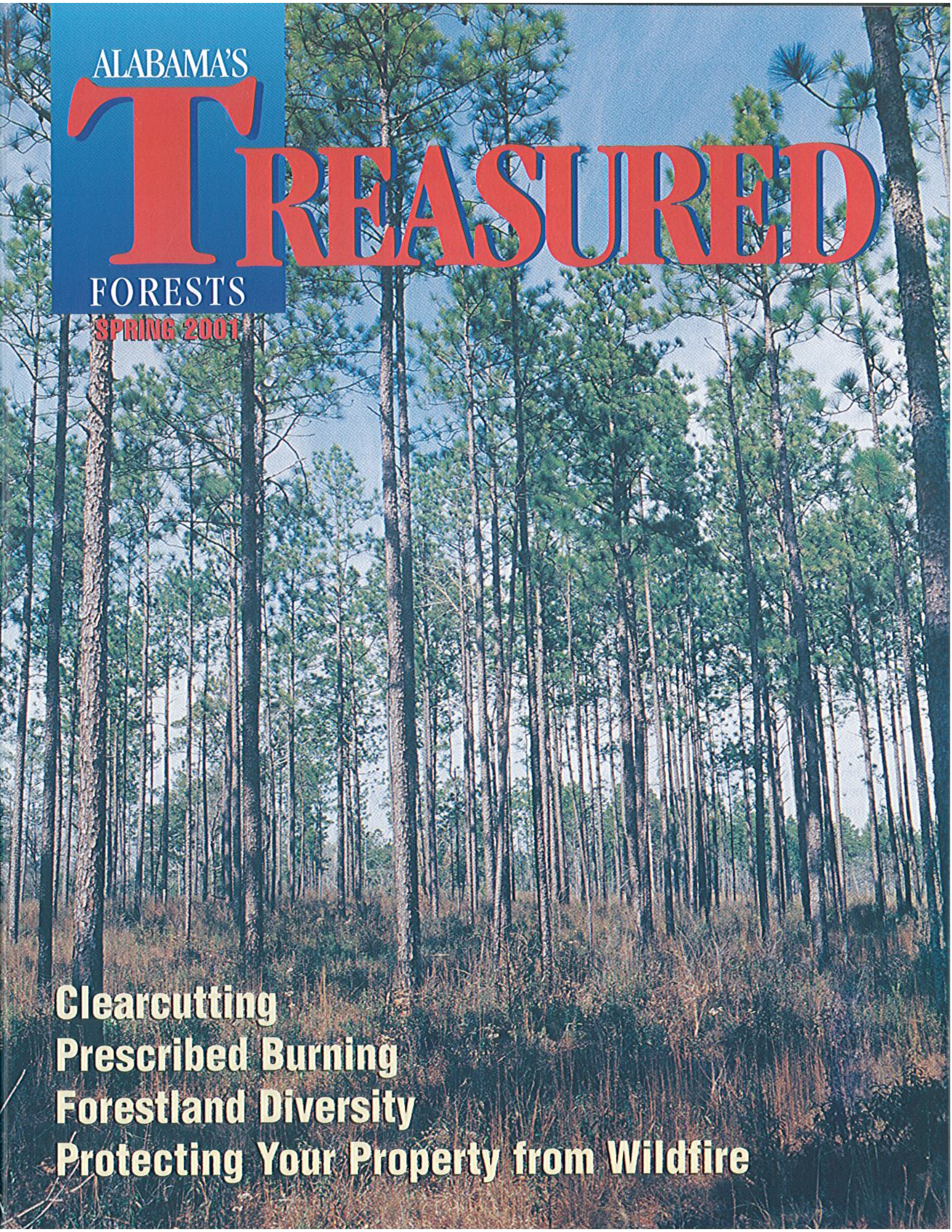


ALABAMA'S TREASURED FORESTS

SPRING 2001

Clearcutting
Prescribed Burning
Forestland Diversity
Protecting Your Property from Wildfire

DON SIEGELMAN
Governor, State of Alabama

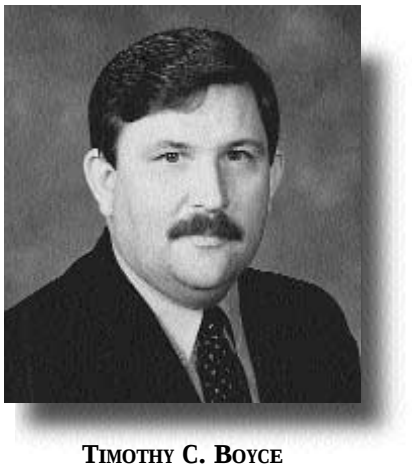
I am committed to protecting Alabama's forests and natural treasures. In April 2000, I appointed 63 members of the Alabama Commission on Environmental Initiatives to research and develop quality options to encourage the long-term preservation of Alabama's natural environment. Since that time, the commission has conducted a series of 12 town meetings to gain input from citizens, while the members developed plans to protect our natural treasures.

The commission has since made 40 recommendations that will help us protect our lakes, rivers and forests. A number deal specifically with ideas for protecting Alabama's forests. The entire report is available online courtesy of Jacksonville State University at http://www.jsu.edu/depart/epic/ACEIreport.htm.

The commission stresses their support for the Clean Water Action Plan, which was designed to protect public health and restore our nation's precious waterways. This plan charts a new course by emphasizing collaborative strategies built around watersheds and the communities they sustain. Alabama's commission is already working to develop a water withdrawal system for our state.

They also suggest a comprehensive state plan for environmental education to assure that Alabamians understand the importance of our natural treasures and the consequences of actions that may harm them. Such programs would focus on schools but also reach out to the general public.

I am personally committed to improving environmental education in this state. I certainly appreciate the commission's hard work in developing its recommendations, and I will keep you updated on our progress. These recommendations are just the first step. We will continue to work in order to protect our forests and all of Alabama's environmental treasures.



TIMOTHY C. BOYCE
State Forester

We are all so blessed to be able to call ourselves Alabamians. We live in a great state rich in natural resources and wonderful people. Sometimes, however, we take this for granted. I received the following in an e-mail from my mother recently, and wanted to share it with you. It truly puts things in perspective.

Putting Things into Perspective

If we could shrink the earth's population to a village of precisely 100 people, with all the existing human ratios remaining the same, it would look something like the following. There would be:

- 57 Asians, 21 Europeans, 14 from the Western Hemisphere, both North and South Americas, and 8 Africans
- 52 would be female; 48 would be male; 70 would be non-white; 30 would be white
- 6 people would possess 59% of the entire world's wealth and all 6 would be from the United States.
- 80 would live in substandard housing; 70 would be unable to read; 50 would suffer from malnutrition; 1 would be near death; 1 would be near birth; 1 (yes, only 1) would have a college education; 1 would own a computer

When one considers our world from such a compressed perspective, the need for both acceptance, understanding and education becomes glaringly apparent. This is also something to ponder . . .

- If you woke up this morning with more health than illness, you are more blessed than the million who will not survive this week.
- If you have never experienced the danger of battle, the loneliness of imprisonment, the agony of torture, or the pangs of starvation, you are ahead of 500 million people in the world.
- If you can attend a church meeting without fear of harassment, arrest, torture, or death, you are more blessed than 3 billion people in the world.
- If you have food in the refrigerator, clothes on your back, a roof overhead and a place to sleep, you are richer than 75% of the world.
- If you have money in the bank, in your wallet, and spare change in a dish someplace, you are among the top 8% of the world's wealthy.
- If you hold up your head with a smile on your face and are truly thankful, you are blessed because the majority can, but most do not.
- If you can read this message, you are more blessed than over 2 billion people in the world that cannot read at all.

ALABAMA'S TREASURED FORESTS

Vol. XX, No. 2 Spring 2001

CONTENTS

DEPARTMENTS

COVER: Covington County landowners Marion and Myra Mickelson use prescribed burning in the management of their TREASURE Forest. The result is open, park-like woodlands like this longleaf stand. Photo by Kim Nix.

Alabama's TREASURED Forests (ISSN 0894-9654) is published quarterly by the Alabama Forestry Commission, 513 Madison Avenue, Montgomery, AL 36130. Telephone (334) 240-9355. Bulk rate postage paid at Montgomery, Alabama. POSTMASTER: Send address changes to: *Alabama's TREASURED Forests*, P.O. Box 302550, Montgomery, AL 36130-2550. Web site: www.forestry.state.al.us

Longleaf TREASURE

By KIM G. NIX, Editor

Abundant natural regeneration is found throughout the property.

Covington County, with its sandy soils and temperate climate, is an ideal area for growing longleaf in Alabama. The natural range of this pine includes most of the Atlantic and Gulf Coastal Plains from southeastern Virginia to eastern Texas and south through northern Florida. While there were once 60 million acres of longleaf growing in this region, today there is only an estimated 4 million acres. In recent years longleaf has been making a comeback, thanks in part to the efforts of landowners like Marion and Myra Mickelson. Actually, the Mickelsons have long been advocates of planting longleaf. Recognizing that their land is most suited to this species, the Mickelsons are managing their property to optimize the growth of longleaf.

Starting from Scratch

The Mickelsons acquired their 280 acres from Myra's father, who gave the property to the couple as an early inheritance in 1950. The property was cutover when they became the new owners. According to Marion, a person could stand in the middle of the property and see three-quarters of a mile in all directions. "There wasn't a tree in sight," he

The Mickelsons were approved for prescribed burning under the Stewardship Incentives cost-share program. Covington County Forester Mike Older, center, explains the paperwork to them.

Most of the trees are harvested for poles.

said. Their first order of business was to have firelanes plowed by the local Alabama Forestry Commission. Myra remembers paying 5 cents per acre for this service in the early 1950s. The Mickelsons had some of the first firelanes in the county and have set an example of responsible stewardship from the beginning.

During the first years of ownership it was impossible for the couple to manage the property hands-on. Marion's commitment as a pilot in the Air Force meant the couple had to leave their newly built home for several years and spend time overseas. When they returned in 1967 after Marion's retirement from the military, they received a big surprise. Longleaf pine had naturally regenerated and covered the acreage. This was due in great part to some neighboring property owned by forest industry that contained mature pines. The Mickelsons believe that these trees seeded their property during the years they were away. It also helped that wildfires had burned on a regular basis and vegetative competition for the young pines was kept at bay. "It had burned almost every year that we were gone," said Marion.

Marion realized that fire is of special benefit to longleaf and has been dedicated to prescribe burning sections of the property every two to three years. Not only does fire reduce the competition from other species, Marion explains, but danger from wildfires is reduced as well. The major competition for the pines are plants like gallberry and yaupon.

This year the Mickelsons were approved for prescribed burning under the Stewardship Incentives Program. They are working with the Covington County office of the Forestry Commission to burn part of the property in 2001 and the remainder in 2002.

Natural and Artificial Regeneration

About 240 acres of the property is in longleaf pine. The Mickelsons have used both natural and artificial regeneration methods on their TREASURE Forest. Approximately 60 acres have been planted in longleaf, while the remainder is natural. The pines range in age from 50 years on down to two years old.

The seedlings planted on one tract a few years ago were infected with brown-spot needle blight, which can stunt the growth of seedlings and even kill the young trees. Upon the advice of the Alabama Forestry Commission, the Mickelsons prescribed burned the tract and effectively eliminated the disease from the seedlings.

In 1986 the Mickelsons became some of the first landowners in Alabama to plant longleaf under the Conservation Reserve Program. "For my money, there's nothing better than a longleaf pine," says Marion. "Some people say they are harder to plant—and they are," he added. "But it's worth it." He cites the tree's disease and fire resistance, ease of management and the value of different products the tree yields as reasons, but also feels longleaf has special beauty.

County Forester Mike Older wishes more landowners had recognized the value of planting longleaf in years past. "Mr. Mickelson was just ahead of his time by planting longleaf," he said. "He's a good example of what you can do. He always saw what nature did and tried to imitate it."

During their years of ownership, the Mickelsons have had one large timber sale and several thinnings. The big sale came soon after they had put their three children, Arthur, Roger and Diane, through college. Myra thought their trees might be able to bring them some much-needed income. "I said, 'Marion, let's sell some of these trees. I'm tired of being broke!'" After receiving professional advice, the couple decided to sell 100 acres of timber. They were pleasantly surprised at what the trees brought. Except for one load of sawtimber, all the trees were cut for poles.

Twice they were forced to salvage timber that was downed by hurricanes, once in 1975 and then 20 years later

Continued on page 6

when Hurricane Opal devastated the area. Just prior to Hurricane Opal, the Mickelsons had thinned much of their timber. The bad timing meant that the hurricane did even greater damage than it would have otherwise. Openings in the forest allowed trees to be more easily downed by high winds. There are still a few scars from Opal here and there, but the property is in excellent shape and the Mickelsons are back on track with their management plan.

The acres under natural regeneration are being managed with the shelterwood method. The trees have been thinned enough so that the remaining ones are providing the seed for new trees. Young pines in the grass stage are visible throughout the property, and some are beginning their growth spurt out of this stage.

Wildlife Management

The primary objective for this TREASURE Forest is timber production, but a close second is wildlife management. It is not unusual for visitors on a drive through the property to see several turkeys. Regular thinnings and salvaging from storm damage—along with frequent prescribed burning—have left the land open and park-like. This kind of habitat is favored by species such as turkey and bobwhite quail. "My property is better for quail than most here in Covington County," Marion said. Again he touts the use of prescribed burning, which stimulates the growth of food in the understory for quail and other animals.

Open areas where there were few or no trees were converted to food plots for wildlife. One of the six plots is planted in chufas, a favorite turkey food. Others are planted in various grains. Autumn olive and sawtooth oak have also been planted on the perimeter of pine plantations.

Although the property is not leased for hunting, the Mickelsons allow friends and neighbors to hunt. As a result, those friends and neighbors have taken on some responsibilities to aid the couple. They help plant and maintain food plots, build and put up tree stands, and have even constructed a tree stand for Marion with windows and a special chair. In addition, they also look out for trespassers and potential poachers.

Patches of hardwoods add diversity to this TREASURE Forest.

Open ares were converted to food plots for wildlife.

Bluebird boxes have been positioned throughout the property. Duck boxes are placed next to a pond that is shared with a neighbor. The Mickelsons enjoy watching all kinds of wildlife and can tell many stories about the beaver activity in the pond. One of Marion's favorites is how he once found that his boat had been pushed from the edge of the pond by the beavers and used in the construction of their dam!

Although the majority of the property is in longleaf pine, there are spots of hardwoods along natural drainages. Different species of oaks provide acorns for deer, squirrels and other animals.

Setting an Example

The Mickelson have always enjoying hosting groups of people on their property. One of the first relationships formed was with the forestry students at Lurleen B. Wallace College in Andalusia. As a way to put into practice what they learned in the classroom, the students wrote a management plan for the Mickelsons' property that was tailored to their objectives. Nearby W.S. Harlan Elementary School brings classes of fourth and fifth graders to visit the TREASURE Forest. In turn, the Mickelsons go into the classroom and talk with the students.

The Solon Dixon Forestry Education Center has also taken advantage of the nearby TREASURE Forest to help teach college students. While they were at the Dixon Center for forestry camp, students from Iowa State University visited the Mickelson property on two occasions. Their property was chosen so the students could see examples of both planted pines and naturally regenerated pines. The TREASURE Forest concept was also highlighted.

Marion and Myra have been active members of the Covington County Forestry Planning Committee for many years and are members of their county chapter of the Alabama TREASURE Forest Association. Their property was certified as TREASURE Forest #773 in 1990. It is also a certified Tree Farm. Out of more than 1,400 TREASURE Forest landowners, each year four are chosen as winners of the Helene Mosley Memorial TREASURE Forest Award. In 2000 the Mickelsons were honored with this award for the Southeast Region of the state.

It is hard to calculate how one's contact with others will affect the future. As a result of the Mickelsons' involvement in the TREASURE Forest program, two of their nephews now have certified TREASURE Forests. Their son Roger has purchased 40 acres nearby and is actively managing it. The Mickelsons' interaction with students from elementary school to college may well result in future landowners and land managers who are better stewards than they would be otherwise. The Mickelsons have set an example that all of us can follow.

LANDOWNERS LEGISLATIVE • ALERT

By JAY JENSEN, Washington Office, National Association of State Foresters

Congress has now reconvened for its 107th session and is gearing up for action. For the first time in nearly a half-century, Republicans control both the Executive and Legislative Branches of the government resulting in the very real prospect of bill passage. However, legislative success will depend heavily on compromise and taking the middle ground approach because of the tight margins in both the House and the Senate. The Republicans currently hold a five-seat advantage in the House and also hold the tie-breaking vote of Vice-President Dick Cheney in the evenly split Senate.

So what is on the minds of legislators related to private forestry? We will likely see immediate attention on many of the hot issues that were left unresolved at the end of the 106th Congress. The Conservation and Reinvestment Act (CARA) will be introduced again and Republican leaders, including President Bush, have already begun investigating the federal rules that were finalized as Clinton left office. This includes the USDA Forest Service's roadless area rule and the EPA's Total Maximum Daily Load program. Below is a brief breakdown of these issues and more.

Conservation and Reinvestment Act

CARA was the largest and most popular single piece of natural resource related legislation to move through the 106th Congress. The massive billion dollar conservation package proposed using offshore oil and gas royalty revenue to fund numerous conservation programs including two State & Private Forestry programs, the Urban & Community Forestry and Forest Legacy programs. Although it did not pass Congress last year, supporters are planning on reintroducing nearly identical legislation early in the 107th hoping to garner President Bush's endorsement and enabling an early environmental victory for the fledgling administration.

Roadless Areas

In January 2001 the USDA-Forest Service released their plan to close off roadless areas within the National Forest System. Expected to impact nearly 60 million acres of NFS land, along with the communities and people associated with those lands, the final rule has drawn strong praise and criticism from all sides. Congress and the new Bush Administration have announced their intention to review and scrutinize the roadless policy.

Congress has a number of options, including the authority to overturn the rule under the Small Business Regulatory Enforcement Fairness Act within 60 days of finalization. This authority has never been tried previously and Congress may not be able to make the decision stick. Its application would be nebulous at best. However, we should expect introduction of legislation to stop or overturn the rule, but the prospects for passage would be highly unlikely as strong polar interests are at play. In all likelihood, we will see a number of committee hearings and investigations into the matter. Further, Congress and the administration may not act until lawsuits filed against the roadless policy begin to play out as well.

Water

There has been a significant amount of regulatory and judicial activity in the realm of forest water quality over the past year, particularly the Total Maximum Daily Load program and wetlands. Although forestry was not included in the final TMDL rule released last July, and has also not been directly impacted by any of the recent wetland ditching regulations and rulings, there is significant interest among members of Congress and the Bush administration on these issues.

Along these lines, we can expect a number of bills to be introduced that will attempt to amend the Clean Water Act. The first out of the blocks is a bill from last session, the Fishable Waters Act (H.R. 325) introduced by Rep. Tanner (D-TN). H.R. 325 would put renewed emphasis on nonpoint source pollution abatement by empowering local watershed councils with grant-making authority. In all, we will definitely see numerous committee hearings, congressional reports and other inquiries into the business of nonpoint source water pollution, including a few major water bills, but like other issue areas, success will be hard to come by.

Endangered Species

The realm of threatened and endangered species is another area that will be of interest to the 107th Congress, but one where we will not likely see any major revisions or reauthorizations of the Endangered Species Act. There will be the requisite number of bills introduced from all camps addressing private property takings, the listing process, recovery planning and other aspects of the ESA. However, anything more than a piecemeal approach to ESA reauthorization will get into serious trouble as the tight vote margins will not allow for major, substantial changes to this highly controversial law.

Carbon Sequestration

Congressional action to ratify the Kyoto Climate Change treaty seems unlikely in this Congress, although it is not known yet how the Bush administration will approach the issue. However, businesses and others interested in climate change view carbon sequestration

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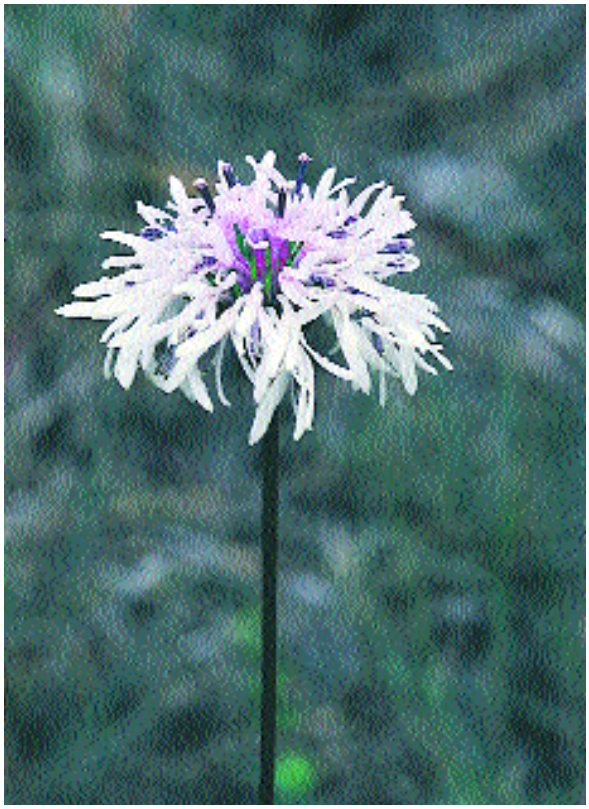
THREATENED & ENDANGERED SPECIES

Mohr's Barbara Button

By ALFRED R. SCHOTZ, Botanist/Ecologist, Alabama Natural Heritage Program℠

In the early summer of 1882, while surveying for plants near Cullman, Alabama, Dr. Charles Mohr noted an unfamiliar relative of the sunflowers growing among some grasses in a small streamside opening. He promptly collected a sample and stowed it away for identification. Little did he know that his discovery was a species new to science and one of the rarest of all native plants to be found in the Southeast. The species, Mohr's Barbara button (*Marshallia mohrii*), is now listed by the Fish and Wildlife Service (FWS) as threatened.



Named in honor of Dr. Mohr by venerable botanists Chauncey Beadle and Frank Boynton, *Marshallia mohrii* was collected only a few times following Mohr's discovery. For more than 80 years the species remained in relative obscurity with no new populations known from beyond its small range in two north Alabama counties. However, in 1969, Dr. Robert Kral of Vanderbilt University made a startling discovery when he observed the species along a roadside in Cherokee County near the present-day village of Centre. Since then, with an expanded knowledge of habitat preferences and growing patterns the species has been found elsewhere across the region.

Mohr's Barbara button is a narrowly distributed species preferring calcareous glades and marly (wet clay comprised of dissolved limestone) prairies scattered throughout northern Alabama and adjacent Georgia. These plant associations are specialized habitats that support a unique assemblage of flora rarely encountered elsewhere in the state. Although generally dominated by a rich and diverse herbaceous component, these plant communities are often characterized by a sparse occurrence of small trees and shrubs, such as Eastern redcedar, hackberry, glade privet, and Carolina buckthorn. The incidence of periodic droughts and shallow well-drained soils are partially responsible for the scarcity of woody vegetation, but yet is essential for nurturing some of the state's rarest and most cherished plant life. *Marshallia mohrii* is a perennial species able to withstand the harsh often desert-like conditions of these habitats by developing a thick root system capable of storing sufficient reserves of water. During early spring, upon being replenished with winter precipitation, the plants emerge and evolve into an erect herb that produces attractive heads of small pale pink flowers in May and June.

Once commonplace, these glade and prairie systems were scattered upon the landscape across northern Alabama, often occurring as small isolated openings. Today, there are a few remaining examples that have escaped the influence of humanity, many of which have been destroyed by trash disposal, road building, and residential development. One of the finest remaining populations occurs in an open glade complex situated along the Cahaba and Little Cahaba Rivers in Bibb County. The Nature Conservancy has acquired portions of this site and is currently working with adjacent landowners to protect nearby areas. A high degree of endemism, the presence of several rare species, and the decline of these habitats make calcareous glades and marly prairies some of the most botanically unique ecosystems in Alabama. If we are to preserve this species in perpetuity, it is important that we maintain the natural habitat in which Mohr's Barbara button is a part. Only through the long-term commitment toward conservation planning will this species remain a part of Alabama's remarkable natural heritage for generations to come. For further information contact the Alabama Natural Heritage Program of The Nature Conservancy, Huntingdon College, Massey Hall, 1500 East Fairview Avenue, Montgomery, AL 36106.

Alabama Clean Water Partnership

By COLEEN VANSANT, Alabama Forestry Commission, Information Specialist, Cullman

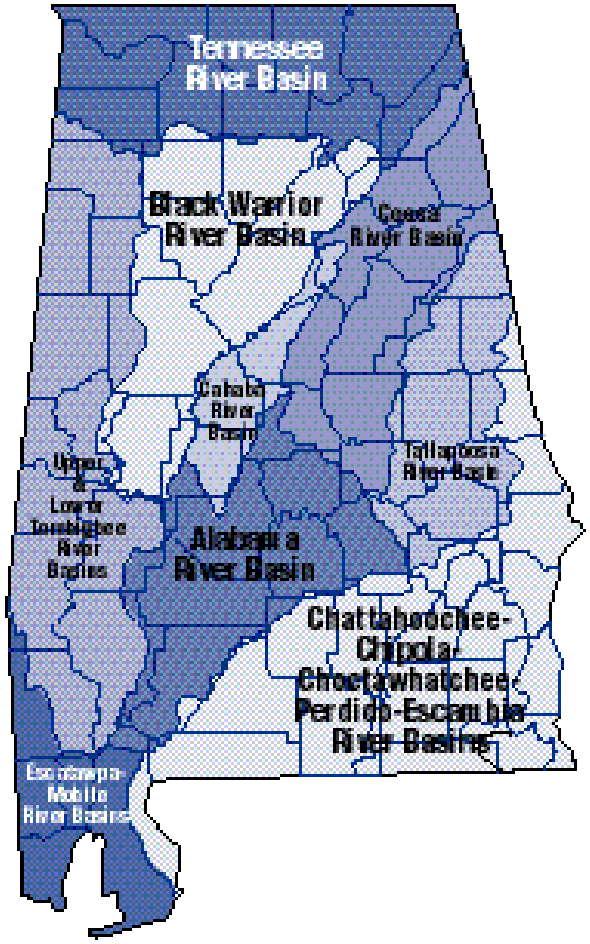
Alabama is blessed with an abundance of natural resources. Two of the most abundant and interdependent are the thousands of miles of rivers, creeks, and streams and the 22 million acres of forested land. Now the forestry community has the opportunity to get involved with the protection and management of our state's vast water resources.

The Clean Water Action Plan, announced in February 1998, encourages the involvement of local citizens to address the protection and restoration of America's water resources. One of the primary components of the plan is to utilize a watershed management approach in protection and restoring water quality in our rivers, streams and lakes.

In Alabama, nine Clean Water Partnership Projects have been identified by river basins. They are the Alabama River Basin, Cahaba River Basin, Chattachoohee/Choctawatchee-Pea/Perdido (not Baldwin County) Escambia Basin, Coosa River Basin, Mobile, Escatawpa/Perdido (includes Baldwin County) Basin, Tallapoosa River Basin, Tennessee River Basin, Tombigbee River Basin, and Warrior River Basin. These basins will serve as partnerships in a coordinated effort of public and private stakeholders to restore and protect Alabama's water resources.

Through these partnerships, watershed management plans for each basin will be developed and implemented. Participation in the partnership allows community-based groups, units of government, industry, farms, forestry, special interest groups, and individuals to pull together available resources to develop and implement programs that address and meet the needs of a variety of interests.

In each basin, a steering committee has been or will be established to facilitate communication and provide vision for the protection and restoration of Alabama's water resources. Steering committees are comprised of stakeholders who have basin-wide interests. Each basin will also have a facilitator who will oversee the administrative activities and projects of each basin.



Many of the basins have been further divided into smaller geographical areas by river section or sub-basins. Local stakeholders representing diverse interests will participate by serving on a sub-basin stakeholder committee. Each local committee will oversee the development of a watershed management plan and to pursue the implementation of watershed management projects. Local committees are comprised of stakeholders representing agriculture, local and state government, forestry, public health, utilities, environmental concerns, industry, economic developers, as well as recreational, educational and regulatory representatives. Each sub-basin committee will have representation on the steering committee.

Through the combined efforts and interests of these partnerships, Alabama's water resources will be protected or restored for citizens today and for future generations.

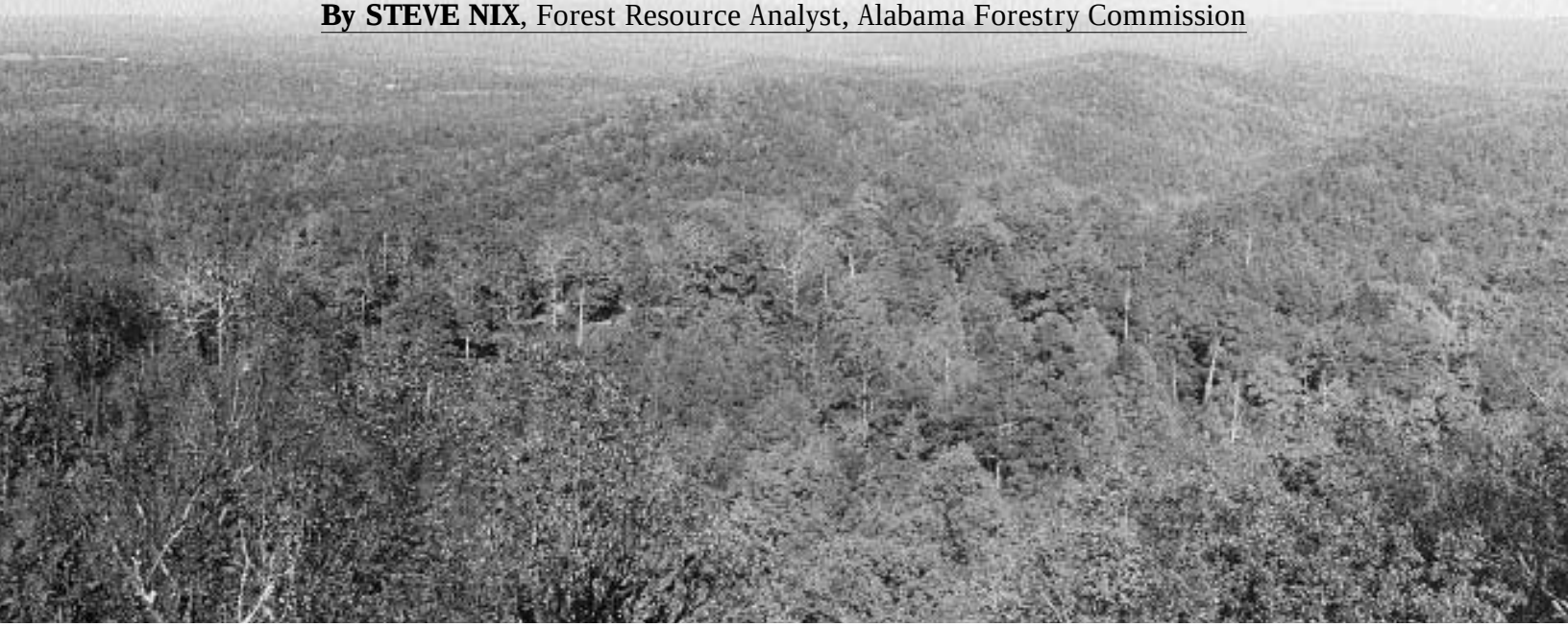
For more information about the Alabama Clean Water Partnership contact Allison Newell, Executive Director, Alabama Water Watch Association, at 334-514-3826.

Benefits of the Alabama Clean Water Partnership

- Improved communication to promote information sharing, broad awareness of resource availability, and networking with others in river basins facing the same challenges.
- Data and information consolidation through the creation of a communications and technical assistance network so that a more complete account of each basin's water quality is available.
- Improved coordination between community-based groups, municipalities, and industries to prevent the duplication of efforts and to streamline the use of limited resources.
- Opportunity for collaboration in decision-making and implementation of watershed management projects.

Alabama Forest Inventory Completed

By STEVE NIX, Forest Resource Analyst, Alabama Forestry Commission



The Alabama Periodic Forest Inventory for 2000 is complete. Trees on nearly 6,000 plots were measured during a period between February 1997 and December 2000. Nine crews working full time for the last three years collected enough data to provide a picture of the Alabama forest and how it fared during most of the 1990s.

All 67 counties in six units have forestry data and a portion of the state now has current published resource reports. Some of this data is still in review. More on the present survey later.

Historical Data

United States Forest Service and Alabama Forestry Commission field crews have been in the tree data collecting business for 50 years. Published reports based on this data were compiled for years 1953, 1963, 1973, 1982, and 1990. Data taken from these five surveys indicate a growing but changing resource.

These past surveys show that while sustaining the same amount of forested acres, Alabama continues to grow more trees than ever before. Eleven billion trees grew in Alabama forests in 1953. Four decades later the forest increased to 14 billion trees.

Amazingly, this growth occurred at the same time the forest products industry continued to expand plants and locate new ones. The late 1980s and early 1990s saw billions of dollars invested in by forest product companies in Alabama. At the same time 300,000 to 400,000 acres of trees were planted annually.

Timber volumes increased and have more than doubled in 40 years. Total tree volume increased from 11 billion cubic feet in 1953 to over 23 billion cubic feet in 1990. Both pine and hardwood volumes grew at about the same rate.

Improved forest management increased the statewide annual growth from 37.1 cubic feet in 1953 to 55.9 cubic feet in 1990 or to approximately one-half cord per acre. The cut also expanded from 28.7 cubic feet in 1953 to 49.8 cubic feet.

We are growing more wood than is being cut—and have been for 50 years.

The Present Survey

Information gathered from the latest Alabama survey data has forest resource analysts cautiously optimistic. At this writing, two southwest Alabama units are complete with published data. Two other units are in review.

Here is what we are finding:

- The total forest acreage for Alabama is increasing.
- Stocking levels are increasing (trees are fully occupying more acres).
- Pine acreage has stabilized and there is an increase in the hardwood forest.
- There are more non-industrial private forest acres than ever before.
- The total volume for both pine and hardwood is increasing.

Even with this good news, those reviewing the data have not yet come to any statewide conclusions. Much of the data is yet to be processed. However, the data for completed units look good.

To enhance the survey's reliability, a Survey Review Committee looks at every completed unit's data. This review committee is made up of users from state and federal government, the forest product industry, Auburn University, conservation organizations and private consultants. This broad-based committee's mission is to ensure a significant measure of quality control, lend credibility to the database and help in the distribution of the data.

As new information is processed, articles in *Alabama's TREASURED Forests* magazine will continue to provide updates.

Littleleaf Disease

By JIM HYLAND, Forest Health Chief, Alabama Forestry Commission

Littleleaf disease is the most serious disease of shortleaf pine in the southern United States. Affected trees have reduced growth rates and usually die within six years.

Early work on littleleaf disease was done in northwest Alabama by Dr. York of the Alabama Forestry Commission. His early work centered on the fact that shortleaf pine will sprout and the trees showing littleleaf symptoms had sprouted from being killed back by fire.

The disease is caused by a complex of factors including the fungus *Phytophthora cinnamomi* Rands, low soil nitrogen, and poor internal soil drainage. Often, microscopic roundworms called nematodes and species of the fungus genus Pythium are associated with the disease.

In the most recent general survey, littleleaf disease was found over 35 percent of the commercial range of shortleaf pine and was severe enough to be a factor in timber management on about 1.4 million forested acres.

Shortleaf pine is the most seriously damaged host, with loblolly pine damaged to a lesser extent. Littleleaf disease has also been reported on Virginia, pitch, slash, and longleaf pines.

Symptoms

The first symptoms of littleleaf disease are those of nutrient deficiency: a slight yellowing and shortening of the needles and reduction of shoot growth. In the later stages of the disease, the symptoms become progressively more distinctive. The crown of an infected tree appears thin and tufted: needles are discolored and shorter than normal, and the tree loses all but the new needles near the tips of the branches. Branches begin dying, starting in the lower crown and progressing upward through the crown. During this time, the tree's diameter growth is markedly reduced.

About three years before death, diseased trees commonly produce abundant crops of small cones. Most of the seeds

SCOTT ENEBAK

in these cones are sterile. Trees killed by littleleaf can often be recognized by these undersized cones, which remain attached to the branches.

Where the disease is present, preventive or control measures should be taken. A set of management recommendations has been developed for use where littleleaf has been or is expected to be a problem.

High-value trees or stands (urban areas, seed orchards, etc.)—Fertilize on a four-year cycle. One ton of 5-10-5 fertilizer plus one-half ton of ammonium sulfate per acre can be used for high-value trees or ornamentals. Occasionally, fertilization is used to boost a forest stand into the next higher value class; for example, from pulpwood to pole. Fertilization will delay the development of symptoms for about four years. Trees appear to recover since the needles produced during this period will be very close to normal in color and size.

Average forest stands, 10-25 percent of trees symptomatic—Remove symptomatic trees during normal thinning operations. Beware that these stands will be highly susceptible to Southern pine beetle.

More than 25 percent of the trees symptomatic—Cut all shortleaf pines and regenerate the area in a more resistant species such as loblolly pine or hardwoods. Site preparation can include subsoiling to break up any brick-like compacted layer of clay (hardpan) present in the soil. This technique permits better drainage on the site, thus reducing the spread of the fungus.

Reference

Forest Insect and Disease Leaflet 20, "Littleleaf Disease," Paul Mistretta, 1984.

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Why Clearcut Your Timber?

By TIM ALBRITTON, Forest Operations Specialist, Alabama Forestry Commission

Any timber harvest should be well planned and have specific goals in mind. Some goals for harvesting timber might include the following: to increase the vigor of residual trees, to salvage timber damaged by weather, to remove trees with disease or insect problems, to receive income, to improve wildlife habitat of a desired game animal, or to remove overmature trees. In order to achieve these goals land managers use a variety of forest cutting methods.

One of these methods is **clearcutting**. Many foresters today refer to clearcutting as a **regeneration cut**, which more accurately describes what takes place. "Clearcutting is conceptually the simplest way of starting the replacement of old stands." (Smith, David M., "The Practice of Silviculture" 1986). The clearcutting practice is defined as: A method of regenerating a forest stand in which all trees on the area to be regenerated are removed in one cutting, leading to the development of an even-aged stand either by natural seeding or by planting. Clearcutting may be done in blocks, strips, or patches.

Clearcutting is generally recommended in the following situations:

- All the trees of a stand are mature or overmature and the stand contains no desirable seed trees.
- The stand is stocked with undesirable species.
- The stand is seriously damaged by fire, insects or disease.
- It is required to generate certain species.

Clearcutting is not recommended on steep lands subject to erosion.

Sound Silviculture

Clearcutting is a sound silvicultural practice used by many foresters today. When used properly it can lead to the establishment of an even-aged stand composed of naturally or artificially established trees. However, it should not be confused with a "commercial" clearcut where only the merchantable trees are cut. Commercial clearcutting, also called high-grading, usually leaves a stand in an unacceptable condition and requires considerable site preparation before tree planting can occur.

Clearcutting in small patches increases the amount of edge, which is beneficial to wildlife.

When clearcutting with natural regeneration careful consideration should be given to the desired species of the future stand. Some species regenerate readily from stump sprouts, others depend on seed stored in the forest floor, and other light-seeded species can reproduce from seed disseminated from trees located adjacent to the clearcut. Natural regeneration after a harvest cut comes from new seedlings established at or after the time of the harvest cut, from older seedlings established prior to the harvest cut (advanced reproduction), and from stump sprouts or roots of the harvest trees (Beck 1980). Depending on the species composition of the stand, options may be limited.

Artificial regeneration should be used if achieving successful natural regeneration following a clearcut is doubtful. If the clearcutting operation is performed properly, the majority of the vegetation of the previous stand is removed and replaced by newly planted seedlings. Some form of site preparation is usually needed before tree planting begins.

Wildlife Benefits

Many species of wildlife benefit from the opening effect of clearcutting. The Whitetail deer have much more browse, which is a major source of food, after a clearcut. Clearcutting in small patches also increases the amount of "edge." Edge is the transition area between two different stands. The edge effect is most prevalent between a forest stand and an opening; however, increased diversity, cover, and forage can exist between two different stand types.

The most recent forest inventory data for Alabama estimates that 800,000 acres per year have had some form of harvesting conducted. Approximately 360,000 acres, or 45 percent, of the 800,000 acres harvested is clearcut. This 360,000 acres represents less than 2 percent of the commercial forest in Alabama.

Summary

Many individuals, groups, and societies today view clearcutting as an environmentally insensitive practice that should be banned. In my view, the forests of Alabama should be managed for the multiple benefits they can provide to our society, not preserved like a museum piece. If sufficiently planned and properly applied, clearcutting can be a management tool to improve the future forest productivity and sustainability of Alabama's forest.

Leave Some Trees in Your Clearcut

By JEFF JACKSON, Extension Wildlife Specialist and
Professor of Wildlife Management, University of Georgia

What on earth did you leave those trees for?" a forester friend asked me as we looked out over a clearcut on my land. I had left a random scattering of tall pines along with a hardwood here and a clump of leftovers there. Row upon row of newly planted pines covered the land. The big trees left behind looked like an accident. They could have been sold along with the rest. What a waste! My forester friend viewed them as unwanted competition with the new crop in the making.

Wood production is the only way some strictly utilitarian people look at forest management. Why leave perfectly good crop trees unsold? But there are other points of view.

I like the visual variety these sentinel trees provide. I prefer to see some tall vegetation in a young woods. It makes the land look more like a forest and less like . . . well . . . a clearcut or a cropland. Leaving some trees in a clearcut can give subtle values to the land.

A few big old survivors give the land a sense of history—I can keep in touch with the way the land looked before the cut. Tall isolated trees serve as perches and nest sites for hawks, owls, flycatchers and other birds. The larger hawks and owls can help keep rabbit and rodent populations at moderate levels. These bark-chewing creatures can damage or destroy little pines if they get very numerous.

Now that those little trees are 6 years old and 15 to 20 feet tall, I use the "leave trees" as reference points to help find my way. It's easy to get disoriented in stands of young trees taller than your head. I can't see far at eye level so it's hard to find my way, but I can look up and see the tops of tall trees. I know all my tall leave trees individually so I can use them as markers to help me return to an exact spot in my stand of little trees. They also come in handy when laying out firebreaks for prescribed fire.

Perhaps best of all these tall trees allow me to get above my young trees in a climbing deer stand. I can sit there in comfort in my little climbing armchair, high in my tree, viewing my domain like a hawk. My view from above allows me to see wildlife and to take deer from the interior of the stand—in places where they would normally be inaccessible.

Now that the pines make excellent hiding and escape cover for deer, I've converted some of the little clearings near the leave trees into secret mini food patches. These are a wonderful hunting aid. There is no way to get a tractor in there so I make the patches with hand tools and herbicides.

I also left some of those trees because they produce fruits and nuts for wildlife. Some of my favorites are persimmons and oaks. In the context of production pines here in the South, these trees are viewed as "weeds." But I like them, so I keep them. They serve to support the deer stand and to attract wildlife.

When I select trees to leave in a clearcut I consider a range of values:

- Location: Where would it look nice to see tall trees?
- Wildlife food value: Fruits, nuts, seeds, etc.
- Good place to hunt: Overlooking game trails or stream crossings.
- Ease of climbing: Modern climbing deer stands work best on straight trees with diameters that fit the climber.
- Not the best timber trees: Unless it is intended as a seed source for the next generation, I prefer to sell the more valuable trees.
- Number: I leave two or three times as many as I want because the leave trees will suffer high mortality from ice and wind after their protecting neighbors are cut.
- Picturesque form: If you have artistic sense, leave "wolf trees" and other trees of interesting shape.

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Southern Forest Science Conference

November 26-28, 2001
Atlanta, GA
Renaissance Waverly Hotel

The Southern Forest Science Conference is a collaborative effort to highlight the history and future role of science in sustainable forestry. Understanding the contribution science makes to the management of forest ecosystems and resulting social and economic benefits is essential.

Speakers will include representatives from the U.S. Forest Service, J.W. Jones Ecological Research Center, Virginia Tech, The Nature Conservancy, International Paper, The University of Georgia, The Sampson Group, Inc., and the State University of New York-Buffalo.

For more information on the conference, visit the web site:

www.southernforestscience.net

Prescribed Burning for Timber and Wildlife

By TED DEVOS, Trust Forester and Wildlife Biologist, Regions Bank, Montgomery, AL

The use of prescribed fire has been around for centuries in North America, being first used by native people for creating access to game and good feeding range for deer, etc. Nature helped this process along in the Southeast by causing lightning set fires that burned large expanses (tens or hundreds of thousands of acres per burn) of upland longleaf pine woodlands each year depending upon seasonal weather. Amazingly enough, and contrary to popular belief, the Southeast was dominated by a near monoculture of pine except for the wetter draws and creek/river bottoms where fire seldom burned. Through thousands of years of consistent fire, plants and animals adapted to this dominant habitat type and often required it for survival.

Also, contrary to popular belief, this predominantly pine stand with a scattering of upland and bottomland hardwoods was the habitat type which resulted in the huge populations of game and non-game wildlife the first settlers to the Southeast described. This woodland described by early botanists and travelers was a "cathedral-like" forest, "scatteringly planted to broom-pine (longleaf)," with a grassy (herbaceous) understory that was very easy but monotonous to ride through.

In today's environment, it is becoming increasingly uncommon to see large scale burning in the woodlands, both because of excessive development nearby or lack of understanding of the benefits of prescribed fire in the piney woods. Burning for preparation of clearcut sites for replanting is most common but does not have the same wildlife benefits. Smoke management is the most common problem with many complaints arising due to "smoking in" roadways and developments. "Smoke on the Road" signs, pre-burn notification of affected residents and a simple explanation of why you are burning may reduce complaints.

So the sensible question arises: why go to all the trouble to burn? The simple answer is that more acres of wildlife habitat can be positively influenced for far less money with controlled burning than with probably any other management technique. Generally, burning helps control sapling hardwoods, keeping the woodlands more open, allowing sunlight to reach the dirt, thereby stimulating native plants that many species rely on for food. In addition, burning reduces the duff layer on the ground, scarifies seeds, and acts as a fertilizer catalyst promoting the sprouting of many seeds that would be dormant without fire. With that introduction, lets look at the more common species that benefit from a controlled burning program.

Prescribed burning is often used after clearcutting to prepare the ground for replanting.

Quail

Of all the game species occurring in Alabama, quail have had the hardest time in the environment of the last three decades. For a variety of reasons primarily related to habitat destruction and degradation, quail populations have severely declined throughout the Southeast. One of the most obvious habitat degradation factors is the lack of fire in the woodlands. Ask anyone who lived in rural Alabama before the late 1960s what the woodlands were like and you will learn a few things about quail management and burning. Fire was routinely used to control hardwoods and quail were abundant around the many small farms. Quail is also one of the only game animals that can seldom be managed without annual burning in portions of their range.

Several benefits are associated with fire that directly influence quail populations. In woodlands that are kept open (lots of sunlight on the ground), fire keeps the sapling hardwoods under control but still allows resprouting. This allows some "hard" cover to be retained close to the ground giving birds some protection from predators. Fire also removes buildup of dead vegetation (duff) on the ground, exposing seeds. This means quail have access to food and can more easily move through the growing vegetation. By stimulating hard-seeded plants such as legumes to sprout, fire actually increases the production of seeds and food plants on which quail rely through the year. Fire promotes grasses to grow (by controlling taller hardwood saplings) in the understory and, by leaving portions of the woodlands unburned for a

year, allows you to increase coverage of quality nesting cover. Research is indicating that burned woodlands rival fallow fields for insect production, and quail cannot be raised without good quality brood rearing range containing high insect densities.

Deer

Utilizing fire for deer management is not as often used as for quail management, but outside of the Black Belt, some of the largest body-sized and racked deer can be found on areas managed for quail. They may not need the open ground to feed and move about, but the promotion of legumes and other forbs helps increase quality food supplies for deer. Amazingly, the majority of food that deer eat year round are these "weeds," which are strongly promoted by fire. Deer select foods in these burned woodlands that tend to be the same legumes, etc. which are so important for quail foods and deer may also be having an impact on quail production in Alabama. Regularly burned open piney woods may not look like the best deer woods due to the low herbaceous understory, but you would be amazed at the deer densities that this habitat type can support due to increased food supplies. As with quail management, burning in pine stands for deer should be tied closely with timber thinnings.

Turkeys

Although wild turkeys can be sustained at a high density without prescribed burning and benefit the least from the open, burned piney woods that quail like, they will benefit from regular controlled burning on a portion of their range each year. Turkey like the open nature of a more heavily stocked (shady) mixed pine/hardwood stand that is occasionally burned to keep the shrub layer at a minimum and increase production of herbaceous weeds. Burning 20 percent of your upland pine and mixed pine stands per year is probably optimal for wild turkeys.

Non-game and Others

Several non-game wildlife species are either dependent upon or benefit from prescribed burning. Red-cockaded woodpecker, gopher tortoise, and indigo snake are species that rely on this type of habitat management to survive and are federally protected within their range. Grasshopper and Bachman's sparrows, pine and prairie warblers, parulas, towhees, meadowlarks, bobolinks, indigo buntings, blue grosbeaks, vireos, and flycatchers are examples of birds that benefit from early successional habitats like burned, open pinelands. These birds are of special concern by both state and federal agencies due to declines that are nearly as severe as that of bobwhite quail in the last 30 years. Maintaining grassy/weedy woodlands and idle fields on your property will greatly assist in the maintenance of these species.

STEVE MASLOWSKI/USFWS

Many non-game species like the prairie warbler benefit from prescribed burning.

Timber

Managing timber in a regularly burned environment can be a little more problematical; however, utilizing longleaf pine wherever possible greatly assists a manager to maintain uplands with burning. Longleaf can be burned much earlier in its life (possibly as early as the second year after planting or regeneration). Loblolly and shortleaf pine can be managed and burned regularly, but burning must be done carefully to avoid damaging young regeneration where it exists or is wanted. Once pine stands have grown to 3-4 inches in diameter and have been burned once or twice, they are relatively resistant to fire damage. There is conflicting information on whether regular burning slows the growth of pine timber, but generally it can assist in creating clean, limb-free boles on poles and logs and helps tree growth by reducing competition from hardwoods. Burning regularly with slow, cool fires probably has much less effect on timber growth than burning once every 5 or more years when the fires are much hotter and flame height is much higher. Burning later in the growing season probably has more negative effect on pine growth than winter fires. Undoubtedly, late, hot fires that result in high rates of needle scorch will slow growth or eventually kill even mature pines.

Burning in hardwood stands should generally be avoided but there is interesting research being done on the positives and negatives of cool fires in mature hardwood stands. Fire in mixed pine/hardwood stands will eventually result in the mortality of some of the thinner-barked hardwoods but will also allow more sunlight (taken up by the large canopy of the hardwoods in summer) to reach the ground during the growing season, resulting in better and more wildlife foods. Burning in young upland hardwood stands should be reserved for site preparation prior to replanting and for the control and removal of those hardwood stands. In general, open, fire-maintained pine woodlands are better wildlife habitat anyway.

Continued on page 17

Seedlings Available from AFC Nursery

Now is the time to plan for the next tree planting season. The Alabama Forestry Commission's E.A. Hauss Nursery in Atmore will begin taking orders on June 1, 2001. For more information or to place a seedling order call 334-368-4854. You may also contact your county Alabama Forestry Commission office to place a seedling order.

Pine and Hardwoods

PINES

Seed Source	Price Per 500	1,000
Loblolly		
Coastal 1.5 Generation	$25	$39
Piedmont 2nd Generation	$28	$44
Slash		
1st Generation	$23	$35
1.5 Generation	$25	$39
Longleaf		
Unimproved	$39	$60
1st Generation	$45	$70

HARDWOODS

Species:

Green Ash	Cherrybark Oak	Yellow Poplar
Shumard Oak	Water Oak	White Oak

Prices:

$21 per 100 seedlings $185 per 1,000 seedlings

- Minimum order of hardwood seedlings is 100 per species.
- Total hardwood order determines price.
- Orders of less than 2,000 may be shipped UPS or picked up at Hauss Nursery. Orders of more than 2,000 seedlings may be shipped to cooler locations with a 2-week notice from customer.

Wildlife and Habitat Selection

SPECIES AVAILABLE

Autumn Olive	Chinese Chestnut	Crab Apple
Flowering Dogwood	Common Persimmon	Native Pecan
Sawtooth Oak	"Gobbler" Sawtooth Oak	

25 Trees	100 Trees	500 Trees	1,000+ Trees
$12	$40	$150	$250

- Species may be mixed.
- Minimum order of wildlife seedlings is 25 per species.

Lespedeza Thunbergii

$26 Per 500

$42 Per 1,000

Ordering Information

- Call Hauss Nursery at 334-368-4854 or your local Alabama Forestry Commission office to place your order. You will receive an acknowledgment with 5-7 working days.
- Upon receipt of your acknowledgment, remit a 10% non-refundable deposit or full payment if your order is for more than 50,000 pines or more than 10,000 hardwoods. Remit full payment for all other orders.
- For proper credit always note your customer ID number on your payment.
- We accept checks and money orders payable to: Alabama Forestry Commission.
- All payments/deposits are due within 30 days of the acknowledgment date.
- Orders are normally available for delivery during December, January and February only.
- Hauss nursery pick-up—Schedule your delivery at least 2 weeks in advance by calling 334-368-4854.
- UPS delivery—Select shipping date from the calendar enclosed with your acknowledgment and return with your payment.
- Cooler delivery—Orders of more than 2,000 may be shipped to our cooler locations in Huntsville, Florence, Tuscaloosa, Cullman, Autaugaville, Opelika, Ozark and Atmore. Delivery must be scheduled at least 2 weeks in advance.

Prescribed Burning

Continued from page 15

Site preparation burning is usually done in the fall and on clean sites that are to be planted in the winter. Benefits to wildlife are there, but are minimal compared to woodland burning. Timing of burn is also a critical component of a burning program and a subject of recent debates.

Winter/spring—This is the most common and traditional time of burning. The winter season is dominated with cool temperatures, frequent moist cold fronts, consistent northwest winds and low humidity—ideal burning conditions. Burning two to three days following a soaking rain usually results in excellent woodland burning weather. Seeds of weeds have not sprouted, leaves have not emerged on woody stems and generally little plant mortality is expected at this time of year. The main effect is cleaning up dead plant material, incorporating ash as a fertilizer, and top-killing some of the smaller hardwood sprouts and shrubs. Plant response following winter burns begins once the weather warms up and generally favors legumes and forbs, which are excellent wildlife foods. Grasses such as broomsedge are often common or dominant following cool season fires.

Growing season—Late spring/summer fires are beginning to be more common on prescribed burning programs due to the theory that it is the natural time frame for lightning set fires. With most of the woodland weeds sprouted and shrubs and hardwood trees in full leaf, much higher mortality can be expected in hardwood stands. Growing season fires are often used in pine stand and wildlife management for the high control of hardwood and shrubs it provides. Some "fire adapted" plants such as wiregrass produce heavier crops of seed following summer fires, and growing season burns can be used to prepare longleaf sites for natural seedling establishment. Drawbacks to this season of fire are the mortality of turkey, quail, and songbird nests, and killing back some of the better quality food plants such as legumes and forbs, and favoring grasses.

Conclusion

As you can see, developing a quality burning program in the woodlands can be complex and the advice of a professional is recommended. Alternatives such as utilizing chemicals for hardwood control may not achieve the desired results. Beware of advertisements claiming techniques that have all the positives of burning without any drawbacks. One of the most important and basic benefits of prescribed burning is the removal of rank, dead vegetative material from the forest floor allowing ground dwellers such as quail to move about and find food. Day in and day out, a burning program is a cheaper and more effective wildlife management technique than utilizing chemicals for maintaining open pine stands. There is no "magic bullet," and all techniques (burning, chemicals, bushhogging, disking, etc.) have their positives, negatives, and a place in a management program.

The Alabama Forestry Commission conducts prescribed burning for landowners. Consult your local office for current costs and more information.

Article courtesy of the Alabama Wildlife Federation. Reprinted with permission.

Manage Your Forest with Diversity in Mind

By TIM ALBRITTON, Forest Operations Specialist, Alabama Forestry Commission

For many people, forest management usually means uniformity. Driving down the interstate in Alabama people see thousands of acres of uniform, even-aged pine stands and relate this to forest management. It does require a significant amount of forest management knowledge and skill to establish, maintain, protect, and ultimately harvest an even-age pine stand. However, for the average Alabama private landowner of 100 acres, a uniform even-age pine stand may not be the best management decision. The old adage "Don't put all your eggs in one basket" could apply here.

Forest Diversity for Health

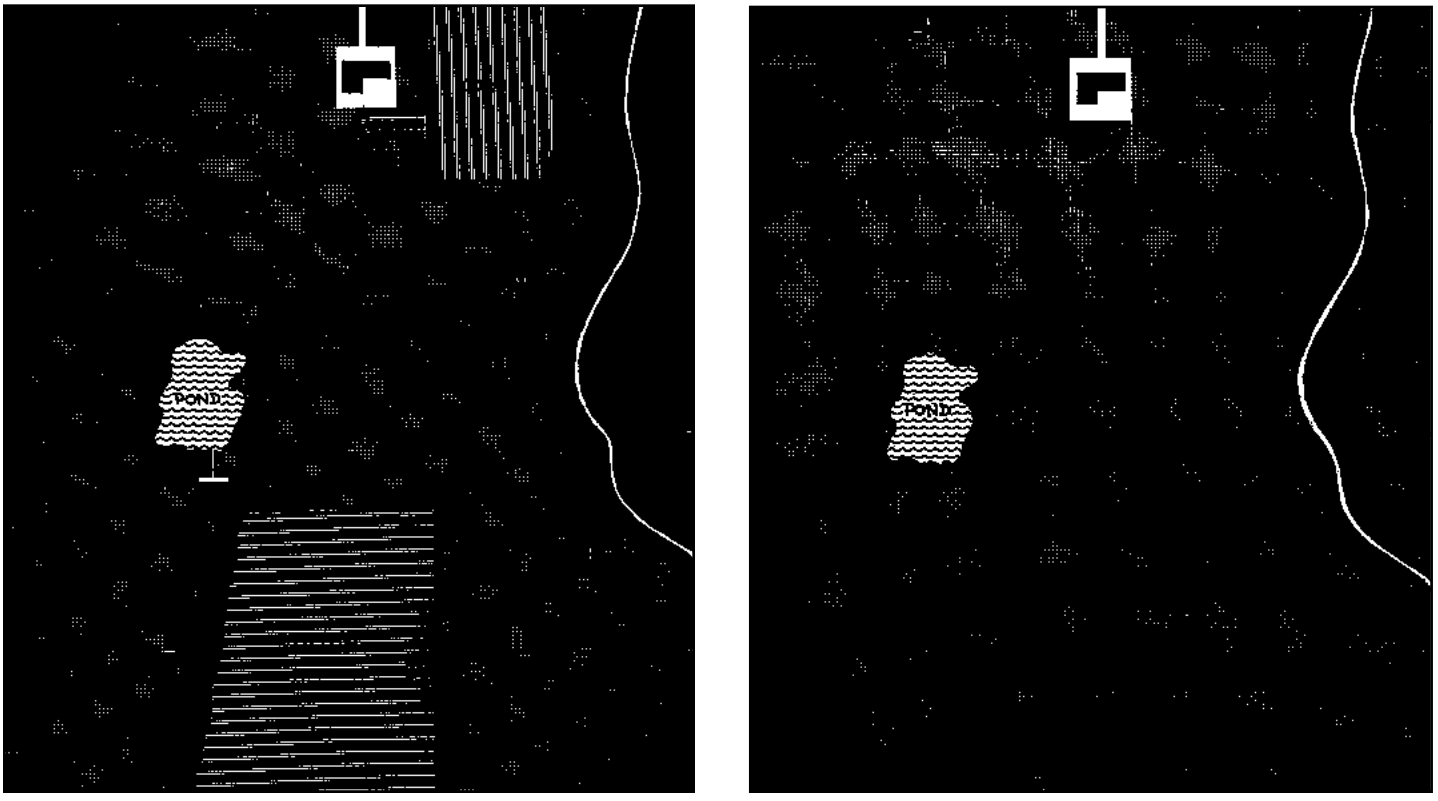
Let us consider forest diversity from a forest health perspective. Generally speaking, the more diverse a forest is, the less likely it will suffer significant losses due to insect and disease. Alabama experienced one of the worst Southern pine beetle (SPB) epidemics on record this past year. In 2000, Alabama had 24,465 SPB spots that killed 1,438,100 pine trees.

One of the limiting factors with most insect populations is the available food supply. That food source for the Southern pine beetle is obviously pine trees, especially those stands that are stressed or low-vigor (example: a pine stand that has not been thinned). An SPB spot will not, however, spread into a hardwood stand.

Landowners can eliminate the food supply from a growing insect population with changes in forest type. Forest stands can differ in various ways: naturally regenerated vs. artificially regenerated, hardwood vs. pine, mature vs. young, over-stocked vs. under- stocked, uneven-aged vs. even-aged, and by species. A landowner can reduce losses due to insect and disease attacks by purposely managing for diversity.

A good way to create natural forest type changes that can aid in reducing the spread of insect populations is by leaving wide streamside management zones or SMZs. A streamside management zone is a strip of land immediately adjacent to a stream where soils, organic matter and vegetation are managed to protect the physical, chemical and biological integrity of surface water adjacent to and downstream from the forestry operation.

The property on the left is much more diversified, especially if one is managing for species such as quail.



Forest Diversity for Wildlife

Diversity is very important if wildlife management is an objective. The three basic things wild animals need to survive are food, water, and cover. Habitat needs vary depending on which animal is being managed and, therefore, so should the management. In his article, "Enhancing Wildlife Habitat," Wildlife Biologist David Nelson of the Alabama Department of Conservation says, **"The single most important objective of timber management practices used to enhance wildlife habitat is to provide a diversity of habitat types."**

A diversity of cover types with plenty of edges is advantageous if deer hunting is an objective. Edge is the transition zone between two different plant communities. The most prevalent is between a forest and an open field.

The wild turkey and the gray squirrel prefer mature hardwoods, preferably oaks. The bobwhite quail needs fairly open land with a combination of fields in row crops, pasture, and fencerows. Generally speaking, the best forest habitats for the widest possible range of wildlife are those that:

1. Contain both bottomland and upland sites
2. Contain both pine and hardwood timber types
3. Differ in age classes from newly regenerated to mature timber
4. Are thinned on a regular bases
5. Are prescribed burned at regular intervals (if predominately pine)

Silvopasture combines trees with forage and livestock production. The trees are managed for high quality sawlogs at the same time an annual income is generated for livestock grazing.

Forest Diversity for Specialty Markets

Species diversity can be an asset when marketing timber. Timber markets, to say the least, are difficult to predict. Relying on one species or product can be a risky proposition.

A growing interest with many landowners is the specialty wood products market. Specialty wood products are nontraditional items from the forest. These products range from baskets, bat houses, and banjos to walking sticks, wreaths, witch hazel bark and everything in between.

A web site has been developed to help landowners list their product or products for sale. The web site lists hundreds of specialty products being marketed and sold: http://www.sfp.forprod.vt.edu/special_fp.htm.

Forest Diversity for Agroforestry

Agroforestry is an intensive land management system that optimizes the benefits from the biological interactions created when trees and/or shrubs are deliberately combined with crops and/or animals.

The benefits created by agroforestry practices are both economic and environmental. Agroforestry can increase farm profitability in several ways:

1. By combining farming and forestry the total output per unit area of tree/crop/livestock combinations is greater than any single component alone.
2. By protecting crops and livestock from the damaging effects of wind so they can be more productive (mainly in western states).
3. By introducing new products to add to the financial diversity and flexibility of the farming enterprise.

Thinning not only provides income but can improve the forest health of the stand.

Agroforestry helps to conserve and protect natural resources by mitigating non-point source pollution, controlling soil erosion, and creating wildlife habitat. The benefits of agroforestry add up to a substantial improvement of the economic and resource sustainability of agriculture.

The Southern Agroforestry Conference was held in Huntsville in October 1998. Agroforestry practices have been experimented in the south and have proven to be successful. For more information contact the USDA National Agroforestry Center (NAC), East Campus-UNL, Lincoln, Nebraska 68583-0822. Phone: 402-437-5178; web site: www.unl.edu/nac.

Conclusion

In conclusion, managing your forest for diversity can help prevent future problems and create future opportunities. There is certainly nothing wrong—environmentally or economically—with an even-age single species forest management approach. There will always be a place for commercial forest production in Alabama. However, a landowner owning a small tract may want to consider a more diverse approach.

Illustrations on page 18 courtesy of the Alabama Cooperative Extension System.

Feral Hogs in Alabama

By DAVID K. NELSON, Supervising Wildlife Biologist, Division of Wildlife and Freshwater Fisheries and
DR. M. KEITH CAUSEY, Ireland Professor of Wildlife Science, Auburn University, Retired

True wild pigs are not native to Alabama or the New World. Wild swine in North and South America, which may include European wild hogs, feral hogs and hybrids between the two have been introduced. Pigs were domesticated 8,000-9,000 years ago and have spread throughout the world as livestock. In many areas they have escaped or been released from domestication and reverted to a wild, free-ranging or feral state. Published estimates suggested a U.S. population of between 1 and 2 million feral hogs in 1991 and they were the most abundant, free-ranging, introduced ungulate in the U.S. In 1989 wild hogs reportedly occurred in 19 states, Puerto Rico and the U.S. Virgin Islands.

In the 1980s feral swine in the South were located primarily in the Coastal Plain from Virginia south to Florida, and west to Texas. As early as the 1950s concentrations of wild swine in some areas of the Southeast were reportedly as high as 75-100 animals per square mile.

History

The first introduction of swine into the New World theoretically was by Christopher Columbus in 1493 in the West Indies. Hernando De Soto introduced them to the U.S. mainland in 1539 into Florida and in 1542 into Texas. Domestic hogs may have been brought to South Carolina in 1526 and in 1565 Admiral Pedro Mendez reportedly brought 400 pigs to Florida. Other introductions continued in the Carolinas, Georgia, Alabama and other areas of the Southeast by adventurers and missionaries throughout the 17th and 18th centuries. Settlers, farmers and native Americans promoted the spread of hogs by open range practices that persisted in some states until as recently as the 1960s.

Feral hogs can produce two litters a year.

The timber industry is adversely affected by feral hogs because they destroy seedlings and young trees.

Population Distribution

A 1988 survey of feral swine distribution in Alabama suggested significant populations occurred only in those counties of southwest Alabama along the Tombigbee and Alabama rivers. Apparently during the past 10 years there has been a general statewide spread of these animals aided by individuals who trap or catch wild pigs alive and relocated them to new habitat. Once released, feral swine have an alarming reproductive capacity with sexual maturity on good habitat attained at four to six months of age. After a gestation period of less that four months sows give birth to four to 12 piglets and some sows produce two litters per year. Once established, feral pigs are virtually impossible to eradicate.

Negative Impacts

Feral hogs are large-bodied, generalist feeders that tend to be rather nomadic and travel in groups. They have few natural enemies other than humans. Feral

swine almost always impact New World habitats negatively and most often are undesirable additions to habitats into which they have been introduced. Feral hogs can damage timber, agriculture, pastures and wildlife openings and their rooting habit is especially damaging because of soil disturbance that increases erosion and alters nutrient cycles. Feral pigs are considered the greatest vertebrate modifiers of natural plant communities since our native plants have not adapted to this rooting behavior. Rooting decreases total woody understory and while recovery of plant communities is variable, species composition may be altered permanently. Rooted areas also are prime spots for invasion by exotic plants.

Feral hogs directly compete with native wildlife for hard and soft mast and many other foods important to deer, turkeys, squirrels and other native species. Feral pigs are serious nest predators and also prey upon birds, mammals (including deer, sheep and goats), reptiles and amphibians. They carry many parasites and diseases such as cholera, pseudrabies, brucellosis, tuberculosis and anthrax. Some or all of these diseases can by transmitted to native wildlife, domestic livestock and humans.

As a Game Species

Feral swine have been hunted widely in the South and have become an integral part of the social fabric of many rural communities, especially in Florida and Texas and certain areas in the Carolinas, Tennessee, Georgia, Louisiana and Alabama. They make excellent table fare and the trophy value of large males may be economically important in some places. Feral hogs are listed as a game animal by the Alabama Division of Wildlife and Freshwater Fisheries and apparently there in an increasing number of hunters interested in pursuing them. However, the list of undesirable effects of high populations of feral pigs is endless. Individuals involved in releasing feral hogs into new range give little thought to the destruction they can cause and every effort should be made to prevent their spread into areas where they do not occur.

Article and photos courtesy of the Alabama Wildlife Federation.

FACTS ABOUT FERAL HOGS

- Feral hogs are present in at least 23 states and are found in most counties in Alabama. Their population and range is increasing.
- Feral hogs first breed at six months of age and average nearly two litters per year. They average 4 to 7 pigs per litter and breed in cooler months with a 115-day gestation period.
- A population of feral hogs can double every four months. Numbers can increase from one hog per square mile to 100 hogs per square mile in 3 years.
- Feral hogs are crafty, intelligent animals and can survive natural hardships. They consume primarily vegetative matter. The meat of feral hogs is lean and delicious.
- In Alabama the feral swine is categorized as a game animal and can be hunted by licensed hunters year round without limits. They cannot be hunted over bait or at night. If on private land, the landowner's consent is needed. It is illegal to relocate trapped feral hogs.
- The last cases of brucellosis and pseudorabies in domestic swine in Alabama were in 1996. Since that time, there have been over 20 premises where trapped feral hogs have been found to have one or both diseases. Fortunately, the diseases have not spread back to domestic hogs.
- Domestic swine owners should not allow their hogs to come in contact with feral hogs. Adequate fencing and sound management practices should be utilized.
- Brucellosis, also know as Bangs disease or undulant fever, can spread from infected hogs to humans, usually through contact with reproductive fluids and internal organs. It is a debilitating disease in humans requiring extensive antibiotic and supportive treatment. Hunters are especially vulnerable when field dressing feral hogs barehanded. The meat should be cooked thoroughly.
- Trichinosis, caused by a parasite found embedded in the muscle and Sparganosis, caused by a tapeworm found beneath the skin of infected hogs, can affect humans. Caution should be exercised in handling; thorough cooking will destroy the parasite.
- Agricultural damage caused by feral hogs includes crops, land, fences and farm equipment. The timber industry is adversely affected through destruction of seedlings and young trees. Monetary loss can be extensive.
- Feral hogs have a negative impact on wildlife habitat. They are known to compete directly with native game species, cause damage to wildlife food plots and are predators of ground-nesting birds.

Information provided by the Alabama Department of Agriculture and Industries.

Music from the Trees

By TILDA MIMS, Forest Education Specialist, Northwest Region, Alabama Forestry Commission

My father was a carpenter for more than 50 years. He was from the old school where artisanship was valued over profit, and quality valued more than convenience. Through his example, I learned early to appreciate the patience and vision required to turn a block of wood into an item of beauty and function.

Although today's technology makes it possible to manufacture almost anything in a matter of moments, there remains a desire to own a unique piece that suits one's individual needs, tastes and self-image.

Luthiers, people who make musical instruments, represent the best of those who strive to recall, recreate and relive the artistry of a bygone era. Alabama is home to several of these talented individuals and each of them make good use of local and exotic woods to create lasting treasures.

Henry Taylor, 81, of Cullman County started building guitars about 22 years ago when a friend introduced him to a C.F. Martin guitar kit that had just come on the market. After that he began making the instruments from scratch and has since built about 50 "Taylormade" brand guitars in his Hanceville workshop. He has sold most of them but has given quite a few away as gifts to his seven children and 21 grandchildren.

Charles Grissom uses scrapers and planes rather than sandpaper to smooth the wood. Here he works on wood that he cut and dried.

Halfway between Hamilton and Hackleburg in Marion County, you will find Charles Grissom custom-building guitars and mandolins. Self-taught through reading, observation and mistakes, he has been in the business since the mid-70s. His trademark mother-of-pearl "Grissom" is on the neck of many bluegrass instruments played today.

Anden Houben of Tuscaloosa has been creating historically accurate harpsichords full-time since 1976. He, too, is self-taught and built his first instrument from a kit. Anden makes each part of the instrument by hand with the exception of the felt and strings, remaining faithful to the original materials and construction techniques.

Musicians, whether they play chamber music or bluegrass, want to own a beautiful instrument that also sounds good. One of the most important variables in defining the sound of a musical instrument is the wood used to make it.

Species

A musical instrument may contain seven or more species of wood, each with an affect on the sound it produces. Even within a species, no pieces of wood are exactly alike. Environmental conditions, genetics, the age of the tree, growth patterns, grain orientation and curing conditions are equally important when wood is selected.

Spruce is the traditional source for the soundboard of all musical instruments. It is light and has a tight grain enabling the wood, when properly cut, to vibrate. As the instrument ages, sap hidden in the grain gradually dries and crystallizes, further accentuating the bright, resonant quality of the wood.

Alabama woods commonly used for guitars and mandolins are hickory, white oak, maple, holly, persimmon, cherry, poplar, black walnut and redcedar. Anden makes use of cherry, basswood, cottonwood and walnut. Other species such as mahogany and rosewood are also among woods traditionally used in making musical instruments.

Other than species, a significant variable is the quality of the wood, which includes appropriate cutting and careful aging.

Henry Taylor strums an electric guitar he built for his grandson. On the floor are (center) a flattop acoustic guitar and (right) a scaled-down guitar for his youngest granddaughter.

Cutting

Wood used for a musical instrument is quartersawn. The log is cut to length and then cut into quarters (called billets), and the boards are sawn off the resulting flat sides. Quartersawing contributes to a high strength-to weight ratio. This wood shrinks and swells less in width, and warps less than plain-sawn wood. Also, quartersawn wood makes the grain more visible.

Quartersawn wood results in a multitude of wedge-shaped pieces. If you were to reassemble the log, you could pick up two adjacent pieces, open them up as though they were a book and create a "book-matched" set of wedges. Bookmatched wood for the top of a guitar provides symmetry and improves tone.

Drying

Wood used for instruments must be thoroughly dry. Wood moves quite a lot as humidity changes; it shrinks as it dries and swells as it becomes moist. If the instrument is constructed before the wood is completely dry, shrinking and swelling can cause the wood to crack.

Air-dried woods enhance the musical properties of wood and are preferred over kiln-dried by most luthiers. Lumber may be purchased air-dried, or the arti-

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RICKEY YANAURA

This lautenwerck, built by Anden Houben of Northport, is a harpsichord-like instrument which imitates the sound of the lute.

Anden Houben patterned this harpsichord after one of the few surviving instruments. The original is in the Victoria and Albert Museum in England.

This harpsichord frame is made of walnut. All surviving 17th century harpsichords were made of walnut.

Take Action to Protect Your Home and Property from Wildfire

By LOU HYMAN, Fire Staff Officer, Alabama Forestry Commission

Global warming, El Nino, La Nina. Whatever the possible cause, Alabama is going through an extended drought period. For the last three years, each summer and fall has seen significantly reduced rainfall and an increasing number of dangerous wildfires.

Drought Increases Wildfires

During the year 2000, the continued dry conditions led to a jump in both the number of wildfires and the size and intensity of the fires. Over the last three years, the annual number of wildfires in Alabama has more than doubled (Figures 1 and 2). During the same period, the total acres burned in the state more than tripled.

The drought of 2000 led to a significant number of fires originating from what used to be "minor" causes. For example, in 1999 Alabama experienced only 56 wildfires caused by lightning. During 2000, lightning fires more than quadrupled to 254 fires burning over 10,400 acres. Last summer, Alabama experienced dry lightning storms—thunderstorms where the rain evaporated before it hit the ground. This is usually a Western phenomenon.

The number of wildfires started by children playing also more than doubled, from 58 fires in 1999 to 135 fires in 2000. People burning debris and letting the fire escape has always been a major cause of wildfires in Alabama. Last year the number of escaped debris fires nearly doubled, from 1172 to 1924 wildfires in 2000.

What all these fire causes have in common is that under normal conditions, few incidents of lightning, children playing or people burning debris would lead to a wildfire. However, the drought conditions of the summer of 2000 left the forest so dry that any spark led to a wildfire.

The hard work of the Alabama Forestry Commission and the volunteer fire departments around the state kept the actual acres burned down from the disaster levels they could have reached. The average size fire in Alabama last year was 13.6 acres. Through hard work, three-quarters of the wildfires in the state were kept to under 10 acres, with 98 percent of the wildfires being less than 100 acres (Figure 3).

These fires had an impact on many

Figure 1

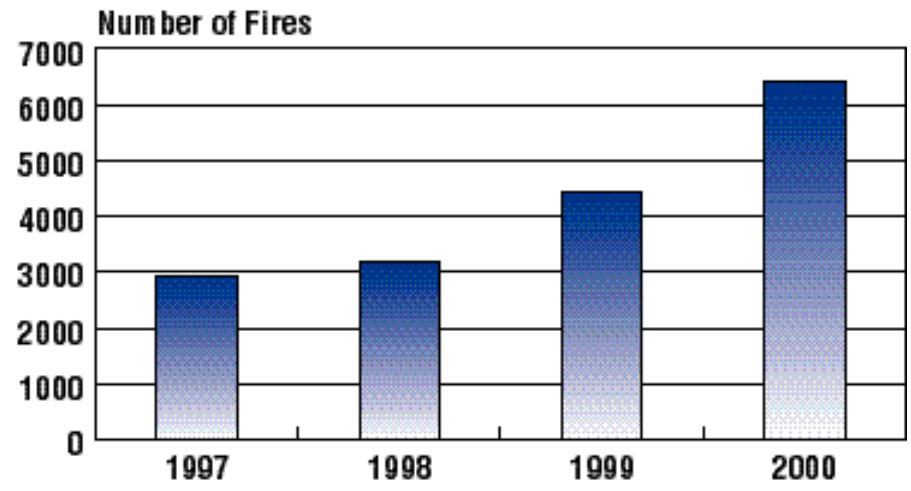
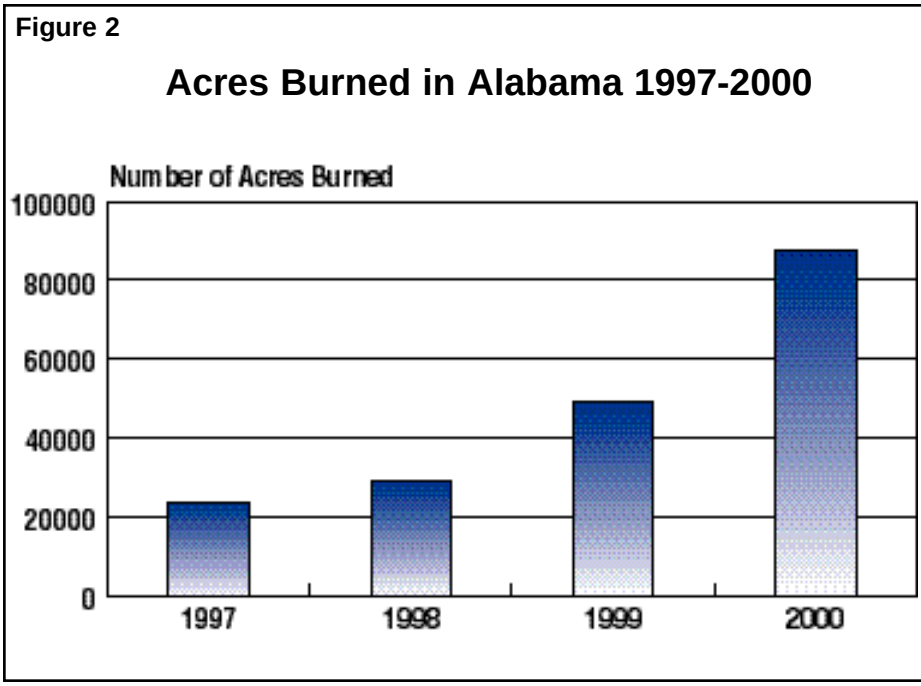


Figure 2



Alabama's extended drought has meant increased wildfires across the state.

Alabama landowners. There was a higher than average loss of pine plantations, with over 33,427 acres burned. Many of these were in 4- to 10-year-old stands, where dryness and winds resulted in almost unstoppable fires that killed most trees. The loss of these investments hit many landowners hard.

The other loss many landowners faced was in hardwood stands, where the dry conditions allowed intense fires to burn in normally wet areas, killing and scarring hardwood trees, resulting in a long-term loss of quality and value in the stand.

Firelanes help break up the forest so wildfires can be more easily controlled.

What's a Landowner to Do?

A major part of overall forest management is the protection of the investment. With so much treasure in your forest, doesn't it make sense to install some basic protective measures to safeguard your property?

There are three parts to what is called the Fire Triangle: Fuel, Oxygen and Heat (or an ignition source). If all these factors are together, a fire occurs. In wildland fires, oxygen is not a limiting factor, but having fuels and enough heat to dry the fuel and cause ignition are key factors. In hot, dry weather, like in a drought, less heat is needed to start the fire and to get it to grow. Just a spark can do it.

When the Alabama Forestry Commission suppresses a wildfire, the most common method is to remove the fuel using a plowed fireline.

To prevent catastrophic wildfires from damaging your forest, you need to break up the fuels. Landowners can do this using firelanes, plowed and disked trails through the forest that break up the ground fuels into compartments where

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Protect Your Home and Property

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any wildfire can be controlled. Landowners can also thin their stands, which opens up the canopy and slows down any crown fires. Landowners can also reduce or remove heavy brush in the forest. Heavy brush, especially brush covered with pine needles, become fuel ladders, continuous layers of fuel that allow ground level fires to climb up into the crown layer. Here the wind can quickly spread it across the forest, severely damaging and killing trees.

A low-cost method of fuel reduction is to fight fire with fire, using prescribed burning. Prescribed burning is the controlled use of light fires under exacting environmental conditions to achieve management objectives without environmental damage. Prescribed burning will reduce the heavy brush in the forest and also burn up a heavy litter layer so that later any wildfire will be low intensity and burn without seriously damaging the forest resource.

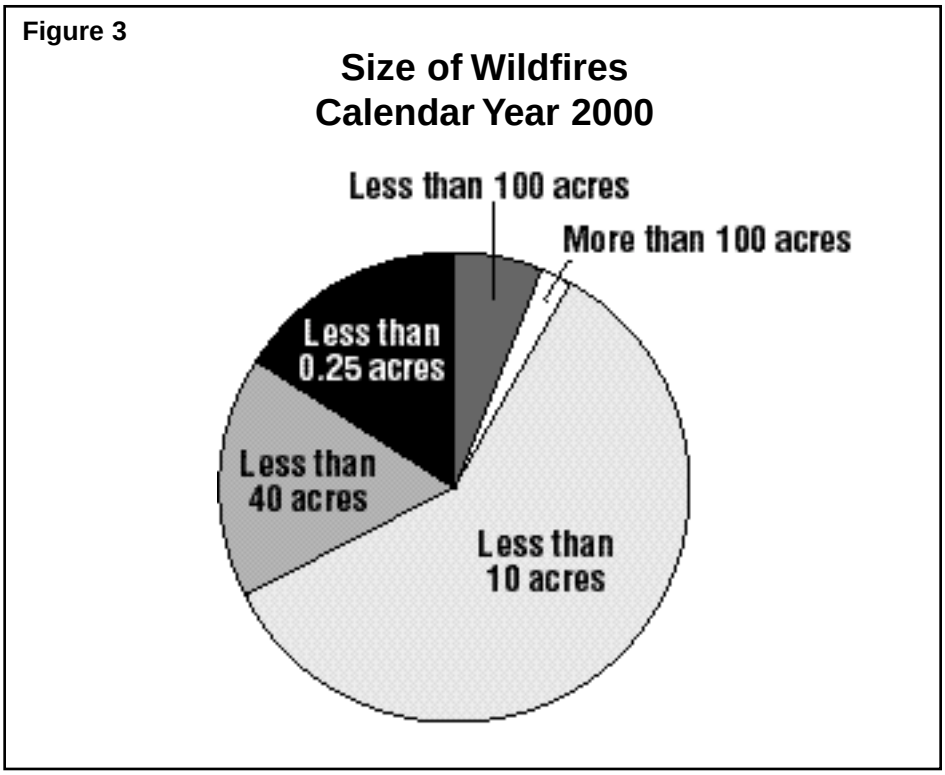
By reducing the fuel loads and the continuity of the fuels in the forest, any landowner can protect his or her investment from catastrophic wildfires. Firelanes, thinnings, brush reduction and prescribed burning are all key insurance practices to protect your forest.

Protecting Structures on Your Land

Speaking of insurance, one key issue is protecting buildings on your land. During the drought of 2000, landowners in Alabama lost 22 homes and 93 other structures destroyed by wildfires; another 36 homes and 22 structures were damaged by fires. The key factor in these losses was a lack of "defensible space" around these structures. Everyone likes to have his or her cabin in the woods, but there is a need to be able to get firefighting equipment up to the house and keep the wildfire away.

Defensible space means having an area around a structure that prevents a wildfire from burning up to the building and allows firefighters to stop the fire before the building burns. At a minimum, every structure in the woods needs to have 30 feet of open space between it and the surrounding forest. This open area can be grassed or kept natural, but it should contain the least amount of flammable materials possible. Homes and decks should be kept away from bluff areas where a fire can burn up beneath the structure. Also, keep flammable liquids away from the structure. Keeping a gas can under the porch can help the porch catch on fire during an emergency. The same goes for pine straw on the roof. One spark, and then the house is on fire. Keep the roof swept off.

Figure 3



REMEMBER

- Construct and maintain firelanes.
- Use prescribed burning to reduce the fuel load in your forest.
- Contact your local office of the Alabama Forestry Commission for more information on firelanes and prescribed burning.
- Clear a defensible space around your home. The area within 5 feet of the house is the most critical for fire protection.
- Avoid using wood shake roofs on woodland homes.

Another issue is, can a fire truck get to your house? Many forests have quaint, winding country lanes leading up to the cabin. A fire truck needs a road 15 feet wide and with a 15-foot clearance from low branches. If the fire truck can't get down your driveway, how can they save your house from a wildfire? Many people like to have formal gates where the driveway meets the road. Can a large truck turn into the driveway through the gate? If it's a 10-foot wide gate, a 12-foot wide fire truck won't fit. Again, if the equipment can't get to the cabin, it's awfully hard to save it from fire.

Out in the fields, hay bales are becoming very valuable, and in drought conditions very burnable. Last year over 700 hay bales burned during wildfires, a loss of over $60,000. If you store hay bales in a pasture, disc around them to keep grass fires away, especially during droughts.

Even though many homes and structures were lost during last year's wildfires, the AFC and local volunteer fire departments worked extremely hard and were able to save 629 homes and 144 other structures as well as 195 hay bales.

A little work on your part can protect your forest and your country home from a devastating loss from wildfire. Isn't it time you insured your TREASURE?

Music from the Trees

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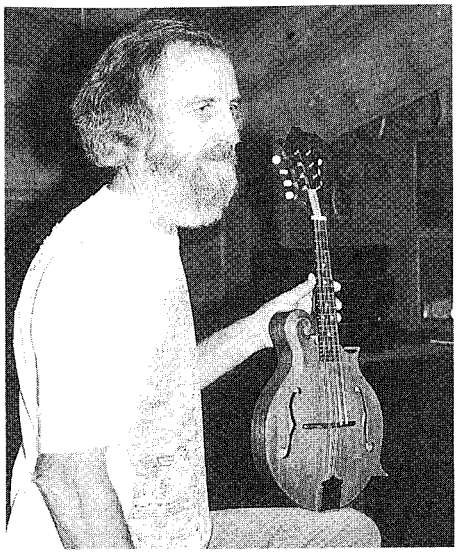


The mandolin, an 18th century Italian instrument, is carved rather than sawn.

be purchased air-dried, or the artisan may age his cut wood indoors in a cool room for 6-8 years before using it. Wood dries most quickly from the ends, which may seal off a portion of wet wood inside the piece. To prevent this, sealing the ends with paint or wax is recommended.

Another method for obtaining aged wood is to reuse wood from a piano, church pew or other large piece.

Handcrafting

One of the larger U.S. factories claiming "handmade" guitars produces more than 100 guitars a day. Numbers such as these are hard to believe compared to a guitar or mandolin maker creating 8 or more a year, or to Anden who may work on a single harpsichord for up to eight months.

Artisans such as Henry Taylor, Charles Grissom and Anden Houben look at a rough piece of wood and see an elegant harpsichord or a blazing fiddle, and devote their days to releasing the wood's potential.

Performing hundreds of separate tasks including measuring, scraping, bracing, gluing, clamping, doing inlay, etc., is only part of the process that produces a beautiful, good-sounding instrument. The heart that goes into a handcrafted instrument is, perhaps, of even greater value.

Resources

www.danabourgeois.com
www.hoffmanguitars.com
www.woodweb.com

Wildlife Management Assistance Available

If you own at least 10 acres of forestland, wildlife management assistance is available to you at no charge. Through a partnership between the Alabama Forestry Commission, the Alabama TREASURE Forest Association, and the Alabama Wildlife Federation, wildlife biologist Claude Jenkins provides on-site wildlife management assistance to private landowners.

Guidelines have recently been modified so that TREASURE Forest landowners are also eligible for assistance. Here are some examples of the type of assistance Claude can provide:

- General property/tract wildlife habitat and management assessments.
- Supplemental planting evaluation/ troubleshooting.
- Treatment recommendations sufficient for inclusion in TREASURE Forest management plans.
- Completion of appropriate portions of TREASURE Forest nomination forms for qualified candidates.
- TREASURE Forest inspections.

To request assistance, complete and mail the form below.

Yes! I'd like to schedule a consultation with a wildlife biologist.

My land is located in _____ County.

Name: _____

Address: _____

City/State/Zip: _____

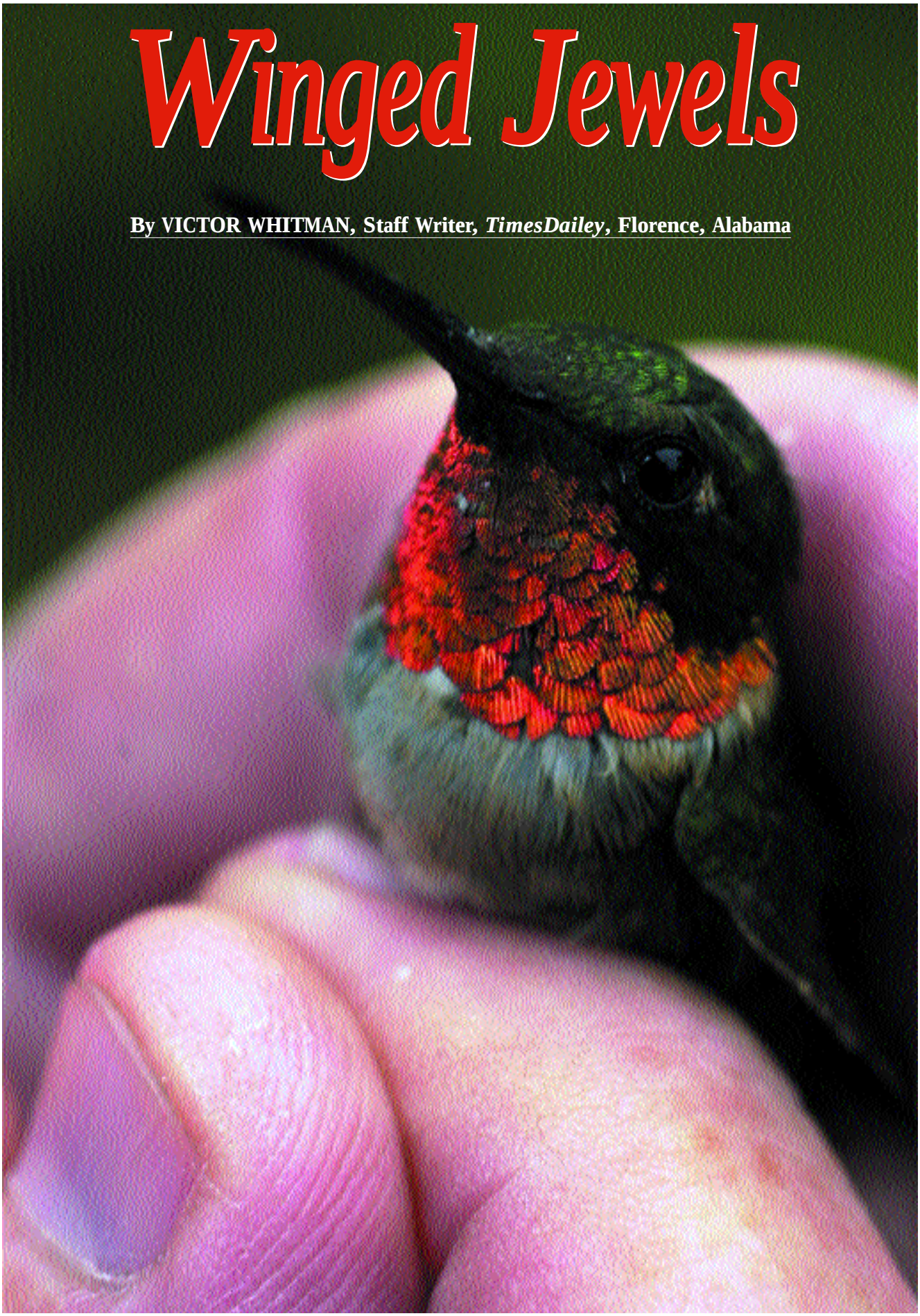
Day Phone: _____ Evening Phone: _____

Fax: _____ E-mail: _____

Mail form to: Tim Albritton, Alabama Forestry Commission, P.O. Box 302550, Montgomery, AL 36130-2550

Winged Jewels

By VICTOR WHITMAN, Staff Writer, *TimesDailey*, Florence, Alabama



DANIEL GILES/TIMESDAILY

DANIEL GILES/TIMESDAILY

Robert Daly, a TREASURE Forest landowner in Lauderdale County, is one of only 50 master banders in the world.

Banding hummingbirds. Now that's a challenge. With tiny, wafer-thin legs and wings humming like a giant moth, the needle-nosed creatures are hard to study, not to mention get a hold of.

But that's what a University of North Alabama professor does in his spare time. Robert Daly is among a select group of master hummingbird banders.

"It's very difficult," he said, cradling a tiny ruby-throated hummingbird on his porch off Alabama 20 in the Macedonia community. "You have to be trained."

Daly's house is set a fair way back in the woods, and he's piled up shrubs and logs in places off his long, gravel driveway to attract birds and rabbits. Hummingbirds are on his mind most of the time these days. September is peak migration season.

Several hummingbird feeders hang from the ceiling of his porch. The skittish birds hover and dart up for the clear sugar mixture. Sometimes they swarm. "I've done about 500 all this summer," he said. "I don't know how many I'll get before they all disappear in mid-October."

Daly traps, weighs, measures and bands the birds for the U.S. Department of the Interior, which has studied the habits of hummingbirds for 20 years. Daly said only four people in Alabama are certified to band hummingbirds. And he is among only 50 master banders in the world.

The only hummingbird in the Shoals area during the summer is the ruby throated, so named because of the coloring of the throat on adult males. Eight to 10 Western species have been observed in Alabama during the winter.

The birds fatten themselves up through September and then move down to the Gulf of Mexico. Then the birds fly continuously over the Gulf to the Yucatan Peninsula. "They will double their size there," he said. "Once they get enough fat, it gets them across. Once they are across, they will lose all their fat.

Daly places a lightweight aluminum band on the foot of the hummingbirds. The bands are tiny—300 bands can fit on a 4-by-4 inch sheet. They weigh one-tenth of a gram, but to a hummingbird it would feel like carrying around 40 quarters in a pocketbook.

Daly said people shouldn't trap or handle hummingbirds because it's against the law and they're fragile.

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DANIEL GILES/TIMESDAILY

Landowner Liability in Fee-Hunting Enterprises

Editor's Note: The following information is not intended as legal advice. Its purpose is to create an awareness of landowner liability and of the need for qualified legal counsel. Persons entering into a fee-hunting agreement should consult an attorney, their insurance agent, and other business advisors.

Landowners who allow hunters access to their property for pay may subject themselves to liability risks that deserve special attention. Many landowners are concerned about making themselves vulnerable to liability lawsuits. To reduce their liability exposure, landowners must simply exercise what is considered reasonable care for all visitors. Reasonable care varies with the circumstances involved. Even when all precautions have been observed, prudent landowners may find they still need "layers" of specific liability protection.

Liability and Negligence

Negligence must be proven in order for the landowner to be held liable for a personal loss or injury. A landowner will most frequently be held liable for losses or injuries that occur as a result of his or her gross negligence or willful misconduct. An example of willful misconduct is the setting of traps aimed at harming trespassers. In the absence of any intentional wrongdoing, in order for the landowner to be held liable, it must be proved that he did not exercise the reasonable care to prevent injury that is expected under the law.

Common law (the body of case law developed in England and adopted in Alabama) established principles in which the degree of care expected of a landowner is dependent upon the classification of visitors as either trespassers, licensees, or invitees.

Trespasser—A trespasser enters land uninvited and without any right to be there. Common law holds that a landowner is liable only for injuries to trespassers that result from gross negligence or willful misconduct. In Alabama, all hunters must possess written permission from the landowner to hunt on his or her land.

Licensee—A licensee enters property with permission from the landowner. The landowner does not require the licensee to pay a fee for access. Under common law, in addition to the duties owed a trespasser, the landowner has the further duty to warn licensees of hidden dangers contained within his or her property.

Invitee—An invitee enters land for the benefit of the landowner as well as for personal benefit and is required to pay a "consideration" (fee or service) to the landowner in exchange for access. Common law establishes that, for an invitee, a landowner must inspect the property for hidden dangers and either remove them or give adequate warning of their presence if they are not already obvious to a reasonable observer. Hunters who pay for the right to hunt are considered invitees.

Reducing Liability Exposure

Liability lawsuits brought against private landowners for negligence involving hunting accidents are not common. But, reasonable landowners do not want accidents to occur, whether or not they may be held liable. The following suggested steps should reduce liability exposure by providing layers of protection for fee-hunting operations on private lands.

Safe Premises—Inspect the property and note in writing all potentially hazardous situations. Give each guest a map of the property. Take the time to mark and point out all boundaries and hazardous conditions.

Written Rules—Supply each user with a set of regulations that are aimed at preventing accidents and protecting the property. Have the guest sign a copy of the rules stating that he or she has read them.

Written Release—Each guest should sign a written statement stipulating that he or she holds the landowner innocent of any responsibility before using the premises.

Liability Insurance—Hunting clubs can obtain liability insurance for their members at reasonable costs. Landowners may be listed as additional insured parties on most policies. This coverage protects both the landowner and the hunting group should either be found guilty of negligence. The hunters pay for this insurance. If a landowner wishes to require this kind of insurance, it should be clearly stated in the lease.

Owners', landlords' and tenants' (OL&T) policies which cover recreational enterprises are available through some insurance companies. Prices and coverage vary according to individual situations. OL&T policies for hunting enterprises may also be added on to existing farm policies. Other sources for hunting liability insurance are:

The Southeastern Wildlife Federation
P. O. Box 1109
Montgomery, AL 36102
1-800-822-9453
www.alawild.org/southea.htm

The Alabama Forest Owners' Association
P. O. Box 361434
Birmingham, AL 35236
(205)987-8811
www.alabamaforestowners.com

The National Rifle Association of America
Attn: Membership
11250 Waples Mill Rd.
Fairfax, VA 22030
1-800-672-3888
www.nrahq.org/givejoinhelp/membership/benefits.asp

Each liability situation is different. If you have any special concerns or problems with your liability exposure, contact an attorney.

Wildlife Management

In order to stay in business and to perpetuate opportunities for quality hunting experiences, the landowners and

hunters must attempt to improve and maintain wildlife habitats and populations. Fortunately, wildlife researchers and managers have developed effective habitat management programs that can easily be applied to private lands. In most cases, wildlife habitat management can be effectively integrated into current land-use practices.

Technical advice and assistance in formulating a wildlife habitat management plan is available through the Alabama Cooperative Extension Service, the Alabama Department of Conservation and Natural Resources, the Soil Conservation Service, the Alabama Forestry Commission, and private natural resource consultants. Contact your county Extension office for more information.

Reprinted with permission from ANR-533. Recommended for Extension use by Lee Stribling, Associate Professor, Wildlife Economics and Management and Extension Wildlife Specialist, Auburn University. This article was adapted from "Developing Hunting Enterprises on Private Lands," 1988, by Neal Wilkins, Extension Assistant, Forestry, Wildlife, and Fisheries, University of Tennessee. Pub. No. PB1305.

Winged Jewels

Continued from page 29

"Their legs are actually smaller than a toothpick," he said.

Daly said that people are fascinated with hummingbirds because they're strange birds. "I think the birds are so unusual," he said.

Their humming, needle beaks and flying patters set them apart from other birds. They feed mostly on flies. They are territorial and return to the same places. They are bug-like, and people often mistake hawk moths for hummingbirds.

"The birds can also fly backward, and nothing else can do that," Daly said. He said hummingbirds don't stick around for long. If you see one, chances are you're seeing five different birds one time. "I've had more than 200 at one time," he said. Daly saw several hundred hummingbirds swarming around more than 100 feeders at one home in Birmingham. "It was like bees," he said.

Daly said he is learning more about the birds. He's trying to develop a system of determining the age of ruby-throated hummingbirds by studying the red coloring on the males' necks. "It will take years," he said.

Meanwhile, his work of banding continues. The operation runs smoothly until one escapes in his house. Then he has to grab a fish net next to the refrigerator and try to trap it on the ceiling.

Now that's a challenge.

Reprinted with permission from the TimesDaily newspaper located in Florence, Alabama.

Legislative Alert

Continued from page 7

through forestry as the best way to address greenhouse gas emissions. Carbon sequestration is the process of converting carbon dioxide in the atmosphere into carbon stored in plants and soil.

Early activity on the land use front is focusing on carbon sequestration in soil and in forests. The primary forestry related carbon sequestration bill from last session came from Sen. Ron Wyden (D-OR). It was modeled on Oregon's Forest Resource Trust which operates under a revolving loan fund of sorts where landowners get afforestation assistance and the subsequent carbon credits would go to the state or other contributing interest. Another bill is anticipated by Sen. Sam Brownback (R-KS) to address both trees and soil as storage sinks for carbon.

It is unclear as to what activity forestry will attract in the 107th, but members are already showing increased interest as Farm Bill reauthorization in 2002 provides a nice legislative vehicle for passage.

Farm Bill

Reauthorization of the Farm Bill will be a hot topic for Congress through both years of the 107th. Record high disaster and emergency price support payments to farmers have pressured Congress to act quickly on the Farm Bill, so we may see early activity on the commodity, forestry, conservation and other titles. The National Association of State Foresters is currently working on pulling together its own Farm Bill package focusing on forestry. It looks to include a new nonindustrial private forest landowner cost-share incentive program, a new watershed forestry program, special focus on the wildland-urban fire interface, carbon sequestration and other forestry related programs.

Appropriations

The delays associated with the presidential election have pushed back many administration transition activities including preparation of the fiscal year 2002 budget. Appropriation and markup hearings will likely be pushed back similarly, meaning that input into the process will be on an abbreviated timetable if Congress hopes to wrap up by the August recess.

In terms of the bigger spending picture, the available government surplus continues to build, but it appears that the good majority of this will go towards Bush's tax cut, military and education spending plans and the continued shoring up of Social Security. Sources indicate that Congress hopes to maintain current discretionary spending levels in FY 2002, but there will be enormous constituent pressures to break the spending freeze after several years of budget austerity.

River Birch

By COLEEN VANSANT, Information Specialist, Alabama Forestry Commission, Cullman

River birch (*Betula nigra*) is the only birch common in the South. As its name suggests, this tree is found near running water, along the edges of slow-moving rivers and in old nearby fields. It can grow to a respectable size and larger trees are often seen leaning over a stream.

Also called red birch, black birch or water birch, this tree is native to the Eastern United States, south to Florida, north to Minnesota and west to Kansas. It can grow from 40 to 80 feet tall and 15 to 30 inches in diameter. It grows upright and open with graceful drooping stems.

TREES OF ALABAMA

The red-brown, deeply furrowed bark on an old trunk breaks into ragged scales; the upper trunk and branches are smooth, salmon pink to rose cinnamon with a metallic luster. The leaves are alternate, simple, ovate, 1-3 inches long with a serrated margin, sometimes with shallow lobes. The color is green above and whitish underneath. The leaves turn dull yellow in autumn.

Flowers are catkins, 2-3 inches long. The tree's fruit matures in the late spring or early summer. It is the only spring-fruiting birch. Its young twigs, buds, and foliage are browsed by white-tailed deer and the seeds are eaten by turkeys and other small birds.

Its wood is light, medium hard, strong, close-grained, light brown with pale sapwood. It is used for fuel and occasionally for inexpensive furniture, basket hoops, woodenware and turned articles.

The fast-growing river birch has value in erosion control and as an ornamental and street tree. It is fairly resistant to disease and insect attack but is short lived.

The national champion river birch is 90 feet high, 188 inches in circumference with a 100-foot average crown spread. It grows in Lawrence County, Tennessee.

The Alabama state champion is 111 feet high, 158.4 inches in circumference with a 95.7-foot average crown spread. It grows in Lamar County.

TREASURE FOREST

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Montgomery, Alabama 36130-2550

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