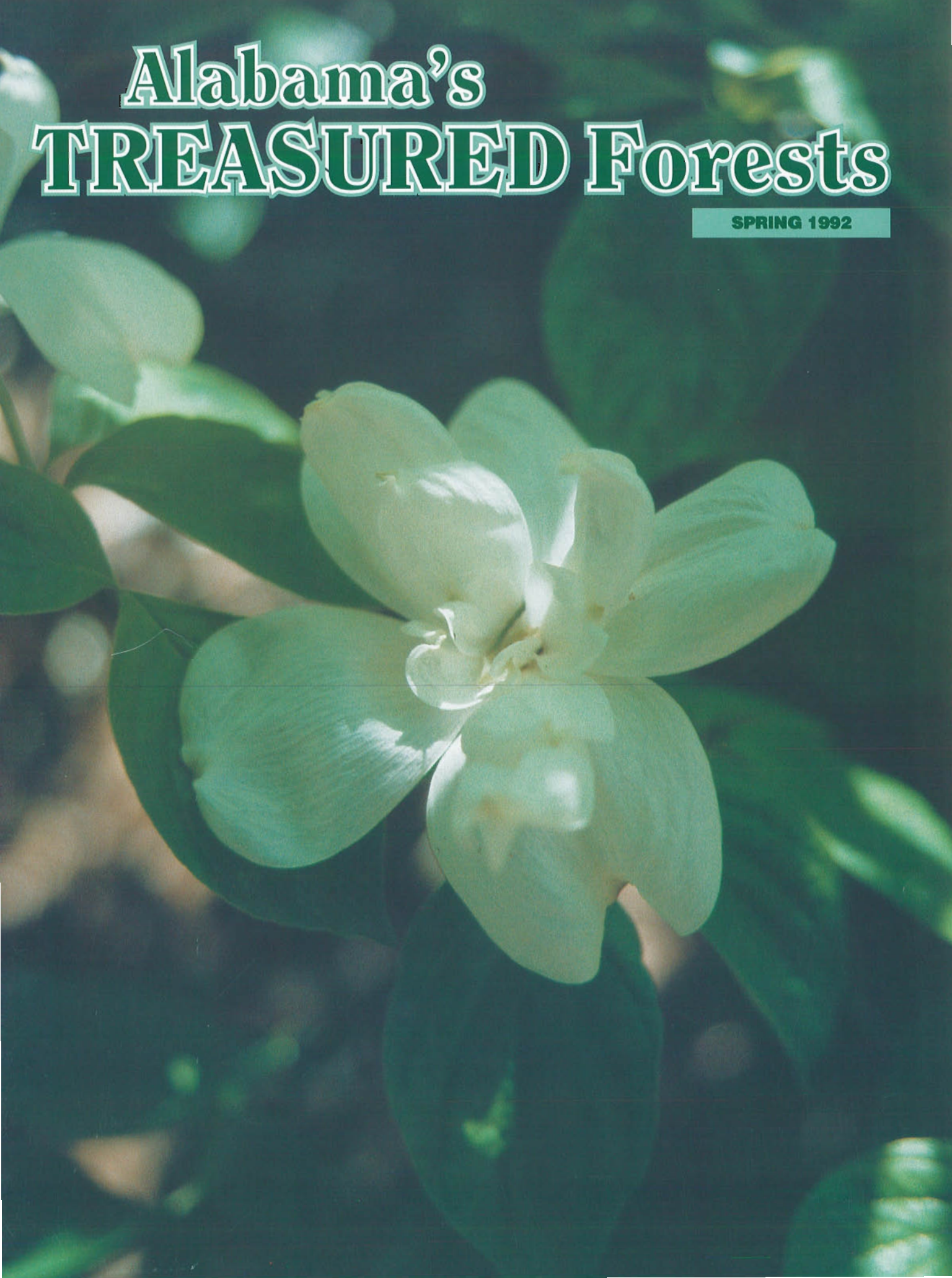


Alabama's **TREASURED Forests**

SPRING 1992



STATE FORESTER'S MESSAGE

by C.W. Moody, State Forester



Alabama enjoys an abundance of forestland. The free enterprise system and the exercise of private property rights have enabled forest landowners to embrace the responsibility of good stewardship. We call many of them TREASURE Forest owners. However, as the voice of environmentalists across our country has grown louder, Congress has responded by passing laws that are being interpreted by federal regulatory agencies in a manner which threatens the constitutional guarantee of private property rights.

TREASURE Forest owners are, by definition, good stewards of the land. As such, they are willingly achieving their objectives in a manner that promotes the common good. If TREASURE Forest landowners are already managing to protect water quality, enhance game habitat, protect the environment and grow timber, what kind of regulation is needed?

I say **nothing** remains in need of regulation on TREASURE Forests. In my book, regulations are last resort measures when the common good is endangered. Regulations diminish private landowner rights and therefore the entrepreneurial spirit. This in turn harms the common good in our great democracy.

TREASURE Forest owners should continue to aggressively promote multiple-use management on all forestlands and resist regulation where stewardship is already being practiced.

Sincerely,

A handwritten signature in cursive script that reads "C.W. Moody". The signature is written in black ink and is positioned above the printed name and title.

C.W. Moody
State Forester

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The Alabama Forestry Commission supports the Alabama Forestry Planning Committee's TREASURE Forest program. This magazine is intended to further encourage participation in and acceptance of this program by landowners in the state. Any of the agencies listed above may be contacted for further information about the TREASURE Forest program.

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COVER: *Cornus florida* L. Bay Beauty Dogwood. Photo by Coleen Vansant.

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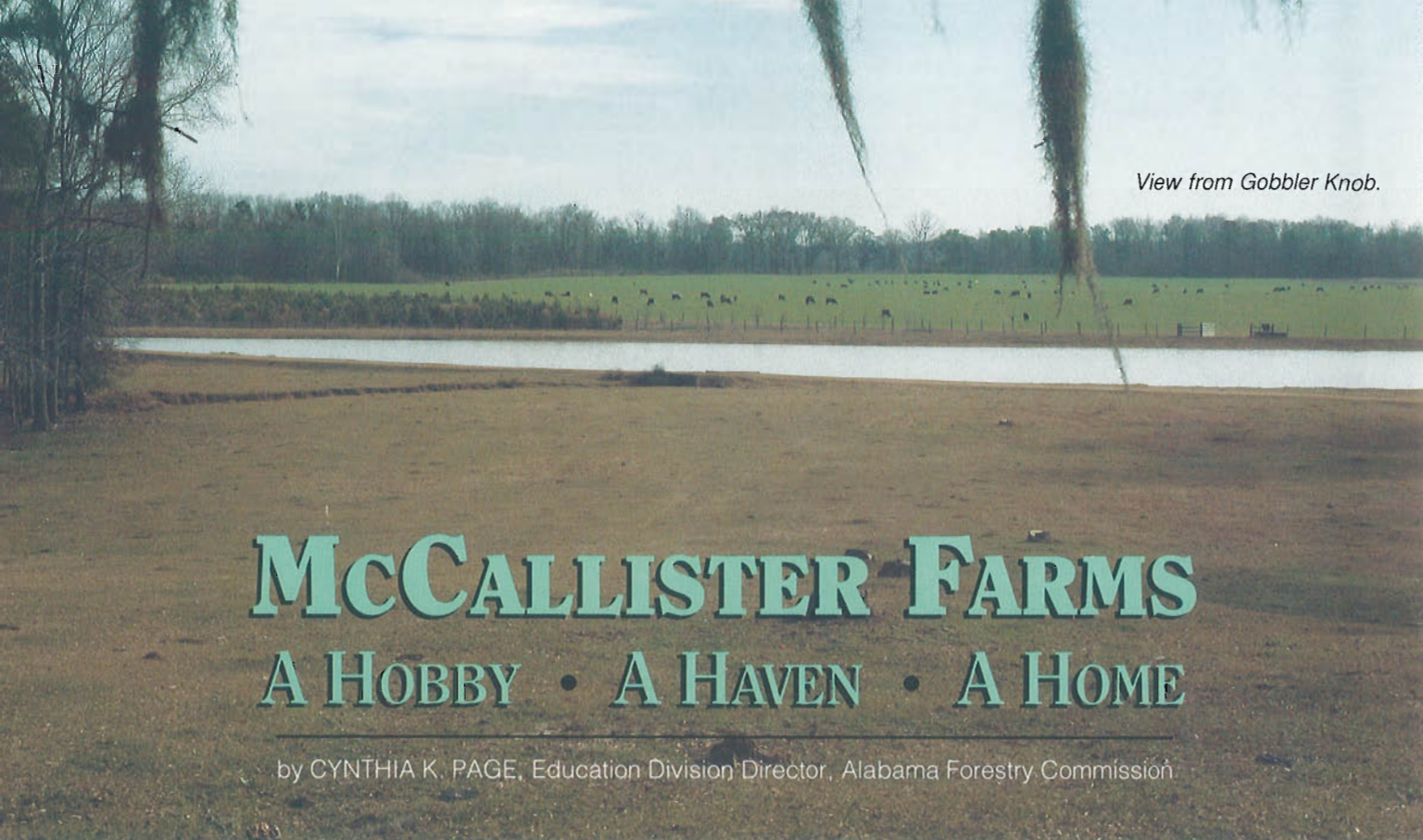
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View from Gobbler Knob.

McCALLISTER FARMS

A HOBBY • A HAVEN • A HOME

by CYNTHIA K. PAGE, Education Division Director, Alabama Forestry Commission

From Gobbler Knob, the pastoral view below conjures up images from childhood stories buried deep in the mind. Cows lazily graze in deep green fields while sea gulls float, endlessly suspended in the blue sky above a sprawling pond. Just beyond the field, hardwoods keep the river hidden from view and young green pines provide a heavy contrast to winter's bleakness.

As the eye scans this breathtaking scene, there is little doubt that an artist's brush could make any improvements. "I love to make stuff pretty," 48-year-old Jerry McCallister explained as he pointed out various spots and described their appearances in 1977, the year the family bought the farm in Houston County. According to his younger brother Joe, "Jerry envisioned this, and we have done it."

Multiple-use Farm

The McCallister farm is both a hobby and a "working" piece of real estate where every acre contributes to the production, whether it's cattle, row crops, or multiple-use TREASURE Forest. The stewardship principle is adamantly practiced throughout the farm and adjoining woodland.

"The Lord will hold you just as respon-

sible for the way you treat this earth as the way you treat people," Jerry said of his family's philosophy. More than 90 percent of the work is done by the family — Jerry and wife Robbie Ann, Joe and wife Sara, Ho-Ho (Mr. Charlie) and Granny Ho, and sons Jeff and Jay. Another three daughters lend emotional and family support.

Joe is the only full-time farm employee. Mr. Charlie, 74, is retired but comes down to the farm every day to "watch over things."

Joe is the one who carries out the family's decisions. "I just try to physically put it on track to make a profit, but I also want to enjoy it. I'd like to see it eventually covered in timber."

Of the 1,500 plus forested acres, there are 534 acres of bottomland hardwoods which are protected and reserved for wildlife, 784 acres of planted pines, about 100 acres of mixed stand, and 135 acres of upland hardwoods. Almost all of the stands have irregular shapes, which are not only more aesthetically appealing, but also create more edge effect to attract wildlife.

"The first year we had the farm, we saw a couple of deer and one turkey," Jerry said. "Today, you can't drive through here and not see them."

Besides the numerous hardwoods, there are 40 acres of food plots including corn, sorghum, peas, oats, wheat, rye, alfalfa, three varieties of clover, and chufa. Fruit trees are also planted in desirable locations. Additional winter plantings "keep every acre we farm covered in green stuff." This attracts wildlife and also prevents erosion from winter rains.

Problems with Poachers

Poaching has caused some creative approaches to be used in placing 80 miles of roads and firelanes. "By having a hook in the firelanes close to the highway where they start, we give a sporting chance to the deer," Jerry said. "If it's not enough that a hunter has a high-powered rifle and the deer has nothing, I don't know what is."

Nine poachers were caught this year. "They just drive up, shoot the deer, and leave 'em in a lot of cases, or they'll tear down the fences to drag 'em over."

The McCallisters are not against hunting — just against "unsportsmanlike" conduct. "We allow family and friends to hunt here, but we ask that some guidelines be followed." Not too long ago, a golden eagle was shot by a neighbor positioned on the other side of the river, and "the carcass just left to rot."

Forest Management

Forest management is often innovative and “learned through experience.”

“Sometimes I see what a piece of land will look like,” said Jerry. When times got difficult in farming, timber was a saving factor. “When faced with a choice of **cutover** land or **no** land, we took cutover, because I knew we could turn it into a productive forest again.”

A 60-acre cutover area was drum chopped last fall and individual oaks or clumps of oaks left for future mast production. A forced air spray rig was devised to chemically treat the area for brush control and to keep the area open for turkeys.

Each pine stand is burned on a two- to three-year rotation from about ages seven to 11. The bottomland hardwoods are maintained as they are for both beauty purposes and for wildlife.

Tree planting is done with their own tree planter, which is also used by Jeff and Jay to plant for other landowners in the community. Velpar and spot guns are cost effective for site preparation and release.

Center pivot irrigation is used on row crops. The corners of the fields are often planted in trees or food plots. Near the highways these corners serve as buffers along with planted areas inside the fences. Closely planted loblolly pines, Virginia pines, and autumn olives planted two rows deep provide a nice visual screen.

Many areas of cropland with low production ability were converted to timber production to prevent unnecessary erosion. Areas that were cutover and then purchased by the family are sheared, raked, piled, and burned, giving added amounts of nutrients to the topsoil. A family-owned bulldozer is often used to alter landscaping to provide better drainage. “That ole bulldozer is my golf club,” according to Jerry. “I get a lot of pleasure from it.”

Working Together

The farm has been used extensively for educational workshops and tours. The FFA Forestry and Wildlife Judging Teams train there, as well as new employees of agriculture-related agencies.

In March 1990 the farm hosted a TREASURE Forest Field Day. One week after the tour, the farm was flooded by



Firebreaks also serve as food plots.

10-25 feet of water on 600 acres along the Chattahoochee River. After the water receded, the dozer was put to work, fences were rebuilt, and pines dug out by hand from tons of silt and dirt. As diffi-



Bottomland hardwoods are preserved for aesthetics and wildlife.

cult as it is to believe, this 600 acres is the same scene also described from the view at Gobbler Knob. Sheer determination and untold exhausting, toilsome hours have left little evidence of the disaster.

“Joe and I dared to get above our raisings,” Jerry said. “We found out real quick that everybody who farms has to do something besides farm to make a living. Peanuts pay the bill right now, but we’ve got our timber as a reserve. I want my children, as my parents wanted for us, to have more than I, but I also want them to know where it came from. Jeff and Jay already have their own land, and they make the decisions as brothers and partners on how to manage it.”

Joe probably summed up the feelings of all the family, “I’ll never sell it unless I’ve got my hands on some more land. I wouldn’t sell my young’un (Jennifer), wouldn’t sell my wife, or one ole 30-30. I just don’t know where it stops and I start.”

Another philosophy was relayed in a joke — a new preacher went to see a member of his congregation. Upon viewing the man’s accomplishments, he commented, “With the Lord’s help you’ve built this house. And with the Lord’s help, your barn is standing to store the grain and shelter the animals that the Lord helped you to raise. With the Lord’s help, this farm is a beautiful and productive place.”

Finally the farmer commented, “Yes, preacher, you’re absolutely right! But you should have seen this place when the Lord had it by himself!” ☛

Editor's Understory

by KIM GILLILAND, Editor

During the Civil War, a naval base sat near the shore of the Chattahoochee River in Houston County. Today, this land is part of McCallister Farms, a combination cattle, row crop and tree farm. It has been certified as a TREASURE Forest since 1979.

Jerry and Joe McCallister, 48 and 46 respectively, are the main forces behind McCallister Farms. The two brothers began buying and selling land for a profit several years ago, and then decided to run a farm that would produce the income their families needed.

The farm has been prosperous, but there have been times when the family came close to losing it. Financial difficulties have been faced by the McCallisters as a family unit, which has helped them through the more difficult times. Those difficulties are part of the reason Jerry and Joe are planting more and more trees every year. Trees don't need irrigation like crops do, and since the farm is located only a few miles from a mill, they will bring a good price when harvesting time comes.

While trees may be their future income, the McCallisters are relying on corn, peanuts and 125 head of cattle for their present income. The cycle is never ending. After the corn is harvested, it's time to harvest the peanuts. Then the winter crops are planted, followed by tree planting. In the spring and summer the crops are planted again, and everything starts over. In between comes maintenance on 80 miles of roads, building and repairing fences, prescribed burning, and other endless chores.

Jerry and Joe do much of this work themselves. They employ one full-time worker and several seasonal workers as needed. Joe is employed full-time on the farm, carrying out many of the daily tasks and keeping the books. Jerry is employed by the City of Dothan Fire Department. Shift work allows him to



Front row l-r: Sara, Mary and Robbie Ann McCallister. Back row l-r: Jay, Joe, Charlie, Jerry and Jeff McCallister.

spend a great deal of time working on the farm. Most holidays and vacation time are also spent on the farm.

Jerry and Joe's parents, Mary and Charlie McCallister, are very much a part of McCallister Farms. They are the mainstay of the family and their support is invaluable. Although retired, Mr. Charlie comes to the farm every day. Mary, affectionately known as "Granny Ho" by everyone, is well known for her delicious Southern cooking.

Jerry's two sons from his first marriage, Jay and Jeff, do a great deal of work on the farm and also own land of their own. Their property was certified as a TREASURE Forest in 1987. In addition, the two also plant trees for other people with a mechanical tree planter. Jerry's wife, Robbie Ann, has two daughters from a previous marriage, Kay Dozier and Tina Whitehead.

Joe's wife Sara has lent her computer programming expertise to the family business. All projects and expenditures are kept on a computer and cost factors for everything can be determined. Joe

and Sara have one daughter, Jennifer, who is completing her freshman year at the University of Alabama in Tuscaloosa. She is pursuing a degree in broadcast journalism.

Although each family lives in nearby Dothan, a house was moved to the farm and remodelled to be used as a gathering place. Huge windows span the length of every room, allowing breathtaking views of the surrounding scenery.

After spending just a short time with the McCallisters, it's easy to see that to them the farm is not just a pastime. It's their livelihood and working it is in their blood. They've each made a commitment to make the farm work as a business. The family was rewarded for their efforts in 1991 when McCallister Farms was named the state Helene Mosley Memorial TREASURE Forest Award winner.

As Jerry says, to them the land truly *is* "real" estate. "It's something tangible." The McCallister family, too, is "real." They're special people who have built a business together as a family and have made it a TREASURE. ♣

TREASURE Forest: THE FIRST STEP

by JOEL GLOVER, Wildlife Biologist, Department of Conservation and Natural Resources

Each year wildlife biologists view many landowners' properties while providing technical wildlife management assistance throughout Alabama. The condition of these lands varies from true treasures to miserable messes. The reasons for these different situations are as varied as the forest landowners themselves.

One reason is a lack of education in the area of natural resource management. Today's forest landowners come from every walk of life. Many are very concerned about the environment, but lack expertise in the field of resource management.

Since the initial selection of forest management practices may dictate forest and wildlife management options for years to come, it is crucial that these decisions are carefully made. Although it sounds obvious, to make an informed decision you must first be informed! A basic understanding of natural resource management is imperative for responsible stewardship. The TREASURE Forest program is an excellent opportunity for interested landowners to gain valuable insight into proper resource management. The goal of TREASURE Forest management is for the landowner to improve all aspects of the forest so it will benefit both present and future generations. The concept of managing for more than one objective is known as multiple-use management.

Selecting Objectives

One of the first steps on the road to TREASURE Forest certification is the selection of primary and secondary objectives. These will be your guides throughout your TREASURE Forest program, and since TREASURE Forest ownership is a never ending endeavor, the selection of objectives demands much forethought.

Objectives are often comprehensive. Since TREASURE Forest management is

multiple-use management, the techniques used to achieve objectives often overlap. A landowner with timber as a primary objective and wildlife as a secondary objective should, in the course of achieving those objectives, at least maintain—and ought to enhance—aesthetics, soil and water quality, and recreational opportunities on the property.

For example, prescribed burning is one of the best practices for improving a pine stand. At the same time it is also an excellent practice to provide quality wildlife habitat. As you can see, accomplishing one primary objective may in fact accomplish many secondary and non-objective accomplishments.

However, it is still imperative that you set definite goals and be able to convey them to the resource professionals who are currently assisting you. You may ask, if everything overlaps, why specify any single objective? Because everything doesn't overlap. The resource professionals must know your objectives in order to make proper recommendations. Recommendations for a primary objective of timber may vary greatly from those given for a primary objective of aesthetics or recreation.

Another reason for detailed objectives is to establish a goal that your accomplishments can be weighed against. Accomplishments are the key to TREASURE Forest certificates.

You should be able to clearly relay your objectives and your accomplishments to the inspection team during their visit to your property. Inspection teams will evaluate your accomplishments using criteria derived from your stated objectives.

I once inspected a property and was impressed with the landowner's achievements related to timber and wildlife. I then asked the landowner to state his objectives and plans for future accomplishments. He replied that he had decid-

ed that his primary objective should be aesthetics, so I gave him a few recommendations geared toward aesthetics and soon departed.

On more than one occasion, landowners working toward TREASURE Forest certification have been asked to identify their objectives and have stated objectives or wildlife species different from those on the inspection sheet. This does not necessarily indicate that their objectives have changed; it may be an indication that their objectives were not initially clearly defined from the beginning.

Assistance Is Available

Difficulty in choosing an objective may indicate the need for some assistance available from natural resource professionals and a good written management plan. Unfortunately, every natural resource professional can relate a horror story concerning the mismanagement of forestland. Often, excellent natural wildlife habitat is destroyed so the landowner can develop a food plot for wildlife. On one occasion I listened as a landowner relayed to me his idea to clear a thicket and create a wildlife opening. I then explained that in addition to providing excellent natural food, the thicket was the best deer cover on the entire property. Fortunately, our conversation took place prior to any action on his part. Today the property is a TREASURE Forest with a productive wildlife plan in place.

The horror stories are sometimes worse when timber is involved. There are countless reports of property owners who have sold timber without the benefit of a timber cruise or a harvest contract and paid dearly for it. Unfortunately, natural resource professionals are often consulted not to provide advice on what to do—but on how to undo what's been done! Regrettably, at that point management options are limited (stump management isn't pretty). A good method of avoiding

CALENDAR

April 22—Callaway Gardens, Ga. Workshop on Timber Taxes sponsored by the Forest Farmers Association. Call 404-325-2954 for more information.

April 22-24—Callaway Gardens, Ga. 1992 Southern Forestry Conference and Annual Meeting of the Forest Farmers Association. Call 404-325-2954 for more information.

April 24-25—Clemson, S.C. "Aerial Photography in Forestry Applications," a short course offered by the Department of Forest Resources at Clemson University. Call 803-656-2478 for more information.

April 27-30—Mississippi St. University. Prescribed Burning Short Course. Contact Dr. Tom Monaghan, Dept. of Forestry, P.O. Box 5446, Mississippi State, MS 39762; 601-325-3150.

May 1-2—Starkville, Miss. Reunion of all alumni of the School of Forest Resources at Mississippi State University. Call 601-325-2952 for more information.

May 6-8—Mobile, Ala. Eighth Alabama Urban Forestry Association Conference. For information contact Neil Letson, 240-9360.

May 12-13—Clemson, S.C. "Useful Tools in Forest Finance," a short course offered by the Department of Forest Resources at Clemson University. Call 803-656-2478 for more information.

June 1-3—Cashiers, N.C. 20th Annual Hardwood Symposium of the Hardwood Research Council. Call 901-377-1824 for more information.

June 9-10—Athens, Ga. "Environmental Law for Foresters," a Univ. of Ga. short course. Call 404-543-3063 for more information.

October 29-30—Tuscaloosa, Ala. Ninth Alabama Landowner and TREASURE Forest Conference. More details in the next issue of *Alabama's TREASURED Forests*.

that type of situation is to attain technical guidance from knowledgeable individuals such as resource agency personnel or a professional consultant.

An early consultation will allow a resource professional to help you determine your objectives and then provide you with the necessary recommendations to begin accomplishing your goals. An early overview is one way to prevent irreversible errors.

A Coosa County landowner recently approached County Forester Blake Kelley requesting assistance in managing a tract of forestland. Kelley, Forest Ranger Joel Neighbors and I met with the landowner and discussed his objectives. We explained the TREASURE Forest program and the importance of proper management. The landowner was very receptive and determined his primary and secondary objectives would be timber and wildlife. Kelley and Neighbors developed a generalized management plan complete with a map and management recommendations, one of which was to contact a consultant.

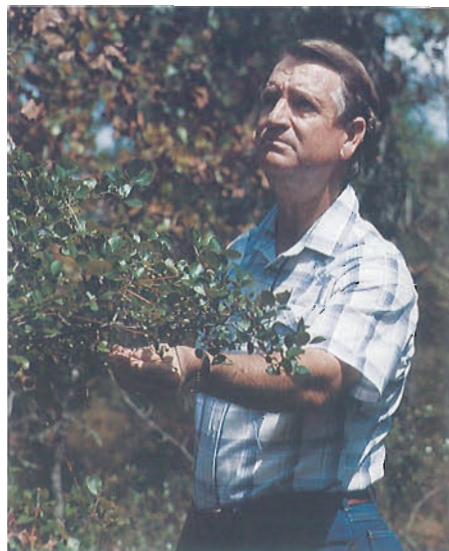
The landowner hired a consultant and instructed him to arrange a timber sale using the TREASURE Forest management guidelines outlined in his plan. The landowner received eight bids on the small tract of timber. The highest bid was 50 percent above the consultant's estimate. This good fortune wasn't coincidence; it was the result of the landowner's decision to seek professional advice prior to implementing any practices. A choice that was worth thousands of dollars.

Usually, in an initial visit, a natural resource professional can provide you with enough recommendations to keep you busy for years. The recommendations will normally encompass your primary and secondary objectives and other universally beneficial practices. These recommendations may be quite detailed and should be implemented over a period of time.

At this point, you should realize the importance of having a well written management plan for your property. In addition to organizing your ideas and providing timetables for technique implementation, the plan—with accompanying notations and receipts—will provide the documentation required for participation in many matching money incentive programs and for tax purposes.

A written plan is an excellent opportunity

to demonstrate your accomplishments. At your request, a generalized management plan can be prepared by Alabama Forestry Commission personnel. For a more intensive plan and/or timber sale assistance you should contact a professional consultant.



Objectives must be carefully chosen by each landowner.

Any qualifying landowners who are genuinely interested in the proper management of all aspects of their property should be involved in the TREASURE Forest program. A good initial step is to contact a member of your local county forestry planning committee. If you aren't familiar with the committee, contact your local AFC office. If wildlife management is one of your objectives, you may want to contact your local Game & Fish Division wildlife biologist. You may also call TREASURE Forest wildlife biologist Stan Stewart at 242-3469.

These professionals are available to assist landowners throughout the state in their pursuit of TREASURE Forest certification. They can look at your property, listen to your ideas, help develop your objectives and provide recommendations to help you achieve your goals. You may then be well on your way toward TREASURE Forest status. Remember, well developed objectives and a written management plan are beneficial. However, accomplishments are the key to TREASURE Forest certification.

As a potential TREASURE Forest landowner, an interesting, educational and enjoyable journey awaits you—get started on it today! 🌲

YOU MAY HAVE A BURIED TREASURE

by SHARON A. CLARK, TREASURE Forest Section Chief, Alabama Forestry Commission

Did you know you may have a buried treasure on your land? I'm not referring to rubies, diamonds, or gold. The kind of treasure I'm talking about is the lush pine forest that gently sways with the wind. The babbling brook or swimming hole you used to have picnics by or go skinny dipping in as a child. The treasure may be the hardwood forest you, your father and grandfather have hunted in for years, or it might be that quiet refuge you find when you want to escape the stresses of everyday life.

The treasures I am referring to are treasures of the forest. These forest treasures show us that a forest is more than a place where trees grow. The forest is a multitude of natural resources which offers multiple uses.

Alabama has a program that promotes these natural treasures and recognizes landowners who manage and care for them. TREASURE Forest is a program which honors landowners who are good stewards of the land and manage their forests for multiple resources. These landowners realize the many multiple uses of the forest are harmonious with each other and may be managed to enhance each resource.

History

The TREASURE Forest program is sponsored by the Alabama Forestry Planning Committee. The committee, made up of 19 forest resource-related agencies and organizations, put the program to a field test through county rural development committees in August 1974. Less than a year later, in July 1975, the first four TREASURE Forests were certified. The property of W. Kelly Mosley in Marengo County, known as Pineland, was the first TREASURE Forest to be certified. In March 1976 a special awards ceremony formally inaugurated the TREASURE Forest program.

Eligibility

A landowner must own a minimum of 10 forested acres and must fall into one of three landowner categories:

1. **Private**—Lands owned by a non-industrial private individual or family other than forest industry or miscellaneous private corporation.
2. **Corporate**—Lands owned by companies or individuals in forest related industries or operations or owned by private corporations other than forest industry.
3. **Public**—Lands owned by public agencies such as federal, state, county, or municipalities.

Private and corporate landowners must manage all of their forestland in Alabama according to the TREASURE Forest standards. Public landowners may manage a discreet continuous unit which is under the control of an individual land manager such as a park, state forest, county lake, etc.

Requirements

The TREASURE Forest Program is not intended to be competitive between landowners. The program encourages each landowner to manage his forestland to meet his objectives and to meet the needs of his individual forest. A TREASURE Forest is a personal accomplishment.

The landowner is required to have only one primary objective and at least one secondary objective. The primary objective must be either timber, wildlife, recreation, aesthetics, or environmental education. The secondary objective must be at least one of the above listed objectives. The choice is left up to the landowner, but his multiple-use management must take into consideration the other forest resources.

The land must also be protected from insects, disease, wildfire, erosion, water quality problems, and any other abuse.

A written or an oral plan of the property is required. In many cases a written plan may be preferred so the landowner may have something to refer back to. A written plan is of course not engraved in stone, but will change and grow as the property management grows. A written plan is also useful in case of a landowner's death, because the heirs will be able to carry on the management of the property.

Junior TREASURE Forest

To encourage students involved in groups such as Boys Scouts, Girl Scouts,

(Continued on page 11)



The name TREASURE Forest symbolizes multiple-use management. TREASURE is an acronym that stands for:

T ..imber
R ..ecreation
E ..nvironment
A ..esthetics for a
S ..ustained
U ..sable
RE source

SOIL AND WATER CONSERVATION IN ALABAMA

by MORRIS S. GILLESPIE, Public Affairs Specialist, Soil Conservation Service

Editor's Note: This is the fifth in a series of articles highlighting the member agencies of the Alabama Forestry Planning Committee.

The Soil Conservation Service (SCS) of the U.S. Department of Agriculture (USDA) helps Alabama farmers and other individuals, groups, and organizations use land and water resources wisely while protecting them from deterioration and waste.

The SCS mission covers three major areas: soil and water conservation, natural resource surveys, and community resource protection and management. The SCS provides technical help and, in some cases, financial help as well. The agency has a network of conservation specialists to help farmers understand and protect the land resources while using them wisely.

Conservation Districts

The SCS in Alabama works through 67 soil and water conservation districts (one in each county), led by district supervisors who provide the leadership necessary for the success of the district programs. The conservation districts were organized under state law in the late 1930s. Each of Alabama's conservation districts has requested that the Department of Agriculture provide it with technical assistance in soil and water conservation. The department is providing that assistance through a memorandum of understanding signed by the district and the department.

At least one SCS employee works full-time in each of the conservation districts. Their yearly work priorities are set by the district board of supervisors. The SCS staff includes soil conservationists, soil scientists, foresters, agronomists, engineers, economists, and biologists. The SCS in Alabama is under the leadership of State Conservationist Ernest Todd. Five area conservationists located in Decatur, Oxford, Tuscaloosa, Ozark, and

Grove Hill manage SCS operations in those areas.

Assistance to Landowners

The SCS technical assistance provided through the conservation districts takes many forms. It includes on-site assistance to farmers, foresters, and others in planning and carrying out long-term conservation programs that meet their needs and the needs of their land. It disseminates information about alternative land uses and treatments for controlling erosion to reduce sedimentation and water pollution, and to prevent upstream flood damage. It also includes assistance in the design, layout, and maintenance of terraces and other structures, as well as help in the selection of practices for establishment of grass or trees, and guidance in managing cropland, pasture, woodland, wildlife habitat, and other land.



During the past four years, the SCS has given its highest priority to helping farmers develop conservation plans to comply with the Conservation

Provisions of the 1985 and 1990 Farm Bills. For the past two years, the SCS has also been heavily involved in helping farmers install these planned conservation systems. These systems keep highly eroding land from losing its productivity and from polluting Alabama's lakes and streams. Practices planned include conservation tillage, crop rotations, efficient fertilizer use, contouring, terracing, stripcropping, and crop residue management.

Last year 245,000 acres, or 15 percent of the total row crops, were planted by conservation tillage method. Crops were planted in the residue of previous crops without plowing. This method is one of

the most promising and cost-effective ways to protect soil and water, but it may be only one part of the conservation system needed. Farmers need to develop and use a complete water disposal system, along with a conservation cropping system to control sheet, rill, and gully erosion. Some land, marginal for crops because of the steepness of slopes and low productivity, may need to be returned to trees or grass.

The SCS is also working with farmers to plan and install systems that control animal waste and protect water quality. The multi-agency approach to cleaning up pollution of animal wastes is successful in the Bear Creek Floatway and in the Sand Mountain-Lake Guntersville area in north Alabama.

The SCS, in cooperation with other agencies, is in the process of completing and publishing modern soil surveys. In Alabama, 85 percent of the land has been mapped with 43 counties having a published soil survey. These surveys form the basis of conservation planning. They describe the physical and chemical characteristics of the soils, and provide information on the potential as well as the limitations of the soils for agriculture, forestry, wildlife, and various other uses.

SCS foresters, biologists, and conservationists, working with conservation districts, assist landowners and operators in planning the use of their forest and wildlife resources. SCS conservationists in every county are an active part of the County Forestry Planning Committees. These same employees work closely with the TREASURE Forest program by participating in the nomination and inspection of TREASURE Forests. The SCS also assists in planning and applying erosion control measures on private forestlands. The SCS coordinates these services with those of the Alabama Forestry Commission, the Alabama Department of Conservation and Natural Resources and

others. The SCS will provide technical assistance for the new Stewardship Incentives Program.

The SCS administers watershed projects for the USDA under Public Law 83-566. These projects help urban and rural communities protect, improve, and develop the water resources of watersheds up to 250,000 acres in size.

The Resource Conservation and Development (RC&D) Program is designed to speed up resource development and environmental protection in multi-county areas. Alabama has seven RC&D areas covering 56 counties. The SCS is responsible for administering the program and assigns a coordinator to work with councils from each area. Each RC&D area has an active RC&D Forestry Committee. RC&D offers technical and limited financial assistance to rural communities to support measures that conserve and improve use of land and develop natural resources in a sound way. Projects the RC&D areas are involved in include development of pond fish farming and growing catfish in cages; promotion of forestry and wildlife resources; growing shiitake mushrooms; installing dry hydrants for rural fire protection; raising Angora goats; promoting water quality; providing equipment for pumping out lagoon wastes; and spreading these liquid wastes on cropland and pasture for irrigation and fertilizer.

The SCS also provides technical and financial assistance to landowners under the Rural Abandoned Mine Program (RAMP) to reclaim abandoned coal mined lands. Many of these sites are planted to trees and wildlife cover.

Many federal, state, and local agencies cooperate with districts and provide assistance in the conservation of soil, water, and related resources. Without cooperation and assistance from these agencies, much less conservation would be accomplished in the districts.

For more information about SCS programs and assistance, call or visit the SCS office listed in your local telephone directory under "UNITED STATES GOVERNMENT, DEPARTMENT OF AGRICULTURE."

All programs and services of the U.S. Department of Agriculture are offered on a nondiscriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status, or handicap. ♻️

Buried TREASURE

Continued from page 9

FFA, and 4-H to develop concern about our forestlands, the Junior TREASURE Forest program was developed.

Qualifications for a Junior TREASURE Forest do not require ownership of the land. A minimum of five forested acres under management is required, but management of the entire property is not required. The portion of the total ownership managed according to the TREASURE Forest philosophy and objective requirements will qualify a student for the Junior TREASURE Forest award. The land which is managed may not be part of an existing TREASURE Forest, however.

How To Begin

The first step towards becoming a TREASURE Forest is to contact the Alabama Forestry Commission or another member of the County Forestry Planning Committee (all member agencies are listed on page two of this magazine).

You will be asked to sign the TREASURE Forest Commitment Form once the program is explained to you. The Commitment Form is not a contract and is not binding in any way, but is simply a statement of your belief in the ideas of the program. At this point, you will be given a TREASURE Forest Creed which states the beliefs of the program.

Certification Process

Once you feel your forest is ready to be a TREASURE Forest, the first step is to be nominated. You may be nominated by a member of the County Forestry Planning Committee, a natural resource professional who has been working with you, another landowner, or yourself. Nomination forms are available at all Alabama Forestry Commission offices.

When the nomination form is received, an inspection team consisting of a registered forester and a wildlife biologist will visit the property at a prearranged time. It is highly advisable that the landowner be present. The inspection team will want to discuss the property management, objectives and accomplishments. The inspection team will be interested in future management activities, but possible certification is primarily dependent on past and present accomplishments.

The inspection team does not certify the property as a TREASURE Forest, but simply makes recommendations for certification. The Services Subcommittee of the Alabama Forestry Planning Committee meets quarterly to review all applications. The subcommittee makes the final determination as to certification.

Once certification is attained, the landowner will be recognized and be presented with a TREASURE Forest sign, certificate, and cap.

Recertification

Every five years after certification, each TREASURE Forest is reinspected. The purpose of the reinspection is to determine if the landowner is still managing his property according to the TREASURE Forest concept. Mismanagement or lack of management will result in decertification and removal of the TREASURE Forest sign.

Changes Over Time

The TREASURE Forest Program is like a tree which is constantly growing and spreading. For those who are TREASURE Forest landowners, you may have noticed some differences in the program since you were certified.

1. The program was originally set up to recognize only non-industrial landowners.
2. At one time a written plan was required.
3. The objective Environmental Enhancement was recently changed to Environmental Education.
4. The requirement of signing the TREASURE Forest Creed was changed to signing the TREASURE Forest Commitment Form.

As the TREASURE Forest program grows, occasional changes will be incorporated to expand and improve the program. Since the program began, over 800 TREASURE Forests have been certified, covering approximately 1.4 million acres. The program is a success story in Alabama. Perhaps some day all forestland in Alabama will be managed according to the TREASURE Forest concept so that Alabama landowners may reap optimum benefits from their forestlands. ♻️

COMMERCIAL PRUNING: An Economic Gamble

by JIM JETER, Management Specialist and TILDA MIMS, Information Specialist,
Alabama Forestry Commission, Tuscaloosa

Should pruning be a fundamental part of your forest management plan? The answer to this question is more complex than one might think.

The primary purpose of commercial pruning is to increase the amount of clear wood produced by selected trees. Most of the volume of a given tree is in the first 16 feet, commonly called the butt log. Removing limbs while a tree is young produces more wood free of knots and other blemishes in the butt log, thereby bringing a higher market price. The concept is simple; the process is not.

Pruning, at best, is a speculative gamble. The risk is in estimating the future market of grade sawtimber, and banking on the harvest price of a given stand to offset the capital investment of pruning.

Pruning is a labor intensive silvicultural activity. Assuring an economically feasible operation demands careful consideration of special sites and objectives before making the decision to prune.



TREASURE Forest landowner J.B. Dollar, right, and Ranger Everett Brown in 6-year-old pine plantation following the first phase of a two-step pruning operation. The pruning objectives were timber quality and aesthetics. Over half of the pruned trees will be removed during thinning.

Terms

To evaluate the potential productivity of forestland, it is important to understand certain forestry terms.

Basal Area—the basal area of a tree is the cross-sectional area, in square feet, of the trunk at breast height (4½ feet above the ground). Basal area per acre is the sum of basal areas of the individual trees on the given acre. For example, on site index 80 land, a basal area of 120 square feet would be overstocked, 60 square feet would be under stocked and 75-85 square feet would be just right.

Live Crown Ratio—live crown ratio is described as the percentage of a tree's total stem which has living branches, i.e. live crown length divided by total height. A ratio of approximately 40 percent is optimum for merchantable size trees. Trees with less than a 30 percent ratio grow slowly and are less vigorous; trees

with a ratio over 50 percent contain too many knots and yield lower quality wood products.

Site Index—site index is a measure of forest site quality based on the height in feet of the dominant trees at a specified age. The two basic site index curves are Base Age 25 and Base Age 50. Base Age 25 indicates how tall a tree on given quality land will be at 25 years of age. Base Age 50 indicates the measure of the tree at 50 years of age.

Assistance in understanding these terms and applying them to individual forestland is available through your local Alabama Forestry Commission office.

Considerations

The age of the pine stand is the first consideration. Pruning must begin early in the life of the stand in order to produce the most clear wood. It is recommended

the stand have at least 20 years left in the rotation.

Sawtimber rotations designed to produce quality grade sawlogs should be the only rotations considered for commercial pruning. Special objectives such as producing plywood bolts may also be evaluated.

Pruning should not be considered on land with less than Site Index 75 (Base Age 50). The timber will not grow rapidly enough to offset the capital investment.

Pruning Techniques

There are three basic pruning techniques: one-step and two-step pruning if managing for sawtimber, and a third technique if managing for plywood bolts. The technique selected depends on the landowner's long-term objectives for the timber.

All three require the same physical pruning techniques; however, they differ

in the timing of the pruning or prunings, the timing of subsequent thinning, and how far on the bole of the tree to prune for product objectives.

The objective of one-step and two-step pruning is to increase the volume of clear wood on the butt log. To insure getting the first 16 feet of the bole, it is recommended that limbs be removed for a total of 17 feet on the bole of the tree. Plywood bolts require limb removal for about 8-12 feet.

All three require the pine stand to be entered at an early age for site and growth evaluations and, most importantly, for tree selections to be made.

One-step pruning consists of evaluating a stand at ages 15-18 years of age depending on the site index. Selected trees are pruned when they reach a height where the first 17 feet of the bole can be pruned while leaving 40 percent live crown ratio. Thinning to 80-90 square feet basal area should follow immediately. A second thinning to remove all but the pruned crop trees should occur in approximately 10-15 years.

Two-step pruning consists of evaluating a stand at 7 to 10 years of age depending on the site index. When the trees reach a height where the first 6 to 8 feet of the tree can be pruned while leaving 40 percent live crown ratio, the first of two prunings should take place. A thinning should follow as soon as the trees are

merchantable.

The second phase of a two-step pruning should be implemented when the trees reach a height where the balance of the 17 feet required for the butt log can be pruned while leaving 40 percent live crown ratio. A thinning should follow according to the basal area requirement.

The plywood bolt method involves a pre-commercial thinning leaving approximately 150-250 well spaced trees per acre. All remaining trees are pruned for approximately 8-12 feet. Tree selection standards and live crown ratios are basically the same as for the other two techniques.

Tree Selection

Pruned trees are expected to last throughout the entire rotation; consequently, careful tree selection is critical to the success of the operation.

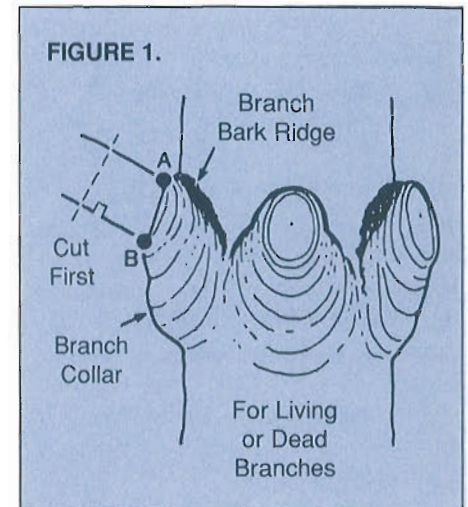
Although any species may be commercially pruned, loblolly and slash pines are best suited for this purpose.

Selecting the best trees for pruning involves evaluating a young tree and predicting the qualities of the tree when mature. An experienced eye will help with the task of deciding what a 7- to 18-year-old tree will look like at age 40.

To achieve the greatest volume of clear wood, only dominant or co-dominant trees should be selected for pruning.

Trees should be relatively straight and contain no forks, excessive sweep or crook, and have at least 20 years left in the rotation.

Site index is an important consideration in determining the number of trees to be pruned on a given acre. As site index increases, one can justify pruning more trees per acre. As a guide, if the land has a site index of 85, then 85 to 90 well spaced trees should be selected for pruning.



How and When to Prune

Once a tree is selected, all limbs, living or dead, must be pruned to the desired height. All branch cuts should be made just outside the branch collar, which should be protected from damage (see Figure 1).

Selecting the correct pruning tools depends on the size and accessibility of the cuts to be made. A well sharpened pruning saw will work best in most cases. Properly made cuts will callus over regardless of when the cuts are made.

Commercial pruning has proven beneficial under exacting conditions. Several forest industries in Alabama conduct pruning operations on their own land, and are optimistic about the investment.

However, it is an economic gamble because a forest landowner might actually lose money by pruning. Special sites and objectives of each individual stand, as well as local market considerations, must be carefully evaluated before any action is taken. ♣

Reference:

Diagram from U.S. Forest Service pamphlet #660 "Woodland Pruning."



Pickens County Ranger Thomas Trull in a plantation pruned and thinned for plywood bolts.

MULE-LOGGING: A Dying Art?

by PAUL P. McCABE, Staff Forester, Alabama Forestry Commission and
ELIZABETH TINER, Author, Poet, Still-life Artist

Is mule-logging here to stay? Have the skidders, tractors, fellerbunchers and such “new-fangled” machinery replaced the use of mules to drag logs from the area cut to a landing (loading zone)? Mule-logging encompasses the use of not only mules, but also donkeys, burros, oxen and horses (primarily Percheron and Belgian). It is usually a small business with a single owner and two to six employees. These “beasts of burden” are used to skid (haul) logs from the site where trees were felled and bucked to a landing where waiting trucks haul the logs to a mill.

Mule-logging was quite popular prior to World War I before the gasoline and diesel engines were invented. With these innovations came the bulldozer, skidder, and the “donkey engine,” a device with long cables extending from the top of a hill that would pull the logs to a landing.

Today, mule-logging is generally used by landowners with smaller acreages, homeowners wanting trees cut in their yards with a minimum of damage to the yard and remaining trees, and areas inaccessible by skidders, as well as areas with large rock out-croppings, steep slopes, small woodlots and areas that are selectively thinned. Landowners who are aware of the possibility of soil erosion, Best Management Practices, and Stream-side Management Zones may prefer mule-logging.

Animal of Ancient Times

Mules are hybrid, a cross between the male ass and female horse. The American Jack originated principally in Spain and was introduced to the United States in 1787. A member of the equine family, the mule is a descendant of the wild asses of Africa and Asia. Loggers, miners and a host of other rugged outdoor individualists have long preferred the mule for his

sure-footed ability to maneuver difficult paths, as well as his docile and easily teachable and willing nature. Withstanding the pressures of environmental strain and his endurance under nutritional deprivations, the mule has survived under the most difficult of situations serving man. Asses were present in the Nile Valley and the Egyptian area long before they were known in the western world.

A tomb excavated at Jericho yielded pottery with the figure of an ass, circa 3000 B.C. Bronze era deposits from Palestinian excavations produced bones from the ass, also from the 3000 B.C. period. All data indicate the ass was domesticated, used as the proverbial “beast of burden.” This is substantiated by writings and rock drawings from the early Bronze era.

Biblical references (the jaw-bone of an ass, riding an ass) from both the Old and New Testaments, as well as physical evidence unearthed from tombs, temples and buried villages, vases, tablets, and rock drawings all attest to the fact that this creature has been around serving mankind for at least 5,000 years. This lowly beast, also called “the poor man’s horse,” has gingerly brought many a man down steep and treacherous mountainsides and trails to safety, where a horse might “spook” or refuse to travel. One remarkably preserved sketch, depicted on a mosaic standard of Ur, circa 2500 B. C., illustrates a team of onagers (asses) pulling a loaded wagon for the driver, with five men walking in front bearing axes. This could indicate early loggers.

The oxen were the most powerful, but more expensive. They were known for their strength, but were also dumb. A teammaster could work the oxen to death. An ox would not stop working, even when tired and hungry. A horse would not work when tired, and therefore was the more intelligent. The stronger and

heaviest muscled of the United States draft breeds was the Belgian Draft Horse, developed in Belgium and brought to this country in 1886. The Percheron originated in France and was introduced to this country by Canada in 1816. The Belgian horse is usually sorrel, chestnut or roan, and stands at a height of 15 to 17 hands with a weight of 1,900 to 2,200 pounds. The Percheron is usually a dappled gray, but could be black with white markings at the extremities, and is intermediate in size and action to the Belgian or Clydesdale. He stands 16 to 17 hands and weighs 1,700 to 2,000 pounds. The donkey is much smaller, standing 15 to 16 hands, and weighing only 1,050 to 1,200 pounds.

Mule-logging Today

The mule-loggers of today are an interesting but limited group of rugged individuals. Most are concerned about carefully removing their target trees without destroying or damaging remaining trees. Their financial investment is considerably less than that of mechanical loggers. Of course, their net profit is also considerably less. This vanishing breed loves the outdoors, the infinite beauty of the woods, and firmly believes that what he does is protective of the environment. These loggers are quick to remind anyone who asks that they are proud of their ability to remove trees with a minimum of damage.

Currently, there are approximately 50 active mule-loggers operating in Alabama. Generally in the 40 to 70 age bracket, each logger earns between \$50 to \$100 per eight-hour day. Expenses to the owner of a two-man crew could average \$200 to \$400 per day. These figures include wages, feed, medicine and horseshoes. To invest in a mule-logging enterprise, one should be prepared to spend in the neighborhood of \$10,000, which includes the purchase of a used pickup truck, a used logging truck, two horses or mules, tack

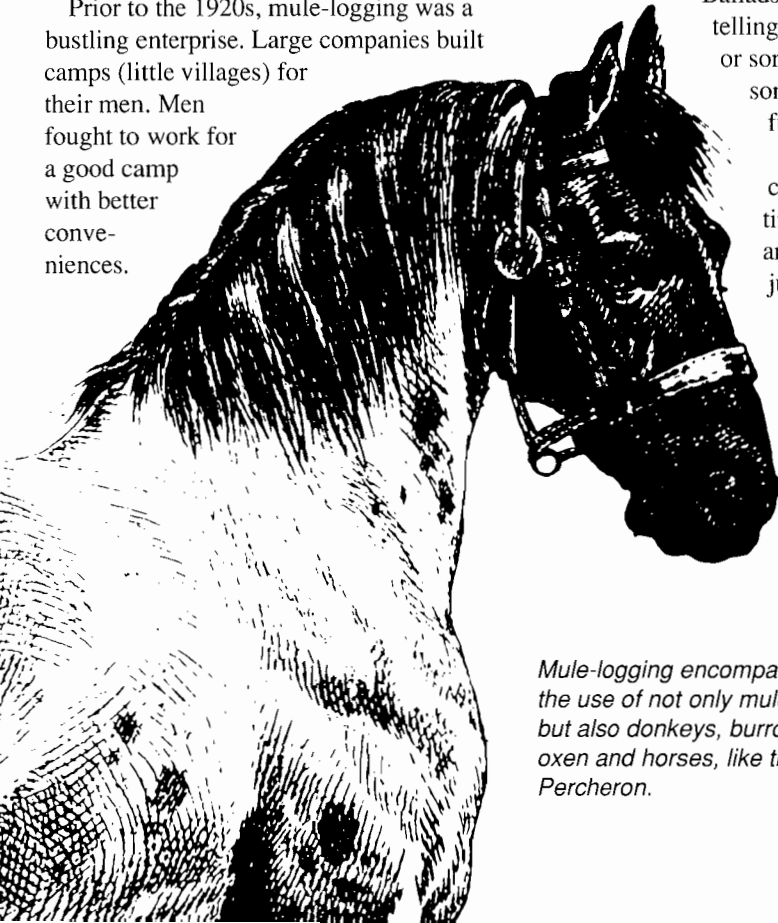
equipment, horse trailer, two chain saws, axes, wedges and various related items.

Yes, there is a place for mule-loggers, both present and future. Mule-loggers will not compete with, but will complement the mechanical logging industry. There will always be areas which are impractical or inaccessible to mechanical equipment.

Interviewing several mule-loggers, I discovered one chose "snaking" (mule-logging) because he wanted the independence of self-employment, loved the outdoors, and enjoyed working with mules and horses. He had worked for others until he saved enough to buy his own equipment. Another logger was simply following family tradition, doing what his father had taught him to do. Another, with large landholdings, used his team for his personal use, but received requests from neighbors to "snake" in their woods and help them get the timber to market. Word spread, until he had accidentally built a second occupation. The need was there, and he filled it. Mule loggers cite the satisfaction of the physical workout their job provides, the independence and the involvement with the great outdoors, and the smug knowledge that their occupation is rare as reasons they enjoy their jobs.

Logging Camps of Yesteryear

Prior to the 1920s, mule-logging was a bustling enterprise. Large companies built camps (little villages) for their men. Men fought to work for a good camp with better conveniences.



Camp houses, the commissary (company store), the bunkhouses for men who were there without their families, the dining hall, and especially the cook, were amenities used to lure the better loggers. Companies paid for good cooks because the men would work for the company with good food before they would consider higher wages elsewhere. One such company hired their chef from France. Steak was served for breakfast, and it was not uncommon for the men to be served a dozen eggs each for breakfast, along with plenty of pancakes, biscuits, gravy, syrup, potatoes, and always an abundance of meat.

Men brought their harmonicas, banjos, fiddles, whatever they could play, to the camp to while away the leisure time. Dances were held on Saturday night, and the better companies encouraged this sociability. Unfortunately, there were some unscrupulous companies promising the men pie in the sky, but depriving them of decent housing or medical help. There are many documentations of camps with so many men jammed in one bunkhouse that they were forced to sleep in inhumane overcrowded areas, with no room to turn over. When a man lost fingers, a hand or arm, or other horrible injuries, he was forced to wait until the end of the shift before being taken for medical help.

Ballads were composed, telling of these wrongs, or sorrow, irony and sometimes just plain fun.

The logging camps followed the timber, leaving the area the men had just cleaned out and going to a fresh area when the supply was exhausted at the current location.

Today, we use words which come

Mule-logging encompasses the use of not only mules, but also donkeys, burros, oxen and horses, like this Percheron.

from these logging camps, but with different meanings. Skid row (a deprived section of housing) is corrupted from skid road. Logging camps made skid roads to skid the logs as the mules snaked them out. One such large mill and village was situated on what is now downtown Seattle, Washington. When the mill shut down, the abandoned buildings were adopted by the homeless of that period.

Saloons and gamblers also set up shop, with other little merchants such as yard goods (material for clothing) and tool and hardware shops and the grocer. Cheap wines for an inexpensive "high" left their victims stumbling over the railroad tracks into the "better" section of housing, where they passed out cold. The local law, smelling the wine on the men when they arrested them, began calling them "wino," and referred to these men as "on the skids," meaning the skid road to and from "shanty-town." Later, the skid road was corrupted into "skid-row." The alcoholics from that depressed economic area were called "skid-row bums."

Conclusion

Mule-loggers of our era are permanent residents, good neighbors, and stewards of the land who take their calling seriously. They appreciate the power and expertise of their mules or horses. They live and work with nature and the environment daily, and they are a stubborn, proud breed. To watch them ply their trade can be amazing and fascinating. This is an old but noble craft and should be appreciated as such. ♣

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LANDOWNERS

LEGISLATIVE • ALERT

NATIONAL

by TERRI BATES and BILL IMBERGAMO,
Washington Office, National Association of State Foresters



Although some of this country's most important (and most controversial) environmental legislation is up for reauthorization this year, it is not clear whether Congress will resolve the major conflicts over endangered species, clean water, and use of public forest resources. With the economy still sluggish, and an election looming in November, major initiatives and bold legislative proposals are not likely. Domestic economic issues, such as taxes and health insurance, are likely to take precedence over natural resource issues.

Current Issues

One possible exception to this trend that could benefit timberland owners is the president's proposal to lower the capital gains tax rate to as little as 15 percent for long-term investments. However, partisan sentiment against a substantial capital gains rate cut remains high.

Even in this environment, which tends to portray capital gains tax cuts as unfair, a bill to give equitable tax treatment to timberland owners in particular has received bipartisan support in Congress, and received the endorsements of the Forest Farmers Association and environmental groups such as the Wilderness Society and the Natural Resources Defense Council. The bill (*H.R. 3841* and *S.2009*) is co-sponsored by Alabama Senator **Howell Heflin** and Representative **Sonny Callahan**. Since the bill is aimed at a particular activity, and is endorsed by a diverse array of groups, it has a good chance of passing even given the election year pressures.

Private property rights will continue to

be a contentious issue in the reauthorization of the Clean Water Act and the Endangered Species Act. The issue of private property rights tends to obscure the real issue with many natural resource disputes: Advocates of regulation often fail to see that incentives and training will provide for better stewardship of natural resources, while private property rights advocates sometimes fail to see any legitimate government interest in regulating private property.

Those active in timberland management in the Southeast are already becoming aware of these conflicts in their experiences with the red-cockaded woodpecker and with federal regulation of wetlands. Unfortunately, because of the tight schedule and the intensity of some of these conflicts, Congress is not likely to clarify any further its intent on these issues. Although measures that would require broader consideration of private property rights in the application of federal laws (such as the Endangered Species Act and the Clean Water Act) have been introduced, they lack substantial bi-partisan support. One-year reauthorizations, with the real work taking place in the next Congress, is the most likely scenario for these issues.

Biodiversity legislation that bogged down last session may resurface again this time around, although prospects for its passage are cloudy at best. The proposals floated last session were progressively altered in the face of opposition from commodity groups and natural resource managers, until they were finally crowded off the legislative docket by the end of the session. Some groups of professional natural resource managers pointed out that biodiversity is an elusive concept at best,

and that legislatively requiring it would probably only provide for a greater diversity of already abundant litigation. The principle of biodiversity, they argued, is best left as a professional guideline applied on a case by case basis.

As the timber situation on federally owned lands in the Pacific Northwest becomes increasingly unstable due to a number of endangered species actions, the demands placed on private lands in the Southeast are growing steadily. However, the same factors affecting timber harvests in the Northwest are beginning to make themselves felt in the Southeast. While the application of federal laws on federal lands is a fairly straightforward matter, it is not clear how far federal control extends onto private lands. This question may be settled by Congress, but it is more likely that it will be settled in the courts.

Stewardship Programs Supported

While many of these issues are contentious, either because of partisan tension, scientific disagreement, or conflicting value judgements, programs that encourage good stewardship of the land (like Alabama's TREASURE Forest program and the Forest Stewardship program) are receiving broad bi-partisan support. These programs provide a way out of the seemingly intractable arguments that pit private rights against public good and vice versa.

The president indicated his continued support for these programs by requesting either continuing levels of support (as in the Forest Stewardship Technical Assistance programs), or substantial increases (the administration requested \$71 million

for the Stewardship Incentives Program this year; just under \$20 million was appropriated last year). Despite the president's strong support for these programs, reductions are recommended in basic forest protection programs, such as forest health and fire protection. These reductions would impair state foresters' abilities to deliver important services to private landowners.

NASF will work to ensure that the federal budget for state and private forestry

recognizes the importance of forest health and protection, as well as tree planting programs. Recognition of the importance of forest land management is difficult in times of fiscal restraint, but, as in forestry itself, the investment usually proves to be a wise one in the long run.

Other News

In addition, we also note the publication of the proposed rules for the implementation of the Wetlands Reserve Pro-

gram. The rules name eight pilot states for the program, which purchases easements for wetlands on private property. The Administration has requested \$160.9 million for FY 93, a substantial increase that would allow expansion of the program to other states. In additional easement program news, the next Conservation Reserve Program sign-up will take place in July of this year. We will have more details in the summer issue of this magazine. ♣

ALABAMA



TV newscasters used to open their late night news segment by declaring: "It's 10 o'clock, do you know where your children are?" Some view-

ers were known to paraphrase their response with: "It's 10 o'clock, do you know where your parents are?"

Well, it's April 1992, and we wonder if you know what Congressional District you are in, or who your next congressman is going to be? It's been that kind of scenario ever since the 1990 federal census decreed that Alabama will redraw its Congressional district lines under the Voting Rights Act.

This brought several of Alabama's present congressmen scurrying to their feet in an effort to protect their coveted district turf. A legislative committee was empaneled to invite and study various plans that would answer the federal mandate in an adequate manner.

Legislators Receive Plans

Legislators knew that if they couldn't settle on a workable plan, the Justice Department would create its own plan for a district consisting of a clear majority of black voters. A number of plans flooded the joint legislative committee. Sen. **Ryan deGraffenried** (D-Tuscaloosa) and Rep. **Jim Campbell** (D-Anniston) chaired these deliberations. After weeks of scratching heads and scrapping one plan after another, a couple of plans were considered more seriously than others.

Finally, a three-judge federal panel in

Mobile stepped into the picture and produced a map of its own. While the map drawn by the federal court met a mandate by the U.S. Justice Department, it also created the likelihood that Alabama's Republican seats in the U.S. House of Representatives would be boosted from two to three.

After the tenth day of the 1992 Regular Session of the Legislature, no plan had been adopted to redraw the state's congressional districts to reflect the population shifts that surfaced during the 1990 census. It was expected that the Justice Department would need about 60 days to review any plan generated by the legislature. The plan submitted by the federal judges did not order a deadline for the legislature to approve a plan—but the fact remained that qualifying for these congressional seats must take place prior to the June 2 primary. April 3 was the deadline for candidates to qualify.

Democrats Counter Court Plan

The court-backed proposal would place U.S. Rep. **Claude Harris** (D-Tuscaloosa) in the mandated black majority district. Furthermore, the largely urban district of U.S. Rep. **Ben Erderich** (D-Birmingham) would become a district that most likely would favor a Republican candidate.

This action brought a heavy challenge from Democratic members of the Alabama legislature who worked around the clock to block the court-ordered plan. They first tried to pass a competing plan in the House. This plan, sponsored by Rep. **Mike Box** (D-Mobile), would

counter by placing Erderich and Harris in the same district, which they contended would protect one of them, along with the other three Democratic incumbents.

Meanwhile, the Alabama Senate came up with a plan of its own, sponsored by freshman Sen. **Doug Ghee** (D-Anniston). His bill went through an amending process that closely resembled the Box House bill. Alabama's congressmen scrambled in and out of the legislative halls in an attempt to reach a compromise. Finally, a long-awaited agreement was struck on February 19. Senator Ghee declined to comment on the specifics of the agreement, but said Congressman **William L. Dickinson** (R-Montgomery) would see his current district undergoing significant alterations.

Senators Break Filibuster

Then, to top it all off, a three-day filibuster by Republican foes of the Ghee plan erupted in the Senate. The deadlock was finally broken February 20 on a 19-11 vote that sent the House a redistricting plan favored by most Democrats.

As this article was being published there had been no action taken by Speaker **Jimmy Clark** (D-Eufaula) to bring it up for debate in the House.

By the time you read this we may all know which congressional district we are in and who the candidates are.

In the next issue we will review significant legislation from the Regular Session—especially the results of the proposed tax reform package which held center stage at the time of this writing. ♣

TREE 249-3

by LARRY HEDRICK,
U.S. Forest Service,
Hot Springs, Arkansas

In August of 1632 in the hilly rolling country between the Black Warrior and Cahaba Rivers near the western boundary of present-day Bibb County, long-needled trees in open pine forest were laden with large green cones. This abundance of cones followed several years with few to none. Fox squirrels were first to notice. They ranged the canopy and, judging by criteria known only to fox squirrels, took the best. Gray squirrels ventured out of the oak woods in the hollows to contest their larger cousins. Squirrels know that pine seeds are nutritious and are available at a time in the annual cycle when the fruits of spring are gone and those of autumn are not yet available. Cone scales rained down upon the forest floor. White-footed mice, quail, and wild turkeys scurried and scratched among the debris for leftovers. Many cones and seed were thus pilfered. Some were not.

Pine trees and squirrels have traveled the aeons together. Between good seed years, the several intervening years of little or no seed production help to ensure that populations of pilferers do not build to levels high enough to entirely destroy the periodic seed crops. This secures the future for new pine trees and ensures pine seeds for future pilferers.

In October, cool dry winds opened the remaining cones and they spilled their one-winged seeds to earth. Most seeds fell near the parent trees because longleaf seeds are heavy and even in high winds do not travel far. This was an uncommonly favorable year. Not only was there heavy seed production, but the seed landed upon receptive ground prepared by a lightning-set April fire. The flames had cleared away several years' accumulation of pine needles and reduced the sparkle-berry and dogwood shrubs to small



Tree 249-3 supports an active red-cockaded woodpecker cavity.

sprouts. One such seed landed directly under the crown of its parent tree. Within a week, having escaped detection by roving flocks and coveys, it germinated. Primary needles appeared as the root tip penetrated the sandy soil. The newly-sprouted seedling resembled the blades of slender grasses.

The Seedling Grows

After one full growing season, the number of needles had greatly increased. They clustered about the terminal bud just above ground level, making the seedling appear even more like a clump of low-growing grass. All the while its

root system developed rapidly. Nearby, other longleaf seedlings developed similarly.

In the spring of 1636, some robust seedlings fortunate enough to have germinated in an opening created by the death of a lightning-killed canopy tree, began rapid height growth. Ours did not. It languished in the partial shade of the parent tree. In April of 1639, fully seven years after germination, our seedling finally began to grow skyward. Rapidly at first, then ever more slowly it grew, having to content itself with what sunlight filtered through the canopy far above. It persisted.

The long wait between 1639 and 1917

was largely uneventful for the tree. There were years of abundant rainfall and years of drought. For dominant canopy trees and those seedlings fortunate enough to grow in an opening, these weather vagaries were recorded by wide growth rings in years of abundant rainfall, and narrower rings when rainfall was scarce. For our suppressed tree, good years and bad were recorded in rings averaging 66 to the inch and uniformly narrow as to be nearly indistinguishable to the naked eye. Such is the price a longleaf pine pays for growing in the shade. Over the centuries, squirrels still feasted on August pine cones in every year they were available. Lightning fires occasionally burned and new seedlings became established. Our tree languished but hung on with the dogged tenacity peculiar to longleaf.

The Eighteenth Century

If these 278 or so years were uneventful for our tree, truly momentous events were afoot on the land. In the early years, men in deerskin loincloths periodically passed nearby, or less frequently camped in the open forest. They occasionally started ground fires to aid hunting activities and to attract game animals to the nutritious re-growth that immediately followed such burns. For our tree, now having achieved enough height growth so that its foliage escaped the reach of ground fire flames, and its stem now largely protected by a sufficiently thick insulating layer of bark, these fires posed little threat.

By the year 1700, a new era was beginning. The tree, now 68 years old, had achieved a diameter-at-breast-height (DBH) of about 4 inches. The land on which it grew having long been located between the Choctaw and Creek Nations, an area claimed by neither, but used by both, was now strategically located between the ambitious French in Louisiana and the equally ambitious English to the East. These were two of the three European giants locked in rivalry to decide the issue of dominance in North America. That this rivalry would extend to these lands was inevitable. The French came first. The LeMoyne brothers, Pierre LeMoyne, Sieur D'Iberville and Jean Baptist LeMoyne, Sieur D'Bienville, founded Mobile some 200 miles to the southwest of our tree in 1702. The French also built Ft. Toulouse,

at the junction of the Coosa and Tallapoosa Rivers 100 miles to the southeast, in 1717 and Ft. Tombecbe, some 100 miles to the southwest on the river by that name, in 1735.

However, by 1714 the English had already developed a trade network within the Creek Nation west of the Chattahoochee River. The French and English competed fiercely for trade with the Indians. The object of their common quest was deer skins. The continental rivalry simmered and ultimately flamed into open conflict in Pennsylvania, New York, New England and Canada in the French and Indian War, after which French influence in North America waned. Mobile and Alabama were ceded to England. Louisiana and New Orleans came under Spanish influence. Thus ended the year 1763.

In the 1770s, a new struggle erupted to decide human questions more fundamental than those concerning mere dominance among nations. The events at Boston, Philadelphia and Yorktown, and the fledgling nation that resulted, would truly set history on a new course. However, upon these events the growth rings of the longleaf offer no commentary. For the period 1700-1799, the tree garnered the canopy-filtered sunlight of 100 springs and summers. This is recorded in 200 extremely narrow and alternating rings, light wood of spring and dark wood of summer. The accumulated capital from these 100 years of subsistence was but 2 inches of diameter growth. The tree was 167 years old and 6 inches DBH.

The Nineteenth Century

During the first decade of the nineteenth century, entrepreneurs from the east continued to venture into the Alabama territory to trade with the Creeks, Choctaws, Cherokees, and Chickasaws. But increasingly, they were accompanied by a trickle of restless folk seeking not trade, but rather land upon which to settle. The decade 1810-1819 would prove important. In 1812, the infant Republic, through force of arms, was able to firmly establish itself among the nations of the world. In 1814, the Creeks, being first to feel the effects of encroachment by white settlers from the east, arose to drive the invaders from their lands. However, their efforts were short-lived. They were caught by Andrew Jackson and his militiamen near

the Tallapoosa River and destroyed at the battle of Horseshoe Bend.

Following the end of hostilities, the Mahan brothers, veterans of Jackson's campaign, returned to the Alabama territory to settle at the site of an abandoned Indian village on the banks of the Cahaba River some 9 miles east of our longleaf tree, thus founding what would become the town of Centreville. In 1816 the Choctaws ceded most of the western portion of the Alabama territory to the United States. The trickle of white settlers became a flood. With them came slaves to first clear, then work cotton fields in the fertile river valleys and in that vast rich crescent of dark prairie soils known as the black belt. Statehood came in 1819.

In 1833, the Choctaws, Cherokees, Creeks and Chickasaws, after having been forced to relinquish all claims to the land, were forced to relinquish even their presence. The exodus of these "Civilized Tribes" from their ancestral lands along the "Trail of Tears" marked the end of perhaps a 10,000-year tenure on the lands called Alabama.

The white settlers that replaced them had very different views about the relationship between men and the land. These new residents carved small homesteads from the forest and built sturdy permanent structures from the ubiquitous longleaf pine. They allowed their cattle and hogs to freely range the surrounding woodlands. The latter proved especially damaging because of their propensity for uprooting and feeding upon longleaf seedlings. The settlers, like the Indians before them and from whom they learned the practice, burned the woodlands. However, unlike the Indians, they almost always burned the forest to "sweeten" cattle forage instead of to aid hunting, and they burned with a greater frequency, usually annually, than had their predecessors.

Longleaf seedlings are vulnerable to ground fires only during the first few years following emergence from the grass stage and then, only until they have achieved sufficient height growth to put their foliage out of the reach of flames. Irregular fires set either by lightning or Indians allowed sufficient fire-free intervals so that many seedlings successfully passed the period of vulnerability and became saplings. Annual burning by settlers allowed no such fire-free intervals. Consequently, these years saw few lon-

gleaf seedlings established in the forest.

In April of 1861, at age 229 and 6.8 inches DBH, our tree prepared to lay on its small annual increment of spring wood. It remained subordinate to the over-topping crowns of the surrounding forest dominants. Its growth rings are mute as to whether or not it sensed the growing tension between the increasingly industrialized northern states and those of the slave-holding agrarian south. The batteries surrounding Ft. Sumter began the struggle to decide if the Union of States would survive and if the promise of its founding principles would be redeemed for all people. However, these batteries were far distant. So too were those at Shiloh in 1862 and at Gettysburg in 1863.

However, in 1864, it is entirely possible that units of Bedford Forest's cavalry passed through Bibb County on their way to engage Colonel Wilson's force and forestall an attack on the armory at nearby Selma. They may even have passed by our tree. Whether that was the case or not, the conflict among brothers mercifully ceased at Appomattox Courthouse in 1865. Our tree's growth rings for the years 1861-65 give no recognition to these tumultuous affairs of men. They differ not at all from rings laid down in years immediately before or after.

The period between 1865 and 1899 would see significant milestones. In 1871, the Elyton Land Company offered for sale lots surrounding a proposed railroad junction in the area of Jefferson County that would become Birmingham. The re-united nation celebrated its first centennial in 1876. It was also a time of reckless exploitation of the seemingly inexhaustible natural resources of forests and wildlife across the nation. Lumbermen, having already felled the forests of New England, were rapidly doing the same to those of the Lake States. Buffalo were mercilessly hunted, first for their hides, then to feed the vast track-building armies of the railroads and finally, to deprive the Great Plains Indian tribes of their sustenance.

Messages crackled along telegraph wires all over the East with news of the latest movements of passenger pigeons. Market hunters were quick to follow. By millions, pigeons were shot, packed in barrels and shipped to the Eastern metropolitan areas. Huge numbers of ducks and geese were killed annually on

Chesapeake Bay to meet the demand of gourmet palates in Baltimore, Philadelphia and New York. This profligate use would ultimately result in extinction for the pigeon, near-extinction for the buffalo and severe depletion of waterfowl populations. For the first time, it became clear that forests and wildlife were not inexhaustible. With this realization came also the beginnings of the conservation movement in this country.

However, it was not until the last decade of the waning century that the first significant conservation action was taken. At the behest of Dr. Bernhard Fernow and the American Forestry Association, Congress in 1891 authorized the withdrawal of lands from the public domain for a system of Forest Reserves to protect the watersheds of navigable rivers and to secure a future supply of wood products for a growing nation. Predictably, the first additions to this new system came in the far west. At the time, no such future was envisioned for any forestlands in Alabama where there was little land in the public domain.

At the end of the nineteenth century, our tree had persisted for yet another 100 years and accumulated another 1.9 inches in diameter growth. The forest in which it grew was largely intact. At 268 years of age, the tree measured some 7.9 inches DBH. Remarkably though, owing perhaps in part to its subordinate canopy position, and in part to its advanced age, fully 80 percent of this girth was comprised of heartwood. This factor would ultimately prove significant.

The Twentieth Century

The first decade of the twentieth century was one of vigorous economic growth, peace, and prosperity. But the days of the virgin longleaf pine forest were numbered. The vast pineries of the Lake States were exhausted. The lumbermen, hard-eyed industrialists every one, were now in the South. Their attention was directed first at the magnificent longleaf pine forests. The liquidation began in the Carolinas, Georgia and Florida, but soon spread westward throughout the entire range of the longleaf forest. Rail lines were constructed to haul timber to newly constructed sawmills. Professor H.H. Chapman of the Yale School of Forestry hurried south with his students to Tyler County, Texas to study a

virgin longleaf forest before the arrival of the logger's saws. He had time for only a rudimentary glance.

The decade 1910-1919 marked the passage of the Weeks Law in 1911, which allowed purchase of private lands for addition to the National Forest system. It witnessed the death in 1914 of the passenger pigeon Martha, the last of her kind, thus closing the biological chapter of a species and eliminating the product of a million years' evolution. This occurrence made not a ripple in Bibb County, for the passenger pigeon had long since ceased to journey there and Martha had died alone, in confinement, at the Cincinnati Zoo. The decade saw the beginning and the end of the first World War, the "war to end all wars," or so it was thought at the time. It also brought logging crews of the Kaul Lumber Company to the longleaf forests of Bibb County.

In 1917 the longleaf stand containing our tree was logged. All accessible trees meeting merchantability standards were taken. Owing to its small size (8.4 in DBH) and its subordinate position in a forest of large high quality trees, our suppressed tree and others like it were not taken. For our tree, this release from the shading effects of the overtopping forest dominants was of singular importance, and at the age of 285 years it responded with an increased growth rate. This patient ability of longleaf pine to respond to release at advanced ages receives no mention in modern forestry texts. Perhaps this is due to the simple reason that trees such as ours escaped the attention of the writers of those texts. Further, the virgin forests that might have contained the complete ecological template were gone long before the writing of the first text was ever undertaken.

At or about this same time another significant event occurred. The fungus *Phellinus pini* gained entrance to the heartwood of our tree, perhaps through breakage or natural pruning of a shaded lower limb, and began its work of softening the hard, pitch-laden heartwood. Thus occurred a third significant biological event in the life of our longleaf.

The years 1920-1929 would first bring delight and then despair as the stock market crashed and the great depression took all but a very few human fortunes to a low ebb. For the longleaf growing in Bibb County, these were excellent years.

Rejoicing in its now unfettered place in the sun, with its crown expanding rapidly, it grew at a rate far surpassing that of its previous years. The redheart fungus continued its inexorable progress in the heartwood both upward and downward from its initial entry point.

The 1930s brought the “alphabet” conversation agencies, the CCC and WPA among others, and their government programs designed to provide employment for desperate hordes and reap conservation benefits from their labors. To Bibb County came the Farm Security Administration. In 1936, the lands in western Bibb County were purchased from the Kaul Lumber Company under provisions of the National Recovery Act. A presidential proclamation in 1938 would make these lands a part of the Talladega National Forest under the responsibility of the Forest Service. The lumbermen were happy to sell these lands, stripped as they were of their centuries-in-the-making economic and biologic capital. Besides, the attention of all lumbermen was now riveted on the vast virgin forests of the west.

On these newly acquired lands in Bibb County, the Forest Service inherited less a forest and more a cutover, burned-over expanse of brushland with an occasional abandoned and eroding agricultural field. Initial work was directed at providing protection for existing seedlings from fires and the depredations of feral hogs, healing soil erosion, and beginning the job of reforestation where no seedlings existed. Millions of longleaf seedlings were planted, many by Farm Security Administration crews. A new forest of seedlings and saplings thus came into being, presided over by the residual sentinels from the virgin forest. Presiding over one small patch of this regenerating forest was our tree. In 1937, at 305 years of age and having acquired more growth in the last 20 years than it had accumulated in the previous 100, the tree was 11.6 inches in diameter.

The early 1940s brought yet another conflict and unleashed the most awesome weaponry yet devised by human technology. From 1941 through 1945 many Bibb Countians were occupied with this new World War. Back home, the stands of seedlings and saplings were growing rapidly. The 1950s and early 1960s would see continued forest growth, both of young trees and old. Longleaf seedling-sapling stands had now become stands of

thrifty pole-sized trees. The crowns of these young trees and those of the virgin forest relicts, like ours, gradually mingled. Once again the hills of Bibb County were green-mantled with a longleaf forest. And for the first time since the cutting of the virgin forest many years before, this new forest began to produce wood products as the dense young stands were thinned to increase growth of residual trees.

In the late 1960s, with the continued maturing of the forests, another species whose fate is closely linked with longleaf pine, the red-cockaded woodpecker, reappeared. This social species, which in 1970 would be listed among those in danger of extinction, lives in family groups called clans and requires old pines infected with redheart fungus in which to excavate its roost and nest cavities. In longleaf forests, it usually selects trees at least 100 years old for cavity excavation. Sometime, most likely in the early 1970s, one member of one such red-cockaded woodpecker clan excavated a roost cavity in our tree. Remaining clan members excavated cavities in other nearby relict longleafs. It is a matter for speculation just how a species so dependent upon old trees survived the period between the cutting of the virgin longleaf forest and the maturing of the second-growth forest. No doubt relict trees in unknown places played a critical role.

A Remarkable Story Unveiled

As part of a red-cockaded woodpecker habitat mapping project in 1977, our longleaf was designated as tree 3 in colony 249. It was painted with a blue band and given a metal tag marked 249-3, signifying that status. In a 1986 study of cavity tree ages, an increment core was taken from tree 249-3 and its remarkable story was unveiled.

Today, in its 360th year, with a diameter approaching 14 inches and still supporting an active red-cockaded woodpecker cavity, tree 249-3 stands in the northwest portion of Section 7, T23N, R8E in Compartment 11 of the Oakmulgee Ranger District, Talladega National Forest. During its lifespan tree 249-3 was first part of a vast nearly continuous longleaf forest encompassing 60 million acres and stretching along the Atlantic and Gulf Coastal Plains from southeastern Virginia to eastern Texas. Its long-needled foliage

was perhaps shaken by the storm of passing passenger pigeon flocks. Next, it was a remnant tree standing guard over a nearly treeless landscape under completely pigeonless skies. Finally, it became part of a new but terribly diminished longleaf forest that today encompasses barely 4 million acres. For all of its 360 years it has avoided the pitfalls of catastrophic natural events like crown fires, lightning strikes, tornadoes, and insect depredation, and some unnatural ones like the foraging of free-ranging hogs, to become a part of our modern landscape.

The story of 249-3 is not entirely unique, for there are many such longleaf trees in the Talladega National Forest. The original forest of which they were a part is gone and, with it, the possibility to completely know the ecological workings of a virgin old-growth longleaf forest. Still, one wonders what knowledge about the ecological functioning of that forest can yet be gleaned from the study of these relict members. Regardless of the store of biological information that we may or may not be successful in obtaining from them, a simple reverence for antiquity, a sense of history, and an appreciation for tenacity dictate that these old trees and the modern-day longleaf forest of which they are a part, be accorded a special place in the treasured forests of Alabama. 🌲

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*Author's Note: for those who would like to learn more about the magnificent longleaf pine, see Thomas C. Croker's **Longleaf Pine—A History of Man and a Forest**, Forestry Report R8-FR7, October 1987; USDA Forest Service, 1720 Peachtree Rd. NW, Atlanta, GA 30367-9102.*

A Bountiful TREASURE in Coosa County

by JOHN TYSON, Alabama Forestry Commission, Dadeville

W.S. (Shep) Phillips of Coosa County has more deer than he can count on his 300-acre farm and TREASURE Forest. Shep says that on the average, 15 to 20 deer are harvested from the tract each year. On one well-remembered hunt, 13 hunters killed nine deer. "The deer herd seems to be increasing every year. They're so plentiful that I can't have a garden anymore," he said. Phillips bought the first 100 acres of this tract in 1960 and has added to it until he now has 300 acres.

Shep Phillips is a man of many interests and talents and his TREASURE Forest shows this diversity. He has stands of pines that he has planted, stands of natural origin, and a shiitake mushroom growing operation. He manufactures cages for growing out-caged catfish and tilapia and cage raises these species himself, as well as producing tilapia fingerlings.

By cage raising these market fish, Shep points out that he can still have free swimming bass and bream in the same ponds. He is also in the process of starting a commercial crayfish raising operation.

Phillips says the first timber sale that he made after he bought his land was just a high grading job and he was very dissatisfied. "The logger cut the wrong trees," he said, "and left a lot of logs lying on the ground after he finished." Shep didn't like this and now manages his timberland for



Shep Phillips, right, and son Dan next to a stack of shiitake mushroom logs.

a sustained yield of commercial timber, deer and turkey, and to protect the watershed around his aquaculture ponds.

The market in Coosa County is not good for small hardwoods, and Phillips is using some of his sweetgum logs for non-traditional purposes. He has recently started 1,000 logs of shiitake mushrooms. He is using three different strains of shiitake and believes there is a future for mushroom culture. These fungi are grown on logs and a log will last about three or four years before it becomes too rotten to sup-

port the shiitake. Sweetgum is one of the better species for this use.

Mr. Phillips has used a clearcut and plant system for most of the timber sales he has made to date. He now has some crowded young stands and plans to begin thinning this year. He likes diversity in his stands and plans to maintain some areas of pine-hardwood and hardwood. He has a good system of roads on his land and believes that these are valuable as a land management tool. They give access for logging and land management activities, as well as making it easier for hunters to get in and out of the woods.

Shep likes to keep the roads open so they can also serve as firebreaks in case of wildfire or for prescribed burns. He sows grass on them where it is practical both for deer food and to prevent erosion. Mr. Phillips has

an active program of prescribed burning. He burns for habitat improvement, site preparation, and hazard reduction. His long-range timber production goal is to produce good quality saw timber. Most of the timber that he has sold so far has been pulpwood, however.

Shep Phillips is a retired employee of the State of Alabama. He is a member of the Coosa County Soil Conservation District, the Coosa River RC&D Project Steering Committee, and the Coosa County Forestry Planning Committee. ♣

STATE-OWNED TREASURES

by RICHARD CUMBIE, Productivity Division Director, Alabama Forestry Commission

The Alabama Forestry Commission has a policy to manage state forests and other state lands under a multiple-use concept which includes wildlife management, outdoor recreation, forestry experimental work, enhancement of environmental quality, timber production, and other compatible uses. In recognition of past management, three major state forests were recently recognized as TREASURE Forests.

The certificate for the largest state forest, Geneva, was presented to State Forester C.W. Moody by TREASURE Forest landowner James Hughes of Cottonwood. The awards ceremony was part of a forestry commissioners meeting held on the forest. The commissioners were there to look at the many different aspects of resource management applied at Geneva.

Geneva State Forest is typical of all the state forests in that it is managed to provide the highest level of multiple use. The over 7,120 acres are a major part of the Covington Wildlife Management Area. This aspect of the wildlife harvest is handled under contract with the Department of Conservation and Natural Resources. In addition, the Commission has built and maintains a 100-acre lake for public use. Non-game and rare or endangered species are also included in our management strategy. Numerous colonies of the red-cockaded woodpecker live on the forest. Their needs play a major part in selecting activities on certain parts of the forest.

The predominant work in the Commission's genetic tree improvement program has been carried out at Geneva. Over 300 acres of seed orchards and genetic "banks" are sustained there.

Of course, one of the objectives is to produce income from timber sales to support management activities. However, sales must meet exacting standards to comply with overall objectives before they are conducted.

Little River State Forest was next in line to receive TREASURE Forest designation. This 2,120-acre forest is located in Escambia and Monroe Counties.



Geneva State Forest seed orchard



Choccolocco Creek

Approximately half of this property is leased to the Department of Conservation

and Natural Resources for operation as a state park. The remaining portion is managed to provide old growth stands of timber.

Choccolocco State Forest was the third area to receive TREASURE Forest certification. This area is part of the Choccolocco Wildlife Management Area. This 4,488-acre tract is located in Calhoun County. It is one of the more scenic forests in that it has mountainous terrain and many beautiful streams and waterfalls. ♣

MEMORIAL



Lauderdale County TREASURE Forest landowner J. Hollie Allen passed away December 24, 1991. He was 64. Allen, a native of Alexander City, retired in 1990 from the University of North Alabama, where he had served as a faculty member, director of admissions, director of the Industrial Development Research and Extension Center and interim director of admissions. Allen also served as mayor of Florence and city commissioner from 1978-82.

Allen's property was certified as TREASURE Forest number 30 in 1977. At the time of his death he owned 40 acres, consisting primarily of planted pines and natural hardwood areas. Allen was a member of the Lauderdale County Forestry Planning Committee.

Is Your Home in Danger?

by MELISSA PHELPS, Education Division, Alabama Forestry Commission

Could the incidents that occurred in California last year and Florida in 1985 be a national problem? Unfortunately, it could. Changing trends in this country — along with periodic extreme weather conditions—have resulted in wildland fire danger similar to the fires in Florida and California. And the population growth in the United States means that more people are at risk.

Here's the approximate national toll from wildland fires in 1985, the last full year for which the figures are available:

- 44 civilians and firefighters died.
- 3,000,000 acres burned.
- \$400 million cost to federal, state, and local fire agencies.
- \$500 million in estimated damages to property and natural resources.

Last year in the Southeast region alone there were 2,852 structural fires; 103 of those were home fires. As a result of these fires, four civilians and one firefighter lost their lives, and this was considered a light fire season!

Today much of the population are building homes away from the cities out to the edges of the beautiful, peaceful forests and other wildlands. This is the interface, the point at which diverse systems meet and interact.

If you live in an urban/wildland interface, the following are a few preventive measures that you can take to avoid loss or damage to your home and Alabama's forestland:

- Prevent forest vegetation from growing too near your home.
- Keep tree limbs and leaves cleaned off of your roof.
- Have spark arresters on your chimney.
- Do not allow limbs to hang over your chimney.
- Inform the power company when branches rub against power lines.



Homes in the urban/wildland interface.

- Store firewood and other combustibles away from your home.
- Remove all grass and other flammable materials from the area.
- Store fireplace ashes in a metal container until cool before dumping ashes onto bare soil.
- Use outdoor equipment with weatherproof cords and outlets.
- Refuel equipment only after it has cooled.
- Start motors away from where they were refueled.
- Supervise children playing with fireworks.
- Always have an outside source of water in case a fire starts.
- Reduce hazardous fuel buildups in pine stands by using prescribed burning.
- Refrain from smoking while walking or riding through forests or grasslands.
- Maintain firelanes along sections of railroads where trains brake or accelerate.
- Keep dry vegetation from contacting electric fences.
- Have strips of green crops located where they will stop fire spread.
- Divide woodland into small blocks with firelanes that provide access for fire crews.
- Keep leaves and dead grass cleaned off firelanes or plowed under.
- Keep equipment and water handy to help fire crews on a wildfire.

Following these simple instructions will greatly reduce the risk of loss or damage to personal property. However, knowing only what you can do around your home doesn't mean that a potentially hazardous wildfire won't occur in your neighborhood.

If you live on a farm or in the woods, these are extra precautions you should take:

If you follow these instructions on fire protection, then you and your home will be significantly safer from wildfire. Learn to practice these acts at home and away from home. You will not only be protecting your life and property, but also the welfare and beauty of Alabama. ♣

GREEN ASH

by TOM CAMBRE, Hardwood Specialist and
TIM L. GOTHARD, Reforestation/Cost-Share Specialist, Alabama Forestry Commission

Green ash (*Fraxinus pennsylvanica* Marsh.), also commonly referred to as swamp or water ash, is the most widely distributed of the American ashes. It can be found as far north as Nova Scotia and Alberta, Canada and as far south as the Gulf Coast from eastern Texas to northern Florida.

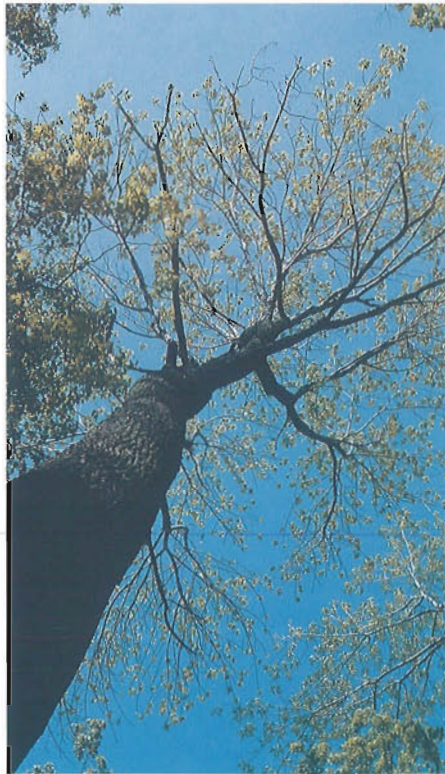
Within its southern range it is characterized by a usually clear, straight bole often extending half of the total tree height. A total height of 120 feet and diameters of 2 to 3 feet can be attained on the best sites.



The most common site for green ash to occur naturally is in moist bottoms and along streams. Alluvial soils along rivers and streams that

are fertile and moist, yet well-drained, offer the best conditions for maximum development. However, the species is also adaptable. When planted on upland sites ranging from medium to coarse textured sands and loams, it has performed well as long as adequate moisture is present and soil acidity is not excessive. Green ash planted on acidic soils will often survive, but growth is reduced significantly.

The predominate occurrence of this species in river bottoms reflects its ability to tolerate flooding to some degree. Though not as tolerant to flooding as baldcypress or swamp and water tupelo, green ash can tolerate fairly significant flooding. Due to their characteristic late leafout and certain root adaptations, green ash seedlings can withstand early spring flooding of considerable length that



would kill other species. Older trees of this species can tolerate flooding for up to 40 percent of the growing season. Green ash is described as being moderately tolerant to flooding.

Tolerance to shade is another characteristic of green ash. However, the degree of tolerance changes with age. In the early years seedlings tolerate shade relatively well, but as age increases this tolerance diminishes and growth slows. Luckily, green ash responds well to release and can often outgrow its competitors. Even though shade is tolerated, damaged seedlings under a canopy do not respond as well as open grown seedlings. Browsing from deer can be severe, resulting in poor quality seedlings and

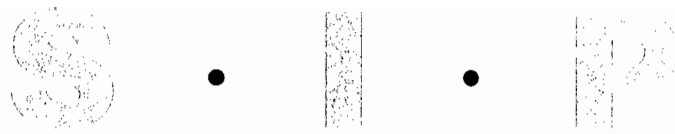
saplings. Seedlings in the open are usually more vigorous than those in the shade, and therefore stand a better chance of recovering from browse damage.

Green ash sprouts well from sapling and pole-sized stumps. Growth of these sprouts is vigorous and can withstand competition from other vegetation better than many other tree species. This characteristic results in green ash often being one of the dominant species following a disturbance in a bottomland. It may also be a deciding factor in using stump sprouts for natural regeneration of stands having, or desired to have, a considerable green ash component.

The highly desirable wood of green ash makes it currently one of the more valuable southern hardwoods and it has retained its high value consistently over the past 50 years. Its wood is characterized by the light brown color of its heartwood and nearly white sapwood, straight grain, and relatively high strength. Ash has long been noted as one of the best woods for tools requiring long, durable handles such as shovels, rakes, hoes, post-hole diggers, pitchforks, etc. Virtually all wooden baseball bats are made of ash. Other uses include furniture, interior trim, panelling, doors, cabinets, boat oars, and assorted bentwood articles due to the wood's favorable response to steam bending.

In the urban setting, green ash is often sought as an ornamental tree due to its pleasing form and adaptability to a wide range of site conditions.

Green ash seedlings are produced yearly by Alabama Forestry Commission nurseries. Contact your local AFC office for more information on green ash and obtaining green ash for plantings. ♣



A New Cost-Share Program

by SHARON A. CLARK, TREASURE Forest Section Chief,
Alabama Forestry Commission

When President Bush signed the 1990 Farm Bill, a new cost-share program was approved — the Stewardship Incentives Program (SIP). Unlike the other cost-share programs, which are administered by the Agricultural Stabilization and Conservation Service (ASCS), SIP is administered by the U.S. Forest Service through state forestry agencies.

SIP is different from other cost-share programs in another way because it is a multiple-use cost-share program. Landowners may receive assistance for timber establishment, timber stand improvement, hedgerow establishment, soil and water protection, fisheries, wildlife, endangered species, and recreation.

SIP provides cost-share assistance to eligible landowners to encourage stewardship through multiple forest resource management practices. The intent is first, to bring new acres under management, and second, improve those acres currently being managed.

Cost-share in Alabama is set at 60 percent. Payments may not exceed \$10,000 per landowner per fiscal year.

The limitations and requirements to receive cost-share are the following:

1. Nonindustrial private forest-landowner must possess a minimum of 10 forested acres or 10 acres which will be converted to trees as a result of the first SIP application.
2. A maximum of 1,000 acres of forested land in the United States can be owned.
3. Ownership of more than 1,000 acres up to 5,000 acres of forested land in the United States may be eligible with the concurrence of the U.S. Forest Service regional forester. Also, the state forester must determine that the public

would significantly benefit from the landowner receiving cost-share. An example of such an exception would be where a large landowner has a severe erosion problem that is affecting adjoining landowners.

4. Landowner must possess a Landowner Forest Stewardship Plan covering a 10-year period which is approved by the Alabama Forestry Commission. The Stewardship Plan must cover, as a minimum, the contiguous tract on which the landowner plans to perform practices applied for under SIP.
5. Landowner must agree to manage all contiguous forestland addressed in the Stewardship Plan by signing a pledge of intent.
6. A TREASURE Forest Commitment Form must be signed.
7. Landowner has to maintain and protect SIP-funded practices for a minimum of 10 years.

As stated earlier, SIP is a multiple-use cost-share program. Under SIP, nine practices are cost-shared. The nine practices and examples of cost-shareable items are as follows:

SIP 1:
Landowner Forest Stewardship Plan Development

Example: Multiple-use forest resource plan

SIP 2:
Reforestation and Afforestation
Example: Tree planting, site preparation

SIP 3:
Forest and Agroforest Improvements

Example: Non-commercial thinning, pruning

SIP 4:
Windbreak and Hedgerow Establishment, Maintenance and Renovation

(In Alabama, windbreaks will not be cost-shared.)

Example: Hedgerow establishment, mulching

SIP 5:
Soil and Water Protection and Improvement

Example: Establish permanent vegetative cover, water diversion

SIP 6:
Riparian and Wetland Protection and Improvement

Example: Streambank stabilization, establish permanent vegetative cover

SIP 7:
Fisheries Habitat Enhancement

Example: Increase or decrease instream woody debris

SIP 8:
Wildlife Habitat Enhancement

Example: Wildlife water facility, wildlife corridors, modification of habitat for threatened or endangered species

SIP 9:
Forest Recreation Enhancement

Example: Reduce stand density, pruning

Because SIP is a multiple-use cost-share program, Alabama considered multiple-use when determining application approval priority. Landowner applications are approved based on the following priority system:

1st Priority:

Applications containing multiple stewardship practices. Applications must contain at least two practices of any combination except:

- It may not include SIP 1: Management Plan Development
- It may not have a combination of SIP 2: Reforestation and Afforestation *and* SIP 3: Forest and Agroforest Improvement

2nd Priority:

Any of the following:

- SIP 3: Forest and Agroforest Improvement
- SIP 5: Soil and Water Protection and Improvement
- SIP 8: Wildlife Habitat Enhancement

3rd Priority:

- SIP 6: Riparian and Wetland Protection and Improvement

4th Priority:

Any of the following:

- SIP 2: Reforestation and Afforestation
- SIP 4: Windbreak and Hedgerow Establishment and Renovation
- SIP 7: Fisheries Habitat Enhancement

5th Priority:

- SIP 9: Forest Recreation Enhancement

SIP 1: Landowner Forest Stewardship Plan Development will be cost-shared only when a landowner can not obtain a plan through other avenues.

The initial SIP sign-up began February 3, 1992. Applications were taken at county ASCS offices through March 31, 1992. Applications are now being taken and batched at county ASCS offices on a quarterly basis. All applications will be reviewed together once a quarter. Approvals will not be on a first come-first served basis.

Landowners who are interested in SIP should apply at their county ASCS offices. For more information about the program, please contact your local Alabama Forestry Commission or ASCS office. ♣

GROWING BLACK WALNUT TREES

One Man's Experience

by DAVID N. GRIFFITH, Dadeville, Alabama

The black walnut is one of America's most valuable timber trees, and because of this, the supply of good walnut timber has been reduced to almost zero throughout most of the country. Here in Alabama, the surviving trees are mostly crooked, forked, broken over, diseased, hollow or otherwise unfit for the timber market.

There is a real need for us to start growing more walnut trees. The nuts are great for wildlife and home cooking, but my main interest is in timber. The wood of the black walnut is highly prized for gun stocks, furniture, interior finishing, cabinet work, veneers and caskets.

It is commonly believed that walnut trees grow much slower than other trees. This is only partly true. Walnut trees like deep, well-drained, fertile soil. On such sites they grow as fast as other trees. On less suitable sites, they may thrive, but not as well. Another reason for the apparent contrast between walnut and many other species is in the way they go to market. Pines, for instance, can go to market as pulpwood as small as six inches in diameter. They may grow that big in 15 years or less, and are sold by the ton at pulpwood prices. In contrast, the market for walnut timber is in sawlogs and veneer logs. As log size increases, the value increases more rapidly.

While on a field trip to a veneer mill at a recent meeting of the Walnut Council, the remark was made that there is no such thing as a straight walnut log. I will agree that they are rare, but I know where there are several growing trees like this.

The principles of heredity apply to walnut trees just as they do to other

plants and animals. For several years my eyes have been alert to trees that look like they probably have the genes for growing good walnut timber. They may be shabby specimens, as mentioned above, but if they look like they have the right genes, I'm interested. I look first for apical dominance, that is the tendency to grow a single trunk. Accidents and environment can modify that appearance, but that is what I look for first.

In the search for seed trees with superior genes, one has to do some guessing. The only way to eliminate the guesswork is with a progeny test screening program. I currently have over 20 seed trees under test. The oldest seedlings are five years old. I am maintaining grafts of the parent trees in a corner of a field.

The progeny test consists of planting a row of seedlings from one particular tree across the creek bottom field—20 to 30 trees. Alongside that, seedlings from another tree are planted, and so on. As these seedlings grow, one can observe many features of importance to timber production, such as form of growth, rate of growth, date of bud-break, date of leaf-fall, resistance to diseases and pests, etc.

My goal is to identify several seed trees whose offspring are superior, then by topworking (grafting) onto already established trees, I can quickly create a seed orchard. With seed from this orchard, one can then invest with confidence in the extensive growing of high quality walnut timber.

Some of the seedlings from the seed orchard are expected to be superior even to their parents. That is the beauty of plant breeding. It is also dollars in the pockets of your grandchildren! ♣

DISCOVERING PIKE COUNTY'S POCOSIN

by ALVIN DIAMOND, Director,
Troy State University Arboretum

Pocosin. This unusual term describes an equally unusual area. When I moved to Pike County, Alabama, a few years ago, I began hearing about the strange phenomenon variously called “The Pocosins,” “Pocosin,” or “The Pocosin.” It seemed that everywhere I went, people would use one of the various pronunciations in a familiar manner to describe a locality near Troy. By this time my curiosity had been aroused, so I set out to discover all that I could about this strange-sounding place.

The Pocosin of Pike County is a unique area containing dry, sandy scrub oak uplands and steep hardwood-cloaked ravines side by side, and is home to many rare plants and animals.

Early Documentation

It is not certain when this area first attracted the attention of science. The earliest account that I discovered was written by E. Q. Thornton, and was published in Tuomey’s *Second Report on the Geology of Alabama* (1858). Subsequent references by Dr. Eugene A. Smith appear in a description of Pike County, Alabama in his report on the agricultural features of Alabama for the sixth volume of the *Tenth U.S. Census* and in the *Geological Survey of Alabama Reports* for 1881, 1882, and 1884. In 1884, the eminent pioneering botanist Dr. Charles Mohr of Mobile published a description of some of the vegetation of the area in the ninth volume of the *Tenth U.S. Census*.

Then, virtually nothing about the area appeared in scientific studies during the next three decades. However, Dr. Eugene Smith did return in 1906, and on this trip he introduced Roland M. Harper, a distinguished early botanist, to the Pocosin. In 1911, the location of the Pocosin was published (probably for the first time) as part of a soil survey map of Pike County by W.E. Tharpe of the United States Department of Agriculture and by W.L. Lett and W.E. Wilkerson of the State of Alabama.

On November 6, 1912, and again on March 27, 1913, Mr. Roland Harper returned to the area to photograph it and to study its unique vegetation. In “The Pocosin of Pike County,” published in the *Bulletin of the Torrey Botanical Club* (April, 1914), he identified the location of the area, analyzed the history of investigation, and included a list of species accompanied by



Indian Pipes (Monotropa uniflora L.) is a non-green plant found beneath various hardwood species.

photographs. Moreover, he listed several species of vegetation not previously discovered in Alabama. Many of these species have not been discovered outside the Pocosin to this day. In 1939, Mr. Harper again wrote of this unique tract of land in a descriptive essay he entitled “The Alabama Pocosin,” published in the *American Botanist*. This article proved so popular that it was later reprinted as a pamphlet and widely distributed.

Characteristics and Species

After I completed a review of the early writings, I decided to locate this place and analyze it for myself. I found it to be such a fascinating area that I began noting the observations I made.

The word “Pocosin” is of American Indian origin, and was probably coined to describe evergreen swamps in North Carolina. The Pike County Pocosin supports a large number of evergreens, but is by no stretch of the imagination a swamp. Deep white sands, deposited by an ancient ocean, comprise the basic Pocosin soil, and these arid sands are very poor in soil nutrients. Dwarfed oaks, few taller than 30 feet, comprise the dominant vegetation. To one’s surprise, pines are virtually non-existent. Were it not for lichens, spotty patches of wiregrass, and some sand cactus, ground cover would not exist. In fact, the white sands are so dominant that old black-and-white photographs almost make the area appear to be covered with snow.

It is interesting that the barren areas provided a natural block



A view of the sparse vegetation characteristic of the Pocosin.

to fires on the uplands and also protected several deep ravines. The horseshoe-shaped ravines measure approximately 200 feet from side to side, with depths of almost 100 feet. Each has a large clear spring at its base. Numerous species of saprophytes (non-green plants which obtain their food much like mushrooms, from decomposing organic matter), such as Indian pipes (*Monotropa uniflora* L.), pine sap (*Monotropa hypopithys* L.), and nodding nixie (*Apteris aphylla* (Nutt.) Barhn) grow abundantly within the ravines.

Here, as well as on the uplands, many species of plants are evergreen, a natural adaptation to soils deficient in nutrients. Were they deciduous (trees which lose all of their leaves each year), some of the precious nutrients would be lost with each defoliation.

Also found in the deep ravines are stands of the Arkansas oak (*Quercus arkansana* Sarg.), a small tree usually found only in a few counties in east Alabama, west Georgia, northwest Florida, and central Arkansas. This fairly rare variety of oak is under consideration for listing as an endangered species. Also, one can find a few sprouts of the American chestnut (*Castanea dentata* (Marsh.) Borkh.)—probably the last in Pike County.

Pocosin Acreage Donated to TSU

Eighteen acres of the Pocosin in Pike County have been donated to Troy State University by Robert and Helen Sellers of Cairo, Ga. The Sellers are TREASURE Forest landowners in Pike County. This acreage, once a part of their TREASURE Forest, is one of the few remaining parts of the Pocosin that hasn't been altered by cultivation.

According to Jimmy Holley, director of the Center for Environmental Research and Services at TSU, this area will be part of the TSU Arboretum. It will be available for students and scholars studying the environment, with an emphasis on preserving the rare flora and fauna that are so unique to the Pocosin.

Amid the scrub oaks (*Quercus margareta* Ashe, *Q. incana* Bartr., and *Q. laevis* Walt.) grow a few patches of wiregrass (*Aristida* sp.). Although the Pocosin is located in what is called the "Wiregrass Area," this species has virtually been wiped out by cultivation. Very few residents of southeast Alabama have ever seen it. Also, the small purple-flowered *Warea sessilifolia* Nash. grows among the scrub oaks. Considered for listing as an endangered species, this rare plant is found nowhere else in Alabama. Other species of plants found here, but in few other Alabama locales, include the blue lupine (*Lupinus perennis* L.) and the Alabama black cherry (*Prunus serotina* Ehrh. var. *Alabamensis* (Mohr) Little).

Many uncommon varieties of mosses, such as *Bruchia ravenelii* Wils. ex Sull. and *Pleuridium ravenelii* Aust., may be found within the Pocosin. Also, several species of uncommon invertebrates live in close association with the burrows of the gopher tortoise (*Gopherus polyphemus* Daudin), a large land-dwelling turtle now listed as threatened east of the Tombigbee River and endangered west of it.



Looking down into one of the steep hardwood ravines at a spring head.

Study in Contradictions

Truly, Pike County's Pocosin forms a study in contradictions. Although its name denotes swamp, it is more like a desert. Flat, sandy uplands suddenly plunge into steep ravines. Within the space of a few yards, scrub oaks become giant hardwoods. What appears at first glance to be a drab, barren area becomes, upon closer investigation, a home for many rare, exotic, and beautiful species of plants and animals. Little wonder, then, that the Pocosin has attracted the interest and imagination of people from all walks of life for more than a century. With proper protection and conservation, Pike County's Pocosin promises to remain a magnificent natural TREASURE well into the future. ♣

GROWING CHUFA FOR WILD TURKEYS

by H. LEE STRIBLING, Extension Wildlife Specialist



Chufa (*Cyperus* sp.) is a productive perennial sedge planted widely as a supplemental fall and winter food for wild turkeys. Although native to Africa and southern Europe, chufa is broadly adapted to cultivation in all regions of Alabama.

Chufa grows rapidly and produces a yellowish main stem more than 2 feet long. Bright green leaves surround the base of the three-angled stem. Turkeys and other animals eat the mature tubers ($\frac{1}{4}$ to $\frac{1}{2}$ inches long) that are produced at the ends of long, slender rhizomes. The tubers provide a digestible source of protein (8 percent) and fat (21 percent).

Seed production requires unusual climatic conditions that rarely occur in Alabama, so reproduction is mostly from edible tubers. Tubers may be dug, stored and planted the following year, but smaller-scale collection is usually not cost effective.

Tubers are available commercially from most wholesale seed companies that specialize in wildlife food plants. Prices run \$1.50 to \$2.50 per pound but vary according to availability.

Plot Selection

Chufa is adapted to a wide range of soil types, but it is best produced for turkey food on moist silty, loamy, and sandy soils. Production is adequate on clay sites, but turkeys have a hard time scratching tubers from heavy clays. Slightly acid to neutral soils (pH 5.0 to 7.5) of fine texture and high moisture are best for growth.

Select fallow land for chufa plots. Chufa competes poorly with grasses and weeds on recently cultivated sites. Forest clearings such as log landings or wide, abandoned logging roads that receive full sunlight are excellent locations for chufa plots. Chufa planted on recently cultivat-

ed land should be drilled in rows and cultivated to control weeds.

Plot Size

Plots of one to five acres are needed where wild turkey populations are high. Chufa tubers in plots of less than one acre are depleted rapidly, particularly during years of poor acorn (mast) production.

The number of plots needed and their distribution may vary widely according to population levels of turkeys and other animals, location of plots, habitat types and characteristics, and mast production. Usually, one acre of chufa per 100 acres of habitat provides sufficient production of tubers for wild turkeys.

Establishment

Plant chufa during late spring or early summer, after all danger of frost is past and soils are getting warmer. The best dates for planting in Alabama are from May 15 to July 10.

Soils for chufa plots should be tested well in advance of planting. Disk plots thoroughly and lime and fertilize according to soil test recommendations.

Chufa plots are established by broadcasting tubers or by row planting. Broadcasting works well on finely textured, uncultivated land but requires greater planting rates. Row planting takes fewer tubers to establish a plot and lets you cultivate if grass weeds occur. Nuisance animals can more easily get to rows of chufa, however.

Broadcast evenly, distributing 30 to 40 pounds of tubers per acre on a well-prepared seedbed. Lightly disk over scattered tubers, covering them with $\frac{1}{2}$ -inch of soil. Row plant 20 pounds of tubers per acre in rows 36 to 42 inches apart.

You can expect the best tuber production from soil fertilized according to soil

test recommendations. If soil is not tested, apply 300 to 400 pounds of balanced fertilizer per acre and side or top dress with about 100 pounds of ammonium nitrate per acre when plants are 8 to 12 inches high.

Maintenance

Protect chufa plots from cattle grazing and compaction. Deer, hogs, raccoons, and squirrels often dig up seedlings and immature tubers. If this occurs during growing, scarecrows or other fright devices may reduce damage.

Chufa production can be extended each year by disking and fertilizing during spring the previous year's plots, but best yields come from freshly reseeded sites. After two to three years on the same site, weeds and insect damage will reduce yields. Original plots should then be left fallow several years while new plots are established elsewhere.

Chufa is very susceptible to a wide range of herbicides. Before attempting to control pests with chemicals, consult with your county Extension agent regarding the safe use of specific herbicides on chufa.

Turkey's Use of Chufa

Turkey's use of chufa plots is influenced by factors such as seasons, habitat characteristics, and the number of plots and their distribution. At first, turkeys may ignore chufa just because it is an unfamiliar food crop. If they don't eat tubers during the first fall after planting, pull up several scattered plants to expose tubers buried in the soil. As turkeys discover the new food and as acorns become less available, use of chufa will increase. ♣

This article was reprinted from ACES Circular ANR-569, Auburn University.

Stewardship in the City

by NEIL LETSON, Urban Forestry Coordinator, Alabama Forestry Commission

Autaugaville is a small Alabama town (population 681) located approximately halfway between Montgomery and Selma. The town is typical of many rural areas across the state who want or have a community tree program, but struggle to maintain even the most basic city services and quality of life for their citizens. In most cases, this leaves city tree programs at the end of the totem pole when it comes to funding or available resources. Since 1988, when the city started its community tree program, most of its accomplishments have been spirited, though limited. But the city recently completed an urban and community forestry project which has put it ahead of other cities with bigger budgets and more sophisticated services. In 1991, Autaugaville completed a comprehensive inventory of public trees throughout the city. This achievement made the city one of only six in the state to have accomplished this.

Farm Bill Authorizes Grants

The project was made possible by a USDA-Forest Service grant administered by the Alabama Forestry Commission (AFC). The program was part of the 1990 Farm Bill signed by President Bush and authorized for five years. One component of the bill set aside grant assistance to enable local urban forestry program development. The Urban & Community Forestry (U&CF) Program funded 40 Alabama projects at a total of \$235,000. Of these, 30 different municipalities, four educational institutions and two non-profit organizations received funding. The types of projects included training, publications, inventories, job training, workshops, tree planting demonstrations and planning.

By far, the most common project funded by the U&CF program was planning. Fifteen cities received grants to hire landscape architects to develop master street tree planting plans for their communities. Towns like Livingston, Courtland, Eufaula and Mobile have detailed documents which will guide municipal tree planting activities on a coordinated basis

for years to come. This will replace random, uncoordinated planting efforts, which in the long run waste resources and produce poorer results.

Planning was not restricted to planting. Two cities used U&CF grant money to complete comprehensive urban forestry plans for their municipal operation. These documents prescribe the path needed to implement an effective community tree program which considers the life cycle of the urban forest. The most distinctive plan was by Anniston. Their grant is being used to complete an urban wood utilization plan and program. City officials are hoping the project will enable the city to utilize all of its urban wood waste, instead of sending it to the landfill.

Unique Projects Underway

Among some of the unique projects funded was a city tree nursery in Northport. The grant will allow the city to construct a small facility which will grow tree seedlings until they are large enough to plant on public property. Designed not to compete with private nurseries, this operation will provide a dependable yet cheap source of quality trees for municipal needs.

Another unique project is Parker Community School's Urban Youth Corps in Birmingham. U&CF grant money is being used to provide tree care training to at-risk youth. Each student will receive job training and learning opportunities that will

help him or her enter the tree care work force.

Traditional Management Techniques Applied

Though other projects were funded by the U&CF program, all have produced the same result—better state urban forests on the local level. Each, in its own way, has helped accelerate the rate at which Alabama's communities are beginning to apply traditional forest management-type principles regarding their public trees. Plans, planting, maintenance, removals, and utilization were common themes in all of the U&CF projects. The program has helped communities see the necessity of management to produce and maintain a healthy, safe urban forest.

The U&CF program has also helped open doors among professions. Natural resource development, especially urban, depends on interdisciplinary involvement. Skills, expertise, and experience are no longer owned by individuals. The best community tree program involves all available resources.

And finally, the U&CF program has reinforced the commonality between rural forestry and urban forestry. Each views the forest as a resource which produces sustained benefits to all living things, if tended carefully and with respect. This presents an opportunity for urban and rural citizens to view Alabama's forest resource with the same understanding, whether the tree is rural or urban. ♻️

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DECISION TIME APPROACHES

for Thinning CRP and Other 1980s-age Plantations

by Marshall Thomas, President, F&W Forestry Services, Inc., Albany, Georgia

With the collapse of the farm economy in the late 1970s and early '80s, tree planting on abandoned fields increased sharply in the Southeast. The trend accelerated after 1985 because of the Conservation Reserve Program (CRP). Many of these CRP plantations will be ready to thin in four to 10 years and most of the earlier old-field plantations will be ready even sooner.

Landowners face a crucial management decision: to thin or not to thin. Assuming that pulpwood and sawtimber prices will increase at the same rates, the landowner has the choice of a 20 to 25-year rotation without thinning or a 28 to 35-year rotation with one or more thinnings. If the landowner believes sawtimber prices will increase faster than pulpwood, the economics favor thinning and a longer rotation.

Other reasons for thinning exist, such as wildlife habitat enhancement, stand improvement and vigor, aesthetics, and interim harvest income — reasons not to thin include managing a slash or longleaf plantation for pine straw production. If the landowner decides from a long-term standpoint the timber value will be maximized by thinning, five factors are critical to a good job. These are the age and density at which a stand should be thinned; number of trees to be left; selection of trees to be removed; method of marking trees to be cut; and marketing and supervision of the harvest operation.

While the most common question asked about thinning is how old the stand should be, the real criteria is the stocking of the stand. Most foresters think in terms of basal area per acre, and most of us believe stands can be thinned when they exceed 90 to 100 square feet of merchantable basal area per acre. Most well-stocked plantations will reach this density between 10 and 20 years, depending on soil fertility.

The second critical question is how heavily to thin. Assuming timber production is the primary objective, the density of the remaining stand depends on the quality of the land and type of equipment to be used in thinning. From a biological viewpoint, an optimum density for a plantation is between 75 to 100 square feet of basal area. However, it is difficult to operate most mechanized logging equipment in these stands. Therefore, we thin mostly to leave 60 to 80 square feet of basal area depending on the site.

Once residual density is determined, trees marked for removal should be the least desirable stems in the stand. Criteria used to select these trees include size, with the smallest trees being taken first; disease; crown size; and spacing. Except for diseased trees, all stems removed should be from the smaller size classes. Removal trees should be marked in a way to encourage good logging. Marks on the trees should be clearly visible and oriented towards either access rows or logging decks. This allows the shear or chain saw operator to cut the

trees as he works away from the edge of the woods or access row. Finally, sufficient access rows should be taken out throughout the stand — every fifth, sixth, or seventh row — to allow the felled trees to be dragged out without damaging the remaining trees.

Annosus root rot can be a major disease problem in pine plantations, especially thinned stands on high hazard areas. High hazard areas are those sites with low water tables and 12 inches or more of sand or sandy loam above clay or old field sites. Annosus root rot can cause mortality and/or growth loss on the remaining trees following thinning. Annosus root rot can be easily prevented, however, by treating all stumps with Borax. Treatment should be done within 15-30 minutes following cutting.

A reasonably good market exists in most areas of the Southeast for plantation pulpwood, but the owner or his consulting forester may have to search for the right buyer from the standpoint of both price and logging capabilities. Technology of thinning has advanced dramatically from the shortwood operation common 10 years ago. Today, most thinning operations take the whole tree and often utilize mechanized logging operation equipment. Close supervision of the logging operation is imperative in plantation thinning to minimize damage to remaining trees and to maintain the overall integrity of the stand. ♣



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