way.

Scenery stretches as far as the eye can see in all directions, including the road with all its loops and curves. That's why the Blue Ridge Parkway is a national Scenic Byway, recognized precisely because it is a destination and such a special roadway both in the eyes of those living along it and those traveling hundreds — even thousands — of miles to spend time driving it.

Dan Brothers, Courtesy of AL Bureau of Tourism & Travel

The Fairhope Pier at daybreak *- or at any other time - provides a brilliant example of one of Alabama's scenic byways on the Gulf coast.*

I've traveled the Blue Ridge Parkway on numerous occasions and enjoyed each trip. But, being a proud Alabamian with a history of Sunday afternoon driving, it was obvious to me that what North Carolina did, we could do better! With the help of many people, we're well on our way.

There are many people who have worked hard in preserving Alabama's landscape, but of them all, Larry Watts, Executive Director of the Regional

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HIDDEN TREASURES

ALBERT MORRIS:
Practicing Good Stewardship in Every Activity

By ***Dana McReynolds***, Outreach Forester, Alabama Forestry Commission, Birmingham

We are all familiar with the TREASURE Forest concept of being good stewards of the land, but some of us repeatedly adhere to the stewardship principle in everything we do. This holds true for the TREASURE Forest landowner, Albert Morris. As a native of Eufaula, Alabama, he is familiar with "working the land." He and several family members all together own several hundred acres of forestland in Barbour County. They are well aware of the importance of managing their property and have done so for many years. They work together and share knowledge of the latest land management information.

Albert Morris and daughter Margaret.

Albert also receives a significant amount of assistance from his alma mater, Alabama A & M University, where he earned a Bachelor of Science degree in Horticulture. Even his educational background would suggest his love and knowledge of the natural sciences. Today, Albert uses that background in his profession as owner and operator of a flower shop and greenhouse in Huntsville, Alabama.

The TREASURE Forest Landowner

Albert knew about the TREASURE Forest program and the TREASURE Forest Association for many years. He completely agrees with the concept of being a good steward by diversifying his land management practices. Already managing his property, he wanted to know what additional activities were necessary in order for him to become a TREASURE Forest landowner. With the assistance of Morgan County Manager, Roger Nichols, Albert was clearly on his way to achieving his goal. Accustomed to pleasing people aesthetically with floral arrangements, he was also "geared in a new direction" when it came to managing his property.

After clarifying his goals, he decided that his objectives would be timber first and then wildlife management. With continuous hard work and instrumental efforts from everyone involved, Albert became a TREASURE Forest landowner in 1999.

Most of Albert's land ownership lies in Barbour County, 265 acres to be exact. The coastal plain soils are typical for growing southern pines and he, like most landowners in the region, planted his land in genetically improved loblolly pines. He has created openings and streamside management zones that will enhance wildlife. He started his pine stand by participating in Mead Corporation's Forest Management Assistance Program. The program allows the company to purchase the seedlings for the landowner, then hire venders to plant them. The landowner pays the venders for all the silvicultural activities, but does not reimburse Mead for the seedlings. Mead then continues its obligation by assisting the landowner in managing the property. In return, Mead receives first right to purchase or refuse the timber at harvest time.

Albert also owns a 94-acre tract in Morgan County that is managed for timber and wildlife. It consists primarily of a 15-year-old genetically improved loblolly pine stand. Scattered food plots lie within the stand to enhance wildlife. The Riverbottom Hunting Club leases the land for deer and turkey hunting, and club members are responsible for establishing most of the wildlife food plots in food like corn, clover, and winter wheat. They also maintain and occasionally upgrade the roads on the property. Work to maintain the timber stand is also performed. As an improvement, the Alabama Forestry Commission completed a prescribed burn on the stand last winter to control vegetation competition. Although existing on piedmont soils, this tract of land is managed similarly to the one in Barbour County.

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Taxes and Trees:

The Impact of the 2001 Tax Reform Act on Forestry

By: ***Lou Hyman***, Tax Specialist, Alabama Forestry Commission, Montgomery

The year 2001 was an important year financially for the American economy. The federal government had a large budget surplus and celebrated with a large tax cut. The economy went soft, even before the September 11 attacks, sending interest rates into the cellar. For a while, you could buy a new car with a zero percent interest loan.

Tax Rate Cuts

The tax cuts had a minor short-term impact on forestry investments, but can have a major long-term impact. The key short-term impact of the tax bill is the lowering of ordinary income tax rates. The law created a new bracket of 10% tax rates for low-income families, kept the 15% tax rate as it was, and lowered the higher tax rates by 3 to 4.6% over a five-year period.

For tax year 2001, the tax rates for a married couple filing jointly are as follows:

Income	Rate
$ 0 - $12,000	10%
$ 12,000 - 43,850	15%
$ 43,850 - 105,950	27.5%
$105,950 - 161,450	30.5%
$161,450 - 288,350	35.5%
Over $288,350	39.1%

For tax year 2002, the rates for incomes over $43,850 will drop an additional half percent with another drop in 2004 and 2006.

Capital Gains Treatment

The major income tax benefit for forestry is the capital gains treatment for timber sale income. The capital gains system was revised in 1998 and the latest bill made no changes. The basic concept is that timber sales are taxed, not on the total income, but on the "profit" or gain from the sale. In calculating capital gains, a taxpayer takes the sale income and deducts his/her selling costs and the "cost of goods sold" or *basis* of the timber. The taxpayer than pays a reduced tax on that profit.

The first deduction is for selling costs, which include any expenses paid by the landowner to prepare, conduct, and repair a timber sale. These include fees for a consulting forester; surveying; marking property lines; fixing roads, bridges and gates; pre-sale preparation (prescribed burning before marking); and after-sale clean-up of the site. Selling costs form a dollar-for-dollar reduction in sale proceeds.

"Basis" is the cost of the trees that were sold. The original basis is the cost of the property when it was bought, or its fair market value when it was inherited. The basis is allocated between the land, the timber, and any buildings or improvements, based on their relative values at the time the property was acquired. The basis can be increased through capital investments, such as tree planting and timber stand improvement, and can be reduced by partial sales, thinning, and casualty losses.

Capitol Gain

The capital gain is the sale price, less the selling cost, less the adjusted basis. The tax rate is based on how long the property has been owned by the taxpayer. If the taxpayer is in the 15% tax bracket, and the property is owned for more than twelve months, the capital gains tax rate is 10%. If the property is held for more than five years, the rate drops to 8%.

If the taxpayer is in the 27.5% or higher tax brackets and the property is owned for more than twelve months, the capital gains tax rate is 20%. For any property acquired (or trees planted) **after January 1, 2001**, and held for more than five years, the capital gains tax rate drops to 18%. Older property acquired before 2001 can only get the 20% tax rate.

Estate Tax Law Changes

The 2001 tax law made major changes in the treatment of property passed down when someone dies. The Federal Estate Tax is imposed on the **value** of all property owned by an individual at death. This is any real or personal property, such as land, timber, stocks, and beanie-babies, as well as life insurance, retirement plan death benefits, debts owed to that person, or any asset over which the person had "effective control."

Estate taxes use a very high tax rate that increases steeply, going from 37% to 55% for tax year 2001. The rates were softened by a "unified tax credit" which reduces the estate tax owed so that estates valued at less than $675,000 in 2001 would pay no estate tax.

The 2001 tax law greatly improved estate tax rules in two ways: increasing the unified tax credit and reducing the top estate tax rates.

For the years 2002 and 2003, the unified tax credit is raised so that estates with values of $1million or less would pay no tax. In 2004, the exemption is raised to $1.5 million and in 2006 it is raised to $2 million, ending up at $3.5 million in 2009. These raises will effectively exempt many families from having to pay any estate taxes.

In addition, the estate tax rates for estates valued over the exemption amount are reduced in stages. In 2002, values over $1 million will be taxed between 41 and 50%. These tax rates are reduced by one percent per year until 2007, at which point, estates valued over $2 million would be taxed at a flat 45% rate.

The law has a "quirk" in that it calls for the repeal of all estate taxes in the

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The Riparian Forest: A Commitment to Stewardship

By ***Bob Keefe***, Retired Forester, Cullman

(Editor's Note: Part One of a Two-Part Story)

The term "riparian forest" is not one that normally finds its way into the daily vocabulary of the average person in Alabama's forestry community. Whenever we think of a "riparian" forest, or as Webster would define it, a forest "relating to or living or located on the bank of a natural watercourse," we usually think of a streamside management zone or "SMZ." But these terms are not exactly synonymous. A riparian forest is much more than an SMZ, and understanding the difference can be a first step in developing a higher commitment to good stewardship, and thus sustainable forestry, on Alabama's forestlands.

Under the typical even-aged silvicultural system of forest management practiced in Alabama, our real opportunity to promote management activities that feature non-timber related values lies in the riparian areas. These areas are ideal for protecting and restoring plant and animal biodiversity, for incorporating aesthetic management principles, for providing recreational opportunities and, of course, for protecting water quality.

Riparian Forests and SMZs

The SMZ concept, although helpful, is really too limited in the way most of us practice it to accomplish these things. Most of us connect SMZs to Alabama's Best Management Practices for Forestry (BMP) as a means to protect the forester, logger, and landowner from federal water quality violations. In fact, in our state BMP manual an SMZ is defined as "a strip of land immediately adjacent to a water of the state where soils, organic matter, and vegetation are managed to protect the physical, chemical, and biological integrity of surface water adjacent to and downstream from forestry operations." Thus the SMZ by definition exists to protect water quality; any other uses are afterthoughts. In practice, when we talk about SMZs we are usually focused on the minimum width needed for a streamside zone to be used as a buffer for erosion or other forms of water quality degradation.

A riparian forest, on the other hand, has a much broader definition. From a paper, *Riparian Area Management: Themes and Recommendations*, the authors define a riparian area as "a three-dimensional ecotone of interaction that includes the terrestrial and aquatic ecosystems, that extend down into the groundwater, up above the canopy, upward across the floodplain, up the near-slopes that drain to the water, laterally into the terrestrial ecosystem, and along the water course at a variable width." As this definition is a little too involved for most of us, I prefer the definition given in *The Riparian Forest Handbook* which simplifies it a bit and calls them simply, "streamside forests."

The point here is that while the SMZ is important for managing water quality, it is only a part of the whole streamside forest management philosophy embodied in the riparian forest concept. Riparian forests do so much more. Consider this statement from *The Riparian Forest Handbook*: "by controlling water temperature, light, habitat diversity, channel morphology, food webs and the species diversity of stream systems, riparian forests sustain the stream environment." This has major stewardship and forest sustainability implications.

Biodiversity in Alabama

Alabama is not only endowed with a wonderfully diverse and productive forest resource — almost 23 million acres of forest land — but also with a tremendous water resource as well. We have over 47,000 linear miles of perennial streams and rivers in Alabama, seventh in the nation. This combination has given us a wealth of biodiversity. In fact, Alabama ranks fourth in the nation in total number of species of plants and animals, even though we rank only 29th in size. In total number of plant and animal species per acre, we are second only to Florida. It is estimated that there are 3,800 species of plants and animals in our state. Unfortunately we also have the distinction of having the third highest number of threatened and endangered species, behind Hawaii and California, with 122 plants and animals federally listed as threatened or endangered. Some estimate that nearly 100 Alabama species have already become extinct since colonial times.

How does this relate to riparian forests? A quick survey of the 122 threatened and endangered species listed for Alabama will show that most of them live in the aquatic and streamside terrestrial portions of riparian ecosystems. Thus it follows that by managing our streamside forests as forest ecosystems, and not merely as buffers or filter strips to protect water quality, we can help sustain and perhaps even restore our immense biological heritage. This may be one of the most important stewardship actions we can take to ensure that our grandchildren are able to live in as biodiverse a world as we have been privileged to inhabit.

Benefits from Riparian Forests

A healthy riparian forest provides many tangible benefits. Like an SMZ it also acts as a filter strip to keep sediment, nutrients, and other pollutants out of the waterways. It does this by intercepting surface runoff and even ground water before it reaches a stream, causing it to deposit its sediments, nutrients, and other pollutants so they can be absorbed by the soil or broken down through the action of plants and microbes. Many plants can absorb harmful chemicals; ferns for example, have been shown to take up arsenic. A healthy and diverse riparian forest floor protects water quality. The size of an adequate filter strip will vary with soil type, slope, and vegetative diversity, but the 35-foot strip called for in Alabama's Best Management Practices for Forestry will usually suffice for this purpose.

A healthy riparian forest provides stream bank stabilization. This is important in controlling what happens to the stream channel itself and in protecting the associated aquatic ecosystem from becoming degraded. Bank erosion, when severe enough, can cause changes in channel velocity and increase sedimentation, disrupting the life cycles of aquatic plants and animals. The riparian forest also provides shade to protect aquatic ecosystems from severe temperature fluctuations that can cause serious problems for these systems, especially in nutrient recycling. It also provides the organic matter that fuels the biological process to power these systems, as well as adds structure to the habitat of both aquatic and terrestrial species.

But it is in protecting and creating diverse wildlife habitats that gives the riparian forest concept the edge over SMZs. A 35-foot SMZ filter strip is hardly adequate to promote very much habitat diversity. This is true even when horizontal and vertical structure is incorporated into the SMZ, which is not a part of the guidelines as outlined in the BMP manual. SMZs may, however, be adequate to provide the habitat needs for certain small amphibians or insects and can provide needed shade for maintaining temperature control in the adjacent aquatic ecosystems. But for anything more than this, wider and more diverse riparian forests are needed. Many riparian forest guidelines call for minimum widths of 50 feet, but advocate widths up to 150+ feet for maximum habitat diversity.

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Mussels, Alabama's Endangered Species

By ***Bob Keefe***, Retired Forester, Cullman

Of the 122 endangered species listed for Alabama, most are aquatic species and most of these are freshwater mussels. To most of us, freshwater mussels are not the attention grabbers that the more flashy endangered species are, such as the red cockaded woodpecker. In fact, mussels are so innocuous that probably few Alabamians have even seen them or know much about them. North Alabamians may know that they were an important part of the diet of Native Americans and that there is a small pearl industry in the Tennessee River based on freshwater mussels, but few realize that they have a very unique life cycle.

Mussels are common in Alabama and exist in perennial streams over most of the state. They live on stream bottoms, and for the greatest part of their lives are fairly immobile. Because of this they are very sensitive to stream pollution, especially sediment. In fact, the presence of mussels can be a good indicator of the health of a stream. Currently over 20 species of mussels all over the state are listed as endangered, an indicator of present and future water quality problems.

Although mussels seem drab in comparison to most aquatic animals, their reproductive life cycle is actually pretty unique. They have a very unusual way to keep from overpopulating their beds and dispersing their offspring. The female mussel broods its young in their gill chambers. The mussel larvae, called *glochidia*, are then released into the water where they must attach themselves to the gills of fish. Here they live as parasites for 14 to 28 days until they develop into a juvenile mussel, often in a location distant from the parent mussel.

The female mussels have developed a series of strategies to visually attract or lure fish within range. In this manner they are enabled to expel the parasitic larvae directly into the fish's mouth where they attach themselves to the gills as they pass through. Some females have developed extravagant lures that resemble small fish or aquatic insects. Some of these lures are displayed at the mouth of the female's shell, while others are attached to a gelatinous string and can be "fished" several meters downstream from the mussel.

Sediment can disrupt this cycle in several ways: 1) by removing fish which deprives the *glochidia* of a host, 2) by limiting visibility and thus the female's ability to attract a host fish, and 3) by smothering the juvenile mussels during their early development, and possibly the adult colony if sedimentation is severe enough.

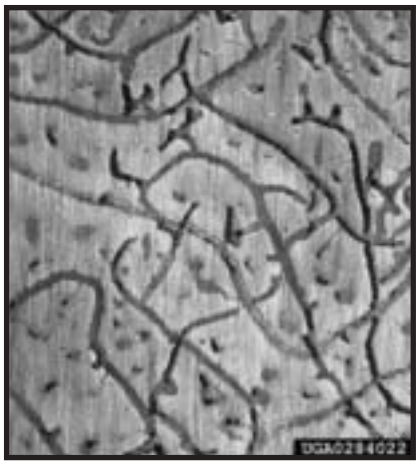
Riparian forests are one of the best ways to ensure water quality and in turn help develop thriving and healthy mussel populations by protecting these delicate environments.

Status of the Southern Pine Beetle in 2001

By ***Jim Hyland,*** Forest Health Specialist, Alabama Forestry Commission, Montgomery

The April/May 2001 aerial flights showed that the NorthWest (NW) Region contained the vast majority of the Southern Pine Beetle (SPB) infestations in Alabama. Fifty-two counties had SPB populations and 27 of these were considered epidemic. There were 3,018 spots statewide containing 1,053,436 infested trees (NW Region had 2,351 spots and 1,027,176 infested trees). Counties with the worst infestations were Winston, Walker, Marion, Franklin, Cullman, Jefferson, Shelby, Colbert, and Fayette. Even with these seemingly high numbers flights were showing improvement in reduced numbers of spots.

In June/July, aerial flights showed that the NW Region still had the majority of the SPB infestations. There were 52 counties with SPB populations with 31 of these being epidemic, an increase from the April/May flight. Statewide there were 2,540 spots containing 462,124 infested trees (NW Region had 1,350 spots and 426,859 infested trees). The statewide problem had decreased since April/May by 500 spots and 591,000 infested trees. The worst counties were Cullman, Walker, Marion, Morgan, Jefferson, Shelby, Conecuh, Winston and Franklin.



S-shaped galleries made under pine bark by the Southern Pine Beetle.

These numbers were significantly high, but compared to the 16,000 spots found statewide in July 2000 it seems as if Alabama had little problem with beetle infestations in 2001. The stumpage value of killed trees is estimated at $34 million. Landowners with beetle infestations in 2000 were quicker to respond this year than last.

"Boring dust" left on the forest floor by the Southern Pine Beetle.

The August/September aerial flights showed that the NW Region continued to have the majority of SPB infestations. There were 52 counties with SPB populations and 45 of these were epidemic, an increase from the June/July flight. Across the state there were 4,977 spots containing 530,678 infested trees (NW Region had 2,376 spots and 424,893 infested trees). The statewide problem had increased since June/July by 2,437 spots and 67,819 infested trees. However, the average infestation size had decreased from 178 trees per spot in July to 106 trees per spot. Counties worst hit were Shelby, Jefferson, Walker, Coosa, Tuscaloosa, Calhoun, Cullman, Bibb, Fayette, and St. Clair.

Again, these numbers seem significantly high but when compared to 14,290 spots containing 903,828 infested trees found in September 2000, it seems like Alabama had little problem. The stumpage value of killed trees for 2001 is estimated at $71 million.

With the wetter weather this past year the spots did not grow at the same rate as in 2000, therefore more spots were controlled. However, a mild winter will cause the infestations to continue and explode this spring. Landowners should try to control all their infestations this winter. Every spot controlled this winter will prevent ten spots from being active in the spring.

Statewide in 2001 there were a total of 10,861 Southern Pine Beetle infestations. Landowners controlled 6,948 of these spots, giving a statewide control rate of 64%. There were 42,684 cords and 6,979,000 board feet reported salvaged.

The pulpwood market is still reduced, so the majority of control continues to be by the "cut and leave" method instead of salvage. If landowners can get a salvage control crew they should expect to get lower stumpage prices for their pulpwood.

See the tables on page 15 for regional and statewide 2001 SPB data.

Southern Pine Beetle Control Data for Fiscal Year 2000-2001

NorthWest Region

County	# Spots	Spots Controlled	Percent Controlled	Salvaged Cords	Salvaged MBF
Bibb	291	111	38	370	0
Colbert	247	177	72	8,635	30
Cullman	414	300	72	533	139
Fayette	722	592	82	3,643	142
Franklin	323	228	71	1,567	90
Jefferson	496	287	58	551	227
Lamar	160	158	99	3,876	49
Lauderdale	79	65	82	169	66
Lawrence	102	95	93	166	550
Limestone	52	49	94	0	0
Marion	468	382	82	667	84
Morgan	125	86	69	0	0
Pickens	113	113	100	438	50
Shelby	694	325	47	298	0
Tuscaloosa	476	296	62	2,802	453
Walker	983	690	70	142	0
Winston	682	637	93	5,749	5,340
Total	**6,427**	**4,591**	**71**	**29,606**	**6,725**

SouthEast Region

County	# Spots	Spots Controlled	Percent Controlled	Salvaged Cords	Salvaged MBF
Barbour	24	3	13	0	0
Bullock	135	17	13	0	0
Butler	95	7	7	0	0
Coffee	3	3	100	0	0
Covington	9	6	67	107	0
Crenshaw	18	7	39	0	0
Dale	1	1	100	0	0
Elmore	73	47	64	180	9
Geneva	0	0	N/A	0	0
Henry	0	0	N/A	0	0
Houston	0	0	N/A	0	0
Lee	32	14	44	175	0
Lowndes	106	12	11	2,399	16
Macon	67	51	76	0	0
Montgomery	2	0	0	0	0
Pike	0	0	N/A	0	0
Russell	131	34	26	75	0
Total	**696**	**202**	**29**	**2,629**	**25**

NorthEast Region

County	# Spots	Spots Controlled	Percent Controlled	Salvaged Cords	Salvaged MBF
Blount	102	40	69	1,000	0
Calhoun	266	113	42	2,309	0
Chambers	41	14	34	125	0
Cherokee	179	136	76	0	0
Clay	129	90	70	830	0
Cleburne	169	75	44	200	0
Coosa	290	68	23	520	0
DeKalb	102	23	23	0	0
Etowah	64	36	56	0	0
Jackson	103	34	33	321	77
Madison	58	19	20	30	0
Marshall	123	7	6	84	14
Randolph	127	108	85	0	0
St. Clair	328	285	87	300	22
Talladega	222	128	58	1,970	0
Tallapoosa	138	94	68	467	2
Total	**2,441**	**1,207**	**49**	**8,156**	**115**

SouthWest Region

County	# Spots	Spots Controlled	Percent Controlled	Salvaged Cords	Salvaged MBF
Autauga	47	16	34	0	0
Baldwin	15	15	100	0	0
Chilton	159	10	6	141	0
Choctaw	5	5	100	80	0
Clarke	40	40	100	800	9
Conecuh	310	276	89	820	0
Dallas	96	64	67	50	10
Escambia	124	87	70	0	0
Greene	26	18	69	37	0
Hale	24	24	100	6	0
Marengo	54	54	100	0	0
Monroe	74	72	97	0	0
Perry	119	87	73	0	0
Sumter	49	49	100	0	0
Washington	11	11	100	0	0
Wilcox	128	54	42	358	95
Total	**1,297**	**948**	**73**	**2,292**	**114**

Statewide Control Data

Region	# Spots	Spots Controlled	Percent Controlled	Salvaged Cords	Salvaged MBF
NorthWest	6,427	4,591	71	29,606	6,725
NorthEast	2,441	1,207	49	8,156	115
SouthEast	696	202	29	2,629	25
SouthWest	1,297	948	73	2,292	114
Total	**10,861**	**6,948**	**64**	**42,684**	**6,979**

Setting the Table for Wildlife

By ***Rhett Johnson,*** Director, Solon Dixon Forester Education Center

Forest wildlife species, like all living creatures, have basic needs which their environment, or habitat, must provide for their continued survival. For most species, these needs include food, water, cover, and adequate space for the activities of their daily lives. All of those needs must be met to support wildlife and the smaller the area required to meet those needs, the less energy expended in search of them and the less the animal is exposed to potential predators and other enemies. It is important to realize that any of the habitat requirements listed above can limit wildlife populations both in quality and quantity.

For instance, supplying plenty of food without adequate cover or vice versa achieves little. Wildlife populations can be limited by the habitat characteristic in shortest supply. This article is an attempt to provide some general information on managing Southeastern forest habitats to meet one of the basic needs, food.

Some foods are particularly valuable to wildlife because of their nutritional quality, others because of the time at which they are available, and others because they are available in great quantity. Considerations of food value must include these characteristics: (1) nutritional value; (2) palatability; (3) availability; (4) seasonality; (5) familiarity; (6) dependability; (7) physiological needs of the animal; and (8) feeding habits and needs of the targeted species or group of species. Each of these concerns deserves a brief discussion.

Nutritional Value

The importance of nutritional value is almost intuitive, i.e., the higher the nutritional value the better the food. There are some nuances, however. Some foods, like legumes, can "fix" atmospheric nitrogen

Japanese honeysuckle is an excellent deer browse. Fertilized patches can produce as much or more nutritional value than intensively managed food plots.

and are high in protein. Others, like acorns, are rich in carbohydrates. Longleaf pine seed is high in fat content. Each of these diet items is important, more so in some seasons and animals than in others. Different parts of plants are more nutritious than others. Plants tend to concentrate nutrients in the growing tips of branches and tops, providing the greatest benefit to browsers at those points. Nutrient content is highest, then, in the spring and early summer when plants exhibit the greatest growth. Root crops, such as chufas, are most nutritious in the fall and winter, when the tops have stored reserves in the tubers for next year's rebirth. Nutritional level of plants can be increased measurably by fertilization and somehow, wildlife can recognize and exploit that increase. Deer likely tell by tasting everything in reach and selecting the most succulent and nutritious for special attention. Young pines are not usually selected for browsing by deer, but hungry deer will feast on pine seedlings fresh from a fertilized nursery bed. Fertilizing natural foods such as Japanese honeysuckle increases their attractiveness and value to wildlife.

Palatability

No matter how nutritious a food might be, it is of little value if it is not palatable. Once the branch tips of woody plants "harden" into their woody form, they are little more palatable to browsers than a wooden pencil. Green persimmons are edible, but hardly palatable, an important distinction that many rural residents learn early in life. Fruits such as buckeye are unpalatable to most if not all wildlife species, and mockernut hickory is so-named because of its spare meat compared to the thickness of its shell and the difficulty a squirrel would have getting into it. Plants such as devil's-walking-stick, Aralia spinosa, and sensitive brier protect themselves from browsers with prickles and spines on every surface.

Fertilizing native vegetation can pay off in increased production of succulent growth, soft or hard mast, and higher nutritional value.

Availability

The availability of food is also an important consideration for wildlife managers. If the growing tips of important browse species such as Elliott's blueberry are out of the reach of deer, then they have no value to them. Gopher tortoises are grazer/browsers, feasting on succulent grasses, legumes, fruits, and other herbs. Unfortunately, their grazing strata is limited in height to about 18 inches. Anything above that is just out of reach and unavailable. A forest manager interested in maintaining gopher tortoise habitat must do something to keep the food down where the tortoises can get to it. Prescribed fire is one method to achieve this.

Seasonality

The importance of the seasonality of food supplies is that although foods come and go with the seasons, wild animals must eat all year round. Managers should consider the food supply for desired species throughout the year as individual foods wax and wane, and plan to have adequate foods present at all periods. This may require supplemental plantings or feeding in some cases.

Familiarity

Foods are often sorted by wildlife biologists into three groups categorized as preferred foods, staples, and fillers. As implied, these foods are graded by their attractiveness and value to wildlife. Preferred foods are the first to go, used out of proportion to their presence in the habitat. Staples are just that, the meat and potatoes of an animal's diet. Fillers are used during times of stress and are consumed at a much lower rate than their availability might suggest. Gallberries are usually considered a filler for deer. Plants may fall into these categories differently from one region to another. For instance, American beautyberry and yaupon are important browse species for whitetails in Texas, but little used in South Alabama. Sometimes deer can remove preferred foods from the habitat entirely, leading to misperceptions about value and selection. Blueberries, huckleberries, green brier, and blackberries are highly utilized by deer in much of the South, but that may only be because the more highly prized foods are already gone. Unlike other wildlife species typically managed for, deer have the potential to degrade the quality of their own habitat through overpopulation and over-browsing. Because seed sources are gone, the ability of those habitats to restore themselves, even if deer populations are controlled, may be compromised and require very long recovery periods.

Blackberries and dewberries can be made more productive with fertilizer and exposure to the sun. Productive patches can supply nesting birds like turkeys and quail with both food and moisture.

Dependability

Some food plant species, such as American beech and longleaf pine, are excellent in terms of palatability and nutritional level, but are notoriously undependable. Beeches produce bumper crops on the average of about every five years and longleaf every six years. When this happens, they are excellent food crops. White oaks can be spotty producers. Red oaks are much more reliable producers, but white oak acorns are more nutritious and palatable. Savvy managers keep a mix of white oaks and red oaks in their forest stands to buffer those "off" years. Sandhill oaks such as turkey oak and bluejack oak are sparse but dependable mast producers and are invaluable in those harsh habitats because they are the only game in town.

Physiological Needs of the Animal

The food needs of various wildlife species can change with the season. Preparing for winter requires fat reserves. Feeding young requires a different kind of diet for nursing females. Nurturing a maturing embryo places nutritional demands on pregnant females that are different than those at other times. The vast majority of the diet of young turkeys and quail is made up of insects. That's because insects are high in protein and these chicks are building body mass at a rapid rate. Prudent managers provide productive "bugging grounds" rich in insects for these fast growing chicks.

Feeding Habits and Needs of the Targeted Species

Finally, individual species have different needs throughout the year and throughout their lives. Turkeys, for instance, need rich bugging habitat for brood rearing; hard mast for fall and winter foods; soft mast and seeds during the summer and early fall; and durable, hardy seeds for late winter. Habitats that can supply all those foods, nesting cover, and roosts will support healthy turkey flocks.

Managing foods for wildlife requires attention to the details outlined above. Many managers want to either "buy" their management at the farm cooperative or rely on food plots to maintain nutrition and healthy populations. That is typically a false hope. Managing natural foods is less expensive and, in the long run, more effective. Identifying valuable foods

(Continued on page 18)

Setting the Table for Wildlife

(continued from page 17)

requires a little knowledge about the species being managed for, but there are many overlapping food habits among wildlife species. For instance, soft mast producers such as blackberries and blueberries are used by a variety of species, both for their fruits and as a source of browse. Opening canopies by removing some trees encourages these species, and they will respond to fertilizers. Plants such as blueberries and huckleberries do best in slightly acidic soil conditions, so these plants respond poorly to liming. Forage quality is determined to a large degree by soil fertility and the ability of plants to take up and utilize those nutrients. Much like traditional agriculture, managing natural foods to their potential requires knowledge about soils and their needs. Recognizing valuable plants such as soft and hard mast producers - persimmons and white oaks, for example - and managing them through protection and giving them room to grow can pay the same benefits as planting a sawtooth oak or other exotic species.

Most wildlife species, with the possible exception of gray squirrels, benefit from a habitat that contains grasses and other herbaceous plants on the forest floor. This requires sunlight to the forest floor and frequently, fire to control the woody shrubs and tree saplings that might shade it out. Fire also prepares a good seedbed for these valuable plants. An additional benefit of fire includes the top-killing of woody shrubs, causing resprouting from the root collar. These sprouts are nutritious, palatable, and available for browsers. Many legumes, valuable seed and browse producers for a wide variety of wildlife species, are stimulated to germinate by fire and their hard seeds pioneer into burned areas quickly. Similar results can be achieved by the judicious application of selective herbicides. For instance, compounds that contain imazypyr, such as Arsenal, are excellent at controlling many woody species without damaging legumes. Chemicals containing hexazinone as an active ingredient, such as Velpar, have little effect on beautyberry or Vaccinium species, including blueberries. Matching the chemical used to the species to be controlled is a valuable tool in prescription, but it may be just as important to choose herbicides to spare the plants you want left. There are more plants that are valuable to wildlife as foods than plants that are not. Identifying key native plants and favoring them in forest management requires some homework, field observation, and effort.

Managing food sources for non-herbivores still largely comes back to managing vegetation. Game and songbirds that feed on insects benefit when insects respond to favorable changes in vegetation. Managing ragweed fields for quail works because the fields are high in insects, not because of ragweed seed, a valuable food in itself. Managing for predators means managing for prey species which, in turn, usually means managing vegetation. Managing for bobcats and foxes means managing for rodents and rabbits, and that entails managing vegetation for foods for those species.

Many managers use food plantings of small grains, clovers, and other annuals to get wildlife through hard periods. Although these plots undoubtedly can provide foods with increased nutritional value, their primary value is likely to be their ability to attract wildlife to the gun, camera, or binoculars. Remember, wildlife must eat year round. Feeding them well in the winter doesn't substitute for good nutrition the rest of the year. Perennials like shrub lespedezas, autumn olive, and sawtooth oak serve much the same purpose. Few landowners have the wherewithal to provide enough supplemental plantings to truly affect overall wildlife herd or flock health over the long term.

Direct supplemental feeding has gained in popularity and shows some promise to improve vigor of individual animals. Costs of feeding programs are relatively high, but not much more than planting food plots. A major difference, however, is that it is illegal to hunt over food, considered "bait" in current regulations. Consequently, supplemental foods such as bulk soybeans, corn, or high protein pellet foods cannot be supplied year round on hunted properties. In fact, they must be removed at the times that wildlife may benefit the most from them. Critical periods include the late summer when soft mast is gone, succulent browse has hardened off, and before acorns fall; and late winter when acorns are gone and before the spring green-up. Attention to wildlife foods during those periods may be very important to the overall health of resident and migratory wildlife populations.

Managing forestland for timber and wildlife resources is not only possible, it is easily accomplished. Maximizing both is more difficult but the tradeoffs are usually minor in all but the most intensive schemes. Good managers must be observant and able to adapt to changing conditions. Each property has its own unique potential determined by soils, climate, past management history, landowner's objectives, and landowner's resources. Reaching that potential is a function of the landowner's commitment, knowledge, and patience.

Legumes, like this butterfly pea, provide nutritious forage for browsers as well as high protein seeds for other wildlife. Most native legumes respond well to disturbances like fire, disking, and thinning.

HIDDEN TREASURES

Hard Work Pays Beautiful Dividends for Davis Family

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

Ask Ted Davis if there is anything he doesn't like about his Lawrence County farm and he will quickly answer, "Three things: honey locusts, fire ants, and armadillos." Ask what he and his wife Marcy like about their farm and you better be prepared to listen for a long time.

Their 280-acre farm in the Landersville community is a slice of paradise. From the well-manicured entrance to the wildflower gardens and wildlife food plots, it is as scenic and peaceful as any park Alabama has to offer.

Hidden Treasure Landowner, Ted Davis (left) with Larry Lee, AFC manager in Lawrence County

When they purchased the land six years ago, it was a jungle. There were some planted pines but the majority of the acreage was grown up in thick vines and underbrush, and wildlife was scarce. Today the farm has an excellent road system planted in fescue, ten wildlife food plots, three stocked ponds, and ample habitat for both game and non-game species.

Other than hiring dozer operators, the Davis family has done all of the work themselves. They are self-taught in many aspects of land management but credit several people with providing helpful guidance from the beginning such as family friend Don Kimberly, a forester for International Paper; Ron Eakes, wildlife biologist with the Department of Game and Fish; and Larry Lee, county manager for the Alabama Forestry Commission.

"We didn't see a deer for the first few years," Ted said. "But after we developed food plots and clearings for them, we started seeing deer, turkey, and even a few quail." They have also spotted coyote, owl, red fox, gray fox, bobcat, red squirrel, and many different songbirds.

Ted and Marcy have experimented with different wildlife foods and have found the most successful ones to be soybeans, peas, turnip greens, autumn olive, and white clover. A large TVA utility easement is planted in fescue to supplement the animals' diets year-round.

Three ponds were created and stocked with cooper-nose bluegill, bass, and a few catfish. These provide for family recreation but also provide a reliable water supply for the wildlife.

Wildlife benefits from retaining brush piles, snags and den trees as shelter and nesting habitat, and whitetail deer are enjoying special feeders and salt licks.

In 1999, Ted and Marcy Davis received statewide recognition for excellence in forest management when they were certified as TREASURE Forest landowners.

They still get flat tires on tractors from honey locust thorns, and fire ants and armadillos still cause havoc, but they bear those pesky problems with a smile. After all, that's a small price to pay for a true Alabama **TREASURE**.

Raccoons: Deadly Pets

By ***Michael E. Sievering***, Biologist III, Alabama Department of Conservation and Natural Resources

Alabama Department of Conservation and Natural Resources

Many of us enjoy strolling through the woods observing nature's many splendors. On occasion, we stumble across wildlife that appears displaced or we assume has been "abandoned." Commonly found animals include deer fawns, fledgling birds, young squirrels, and young or juvenile raccoons. Often, a protective instinct kicks in and we decide to take these "orphans" home and raise them. This is not the right or legal thing to do.

A "biological package" typically accompanies all kinds of wildlife. This package can consist of a variety of internal or external parasites and several diseases that are harmful to humans and domestic pets. Raccoons in the southeastern United States, although cute and adorable, can be carriers of many internal parasites and/or diseases.

Nematodes, or the large roundworm, are an intestinal parasite common to raccoons in rural and urban habitats. During a certain stage of its development, this parasite can be infectious to humans. In the past, two human fatalities have been confirmed and several non-fatal cases reported in connection with this parasite in the United States. People handling raccoons that are possibly contaminated with this parasite should use basic personal hygiene to avoid contamination.

Canine distemper occurs in raccoon populations throughout the state. This disease exhibits a seasonal pattern with a peak during the winter and early spring months. Although not a threat to humans, domestic pets that are not vaccinated against this viral disease are susceptible to contamination. Contamination can occur either through contact with an infected animal or through contact with their excretions or secretions.

Raccoon parvo, like canine distemper, does not infect the human population. However, this viral disease can be transmitted to domestic pets that have not been vaccinated. Rabies, a well-known disease, is carried by a variety of wildlife species. In the Southeast, raccoons seem to be the prime carrier. The Alabama Department of Public Health reports that 10 percent of the 509 raccoons submitted in the year 2000 tested positive for rabies.

If you happen across abandoned wildlife, do not be tempted to take these animals home. You must consider that when dealing with wildlife you are dealing with a "biological package" and not just an adorable woodland creature. In addition to the disease issue, wild animals generally do not make good pets and it is illegal to possess wild animals without proper permits.

Sustainable Forestry Initiative In Alabama

By ***Mike Beach***, Alabama Sustainable Forestry Initiative Coordinator

Are we in danger of losing our forests, and the wildlife that lives in them? How can we ensure the health and growth of our forests for future generations? Many people of Alabama are asking these questions. As our population expands and our economy grows, responsible people are concerned about our forests. They want assurances that our forests will always be there.

The Alabama Forest Industry understands this concern. Companies that rely on healthy and productive forests for their livelihood have self-interest in making certain that Alabama's forests remain healthy and productive. The Forest Industry has answered the above questions with a new commitment to long-term forestry. It is called the Sustainable Forestry Initiative (SFI), a comprehensive program of forestry and conservation practices designed to ensure that future generations of Alabamians will have the same abundant forests that we enjoy today.

The SFI program was developed by the American Forest and Paper Association (AF&PA), the national trade group that represents forest and paper companies. AF&PA assembled a task force of experienced professional foresters who spent 18 months crafting the SFI. This careful collaboration produced an ambitious set of forest principles and detailed guidelines that require companies to reforest harvested lands promptly, provide for wildlife habitat, improve water quality and ecosystem diversity, and protect forests of special ecological significance.

In some cases, the SFI suggests a dramatic departure from normal approaches to managing our state resources. Many companies within the forest industry have followed some of these forestry principles, but no company has followed all of them. The SFI is based ultimately on action — real, measurable action — that will signify industry's progress in meeting its sustainable forestry objectives. Below is an outline of the program organization.

State Implementation Committee (SIC)

This committee has overall responsibility for coordination of the program. Four working sub-committees are charged with carrying out activities in assigned areas. These committees include Logger Education, Public Outreach, Landowner Education, and Inconsistent Practices.

Logger Education Committee

The primary concern of the Logger Education Committee is the training of the loggers of Alabama and the continuous updating of that training. They are also responsible for maintaining a trained logger database, developing the qualified trainers necessary to carry out the logger training programs, and hosting/sponsoring any new or different training program.

Public Outreach Committee

This committee is responsible for communicating to the general public the activities and accomplishments of SFI in Alabama. It will also develop activities that involve the general public including videos, radio spots, advertisements, a website, displays, and specific activities developed for children and teachers.

Landowner Education Committee

The Landowner Education Committee is responsible for the support, involvement, and education of the private landowner in Alabama. This includes support of existing landowner organizations in Alabama, developing a website in order to make training and other material available to Alabama's landowners, and developing and distributing training and other available material.

Inconsistent Practices Committee

The primary responsibility of this committee is to respond to questions from the general public about activities on member company lands. It has identified ten teams of professionals to go into the field to investigate and respond to questions and problems from the general public. Also, the public can call in questions on forest practices to a toll free number (1-800-206-0981). A professional forester initially handles the questions.

This committee has also developed signs to be used by loggers at highway entrances to logging sites.

The Sustainable Forestry Initiatives Committee in Alabama hopes that through the education of companies, landowners, school children, teachers, and the general public that the forest resource of Alabama will remain productive and healthy. By taking important steps now, we can ensure that our forests will be able to provide products, economic benefits, and personal enjoyment for many generations of Alabamians.

Many Streams to Cross

By ***Hubert Boatwright***, Consulting Services Section, Caterpillar, Inc.

Forest roads, unless in a very poor condition, are seldom given a second thought by most travelers. They are considered simply a route from point A to point B for vehicular travel. But for the landowner or manager, roads are a topic of great concern. They are critical assets for use of the land by providing day-to-day access and an avenue for the number one revenue-producing management technique, the harvest of timber. They also have the potential to cause enormous problems, including both economic and environmental concerns.

The cause of the majority of problems with forest roads can be traced to water, either as moisture soaking into the driving surface of a roadbed or as surface flow causing erosion. Therefore special attention must be given to points where the road is in constant or frequent contact with water, such as stream crossings. The three most common types of stream crossings used are culverts, fords, and bridges. Each has unique properties that are best utilized based on watershed characteristics and expected traffic requirements for the road.

Culverts are the most common type and are best suited to smaller watersheds or crossings that expect high volumes of traffic throughout the year. As the size of the watershed increases, culverts become economically limiting due to the expense of larger pipes and the amount of fill material required to build the road elevation above them. Fords of various types are typically more expensive than culverts but can be economically used on larger watersheds if certain conditions exist. A stream channel bottom with a lot of rock is ideal if the channel banks are not so high as to require steep approaches. Fords can also be installed in soft channel bottoms but require more excavation and additional rock to strengthen the crossing and stabilize the approaches. Bridges are the most expensive alternative, and are used on crossings over large watersheds and in conjunction with extensive traffic requirements.

Evaluating the crossing

Many stream channels, even those with large drainage areas, can be misleading by the small volume or absence of water flowing in them most of the time. This causes many road builders to install a crossing type that is not suitable to protect the road during flood stage conditions. This is particularly true in south Alabama where larger watersheds combined with flatter topography contribute to many of the failures. Before installation of any type of stream crossing, some preliminary work should be done to determine which method would be the most effective for that particular site. Your local extension agent should be able to get you started. It is here that a little time and effort up front can go a long way towards protecting your investment.

For an engineer designing a stream crossing, several pieces of information must be brought together into the final recommendation. The expected design life, traffic requirements, statistical rainfall data for that region, and watershed characteristics all play a part in the analysis. The size of the watershed is the first piece of information that must be pinpointed. Finding the point where the road crosses the stream on a topographic map, and then delineating the area that drains runoff to that point can do this. An average slope and maximum flow distance from the farthest point of the watershed can also be found from the topographic map. The types and percentages of ground cover must also be evaluated for use in calculating a design discharge for the crossing.

Historical rainfall data for the region and statistics play an important role in determining the amount of water flow that a stream crossing is designed to handle. Designers use the term *return period* for storm event calculations. If a pipe is sized for a ten-year return period storm event, then statistically it will overflow once every ten years, or in other words there is a 10% chance it will overflow in any given year. For smaller watersheds where culverts are most frequently used,

Installing water bars and/or turnouts prevent road erosion on harvested site.

Installing a pipe at the correct elevation and slope, and using good fill material contributes to long-term cost effectiveness.

the calculations are fairly straightforward since we assume that rain will begin and end at all points simultaneously. A peak discharge is calculated for a given return period storm event and the pipe is sized to carry this flow in the configuration and length dictated by the road. For larger watersheds this becomes more complicated as other factors enter into the design. For example, a balance must be found between storage capacity upstream of the crossing and amount of roadfill required to achieve it. In some cases it may be more economical to size the pipe to carry a portion of the design discharge, then construct a stabilized overflow point for the roadbed similar to an emergency spillway on a pond dam.

Installation

After the analysis has been completed and the type and size of the crossing has been determined, a proper installation must be executed to get the most out of the money spent. The first step is to find a reputable contractor who has experience in this area. He should also have the proper tools and equipment, such as a contractor's level, and be diligent in using them. This is especially true on stream crossings where locating the pipe/ford elevation and slope is critical to its survival. A crossing installed too low will fill in with sediment over time and decrease the maximum flow it can carry. One installed too high will back up water on the upstream side and cause potential for washing on the outlet.

An experienced contractor will also know if the local fill material that is readily available is suitable for the roadbed. In many cases the excavated material near the stream channel is not usable, and better fill must be obtained, usually from a nearby hillside.

Once the pipe is positioned and good fill material has been obtained, care must be taken that the pipe is not damaged or does not shift when covering it. It is also a good idea to manually compact the fill under the edges of the pipe in small lifts to ensure that no voids exist around the outside of the pipe.

Top left: *Insufficient fill material over the top of the pipe contributed to this failure.* **Top right***: This example of good vegetative cover will protect the side slopes of the road and decrease the amount of sediment reaching the stream.* **Bottom left:** *A geo-web ford, when properly installed can be a good alternative to a culvert in the right situation.* **Bottom right:** *Low-water bridge at flood stage.*

Protection

It is also at the creek crossing that the most potential for environmental concerns exist. Many roads, such as those that are entrenched, provide a direct path for runoff to be carried to the creek. This means that soil particles that are washed off the exposed areas of the roadbed can be deposited directly into the channel causing sedimentation and turbidity in the stream. It is always a good idea to have waterbars and/or turnouts constructed at points along the road approaching the crossing to divert runoff out of the roadbed and ditches. This will eliminate a direct path for runoff to follow to the stream and give the adjacent groundcover the opportunity to filter out sediment.

Vegetative cover is also a low-cost, long-term deterrent to erosion and sediment transport. Some type of permanent grass cover should be planted on sideslopes and ditches, and should be mixed with an annual, quick germinating seed such as browntop millett in spring and small grain in fall.

The problems with stream crossings are variable and potentially expensive to control. But with proper assessment and implementation of good road-building techniques, a viable solution can be found that minimizes the long-term costs of the crossing and maximizes its useful life.

Hubert Boatwright is a graduate of Auburn University's Forest Engineering program and has a Masters Degree in Forestry. He spent four years self-employed as a contractor/consultant and is currently employed in the consulting services section of Caterpillar, Inc. Forest Products Division.

Alabama's Scenic Byways

(continued from page 9)

Planning Commission of Greater Birmingham, has been involved with the scenic byways program the longest. Like many of us, he sees scenic byways as another piece in the great puzzle that is Alabama. "State highways, interstate highways, and county roads add to greenways, trails, state parks, historic town centers, outstanding rivers, and natural forests to tell the story of Alabama the Beautiful," he says.

Another instrumental person was Alabama Senator "Walking" Wendell Mitchell of Luvurne. About two years ago, he learned about our small group working to bring byways to the state. With Alabama being one of only seven states without a program and with 80% of Alabamians expressing a desire for more scenic roads (according to an Alabama Department of Economic and Community Affairs study), creating a state program seemed a valuable place to start in promoting and preserving our special landscapes.

Senator Mitchell's main focus in a statewide scenic byways program was in helping keep Alabama beautiful and in bringing some economic benefit to rural parts of the state. With this vision, his leadership, and active participation by a wider group, legislation passed in 2000 to create "Alabama the Beautiful, the Alabama State Scenic Byways Program." The goal of the program and of the group of volunteers called the Scenic Byways Advisory Council appointed by Governor Don Siegelman is to develop and preserve a network of roads that showcases Alabama to the world.

The program is a partnership of many passionate people, including the Alabama Forestry Commission, Alabama Department of Transportation, Alabama Historical Commission, Alabama Bureau of Tourism and Travel, Regional Councils, several members of the Alabama legislature, and many others. It works because so many different organizations and individuals have a passion for making it happen. And there are many good reasons why the program has engaged such a diverse group.

One of the most obvious reasons is economic. Some of the real financial benefits to having scenic byways in Alabama include increased business, tax revenue, and jobs from tourism dollars plus additional federal and state funding for highway and roadside improvements.

It is also popular because it is a grassroots-driven program. Byways are conceived, shaped, and managed by the community or communities through which they pass. Preserving the qualities that make a roadway special is at least as important as recognizing them to begin with - without them the road isn't special anymore. That's why the real cornerstones to the legislation are the requirements that any byway originate from a grassroots effort (people from the area make the decisions and not a bureaucrat in Montgomery) and that each byway creates a corridor management plan. A management plan is basically a roadmap to the future of the byway. It helps explain the types of growth expected, the way the roadway will be promoted, and the things along the roadway that are particularly valuable as well as what is not really important. The choice to have a byway begins and ends with people along the route.

However, in order to have a good scenic byways program, the roads need to be recognized, promoted, and protected. That's where the state program comes in. Our goal is to help people passionate about their roadways better protect the qualities that they treasure. If pasture land and catfish ponds are what make the roadway a special place, then those are important aspects to consider when changes such as new development occur. TREASURE Forests found along the roadway would certainly be another important consideration.

Dan Brothers, Courtesy of AL Bureau of Tourism & Travel

The Selma-to-Montgomery National Scenic Byway *- An example of a national byway that doesn't fit the traditional mold, but its history makes it one of the most important roads in America.*

This map, a preliminary step in the initial inventory process, highlights significant roadways that have potential to receive designation as "Scenic Byways" in the state of Alabama.

Courtesy of AL Bureau of Tourism & Travel

The state program follows the successful national program in recognizing the qualities that make a roadway a scenic byway: it must have scenic, historical, cultural, archeological, natural, or recreational significance to fit into the state program.

A road that doesn't have the obvious vistas of distant mountains or roaring waterfalls can still be a byway if it has other important features. Perhaps the best example of a national byway that doesn't fit the traditional mold is right here in Alabama: the Selma-to-Montgomery National Scenic Byway. It isn't a particularly scenic road. There aren't any mountains along the route. It doesn't have numerous wetlands. But its history makes it one of the most important roads in America.

Working closely with the Alabama Association of Regional Councils, we've started the process by mapping many of the Alabama roads that Alabamians consider special. (See map.) This map isn't exclusive — it is simply an inventory of roads that someone considers worth driving along for pleasure. "As we complete the initial inventory process we look forward to the actual designation of Scenic Byways and the positive impacts that designation will have," says Wayne Burnette, director of the Alabama Association of Regional Councils. "Alabama's Scenic Byways are a treasured resource." Not all of the roads mapped here will become scenic byways, but all have a special place in someone's heart.

This map is a starting place: an inventory of the great potential of Alabama's many roads. Each roadway still needs a champion, some careful planning, and a much closer look before becoming an official state scenic byway.

The Scenic Byways program will focus attention on some of Alabama's roadways, help preserve those roads that are interested in becoming scenic byways, and provide rural Alabama with another economic development tool. Designation as a scenic byway provides a starting point for recognizing and protecting the beauty of our working lands - lands that are also used for catfish ponds, farming, timber production, and commercial development.

Byways are a way to create community ownership for Alabama's treasured landscapes, to protect our natural beauty, and the distinctive character that makes Alabama more than just the place we live . . . they make Alabama our home.

THREATENED & ENDANGERED SPECIES

Mitchell's Satyr in Alabama

By ***Barry Hart***, Terrestrial, Zoologist/Ecologist, Alabama Natural Heritage Program

New discoveries of one sort or another are constantly being made. We see and hear of recent innovations and findings repeatedly over news and medical reports. Unfortunately, many discoveries taking place in our natural world are often overlooked and receive little attention. One such finding was made right here in Alabama that few are aware of. It's not an earthshaking, societal-changing event, but rather, this new discovery in Alabama is of a medium-sized butterfly belonging to a very rare group known as the Mitchell's satyr.

Mitchell's satyr *(Neonympha mitchellii)* has been referred to as one of the most restricted and critically endangered butterflies in eastern North America. Historically, the species was known from Michigan, Indiana, northeastern Ohio, northern New Jersey, and perhaps Maryland. In June 1983, a small colony of the Mitchell's satyr was discovered at Fort Bragg Military Reservation in south-central North Carolina. This discovery led researchers to separate the butterfly into two distinct subspecies. Following this separation, the northern subspecies is now referred to as the Mitchell's satyr *(Neonympha mitchellii* subspecies *mitchellii)* and the North Carolina subspecies (including one small population in Virginia) as the St. Francis satyr *(Neonympha mitchellii* subspecies *francisci)*.

Until recently, the Mitchell's and St. Francis satyrs were known only from those localities supporting the two subspecies. On 24 June, 2000, a startling discovery was made in west-central Alabama when Dr. Jeffrey Glassberg, author of several butterfly field guides and President of the North American

Barry Hart

Butterfly Association, photographed a single male Mitchell's satyr. Several search attempts were made during late summer 2000 to locate the colony from which this lone individual may have originated, but all attempts failed during those excursions. Additional searches ensued the following spring, and on 5 June, 2001, the first colony for Alabama was located and documented by a team of biologists and butterfly enthusiasts led by Dr. Glassberg.

The newly discovered colony was regularly visited throughout the species' flight period in June to initiate study of this local group. Because North Carolina's St. Francis satyr has a second brood in late July to mid August, Alabama's colony was carefully followed during this period as well to determine if a similar second emergence and flight period occurred. It was determined on 16 August, 2001, that a second brood does occur in the Alabama population(s). Subsequent searches in late August and early September led to the species being discovered in eight different localities. It must be noted, however, that not all of these "sightings" represent valid colonies. Much fieldwork lies ahead before the "colony" label can be accurately applied to local observations. Furthermore, this discovery is so fresh that very little is known about this newest find of the Mitchell's satyr group of butterflies. All that we have to go on is what little has been discovered for the two described subspecies.

Both the Mitchell's satyr and the St. Francis satyr are highly specialized and selective in their habitats. The northern (Mitchell's) subspecies is most often encountered along the edges of open sedge meadows and dense stands of deciduous and coniferous shrubs of "calcareous fens" (neutral to highly alkaline wetlands or "bogs" fed by carbonate-rich water from seeps and streams; found primarily in the glaciated regions of North America). The St. Francis satyr is found primarily in acidic wet meadows dominated by an assortment of sedges and wetland grasses; often relicts of beaver activity. (Incidentally, the latter point is a feature common to each locality where the satyr has been discovered in Alabama. Based on several observations, the apparent habitat preference for Alabama's form of the Mitchell's satyr is the edge of lowland shrub — sedge marshes and forested swamps that have been influenced or created by beaver activity.)

The life cycle of this poorly documented butterfly varies between the northern and southern forms. Mitchell's satyr in Michigan and Indiana are single brooded, and the adults emerge in late June and fly through mid July. During the flight period, generally lasting only two weeks, the butterflies mate, lay eggs, and die. Eggs are laid on a specific plant (thought to be tussock sedge, *Carex stricta)* and upon hatching (potentially

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The Riparian Forest

(Continued from page 13)

Riparian Areas Attract Wildlife Diversity

For example, it was found in a study in Texas that in well-structured, wide riparian forest zones — at least 150 feet wide — birds normally found in mature or late successional forests were abundant. Another Texas study found that squirrels were most abundant in well-structured, wide, riparian forest zones; and a Mississippi study showed the same to be true for wild turkeys. Thus these streamside forests become areas of residence for many species and travel corridors for many others.

Riparian forests are valuable as aesthetic buffers to break up harvesting units. They add diversity to the landscape — the "big picture" — which helps harvesting units to be better accepted by the public. Recent polls in Alabama show that the public does not like the way our forestry operations look, especially clearcuts, and that they often consider us to be unprofessional and uncaring based on what they see. Well-structured riparian forests can help moderate those views.

Timber production should not be neglected as a benefit from the riparian forest. These high-quality bottomland sites can produce a very valuable timber resource along with the other benefits mentioned above. In fact, the larger riparian areas can be better managed as a unit unlike the SMZ filter strips. Some form of uneven-aged management system would probably work best in riparian areas to protect their diversity and structure. Proper implementation of uneven-aged management systems is a challenge for the landowner, forester, and logger, but one that can be very rewarding.

Managing healthy and diverse riparian forests along Alabama streams is one of the most important things that landowners and foresters can do to sustain our state's tremendous natural biodiversity for future generations. It is a commitment to stewardship that wills an enduring legacy, appreciated by many generations of Alabamians to come.

For more information on riparian forests, visit the Virginia Dept. of Forestry's website at **http://state.vipnet.org/dof/.** Their publication, *The Riparian Forest Handbook - Appreciating and Evaluating Streamside Forests*, is a good place to start. They may also be reached by telephone at (434) 977-6555.

Bob Keefe is a retired registered forester from International Paper Corporation who is presently working for the Soil and Water Conservation District on the Upper Black Warrior River Basin 319 Project.

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Alabama Forestry Camp

Applications are currently being taken for Alabama Forestry Camp 2002. This five-day summer camp will be held Sunday through Thursday, June 2-6, at the Federation of Southern Cooperatives facility near Epes in Sumter County.

The camp is for high school students interested in conservation and natural resources. It is designed to teach basic forestry concepts through classroom instruction and outdoor activities.

It is open to any student, boy or girl, who is at least 15 years old and has completed the 9th grade but not yet finished the 12th grade. There is no cost to the student to attend camp.

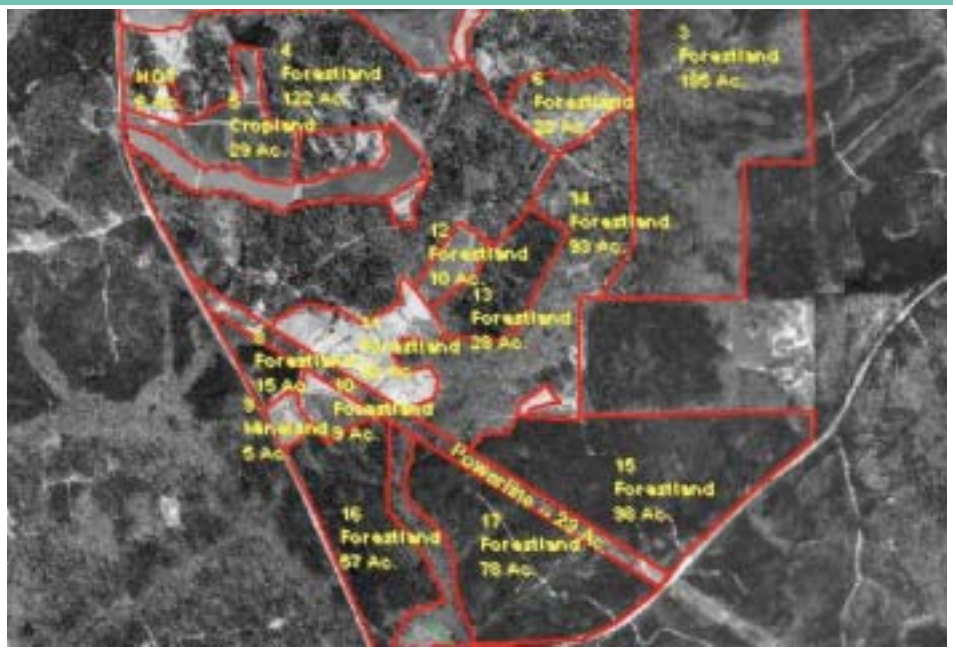
For more information about Alabama Forestry Camp, contact Michelle Cole at the Alabama Forestry Commission, (334) 242-5585.

Natural Resources Conservation Planning For Forest and Wildlife Land

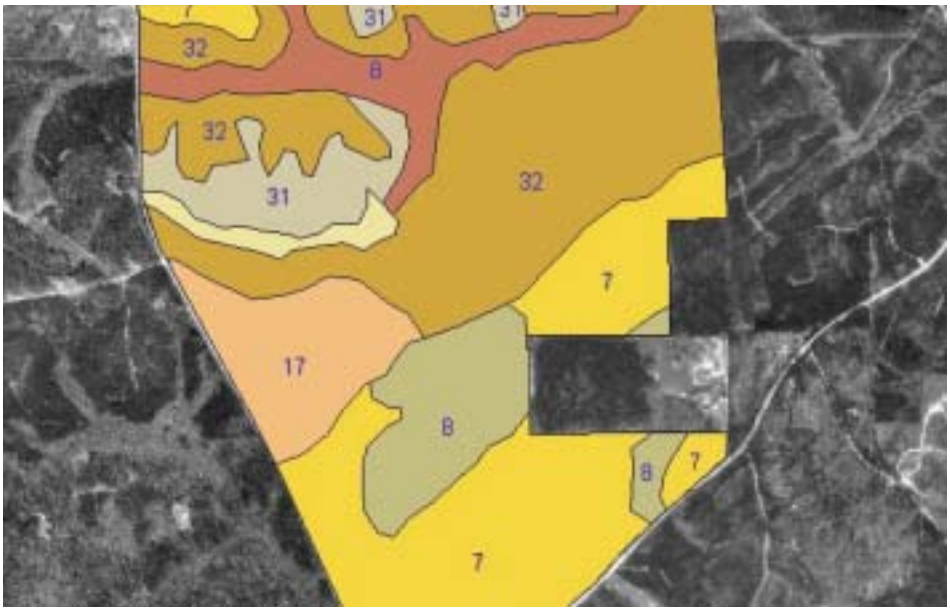
By ***Bill Hughes,*** Resource Conservationist, Natural Resources Conservation Service

A Natural Resources Conservation Plan (NRCS) reflects the landowner/user's objectives and decisions for the future — a roadmap to future natural resources use. The plan contains an aerial photo of the property showing land use, a soils map, conservation practice guidesheets, and may include other supporting information such as maps reflecting topography, streams, site indices, and more. The conservation plan also shows natural resources conservation practices on the property, which protect the environment and improve water quality.

Local NRCS planners have a new computer program called Customer Service Toolkit that includes a Geographic Information System (GIS) which allows them to bring up digital photography of the county. Working with the landowner, the planner can delineate land units, bring in digital soils information, U. S. Geological Survey topographic information, etc., layered on the photo base. These maps can easily be sent to the color printer and become part of the plan. The landowner can either participate in the development of these maps or the hard copies can be taken to him/her to be used in evaluating future land use and management decisions. The maps and other resource information can be used by the landowner, consultants, contractors, and others who may assist in implementation of the plan.



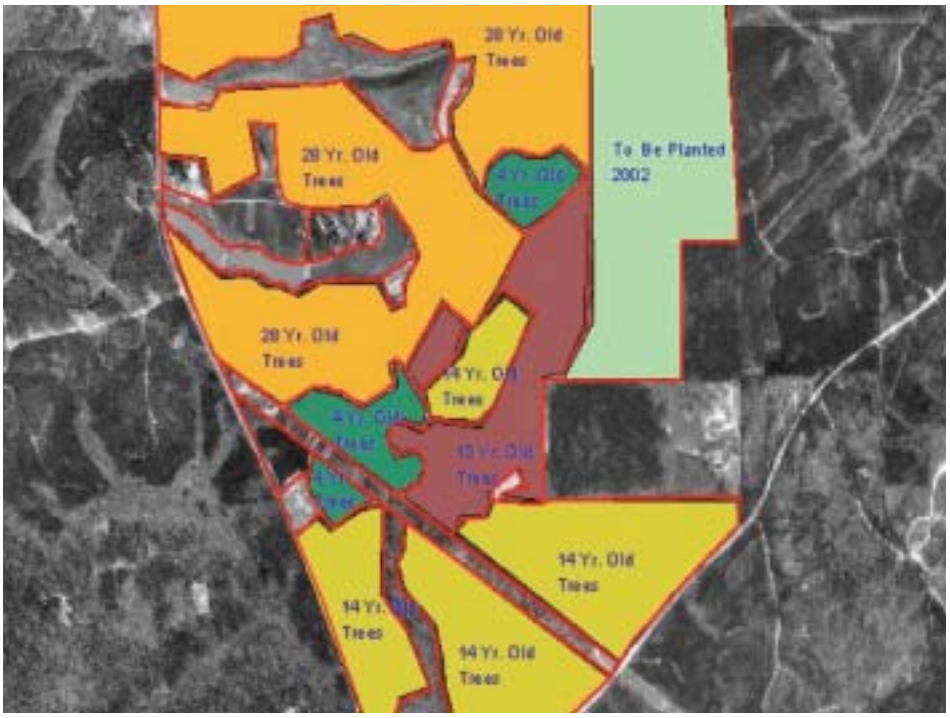
A Conservation Plan Map *provides an aerial photo view of land displaying the common uses and acreage of fields.*



This example of a ***Soils Map*** *helps determine the predominant soil type which is useful information for land management decisions.*

Conservation Plan Map

The conservation plan map is on an aerial photo base and displays the fields



*This "Forest Stand Map," which shows fields having similar age and types of trees, provides an example of a **Practice Map**.*

with similar treated land use, i.e., planted loblolly pines 14 years of age. The common land uses on this plan map are forest, wildlife, pasture, crop, and hay. The farmstead or homestead is also commonly displayed on the map. Each field also includes the measured acres within that field and is identified by a number that refers to a narrative in the plan. The narrative describes the landowner's decisions and planned practice installation/ implementation schedule.

Soils Map

The soils map shows the soils mapping units within the property boundaries. A soil map unit delineates a soil that has the same physical characteristics and should be managed for forest or agricultural purposes in the same way. The predominant soil type in a field can be determined for management decisions. A landowner's knowledge of his/her soils is essential to making good management decisions related to tree species, cutting cycles, site preparation methods, and many other decisions.

Topographic Map

Obviously the slope and contour of the land is invaluable to a forest/wildlife landowner in planning access and harvest roads, harvest landings, and other practices to minimize forest land erosion. The streams identified on topographic maps are beneficial in planning streamside management zones, wildlife food plots, ponds, and other water-related practices.

Site Index Map

Another map that provides valuable information is the site index map. This map is developed using the soils information and displays the productivity of the soils for different species of trees. This information helps the landowner determine the best tree species to plant and/or manage, cutting cycles, and rotation age.

Practice Maps

This assortment of maps provides the landowner information as to forestry, wildlife, or erosion practices planned on the property. Examples of these maps are: a Forest Stand Map showing fields that have similar age and types of trees; a Wildlife Food Plot Map which shows the location, size, and types of food plots and wildlife species benefited; and an Access Road Map that displays both the improved and harvest roads throughout the property and erosion control measures that need installation or maintenance.

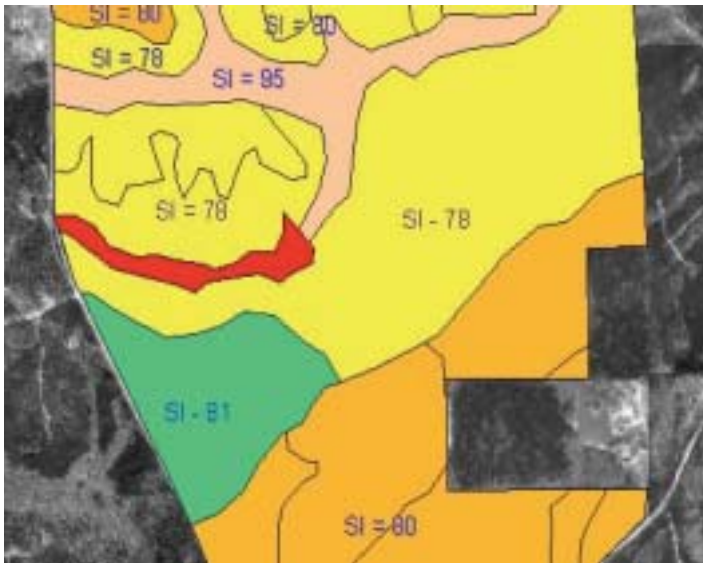
Conservation Practice Guidesheets

These guidesheets provide the landowner with information about forestry and wildlife practices related to natural resources management and conservation. Examples of these guidesheets are Forest Site Preparation, Tree Planting, Natural Regeneration of Southern Pines, Shrub Planting, Prescribed Burning, Wild Turkey Management, Wood Duck Nesting Boxes, Erosion Control on Forest Land, and many more related to forestry and wildlife.

Landowner's Planning Decisions

In addition to the maps, the NRCS conservation planner provides landowners with alternative management information related to forestry and wildlife practices. This information includes planting guides, cost and returns data, wildlife species management informa-

(Continued on page 30)



*A **Site Index Map** helps the landowner determine the best species of trees to plant and manage.*

Natural Resources Conservation Planning

(continued from page 29)

In addition to providing the slope and contour of the land, streams identified on a ***Topographic Map*** *are beneficial in planning streamside management zones and wildlife food plots.*

tion, etc. The landowner uses the maps and technical information to decide the combination of conservation and management practices he/she wishes to implement over the next several years. This information is recorded and becomes part of the Natural Resources Conservation Plan.

The Natural Resources Conservation Plan can also address other land uses such as crops, pasture, hayland, and livestock operations. For more information on Natural Resources Conservation Planning, contact your local Soil and Water Conservation District/Natural Resources Conservation Service office.

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Albert Morris

(Continued from page 10)

Additionally, Albert owns a small tract of land in Madison County that is also managed for timber and wildlife. Most of its 28 acres are planted in loblolly pines, but approximately seven acres are kept in their natural state of native trees and shrubs due to the low-lying bottomland topography. This idle piece of property is wonderful for wildlife habitat. The main reason for deciding to manage this property in timber and wildlife is because of its location and acreage. With it being several miles from Huntsville and only 28 acres, the most convenient and economically feasible management regime is to have it remain in trees.

The Horticulturist

As a horticulturist, Albert applies his stewardship knowledge when managing Albert's Flowers Inc., and Morris Greenhouses, Inc. In his greenhouses, he plants and grows the majority of the ornamental vegetation that supplies his floral shop and other florists in north Alabama, but occasionally he purchases exotic flowers from other countries to augment his diverse floral inventory. He is very proud of his floral business and the fact that his shop is the second oldest in Huntsville. Albert's beautiful floral arrangements make his shop a favorite with local citizens.

Albert continues to work hard towards accomplishing his goals as indicated by both his floral businesses and his forestland. He hopes that the results of all his efforts, knowledge, and experience can one day be passed on to his daughters, Margaret and Amoretta Morris. Perhaps his daughters will continue the practice of good stewardship and pass it on to the next generation. Incidentally, his oldest daughter Margaret is learning about the floral business.

It is reassuring to know people like TREASURE Forest landowner, Albert Morris, who is doing his part in protecting our natural resources.

Mitchell's Satyr

(Continued from page 26)

after 7 to 11 days), caterpillars feed upon the "host plant" until cooler temperatures and low sunlight levels induce the caterpillars into diapause (a period of suspended growth and dormancy). The caterpillars resume feeding the following spring and eventually metamorphose into adults in late June. A notable difference in the life cycle of the St. Francis satyr is that there are two broods per year. The adults of the first brood emerge in early to mid May and typically disappear by the end of the first week in June. The second flight period or brood runs from late July through mid August. The host plant has yet to be determined for the St. Francis satyr but it is very likely to be one or more species of *Carex* (sedge). St. Francis caterpillars that developed from the second brood probably over-winter in a similar fashion as in the northern subspecies. Pupation is generally two weeks in duration and ends with the emergence of the adult.

Due to such high habitat specificity, both subspecies have experienced alarming declines and extirpations from former localities throughout their respective ranges. The primary cause of these declines is centered upon wetland alteration, degradation, and destruction through the draining and conversion of these habitats to other forms of land use such as agriculture, roadways, and development. Secondary factors adversely affecting this species complex can be attributed to the removal and elimination of the elements that help to create suitable wetland habitat for the satyr such as widespread beaver eradication and control programs and the disruption of natural fire regimes. A third factor implicated as the cause for some localized extinctions (as reported for the New Jersey populations) is over-collection. The collective impacts from these factors have left the northern Mitchell's satyr with only about 13 populations in southern Michigan, and two in northern Indiana. In North Carolina, the St. Francis satyr likely exists as a single population consisting of a few small, localized colonies or subpopulations. Virginia also supports a single population of the St. Francis satyr. Such alarming losses throughout the butterflies' range resulted in the eventual listing of both subspecies as Federally Endangered.

From a natural history perspective, the enormity of finding a population of the Mitchell's satyr group in Alabama cannot be overstated as this discovery provides critical clues and additional insights to the plausible origin and historical distribution of this complex of butterflies. From a conservation perspective, these new discoveries are cause for great concern due to the endangerment of the Mitchell's and St. Francis satyrs. Unfortunately, the taxonomic identity of Alabama's population(s) has not been determined. Until this critical next step is completed, biologists and butterfly enthusiasts await in great anticipation to accurately put a name on a butterfly that has managed to escape discovery for so many years.

The discovery of Alabama's form of the Mitchell's satyr has provided yet another reminder of how amazingly diverse this great state is. It also tells us that many more secrets lie hidden among the varied habitats and natural communities of this gem of the Southeast.

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Taxes and Trees

(Continued from page 11)

year 2010. However, the tax bill has a sunset provision, so that on January 1, 2011, the law is repealed and estate tax rules and rates go back to the 2001 regulations.

Abolishing the estate tax in 2010 will also remove the ability to step-up the basis of the property to its value at time of inheritance. The IRS has some proposed rules for adjusting some bases up to $1.3 million. However, it is predicted that Congress will change everything prior to 2010, so don't worry about it yet.

Forestry is a good investment. Landowners can earn much more growing trees than they can by putting cash in the bank. These tax changes will enhance these investments. The estate tax rules will help families keep their TREASURE Forests through generations to come.

For more information, check out the NATIONAL TIMBER TAX website at **www.timbertax.org.**

Wild Thangs

We need your favorite "wild" recipes for a story in an upcoming issue of *Alabama's TREASURED Forest* magazine. Whether it's wild game or fish, nuts or berries, or lotions and potions, we would like to have the entire "how-to" of things from the forest. Be sure to include clear instructions as well as your name, address, and telephone number.

Fax your recipes to Coleen Vansant at 256-775-6070 or e-mail to **vansantc@forestry.state.al.us.**

Waxmyrtle

By ***Fred Nation***, Educator, Baldwin County

Waxmyrtle or southern bayberry *(Myrica cerifera)* is a large colonial shrub or small tree that is native to the coastal plain from Maryland through Florida, westward into Texas. In Alabama the range is primarily the southern half of the state, though it can sometimes be found in mixed-forested areas in the piedmont region.

The leaves are evergreen, elliptic or lance shaped, alternate, 2 to 4 inches long, reduced toward the ends of the branches. They are usually widest above the middle, and irregularly toothed, mostly toward the tips. Both leaf surfaces have yellow, resinous glandular dots, which give the plants an overall yellow-green appearance. The Indians and early settlers are said to have used the aromatic leaves as an insect repellent in bedding, and around animal pens to repel fleas.

Waxmyrtle is usually dioecius, with male and female flowers on separate plants. The female flowers produce large quantities of small woody, nut-like drupes in short, dense catkins along the stems. The fruits are covered with a pale gray wax, which can be extracted by boiling in water. The species name, *cerifera*, means "wax-bearing." Bayberry candles and soap have been made from the wax.

TREES OF ALABAMA

Most of our native habitats in the southern half of Alabama contain waxmyrtle populations. They have several adaptations that make them successful generalists, at home in areas as diverse as barren clay ridges and salt marshes. They are highly fire-adapted, and readily resprout from burned or cut stems and from rhizomes. Waxmyrtles also have root nodules that fix nitrogen. This probably explains why they are among the earliest pioneer species on eroded or poor clear-cut land.

Waxmyrtle can be an aggressive, troublesome weed in managed timberland. The highly resinous leaves and twigs burn with an extremely hot fire, which can cause damage to small pine trees. On the other hand, this colonial, fire adapted, nitrogen-fixing shrub or small tree can be useful to stabilize and restore badly eroded land. It is used sparingly as an ornamental in landscapes, as a hardy, fast-growing informal hedge.

The Alabama State champion *Myrica cerifera* is 25 inches in circumference, 36 feet tall, with an average crown spread of 23 feet. It is located in Baldwin County, in Daphne on the Historic Village Point Preserve.

Fred Nation, a freelance writer and photographer in Baldwin County, has nominated or co-nominated 17 Alabama State Champion trees.

TREASURE FOREST

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