

A photograph of a dense, green forest. In the center, a waterfall flows over a series of large, moss-covered rocks. The water is clear and appears to be moving quickly. The surrounding trees are tall and thin, with a thick canopy of green leaves. The lighting is soft, suggesting a shaded forest environment. The overall mood is serene and natural.

Alabama's TREASURED Forests

Summer • 1990

STATE FORESTER'S MESSAGE

by C.W. MOODY



Since our last visit, the people of Alabama have presented to you and all forestland owners in Alabama a unique opportunity and responsibility. On June 5, voters approved Amendment #3, which gives landowners permission to assess themselves to help pay for forest fire protection. The passage of the amendment took a lot of work by many people. Thank you for your support.

On July 17, the AFC will hold the Landowner Referendum on Acreage Assessment. The question on the ballot will be: "Do you favor an assessment of 10 cents per acre of qualified forestland within Alabama, for the purposes of forest fire protection and forestry assistance." Anyone who owns at least 10 acres of forestland may vote on this issue. The vote will be at the AFC county offices. You can vote either where you live or where your land is located. Contact your county AFC office for more details.

Smoky Bear says: "Remember, only YOU can prevent forest fires." And remember, only YOU can help improve fire protection in Alabama, so VOTE YES for acreage assessment.

This year's TREASURE Forest and Landowner Conference will be held October 11-12 in Mobile, Alabama. It is not too early to put this on your schedule and begin planning to attend. In response to the feedback we received at the last meeting, we will **add the field trip back** to our schedule this year. I have seen plans for the program, and I know you will want to be there! Please use the registration form in this issue to register.

It is also time to begin thinking about planting those acres of forestland which are less productive than they should be. Forestry Commission seedlings are genetically improved; they are grown and delivered to you with exceeding care to ensure survival and rapid growth. There is further information about the Forestry Commission tree seedling program on the back cover of this issue. Please take the time to review that and place your orders early to guarantee that your needs will be supplied.

Sincerely,

A handwritten signature in black ink that reads "C.W. Moody". The signature is fluid and cursive, written over a white background.

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 photo: This waterfall, known as Secret Falls, is located in Franklin County at the Dismals. Photo by Kim Gilliland.

Alabama's TREASURED Forests

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An Environmental SHOWPLACE

by KIM GILLILAND, Editor

When many landowners express a desire to be a part of the TREASURE Forest program, a management plan is written for them to follow so they can be on their way to achieving the goal of certification. They follow the advice given to them by foresters and other specialists to achieve TREASURE status. And then there are landowners like Jimmy King. Landowners who are already managing their land to TREASURE standards. People who have always cared about good stewardship and improving their land.

Five years ago, Jimmy King's property was certified as a TREASURE Forest in West Central Pike County. But Alabama Forestry Commission County Supervisor Wayne Craft says that was just a formality. "Often times you take landowners and lead them to become TREASURE

Forests, but occasionally you get one and say, 'Well, let's just write it up,' because it's already there." In the years since he was certified, King has continued to make improvements and maintain his 235-acre TREASURE Forest.

Erosion Control

A significant problem was present when Jimmy King first bought his property. A major portion of it consisted of severely eroded cropland. There were gullies from knee- to waist-deep over much of the land. These areas were reterraced and established in grass and pine trees. Today, every area prone to erosion has been repaired and King considers this his greatest forest management accomplishment.

Water bars were also placed at intervals on roads to control the erosion.

His techniques have obviously worked, because his roads are still in good condition after approximately 16 inches of rain which fell last spring. "We had very little erosion," he said.

Pine Management

The first trees Jimmy King planted were slash pines on approximately 23 acres. Slash pine was recommended to him in 1957 when those trees were planted, but after they were harvested in 1987, he replanted with loblolly pine. "Slash pine is not a native pine to this area. The loblolly in this area is, in my opinion, far superior," he said.

Today there are about 95 acres in planted pines, and two-thirds of those have been selectively thinned. Because of the thinning and a good prescribe burning program, the planted pine area is very open.

King does his own prescribe burning on a three-year rotation basis and believes the benefits are numerous to the landowner. "It keeps your timberland open so you can visually look across and see. It doesn't let the fuel accumulate excessively in case you have a wildfire. It stimulates the growth of pine trees by eliminating competition and they get nutrients from the burned fuel," he said.

In addition to planted pines, there are also approximately 70 acres of natural bottomland and natural pine-hardwood stands.

Wildlife Management

The first thing one notices upon entering the King property is usually the fishing pond. Established in 1975, the pond consists of eight acres and is filled with bream, bass and catfish. Many pleasant afternoons have been spent by family and friends fishing out of the pond. King says the largest catfish ever caught there weighed 18 pounds.

Birds are also cared for in special ways. Duck boxes have been placed in the trees around the pond. There are bluebird and martin houses scattered along the edge of the woods and the pond. A beaver pond which would have been expensive to remove has been left to act as a home for ducks and other wildlife.

Three food plots can be found on the property. "In the winter we plant basically rye, and in the spring, corn, peas and we have planted chufas," King said. He also uses his roads as a benefit to wildlife. Some of them are extra wide, up to 75 feet across. They

are grassed over in bahia grass, which gives seeds for birds, quails and turkeys. The roads likewise serve as permanent firelanes. Altogether, he maintains three miles of roads which allows the entire property to be seen without doing very much walking.

The grassy areas on the property are also used for grazing by the 30 heads of cattle Jimmy's son Kenneth keeps there.

Environmental Enhancement

Managing his timber is important to King, but the primary objectives for his TREASURE Forest are enhancing the environment and improving the aesthetics. Careful consideration is given to everything to make sure that not only is it financially rewarding, but that no harm is done to the soil, wildlife or timber.

The meticulous grooming given to the land makes it a peaceful and relaxing place to be. It also makes a good showplace. Quite often the Soil Conservation Service or the Alabama Forestry Commission brings visitors to see the King TREASURE Forest because it is a perfect model of erosion control and multiple-use management. Groups attending an environmental seminar at Troy State University have also been



taken on a tour of the property.

In fact, King says he is also proud to show his property to potential customers in his business, King Pulpwood. "I use it in my business even more that I realized. I don't hesitate to tell them I'm not ashamed for them to come out here. That comes back to, 'If you don't sweep around your own door, you're not going to do it around anybody else's,'" he said. This way customers know that he will be careful and treat their land as well as he would treat his own.

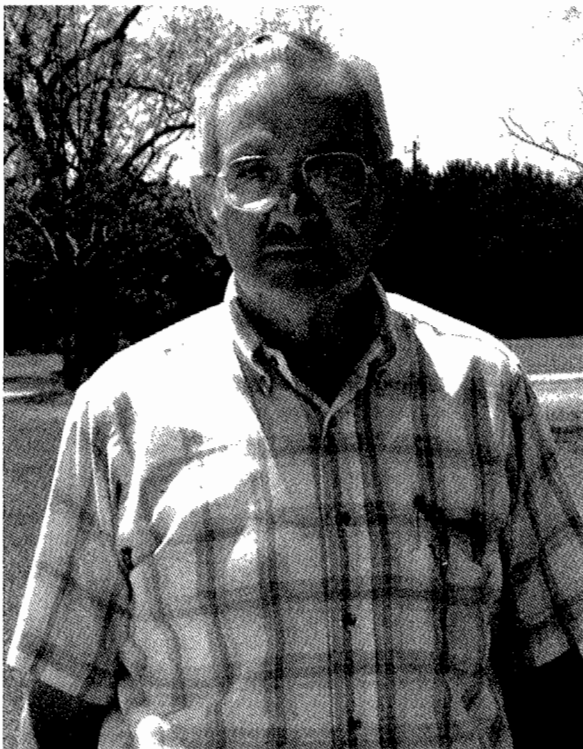
Wayne Craft believes Jimmy King is a special TREASURE Forest landowner because he can be an example for others to follow. "He had a TREASURE Forest before he knew what a TREASURE Forest was. We didn't lead him into it," Craft said. King's stewardship philosophy has been with him for years, long before he became a TREASURE Forest landowner. He will continue to manage under that philosophy because of his personal convictions and because he believes in the TREASURE Forest program. "My thinking has always been to protect and utilize natural resources to the best of our ability." ♣



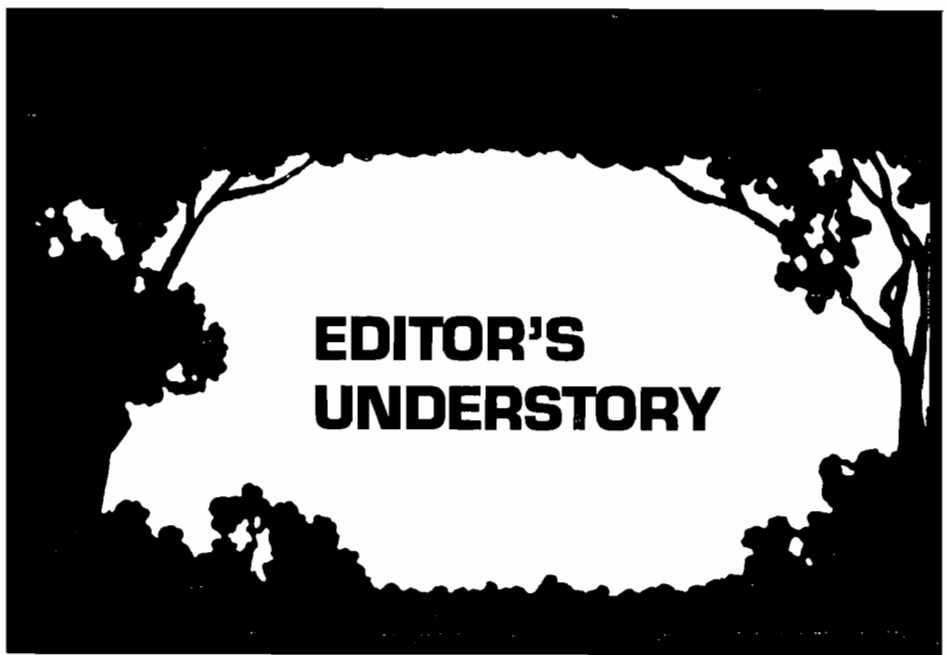
Some people deliberately move away from their hometowns. They search for a place that can be called home, and for some of them, it takes a lifetime to find it. Others, like Jimmy King, have always felt happy in one location. Jimmy King was born in 1931 in Pike County. He has lived there most of his life, and when a person is that connected to a place, it's no surprise that there is also a strong connection to the land. In fact, King started off farming—until Uncle Sam called on him for another type of job!

He was in the service for two years, 18 months of which was spent in Germany. To a man in his early 20s, Germany was quite a different experience when compared to life in rural Alabama. He remembers it fondly, though. "I found the German people to be very high caliber; they're a thrifty-type society; they waste virtually nothing, and utilize the land well," he said. While in Europe he also had the opportunity to visit Switzerland, Austria, Italy and France.

After his time in the service, King came back to his home county and went to work for International Paper in Troy. He worked there from 1956-1969, starting off as a laborer and working his way up to foreman. He credits that work experience with teaching him much of what he knows today about forestry.



Jimmy King



by KIM GILLILAND, Editor

King has been married to his wife, Betty, also a native of Pike County, since 1949. They have one son, Kenneth, and two granddaughters.

In 1969, King went into business for himself. His son is employed with him in King Pulpwood. Although he says being self-employed can cause some headaches not associated with working for someone else, it also has benefits. "It's a challenge, and I thoroughly enjoy it."

King bought his first 100 acres in 1957 and continued to buy adjoining land until he accumulated the 235 acres he maintains today. At the time of purchase, it was cropland except for a few natural stands and bottomland.

A favorite pastime is fishing, and his own pond is naturally his favorite place to fish. Although he lets some family and friends fish also, there are very strict rules applied to those who do. This is to keep the place looking nice and to stay with his objectives of enhancing the environment and keeping things aesthetically in the best possible condition. For example, any type of litter or trash has to be carried

off, including the pop top tabs on cans and filter-tip cigarettes. No artificial lures of any type can be used while fishing in his pond. According to King, "These rules are not made to harass anyone, but to provide the best possible fishing for myself and my family and anyone who has permission to fish in this pond."

King has supported the Alabama Forestry Commission in many ways. According to Pike County Supervisor Wayne Craft, he is always willing to let people tour the property and takes time out of his schedule to meet them and show them around. For several years he has bought calendars for the county AFC to give out. They have the local AFC county phone number as well as the toll-free district number in Ozark printed on them.

In 1989, King was selected as one of the three District Helene Mosley Memorial TREASURE Forest Award Winners. He considers this an honor. "I'm pleased to have been chosen for the district; there's a lot of people doing a good job in this district." King has been one of those people for quite some time. He has roots in the community that go back a lifetime.

Some people return to their hometowns after many years only to discover that what they've been looking for has always been there. Some people, like Jimmy King, have known all along. ♣

PRESCRIBED BURNING -THE SAFE WAY-

by DAVID A. FREDERICK, Director, Fire Protection Division, AFC

The fact that prescribed burning is an excellent forest management tool is well documented. However, it is a tool that must be used with an eye towards safety. Usually a well-planned prescribed burn is safe. However, as with any such endeavor, there is some risk. This article serves as a reminder and a safety guide to those considering using fire as a management tool.

If you don't have experience as a prescribed burner, you should secure the assistance of an experienced, private prescribed burner or the local Alabama Forestry Commission office if a qualified private vendor isn't available. Valuable experience can also be gained by assisting friends and neighbors with their prescribed burning. After experience is gained you may be able to perform the task yourself if you have sufficient personnel and adequate equipment at your disposal.

With prescribed burning there are two general areas of concern regarding safety. One major hazard is that the fire may escape control and damage or destroy someone else's property. However, a greater damage potential exists from the non-management of smoke. When prescribed burning, smoke management should reduce the amount of smoke being produced and ensure that it is dispersed quickly.

Here are some things you can do to reduce smoke emissions from your prescribed burn.

- Burn when fuel moisture content is low. Moisture produces more smoke.
- Burn when fuel is dead. Green fuel produces more smoke.
- Keep the areas to be burned small.
- For site preparation burns, broadcast burn or make small, round piles rather than long windrows.
- Keep dirt out of piles to be burned. Dirty fuels produce more smoke.
- Don't burn at night unless absolutely necessary. High humidities produce more smoke.

- Don't burn under stagnant, hazy weather conditions.
- Burn only when the air stagnation index is 11 or lower. This index number is available from the Alabama Forestry Commission.

Obviously, no matter how well a job is done on reducing smoke, some smoke will be produced by prescribed burning. As indicated earlier, the job now is to manage that smoke so that it doesn't cause problems. To understand what will happen to smoke during the daylight hours, take a map and look downwind (the direction the wind will blow the smoke) for smoke sensitive areas such as busy roads, dwellings, schools or hospitals. If it appears that your smoke will impact these types of areas, burn when the wind is from a more favorable direction.

As we have said, you should try to conduct your burning so that it is extinguished and not producing smoke at night. The reason is that, generally, smoke will behave differently at night than it does during the day. This occurs because the wind speed usually decreases, the temperature drops, and the humidity increases at night. These weather factors often cause smoke to stay low to the ground and drift down drainage (the same direction as water would flow) from the burn site.

Therefore, if smoke will be produced at night, look down drainage for smoke sensitive areas. If smoke sensitive areas are found, don't burn at night when the wind speed is predicted to be less than 10 m.p.h. and the relative humidity is expected to be 80 percent or greater. To be on the safe side, go or send someone downwind during the day or down drainage during the night to see if your smoke is causing problems. If you are smoking in the highway, put out signs or flagmen to warn motorists of the hazard. At night, in humidities above 80 percent with little winds, be aware that smoke can actually cause fog to form.

As stated earlier, to be safe while

prescribe burning there are two areas of concern: hazards produced by smoke and the danger of fire escaping control. We have discussed some tips on smoke management. We now need to look at some ways of reducing the likelihood of the fire escaping our control.

Let's start with the legal requirements:

1. Get a burning permit from the Alabama Forestry Commission. This can be done by telephone. The number is on the inside front cover of your telephone directory with the other emergency numbers. In order to get a permit you must have adequate manpower and equipment to stay with the controlled fire until it is out. You also need to have the section, township, and range where you will be burning.
2. Alabama law requires that you have some type of firebreak around the area to be burned. This can be natural such as roads, rivers, etc., or man-made.
3. You are required to do other things that are reasonably necessary to prevent your fire from escaping.

Where the use of fire is concerned, experience and good judgement are valuable commodities. Obviously you would not want to burn during extremely dry, windy conditions. Contact the Alabama Forestry Commission to determine whether the weather conditions are suitable for burning if you have any doubt. Before starting your fire have plenty of manpower available to watch the fire perimeter for any fire that crosses your control lines. If your fire does escape your control, contact the Alabama Forestry Commission immediately at the same number from which you received your permit.

Remember to plan ahead and use fire safely. ♣

KNOW YOURS WETLANDS

There are approximately 99 million acres of wetland in the conterminous United States. Many are adjacent to, or surrounded by timberlands. Questions from special-interest groups and the public about the impact of forest management practices on wetlands are increasing. So are state and federal regulations outlining what foresters can and cannot do in and around these areas.

It is very important, therefore, that timberland managers be familiar with the definition and classification of wetlands. The U.S. Fish and Wildlife Service's *Classification of Wetlands and Deepwater Habitats of the United States* presents the service's official wetland definition and classification system. Developed to aid the service in making resource management decisions, the document is being used to map the nation's wetlands. The document defines wetlands as follows:

"Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year."

Clarifying the Definition

"Unfortunately, this two-sentence definition has created some confusion," says Ralph Tiner, regional wetlands inventory coordinator for the U.S. Fish and Wildlife Service in Newton Corner, Massachusetts. "For some reason, many people have focused only on the second sentence of the wetland definition and have concluded that any one of the three listed attributes is suffi-

cient to classify an area as wetland."

"Such a one-parameter definition would allow areas that are not really wetlands to be classified as such," he continues. "For instance, a well-drained area dominated by red maple, a plant in the national list of plant species found in wetlands, could mistakenly be classified as wetland. However, if one looks at the first sentence in the definition, it's easy to see that this clearly was not the Service's intention."

This first sentence states that a wetland must be subjected to periodic flooding, and/or soil saturation, or be covered by shallow water. Though certain plant species and hydric soils are often symptomatic of an area's water status, by themselves, they do not necessarily identify an area as wetland. In fact, many wetlands lack vegetation and/or soil. These are common along the U.S. coasts and in arid and semi-arid regions.

Hydrology is the Key

"The hydrology of an area is the most vital attribute of a wetland," says Tiner. "If people insist on turning the

Service's definition into a one-parameter definition, that parameter should be wetland hydrology, not the presence of plant species or soils known to occur in wetlands!"

This does not mean that these soil and plant identifiers aren't important; they are. Ninety-four percent of U.S. wetlands have hydrophytes and hydric soils. Studies by the Service and others have shown a good correlation between certain plant species and hydric soils, and vegetated wetlands. In many situations, these plants and soils are useful indicators of wetland hydrology.

The Service, in cooperation with other federal agencies, has prepared national and regional lists of plant species that occur in wetlands (Reed, 1988). Also, the USDA Soil Conservation Service has developed a national list of hydric soils (USDA Soil Conservation Service, 1987) to help identify wetlands in the field. These lists are useful tools for identifying wetlands that are subject to federal regulations.

In January 1989, the four leading federal agencies in wetland regulation, conservation and management (the



Corps of Engineers, the Environmental Protection Agency, the Fish and Wildlife Service, and the Soil Conservation Service) produced an inter-agency manual for identifying "jurisdictional wetlands" or vegetated wetlands. The manual provides technical criteria, field indicators, and methods for identifying these wetlands. The wetland plants list and the hydric soils list are an essential part of this manual.

"I would strongly recommend that anyone working in or around wetlands be familiar with this document as well as the Service's definition," says Tiner.

Copies of these and other related documents can be obtained from this office:

**Superintendent of Documents
U.S. Government Printing Office
Washington, D. C. 20401
(202) 783-3238.**

Classification of Wetlands and Deep-water Habitats of the United States, Cowarden et al. 1979. U.S. Fish and Wildlife Service, FWS/OBS-79/31, 103 pp. (GPO Stock No. 024-010-00524-6) \$6.50.

Federal Manual for Identifying and Delineating Jurisdictional Wetlands, Federal Interagency Committee for Wetland Delineation. 1989. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington, D.C. (GPO Stock No. 024-010-00-683-8) \$7.50.

National List of Plant Species that Occur in Wetlands: 1988 National Summary, P.B. Reed, Jr. 1988. U.S. Fish and Wildlife Service. Biological Report 88(24). 244 pp. (GPO Stock No. 024-010-00682-0) \$12.00.

Wetland of the United States: Current Status and Recent Trends, R.W. Tiner, Jr. 1884. U.S. Fish and Wildlife Service, National Wetlands Inventory. 59pp. (GPO Stock No. 024-010-00656-1) \$3.00.

Also:

Hydric Soils of the United States, available for individual states from the USDA Soil Conservation Service state offices. National Wetlands Inventory maps are now available for 61% of the lower 48 states and 18% of Alaska. Call 1-800-USA-MAPS to order. ♣

This article reprinted with permission from the Winter, 1990 issue of The Forum, a newsletter by Monsanto.

A TALE OF TWO SALES

by C.S. WALSH, Larson & McGowin, Inc.

Once upon a time, after a 30-year hitch in the Air Force, a man named Rufus Lomineck retired to his inherited 160-acre Alabama tree farm to begin enjoying the fruits of his lifetime of labor. To avoid a mortgage on the new home he planned to build, he decided to sell the timber on the "back" 80.

Rufus sought advice from his county agent and county forester, both of whom suggested he contact one or two of several consulting foresters in the area. Meanwhile, three timber buyers got wind of his intentions to sell and wanted to make offers, and a paper company wanted to enroll him in its Landowner Assistance Program (LAP).

Within a couple of weeks Rufus was faced with the following options:

- Consultant #1 offered to handle the sale for a fee of \$50 per hour and thought his cost would be about 6-8% of the sale price.
- Consultant #2 offered to handle the sale for 10% of the sale price.
- Buyer #1 offered a \$45,000 lump sum.
- Buyer #2 offered a \$56,000 lump sum.
- Buyer #3 offered to pay as cut and assured Rufus it would cut out over \$75,000.
- The paper company offered to market the timber if it could have refusal of highest bid.

Being worldly wise, Rufus knew he could personally negotiate a timber sale that would provide him the absolute maximum value for his trees and save all those consulting costs.

He chose to sell to Buyer #3, a timber dealer named Smitty Smith. Smitty appeared to be a good ole boy, friendly, bragged about his trustworthiness, and

talked a lot of common sense. He said he sold his logs and pulpwood to several concentration yards, always where he could get the best price for the landowner.

"My word is my bond. We don't need a written contract; I'll treat you right, and you'll have your money in three months," was the handshake deal Rufus had with this new found friend.

Rufus had asked that the big longleaf pine near the southeast corner not be cut or damaged. It was the only longleaf on the whole place. Grandpa Lomineck had told him he had planted it as a boy. Rufus painted a red foot-wide band around the trunk at eye level to be sure the cutters would know to leave it alone.

The saws buzzed and the loaded trucks left going in all directions. They'd cut for a few weeks and then leave for a few days, come back for a few days and leave for a few weeks. It wasn't always the same bunch that came back. Time passed. Finally, everybody quit coming back.

Low and behold, two years after the handshake Rufus found himself friendless with a grand total of \$27,777.49. There wasn't a tree left standing on level ground, but there were lots of trees left in hard to get places. His roads were a mess, tree tops were in the creek, trash and oil cans were everywhere and his neighbor was mad with him because a big longleaf pine with red paint on it had been cut and left thrown across his fence and his cows kept getting out.

What on earth had happened?

"Gosh, it was cloudy when I looked at it; but I sure woulda swore I'da cut more than that," had said former friend Smitty, the last time Rufus could get him to answer the telephone.

Rufus knew he had been hoodwinked and thought he had been swindled, but of course couldn't prove a thing.

(continued on next page)

He had joined the ranks of that large group who mistakenly think they can, perhaps two or three times in a lifetime, match timber trading with those who do it every day.

Sadly, Rufus knew he must sell the other 80 in order to pay for his partially finished house.

This time he thought a little harder about his options and made the following checklist:

1. Don't sell to Smitty.
2. Get the money up front if possible.
3. Have a written contract.
4. Have a time limit.
5. Have the contract state what is NOT to be done (or sold) as well as what is to be done (or sold).
6. Get a performance deposit in case the buyer doesn't do what he's supposed to do.
7. Get someone to trade for you who represents you (not himself or his boss).

Rufus decided item #7 was very important. The state foresters could give good advice and might even be able to help with the sale, but he didn't think they could represent him in all respects. He liked the paper mill foresters he had met, and their "free" services sounded attractive but one of them was being transferred and Rufus was afraid a stranger would be involved before the timber sale was completed. He needed an agent.

A consulting forester seemed his best bet so he conferred again at length with the two in his area. After considering their fees, experience, and talking with some of their clients, he decided to hire Johnny Johns. Johnny had been in business about 10 years, was a registered forester, and had a good reputation in the community and with his clients.

Johnny had first made a cursory inspection of the 80 and questioned Rufus about his objectives. When he learned Rufus' primary need for income from the tree farm for the next 10 years was about \$35,000 to finish paying for the new house, he suggested a selectively marked timber sale should produce the needed income and leave a good stand of growing stock for another sale in about 10 years. He made Rufus a written proposal for the work which stated what he would do,

when he would do it and how much it would cost. Both Rufus and Johnny signed the proposal agreement.

Johnny marked the trees to be cut with blue paint with a spot about eye level and another spot below stump height. He tallied each tree separately, computed the volumes and told Rufus he estimated the sale would bring \$30,000-\$35,000 at current stumpage prices.

Johnny prepared and mailed invitations to make a lump sum bid on the timber to 41 prospective buyers within 100 miles of the property. He gave the bidders 30 days to look at or cruise the timber and required sealed bids be submitted to his office at a specified date and time.

Included in the invitation packet was the legal description of the property, a location map, a description of the timber for sale, and a copy of the contract that would be signed by the seller and buyer. At closing the buyer would be required to pay a \$2,000 performance deposit to be held by Johnny until the satisfactory completion of the terms of the contract.

The following bids were received from six potential buyers:

Company	Bid
A.	\$38,462.00
B.	\$34,000.00
C.	\$33,087.47
D.	\$31,350.00
E.	\$28,555.50
F.	\$21,431.00

(Two days later Smitty showed up telling Rufus the timber sold too cheap. He was sure he could cut over \$50,000 from all those marked trees on a unit basis. Besides, if Rufus sold to him, when he finished with the "front" 80 he'd go back and clean up the trees left on the "back" 80.)

Rufus accepted the high bid of Company A, the contract was signed and Rufus was paid the \$38,462 up front.

There were, of course, some problems during the length of the one-year contract. The loggers moved off a couple of times before the job was completed (once because of wet ground conditions). They skinned some trees with equipment and cut a few un-

marked trees. Johnny made them come back and repair the roads before he would return the performance deposit. But all in all everybody was satisfied when it was completed.

Johnny charged Rufus 10% of the sale price for his services. Rufus figured the fee was well worth it because it turned out to be less than the difference in the highest and second highest bid. He and Johnny had developed a good relationship during the sale. Later, Rufus hired Johnny to advise and assist him in replanting the "back" 80.

Truth in Fiction

Although Rufus Lomineck, Smitty Smith, and Johnny Johns are fictitious characters, the tale of Rufus' two sales is not the fairy tale it may seem to be. It's like a lot of real life experiences and many will know Rufus by another name.

Certainly not all timber buyers are Smittys. In fact most of them are not. Most are honest, hard-working people trying to make a living. Besides, sometimes the seller is the bad guy.

And not all consultants are like Johnny. Many will make mistakes. A few will disappoint their clients. There's an occasional one out there to be feared, but usually their reputation gets around just like it does for the Smittys.

Fees don't always turn out like Rufus' second sale. Often, but not always, the difference between the highest and the second highest bid is 10% or more and will pay the consultant's fee.

But the range from high to low is typical of the results of lots of sealed bid sales. Bidders will usually pay what they judge they have to in order to get the timber. Sometimes the high bidder goofs and leaves a lot on the table accidentally; quite often it's because he badly needs the timber.

It's not unusual to find the high bidder on one sale to be the low bidder on the next sale. Sometimes the low bid is extremely low because the bidder hopes to catch a windfall or hopes that no one else will be bidding.

Much of the time a consulting forester more than pays his own way by obtaining a higher price for the owner than he could get on his own. When he does, people like Rufus pat themselves on the back for having such good judgement. ♣

Editor's note: The Alabama Forestry Planning Committee is comprised of 13 agencies having forestry responsibility at the state level. This is the second in a series of informative articles highlighting those agencies.

The Forest Service of the U.S. Department of Agriculture provides leadership in the management, protection, and use of the nation's forests and rangelands, almost two-thirds of the nation's land.

In Alabama, four national forests are managed by the Forest Service. The Bankhead, containing 179,654 acres, lies in Winston, Lawrence, and Franklin Counties; the Conecuh, containing 82,883 acres, is in Covington and Escambia Counties, and the Tuskegee contains 11,054 in Macon County. The Talladega is in two units totaling 377,653 acres and is in the counties of Bibb, Calhoun, Chilton, Clay, Cleburne, Dallas, Hale, Perry, Talladega and Tuscaloosa.

The forests are administered by six district offices, located in Double Springs, Brent, Talladega, Heflin, Tuskegee and Andalusia, and the forest supervisor's office in Montgomery. The district offices are staffed by a district ranger and several professional disciplines, along with technical and administrative personnel. Five staff officers and numerous professional and administrative specialists serve in the Montgomery office of Forest Supervisor Joe J. Brown.

The Forest Service is dedicated to multiple-use management of all national forestlands for sustained yields of renewable resources such as water, forage, wildlife, wood and recreation. Under this management concept, the best combination of uses benefits the American people and assures the productivity of the land and the quality of the environment for future generations.

National forestlands in Alabama total 651,244 acres with 494,187 acres in timber management. Trees cut from the four national forests during fiscal year 1989 provided 75 million board feet of timber products while providing an estimated 780 local jobs and \$19 million in income. Over 5,500 acres of harvested land were replanted during fiscal year 1989.

The four national forests contain the largest acreage of public land within the state. As private land has become more restricted to public use, the forests have become increasingly popular for their wildlife resources. Programs to maintain and improve

USDA-FOREST SERVICE



by JOY PATTY, USDA-Forest Service, Montgomery

wildlife habitat are carried out in consultation and cooperation with the State Game and Fish Division. Partnerships with several wildlife and fishing organizations have provided additional funding and labor to accomplish management activities. In 1989, the white-tailed deer population in the national forests was estimated at 12,000 and the harvest was approximately 3,000. Turkey population was estimated at over 11,000 and the harvest netted over 1,000.

The national forests provide essential habitat for several species of threatened, endangered, or sensitive plants and animals. The red-cockaded woodpecker (RCW), the flattened musk turtle, and the panhandle lily are among several species that are being protected through direct habitat improvements. For example, the forests are managing their timber programs in such a way as to aid the recovery of the RCW.

The national forests are the largest suppliers of outdoor recreation in the United States and the four forests in Alabama do their share. In Alabama, hunting, camping, picnicking, hiking, boating, photography, and sightseeing accounted for over 850,000 visitor days use last fiscal year. The four forests contain 12 recreation areas, 250 miles of hiking trail, a 61-mile national wild and scenic river and two wilderness areas totaling 33,476 acres. While most developed sites have a fee system, other activities are free of charge. Primitive camping is allowed anywhere free of charge except during the gun deer season, when camping is confined to the developed camping areas or hunter camps scattered about the forest.

Water and soil management is part

of the Forest Service's job. The four national forests produce approximately 350 billion gallons of water annually and provide municipal watersheds for seven cities, serving about 350,000 people. There are approximately 1,477 miles of perennial streams and 139 miles of lake shoreline within the four national forests. Total surface water area is over 3,000 acres. Forest Service management efforts are directed toward developing and implementing practices to prevent soil loss or damage and to protect water quality.

The United States owns approximately 567,000 acres of mineral rights on the four national forests. Interest in oil and gas leasing and seismic exploration has been high. In accordance with the Federal Onshore Oil and Gas Leasing Act of 1987, the Forest Service is using a new leasing system. This act provided the Forest Service with consent authority for oil and gas leasing, and established a competitive bid procedure that is administered by the Bureau of Land Management. At a recent sale in Little Rock, 26 parcels were offered, representing 10,556 acres. Total bonus bids and rentals brought \$239,798.

Fire suppression on the forests is primarily handled by Forest Service employees. The Alabama Forestry Commission, by cooperative agreement, provides aerial detection for the forests. In 1989, over 100 Forest Service employees and about 50 Alabama Forestry Commission employees were sent on fire suppression details in other parts of the country. Also, about 50 employees were detailed to South Carolina during the Hurricane Hugo emergency.

The 1989 budget for the National Forests in Alabama was \$13 million. Revenue earned totalled almost \$6.5 million. By law, 25% of all receipts generated on National Forest System land is paid to state governments to provide funding for public schools and roads in counties where the National Forests are located. Sixteen counties received over \$1.6 million for 1989.

The basic management unit for record keeping and planning on the national forests is a compartment. Each year, the Forest Service prepares environmental assessments and project plans on about one-tenth of the compartments on each forest. These plans are the primary tools used in carrying out management activities, and the involvement of other agencies, organizations and the general public is desired. ♠

Lymantria dispar L.— HEADIN' 'EM OFF AT THE PASS

by TIM L. GOTHARD, Pest Management Specialist, Alabama Forestry Commission

Lymantria dispar L., perhaps the most notorious insect pest of hardwood trees in the Eastern United States, is gradually working its way south. Commonly known as the gypsy moth, this pest was responsible for the defoliation of over three million acres of hardwoods in 1989 alone. A definite cause for concern.

From Riches to Ruin

Introduction of the gypsy moth to the United States dates back to 1869 when several specimens escaped from the home of Etienne Leopold Trouvelot in Medford, Massachusetts.

Trouvelot supported himself as an artist, though he had a strong amateur interest in the sciences. He was particularly fascinated with the biology and culture of silkworms. As silk culture was promoted as a means of achieving great wealth through much of the 19th century, Trouvelot felt it might be possible to capitalize on this market using giant silkworms native to North America. From 1860 until about 1868, Trouvelot developed techniques for mass rearing native silkworms.

Around the latter part of the 1860s, Trouvelot returned from a trip to Europe with a shipment of live gypsy moth eggs. He was attempting to cross gypsy moths with silk producing species to develop a strain resistant to a disease that decimated the silk industry in much of Europe. In either 1868 or 1869, several of Trouvelot's gypsy moths escaped from the room where they were being cultured.

It was not until about 10 years later that the new

population of gypsy moths reached defoliating densities in Trouvelot's neighborhood. State officials became concerned and in 1890 they mounted a large scale eradication effort. This program, as well as several that followed, failed and the range of the gypsy moth continued to spread.

Where Is the Gypsy Moth Now?

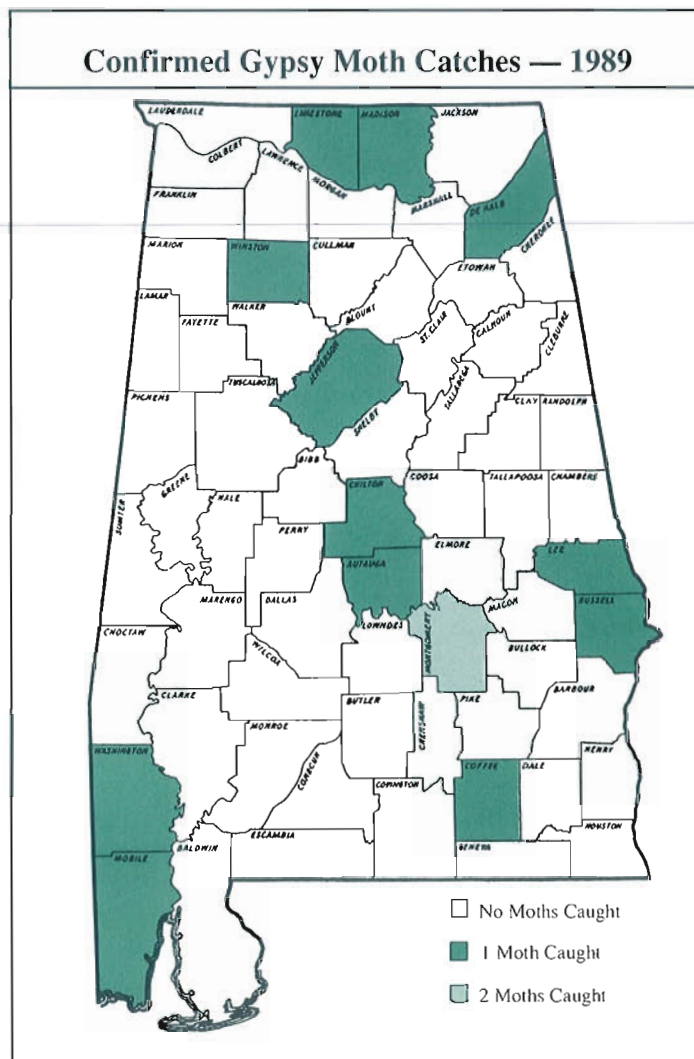
At present, the generally infested area (areas where gypsy moth populations are readily established) extends as far south as North Carolina, with spot infestations (infestations ahead of the generally infested area) as far south as

Tennessee; in particular, 30-40 miles north of the Alabama/Tennessee state line above Jackson county, Alabama. Other spot occurrences (scattered occurrences of single to small numbers of male gypsy moths) are usually found in Alabama and throughout the Southern states; however, these finds generally have not become established.

The Gypsy Moth in Alabama

The spot occurrences in Alabama are the result of transportation of the gypsy moth and/or one of its other life stages (eggs, caterpillars, and pupae) from infested areas to our state.

The most commonly transported life stage of the gypsy moth is the egg stage. Female gypsy moths are capable of laying a mass of up to 1,000 eggs. Preferred sites for egg laying are places that offer protection from the elements and predators. In forest situations, these are places such as the underside of bark flaps or in bark crevices. Most outdoor household items offer protected areas that gypsy moths will use for egg laying—items such as recreational vehicles, tarps, tents, trailers, picnic tables, animal houses, barbecue grills—and the list goes on. When returning from areas where the gypsy moth is known to occur, individuals can help reduce the chance of spreading the gypsy moth by inspecting items exposed to the outdoors for signs of any of the life stages of the gypsy moth. Transportation of infested items to uninfested areas is setting the stage for tragedy—if left undetected.



Gypsy Moth Detection in Alabama

For the past eight years the

Alabama Forestry Commission, in a cooperative program with the U.S. Dept. of Agriculture—Animal and Plant Health Inspection Service—Division of Plant Protection and Quarantine, has conducted gypsy moth surveys on an annual basis in order to provide early detection of this potentially devastating forest pest.

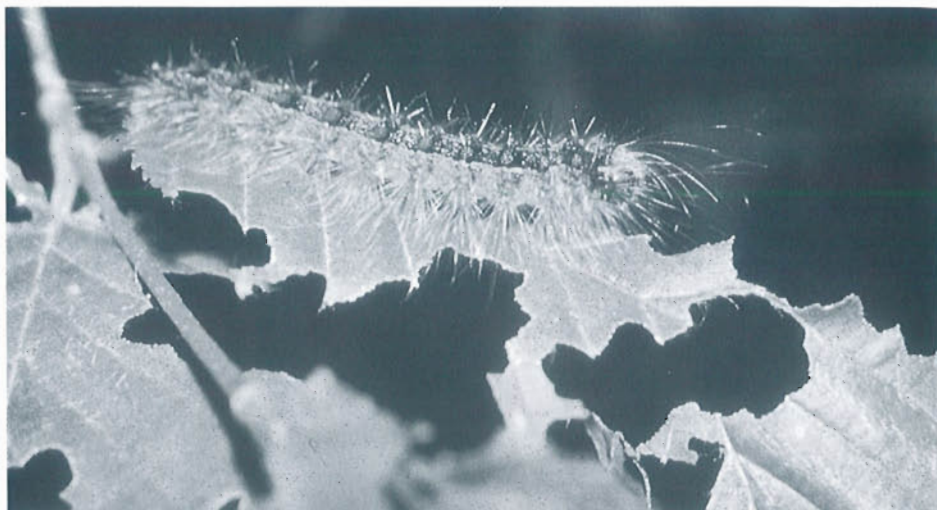
The survey consists of deploying an average of 6,000 gypsy moth traps per year in counties in either the northern or southern half of the state on a rotating basis. This survey, called a rural forestland survey, is performed by installing gypsy moth traps at a rate of one trap per four square miles in the counties to be surveyed. Any confirmed gypsy moth catches from the rural forestland survey will be followed the succeeding year by a delimiting survey.

A delimiting survey consists of installing 16 traps per square mile in a nine square mile area around the location where a confirmed gypsy moth catch occurred. The purpose of the delimiting survey is to saturate the immediate area with traps in order to further pinpoint the location of the spot occurrence. If the delimiting survey produces no additional catches then no further action is taken. However, if additional moths are captured a quarantine survey will follow.

A quarantine survey consists of another saturation of traps in the immediate area where gypsy moths were captured in the preceding years. Moth traps are installed at a rate of 36 per square mile. Along with moth trapping, an egg mass survey and larval trapping are conducted in an effort to pinpoint the location of the spot occurrence well enough to make accurate control plans for the area.

Since the inception of the Cooperative Gypsy Moth Survey Program in Alabama in 1982, there has been an average of 10-15 confirmed gypsy moth catches per year. The 1989 trapping season resulted in 14 confirmed gypsy moth catches in 13 separate counties. All of these areas will undergo delimiting surveys in the upcoming 1990 trapping season. Of the confirmed catches since the program's inception, three have been substantial enough to warrant quarantine surveys. However, all three occurrences have been successfully eradicated.

With the increased awareness of the value of Alabama's hardwood resource in terms of Timber, Recreation, Environmental quality and Aesthetics, it



The larva or caterpillar life stage of the gypsy moth is responsible for defoliation.



The adult male gypsy moth (left) and the adult female (right).

is vitally important that we stay abreast of the overall gypsy moth situation. At the conclusion of the 1990 Cooperative Gypsy Moth Survey we will have placed a trap in virtually every square mile of the state over the last eight years. Our efforts thus far have paid off as none of the spot occurrences has

resulted in defoliation or expanding populations. As the gypsy moth continues to move south, we will continue to try and "head 'em off at the pass." ♣

Reference

Gypsy Moth News, Number 20,
USDA-Forest Service.

Attention: TREASURE Forest Landowners

Do you know a landowner who would enjoy receiving *Alabama's TREASURED Forests*?

If so, please send their name and address to:

Alabama's TREASURED Forests Magazine
513 Madison Avenue
Montgomery, AL 36130

NOT IN IT FOR THE MONEY

*A Survey Conducted by Auburn University at Montgomery Revealed
Why People Become TREASURE Forest Owners*

by MICHAEL A. JONES, Ph.D., Assistant Professor of Marketing,
Auburn University at Montgomery

A statewide survey of individuals involved in the TREASURE Forest Program has revealed some interesting information about why landowners become involved in the program and how they benefit from involvement. It is clear from the results that the enjoyment and satisfaction derived from being a TREASURE Forest owner is not based upon financial gain.

The study, which was conducted by the Department of Marketing at Auburn University at Montgomery, was commissioned to aid the Forestry Commission staff so they can better manage the program. It was felt that input from those landowners involved was essential to improve the program. By learning from “customers” what they like and dislike, their needs can more effectively be served!

Thus, one of the major objectives of the study was to gain more understanding into the feelings of participants as to how the program had benefitted them most, and what aspects of the program they liked and disliked.

The Survey

A mailed questionnaire was sent to all TREASURE Forest owners (600), and a random sample of 500 creed signers. You might have filled one out. Participants returned 402 questionnaires for a response rate of 37%. (287 were TREASURE Forest owners and 115 were from creed signers) This sample allows for a high level of confidence that the responses were representative.

One thing the study revealed was that other than their interest in woodlands they are a diverse group of people. Males represented 89 percent of the sample, and 99 percent was white. Other demographic characteristics of the sample are shown in TABLE I.

Stewardship Clearly the Most Important Benefit

In order to determine what specific aspects or benefits of the program led

to the satisfaction, and what the level of satisfaction was, subjects were given a list of possible benefits which could result from being a TREASURE Forest owner. For each, they were asked to rate how important it was to them. The results are seen in TABLE 2, and ranked in order of importance from highest to lowest.

As seen in the table, the greatest amount of satisfaction from being a TREASURE Forest owner was derived from being a “good steward of my land.” Only 1% felt this was not important, meaning that 99% of those who answered the question felt this was important. What was remarkable about the results was that all demographic groups held this value in common! (rich/poor, old/young, large landowners and small) Stewardship seems to be the thread which holds this group together in terms of shared values.

Recreational benefits seemed to be what was liked most about the program following stewardship. “Getting out on their land” was ranked as the second benefit, as seen in the table, followed by learning as a source of enjoyment. Hunting and game management was ranked fifth on the list.

Two environmental motives were important to participants. Soil control and recreational land development were important to most participants.

Personal financial gain, recognition from others, and publicity were not reported to be as very important benefits by most. One third of the respondents did feel that financial gain was very important, but only 11% felt publicity for business reasons was a very important reason for participating.

Was the TREASURE Forest Program Ahead of Its Time?

This research suggests that the TREASURE Forest Program was visionary, in that it acknowledged that there were other motives for involvement in forest land management programs than those which are timber production and monetary related. It

seems that the architects of “TF” were ahead of their time. The program was designed to meet other human needs which can be met by being involved in woodlands, such as stewardship or recreation. This research solidly suggests that the program does just that. Several scholars of the nonindustrial private landowner have suggested in recent years that many traditional landowner management programs may have focused on the wrong objectives. As C.S. Binkley (Yale University) concluded, past efforts have focused on production, economic and technical management issues.

Recent studies at universities in other states around the nation have yielded results similar to this study: that landowners have had “non-economic” reasons for being involved in forest management programs. Lee (1986), in a Yale University study, found that New England landowners valued scenery, personal recreation and wildlife habitats more than commodity benefits such as income or timber production. Marler and Graves (1978 Cornell University) who studied New York landowners, Carpenter (1985 U.S. Forest Service) who studied Minnesota landowners, and Birch (1983 U.S. Forest Service) in a national survey all found recreation and wildlife to be important reasons to be involved in woodlands.

Conclusion and Comments

Hopefully the information from this study can be employed in promoting the TREASURE Forest Program so that participation levels will increase. Agencies which support the program can offer clear evidence as to what benefits current users receive to prospective landowners. Perhaps these benefits can be communicated to landowners who are seeking such benefits so that more will become involved. It is comforting to know that a small but growing group of landowners in the state who are involved in this program have learned that they can enjoy being

stewards of Alabama's wonderful woodland resources, and yet can still manage for increased production and financial gain . . . and that these seemingly diverse endeavors can go hand in hand. Hat's off to the creators of the TREASURE Forest Program. Perhaps the genius and insight of this program can find its way into the thinking of those of us involved in the teaching and practice of business management.

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TABLE 1
Demographic Characteristics of Respondents

	Average	Low	High
Age	60 years	19 years	87 years
Acreage	1,146 acres	12 acres	35,000 acres
Education	15.4 years	8 years	24 years
Income	\$45,000/year	below \$20K	above \$100K

TABLE 2
Perceived Benefits (Motives for Participation) in the TF Program by Level of Importance (Percentage Responses)

Benefits/Motive	Extent of Importance (%)				Total
	Very Important	Somewhat Important	Not Important	No Responses	
Satisfaction in being a good steward of my land	87	7	1	5	100
I enjoy getting out on my land	73	18	3	6	100
Because I enjoy learning about forest management	60	30	3	7	100
Better soil control	60	27	4	9	100
Better hunting/more game	52	31	11	7	101*
It makes my land a nice place for recreational activities	51	30	10	9	100
Financial security to my dependents	39	39	12	10	100
More financial returns for me	35	40	15	10	100
Recognition as a good citizen	33	36	20	11	100
Publicity which might help my business and my image in the community	11	18	58	12	99
Other	3	0	2	95	100

*not = 100% due to rounding of decimals.

LANDOWNERS

LEGISLATIVE
ALERT

NATIONAL

by TERRI BATES, Washington Representative, National Association of State Foresters

The pace is picking up on the 1990 Farm Bill. For the first time ever, Congress will add a Forestry Title that addresses management issues on non-industrial private forestlands. Congress also will extend and expand the Conservation Reserve Program authorized under the 1985 Farm Bill.

In the Senate, the Agriculture Committee completed action on a Forestry Title proposal in April. The House Agriculture Committee is working towards its own version of a bill. Major elements expected to be found in both bills include the following: fire and pest protection, the Forest Stewardship Program, enhanced cost-sharing for stewardship practices, and other key initiatives ranging from urban forestry and disaster assistance to research and an easement program.

Representative **Claude Harris'** bill (*HR 3955*), the "National Fire Mobilization Act of 1990," is the basis for the fire protection measures in the Farm Bill. It provides greater assistance to rural volun-

teer fire departments and state forestry agencies. Senator **Howell Heflin** (D-AL) introduced the same legislation in the Senate on March 28 (*S 2353*), and that too has been incorporated into the Senate forestry title.

Both the House and Senate forestry titles include elements of Representative **Sonny Callahan's** (R-AL) legislation (*HR 3454*) establishing the Forest Stewardship Program. The program is modeled after the TREASURE Forest program, aimed at helping private landowners manage forest resources for multiple objectives including timber, wildlife, soil, water and recreation.

Under the Senate title a new "Stewardship Incentives Program" is established, built on cost-sharing with landowners. Stewardship activities and practices could include setting up wildlife plots, creating windbreaks and shelterbelts, restoring wetlands and managing outdoor recreational opportunities. The House title would expand the Forestry Incentives Program

(FIP) to cover similar efforts.

A State Level Stewardship Advisory Committee would be created in both the House and Senate bills. One key feature of the committee would be the diversity of its membership. Representatives from the public at large, local government, forest industry, forest landowners, conservation groups and both state and federal natural resources agencies would all be included. An intra-agency advisory committee would also be set up within the USDA to coordinate forestry activities.

To help protect existing private forestlands from conversion to development uses, Congress intends to set up a new pilot program called the "Forest Legacy Program in the Senate and the Forest Reserve Program" in the House, through which easements on private lands would be purchased by federal and innovative combinations of state, local and private financing.

Pest management provisions differ markedly between the House and Senate.

STATE

by FRANK SEGO, Legislative Liaison, Alabama Forestry Commission

Readers will recall an earlier *Legislative Alert* column when we polled more than a dozen legislators as to their forecast for the 1990 Regular Session. We asked senators and representatives alike for their predictions of the hottest issues to face this session.

To a person, and without hesitation, each pinpointed abortion, hazardous waste fees and, of course, the general fund and education budgets.

How right they were!

One thing missed the mark, however, as most predicted a "pass-the-budgets and go home" session since this is the year of the election. As it was, the session consumed the entire 30 allotted legislative days and, for that matter, didn't end even one second before midnight on the 30th day.

Budgets Approved

The fact is, it was exactly two hours before the bewitching hour when final approval was given to the compromise ver-

sion of the \$2.7 billion education budget. An hour and a half later the Legislature sent Governor Hunt its acceptance of an \$814 million budget to carry on the business of the state for 1990-91.

From the operating budget signed by the governor on the 10th day following adjournment, the Alabama Forestry Commission will receive a general fund appropriation of \$13,406,624. Other funding sources, including federal and local funds, county tobacco funds, etc., amount to \$11,300,000 for an appropriation total of \$24,706,624—only slightly more than the operating budget for fiscal 1989-90 and still short of Commission needs.

AFC Has Active Role

Aside from its annual budget vigil, the Forestry Commission took an active role in legislation affecting volunteer fire departments, the accelerating battle against litter, and the need for recycling in this state. The Forestry Commission

gives its full support to the more than 900 certified volunteer fire departments in the state.

Through efforts of the Commission, these volunteer fire departments now receive a line item appropriation in the AFC annual budget.

It was State Forester Bill Moody who arrived on the Alabama scene 20 years ago and recognized the plight of those few volunteer departments as they struggled for existence. He has made good his personal pledge to secure adequate fire protection in the rural communities of Alabama.

VFDs Gain Recognition

Progress was slow in the beginning, but in the past year momentum has been generated by the establishment of the Rural Community Fire Institute and the RCFP Caucus of the Alabama legislature. The Institute makes its recommendations to the Caucus on legislation deemed vital to these volunteer fire departments.



The Senate provides for expanded forest health monitoring activities, an effort currently confined mainly in the Northeast. The House provides increased assistance for the suppression of southern pine beetle, gypsy moth and spruce budworm for states with established integrated pest management programs.

Research initiatives also vary between the two bills. The Senate title authorizes the establishment of a Southern Forest Regeneration expected to be located at Auburn University and a Center for Agroforestry Research in Lincoln, Nebraska. The House title supports research for a timber bridges program, wood products recycling, private forest stewardship management, and improved research for inventory and analysis on forested lands throughout the country.

Reforestation assistance following a natural disaster would be authorized, although provisions between the House and Senate differ. Urban forestry provisions are included in both bills address-

ing the nation's community forests.

Only the Senate Agriculture Committee has completed action on the Conservation Title which authorizes the Conservation Reserve Program (CRP). The Senate extends the program through 1995 and allows the U.S. Department of Agriculture Secretary to expand the CRP beyond its 40 million acres to 50 million acres. To date, 34 million acres have been enrolled, of which two million have been planted in trees.

The Senate Committee also approved additional incentives to increase tree planting nationally. For the first time, marginal pasturelands would be eligible for the CRP if trees are planted. New incentives designed to encourage planting hardwoods, windbreaks and shelterbelts include longer contract periods; allow cost-sharing for maintenance from two to four years; planting over a three-year period; and CRP grass acres to be converted to windbreaks, shelterbelts and wetlands. Easements would be required

where CRP acres were converted to windbreaks, shelterbelts, and wetlands.

House provisions are expected to be similar.

Compared to Farm Bill action, the appropriations process is moving at a slower pace. Congress has been holding hearings on the President's proposed budget for fiscal year 1991 since February. Gramm-Rudman targets will be harsher this year as Congress seeks to reduce the federal bud-get deficit. A dialogue between Congress and the Administration has begun in efforts to reach agreement on how the targets will be met. Formal committee action on appropriations proposals are expected to begin in June.

Legislation has been introduced in Congress to authorize the President's major tree planting initiative, America the Beautiful. The legislation authorizes the establishment of a foundation that will raise and distribute private sector funds for community tree planting efforts. ♣

One such bill recommended by the Institute and passed during the 1990 session was *HB 199* by Rep. **Clarence Haynes** of Talladega. It provides for volunteer fire departments and rescue squad organizations to purchase goods and services offered by the Alabama Correctional Industries Division of the Department of Corrections. The bill was signed into law as *Act No. 90-55*.

A bill to provide workmen's compensation benefits for volunteer firefighters in the event of injury or death was introduced but, after much discussion, it was agreed to conduct further study and give it a better opportunity for passage in the 1991 session.

Recycling Bill Passes

The 1990 legislature gave special attention to litter and recycling in Alabama. Rep. **Jimmy Holley** of Elba came forward with a bill that would require state agencies, public schools and

universities representing 105,000 employees to develop a model program for the recycling of waste generated by the operation of these agencies. Rep. Holley and the Alabama Department of Environmental Management (ADEM) are confident that implementation of this legislation will help reduce the 142 landfills now operating in Alabama by one-fourth.

Proceeds from the sale of recyclable materials would be deposited in the operating funds of the school or agency.

Rep. Holley's bill (*HB 301*) was backed solidly by the ADEM, People Against a Littered State (PALS) and the Forestry Commission. It is now *Act No. 90-564*.

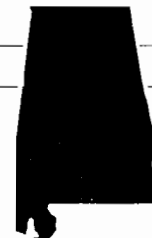
Mikell's Proposal Adopted

Rep. **Mike Mikell** of Millbrook sponsored legislation to amend the Code of Alabama which provides for criminal littering. The Mikell bill (*HB 272*) sets a minimum fine of \$100 for littering and

provides that the fine for such a conviction be distributed by the court to the municipality, county or state law enforcement agency that has participated in the arrest leading to the fine. Such fines would be spent for law enforcement purposes. The bill became law as *Act No. 90-585* on April 9.

PALS Anniversary

June 20, 1990 marked the fourth anniversary of the founding of PALS. It is significant that the Forestry Commission took a leading role in this effort which has captured the attention of every Alabama citizen. Even now, we are just beginning the monstrous task of making Alabama a litter-free state and making everyone conscious of the benefits of recycling. Just as we are helping to beautify our state, we are also curtailing the risk of fire from burning debris in our woodlands. ♣



How to Harvest Timber Is There a Clear-cut Answer?

by JAMES R. HYLAND, Chief, Forest Management, Alabama Forestry Commission

Harvesting timber is one of the most controversial aspects of forest management. Ideally, the harvest cut should be referred to as a regeneration cut, for the intent should be as much to provide for the new stand as it is to make a profit from harvesting the old.

For the landowner who wants to balance income from his timber with other benefits, careful consideration should be given to the choice of a method for harvest cutting. These considerations should be given in a pre-harvest plan before the timber is sold or a chainsaw started.

There are essentially four types of harvesting systems—clearcutting, seed tree method, shelterwood method, and selection cutting. Each has its advantages and disadvantages. The system you use depends on the following:

- (1) Landowner objectives—aesthetics, rapid growth of a new stand, immediate high income or continual income, wildlife, water quality, etc.
- (2) Reproductive needs—is the desired species shade tolerant or intolerant? Are there competitive species? What are the growth rates?
- (3) Environment—is the soil suitable for the regeneration planned? Is the soil stable enough for roads and to withstand erosion?
- (4) Existing stand—the species, size, age and vigor affects the success of some systems and how heavy the cut should be.
- (5) Wildlife—are certain wildlife species favored? Are wildlife populations high and will they interfere with forest reproduction?

- (6) Marketing—are there markets and labor available? Do I have the skill and expertise necessary? What about equipment and capital?

Clearcutting

Clearcutting is a word that is often misused. The proper term should be silvicultural clearcut—harvesting all trees with a pre-harvest plan to regenerate the area.

The flip side of this is commercial clearcutting—harvesting all commercially valuable trees with no regard as to whether or not the area will be regenerated. In Alabama, these lands are sometimes called “cutover land.” When we say clearcutting we are referring to silvicultural clearcutting.

In pine timber, clearcutting can be very expensive. Regenerating a stand is a three-step process—harvesting, site preparation, and artificial regeneration. The harvesting from the forester’s standpoint is easy: mark the boundaries of the cut, including Streamside Management Zones (SMZs), and clear-cut everything within that marking. It takes very little silvicultural knowledge to clearcut. It should however, require knowledge of harvesting techniques—road layout, skid trail layout, stream crossing construction, log deck placement, and merchandising of timber (pulpwood, sawtimber, poles, veneer).

Site preparation is costly and can, if not properly done, cause severe site quality loss through soil erosion. Whether the site preparation be mechanical or chemical the cost per acre will be high. The discretion as to how the site preparation will be handled should be made in the pre-harvest plan. Excellent utilization of harvested timber will save on the cost of site preparation. Knowledge of techniques and how they will effect the site is required.

Artificial regeneration means planting trees. This is another cost. Discussions are to be made on what species to plant, number per acre and who to hire to plant the trees. Knowledge is needed of soils and sites and what species is best suited for your site. The end product you will be growing will effect the number of seedlings you plant per acre and which tree planter will give you the best results as far as survival and correctly planted seedlings.

In hardwood timber, silvicultural clearcutting is less expensive than pine clearcutting. The regeneration will come from sprouts or small advanced seedlings. If the harvesting process was correctly contracted no site preparation is needed. If trees were left, all of them must be cut so there will be no shade on young seedlings or sprouts. This can be accomplished by a chainsaw crew at a reasonable rate and is an environmentally sound practice when compared to pine site preparation techniques. No tree planting is needed unless the landowner wants a larger component of oak. Then 100 oaks per acre can be planted.

The size of clearcuts should be kept between 10-100 acres. The smaller clearcuts could have problems with deer browse. The larger cuts have problems with diversity and wildlife use is less due to edge effect. The outcry of the public to clearcutting comes from the large acreage and lack of diversity. It is best to have smaller irregular cuts and checkerboard them throughout the property.

Seed Tree Method

The seed tree method is essentially a clearcut in which a scattering of selected trees is left to assure a seed crop for regeneration. A few years later, these parent trees are harvested. Depending on the species and characteristics of the site, from one to 10 trees

per acre are usually left, representing something less than 10 percent of the merchantable volume. Since they will be the source of the future stand, proven seed producers with the best genetic attributes (height, form, vigor) are selected.

One variation of this method is to allow small groups to remain instead of scattered, individual trees. This helps with the problem of wind blowing over isolated trees and may help guarantee cross pollination and seed production.

A second variation is to leave trees with defects, then skip the future harvest of seed trees. This reduces damage to the new stand but requires extremely careful selection to be sure none of the seed trees have genetically-linked defects. That is a difficult distinction to make. Another advantage of this method is that it provides trees for woodpeckers, songbirds and birds of prey.

As in any harvesting method, there are advantages and disadvantages. Advantages include these facts: 1) it is an economical way to regenerate species with light wind-blown seeds; 2) income can be spread over two periods; there will also be some volume increase on the trees left temporarily for seed production; 3) it is slightly more aesthetically pleasing than clearcutting, and beneficial to a wider variety of wildlife. The disadvantages include the following: 1) the timing of seed fall is important; 2) sometimes you get too many seedlings per acre; 3) because of shock and windfall, there can be a loss of merchantable lumber before the follow-up harvest; 4) it is restricted to species that produce large numbers of light seeds and that are able to germinate and grow in open conditions.

Shelterwood

The forester needs a greater understanding of silviculture if he is to use a shelterwood system of harvesting. The shelterwood system combines some of the advantages of clearcutting with those of the seed tree method, and adds some of its own. Consequently, it is a rather popular method with considerable flexibility to meet the needs of many species and sites, as well as the landowner's objectives.

The best application of shelterwood cutting is with species that need partial shade in the early stages of their growth. By adjusting the number of seed trees that are left in the canopy,

the amount of shade can be regulated to meet the needs for successful regeneration of the desired species. The older trees are not only a source of seed, they provide shade and shelter for seedlings and protection for the site. Also, when viewed from a distance, a more natural appearance is retained until a new stand is well on its way toward replacing the old.

This system has at least three steps, all of which yield saleable products and spread income over a period of 10 to 20 years.

The first step is a **preparatory cut**. Similar to a late thinning, the intent in this cut is to remove weaker trees and provide more growing space for future seed trees. About 25 to 30 percent of the trees are removed. This allows the remaining trees to spread their crowns and increase their root systems, thereby becoming more wind-firm and generally more vigorous. A side benefit, of course, is that they will also put on more wood volume and increase in value. Usually, three to 10 years are needed for the desired results.

If continuous thinning has been part of the history of the stand, the preparatory cut in the shelterwood system may be omitted. On the other hand, in thick, neglected stands, two or more preparatory cuts may be necessary before nicely spaced, vigorous seed trees cover the land.

The second step is the **seed cut**. This removes all but the very best seed trees and simultaneously opens up the canopy enough to allow seedlings to get established. The seed cut should be made in a year when the desired species produce an abundant seed crop. The best time for the cutting within that year comes after the seed has matured and before it is dispersed. Spacing of the parent trees might vary from 30 to 40 feet or more, depending on the species and site. Closer spacing will be needed in frost pockets or on south slopes; wider spacing is best on more favorable sites. The shade tolerance of undesirable, competitive species should also be considered. Previous local experience provides the best clues for fine-tuning this method of regeneration cutting.

The third and final step is the **removal cut**, or **overstory removal**. This is made after regeneration is assured, usually when the new trees are about waist high. This is when growth slows to the point where more money would be earned by selling it at its cur-

rent volume than waiting for more wood to be added. Usually, this age is determined using the average of many trees in the stand. A specific diameter is then used as a guideline; however, it must be considered flexible, as it is often beneficial to remove some additional trees below the diameter limit.

Advantages of the shelterwood system are as follows: 1) there is a greater assurance of natural regeneration than with the seed tree method; 2) it protects site, seedlings and visual qualities of the area; 3) if markets are available, cash income is more frequent. Disadvantages include the following: 1) unless regeneration is too dense, logging may damage some seedlings; 2) it is more complex than clearcutting on seed tree methods; 3) it requires roads to be efficient.

Selection cutting

Selection cutting is what many people consider "ideal" forestry. In this method, individual trees or small groups are cut at continuous intervals as frequent as five years. This yields the closest thing to a regular income from trees, especially if they are of lumber or veneer quality. At the same time it can leave the woods looking whole and beautiful. Unfortunately, it is one of the most difficult methods to execute properly, and many people who think they are practicing selection cutting are actually "high-grading" their forest and reducing its future value.

In true selection cutting, the stand will contain trees of **all** ages. Perpetuating this condition is called uneven-aged forest management. German foresters think of it as the *Dauerwald*, or "continuous forest." Its advantages are obvious, but it is not without drawbacks. Being aware of these problems can help you practice this method correctly, or may help underscore some of the reasons why the even-aged methods are also "ideal" forestry under the right conditions.

There are two principal kinds of selection methods—single-tree selection and group selection.

Essentially, the single-tree method combines harvest cuts with improvement cuts and thinnings. The removed trees provide growing space for younger ones. Selection cutting is especially beneficial when trying to regenerate shade-tolerant species.

In **group-selection**, saleable trees of *all* sizes are taken from small areas of

about ¼ to ½ acre. From the standpoint of logging, this is more economical than selecting individual trees. Man-hours and equipment can be concentrated in fewer places rather than being spread out over the entire forest. If small enough, the openings still protect the aesthetics and ecological diversity of the forest. However, when they exceed ¼ acre or their width is more than the height of the surrounding trees, they begin to resemble small clearcuts. When this happens, the greatest advantages of selection cutting may be lost.

There are two big problems with selection cutting. The first is the difficulty of balancing the volume of wood removed with the volume being added by the smaller, younger trees that are left. The second involves the kind of trees that will and will not be favored by such a harvesting method. Simply taking out large trees and making improvement cuts is not enough. Owners have yielded to the temptation of taking the biggest and the best. They think it is selection cutting, but it is really high-grading. To do otherwise requires careful inventories, a sound knowledge of the site and the silvical characteristics of the trees, and accurate estimates of annual growth and yield. This is a tall order. In fact, some professional foresters do not have the skill needed for successful selection cutting. Also, many have a bias against selection cutting because of its complexity and problems.

Whatever method you decide to use, make sure you make a preharvest plan and regenerate the forest for the future of Alabama and your own family generations. ♣

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Memorial



Mary Higdon Stem, a TREASURE Forest landowner in Conecuh County, died January 3, 1990. She was actively involved in the management of her family farm, a land grant given to her ancestors in the 1820s. A ceremony was held in March posthumously awarding the TREASURE Forest certification. Family members were present to receive the certificate and sign. Mrs. Stem is pictured with her husband, Richard. She will be greatly missed by her friends and family.



Ray Holliday, a TREASURE Forest landowner in Lamar County, died February 5, 1990 at the age of 67. He was an advocate of the TREASURE Forest program and his support meant a great deal to the forestry community in Lamar County. Not only did Holliday support forestry in his home county, but he worked with legislators on a statewide basis to gain support. He will truly be missed.



Dale County Forest Ranger James Durward Gavins died March 26, 1990 at the age of 39. During his 11 years with the Alabama Forestry Commission, Durward worked in Barbour County, at the Ozark District Office and in Dale County. He loved the outdoors and enjoyed working with landowners. It takes employees such as Durward to make the Alabama Forestry Commission the type of organization it is. He will be missed by the employees of District 6 as both a co-worker and a friend.



James B. Neighbors, a former commissioner for the Alabama Forestry Commission, passed away March 28, 1990. He was 73. Neighbors was a retired educator and farmer in Autauga County for over 50 years. He was appointed to the AFC Board of Commissioners in 1979 and served two five-year terms. His contributions to the Alabama Forestry Commission and other organizations will be remembered well into the future.

VOTE YES JULY 17

Landowner Referendum



Help Protect Our Forests



**For More Information, Contact
Your County Alabama Forestry Commission Office**

ACTIVITIES

DISTRICT

1

Congratulations are in order for those landowners recently certified as District 1's newest TREASURE Forests: **Tommy Bean and Billy Bean**, Jackson County; **James Keeling**, Etowah County; and **Odell and Agnes Seay**, Calhoun County.

Also, congratulations to the landowners whose properties were recently recertified. Those include **Travis Smith and H.F. White**, Etowah County, and **Calvin Jones**, DeKalb County.

Calhoun County AFC personnel, with support from Districts 1, 4 and 9 and the state office, organized an urban forestry program for the April meeting of the **East Alabama Regional Planning Committee**. The Planning Committee is composed of representatives from 10 counties in East Central Alabama and this was a great opportunity to expose them to the concept of urban forestry. **Barry Broach**, city planner in Florence, discussed his city's active role in urban forestry. District Forester **Sam Gravel** explained how communities could start a program, and **Neil Letson** detailed the requirements of Tree City USA. **Bill Moody**, state forester, was the keynote speaker who, as usual, stimulated the audience. Planning Committee Chairman **Leon Smith** served as the moderator. Hats off to Calhoun County folks **David Morris**, **Stan Cook** and **Charlie Glazner** for organizing the event.

The **Mountain Lakes Chapter of the Society of American Foresters** has been very active in community activities this year. To date, the following projects have been completed: (1) Forestry Career Night for High School and college held at Alabama A & M University; (2) Earth Day exhibit at Braham Springs Park, Huntsville; (3) Purchased 15 posters for distribution on billboards in Decatur, Huntsville, Guntersville and Ft. Payne; (4) Earth Day exhibit at Burritt Museum (TREASURE Forest) in Madison County. The chapter's purpose is to become visibly involved in local environmental activities and promote forestry and its profession.

A joint **Coosa Valley RC&D/Alabama Forestry Commission/U.S. Forest Service/Alabama Forest Landowners Association (AFOA)** project was implemented

recently based around Cheaha State Park. It consists of a Forestry Auto Tour of specific environmental activities and sites. Landowners and the public utilize a tour guide describing each specific stop and travel the 60+ mile route at their leisure. Several area consultant foresters assisted in the development of the project. For more information, contact **Lee Laechelt** at the Birmingham AFC office.

Urban Forestry continues to be a popular topic with communities in Etowah, Marshall, and DeKalb county conducting programs. The **Guntersville City Tree Commission**, **Wharton Bend** community and the **Garden Club of Alabama's District II** all sponsored programs relating to urban tree care and environmental concerns about forestry. Local AFC personnel assisted in organizing and Management Forester **Brian Bradley** presented the programs.

DISTRICT

2

Governor **Guy Hunt** and First Lady **Helen Hunt** were recently on hand in Cullman to officially kick off the Alabama PALS

"Don't Drop It On Alabama" Spring Cleanup press conference. The statewide cleanup was held in conjunction with Earth Day. Approximately 110 people were on hand for the press conference and kickoff which was sponsored by the **Cullman County PALS Chapter**. Following the festivities, Governor Hunt, his grandchildren, and members of his staff cleaned a mile of Highway 69 near Fairview in Cullman County.

Over 160 people recently met for St. Clair County's Second Annual Forestry Trade Show, held at the Pell City Civic Center. The annual event is sponsored by the **St. Clair County Forestry Planning Committee**. Participants had an opportunity to browse through 16 exhibits on forestry, wildlife, and environmental issues before being treated to a free barbecue dinner. Following dinner, the slate of guest speakers included State Forester **Bill Moody**; **Harry Murphy**, retired executive from Resource Management; and **Bob Waters**, retired Department of Conservation wildlife biologist and freelance writer.

The **Walker County Forestry Planning Committee** recently sponsored a Forestry Show at the Jasper Mall. The importance of the forest industry in the county was the theme of the show. Over 1,800 people stopped at the AFC exhibit and Smokey Bear appeared as a special guest for the children.

State Forester **Bill Moody** was the recent special guest in Cullman County where he spoke at the Cullman Cham-

ber of Commerce Early Bird Breakfast, followed by a presentation at the monthly Rural Development Committee meeting. Mr. Moody's presentations were on the forest industry and its importance to Cullman County.

St. Clair County Supervisor **Gary Hamilton** was honored recently for his 25 years of service to the AFC. State Forester **Bill Moody** along with District Forester **Bart Williams** presented Hamilton with his 25-year service pin. Gary has been based in St. Clair County throughout his career with the Commission.

The **Walker County Forestry Planning Committee** sponsored a project recently where over 1,000 pine seedlings were given to third grade students in Walker County Schools.

Jefferson County Supervisor **Greg Kelsoe** has been working at the new nature trail at **Vulcan Park** in Birmingham, assisting in developing a guided dendrology tour. The tour was one of many Earth Day activities held in Birmingham.

Blount County Ranger **Steve Bowden** recently instructed a class on "Awareness Operational Level of Hazardous Material Training" to approximately 60 people from Mt. High and Nectar Fire Departments, the Blount County Commission and county departments, and the Sheriff's Department.

Associates from St. Clair County were busy during the month of February cleaning up damage from tomados that struck the county. St. Clair rangers were among the first emergency teams to arrive on the scene. They were busy for several days assisting fire departments, county road crews, and providing assistance to county residents who were affected by the storms.

The **Tutwiler Volunteer Fire Department** in Walker County recently held an open house and dedication of their new fire station.

Jefferson County Rangers have recently conducted seven school and scout programs in the area, involving over 350 children from kindergarten to the sixth grade.

A two-day "Wildland Fire Suppression" school was taught by Blount Ranger **Steve Bowden** to members of Bangor, Mt. High, West Blount, Ricetown, Nectar, Susan Moore, Brooksville, and Royal fire departments.

Walker County Supervisor **Dan Jackson** recently appeared on Channel 55 in Jasper for a television program on forest fire prevention.

Blount County associates **Bill Burks**, **Gladys Daily** and **Jim Walker** have been working with the Blount Coun-

ty Commission and local garden clubs in covering several illegal dumps along roadsides in the county. Following the cleanup, wildflower seeds are planted in the area to encourage people not to resume dumping at the site. The local radio station and newspaper have been very supportive in the cleanup efforts.

Members of the **Springville FFA Forestry Judging Team** received first place honors recently at the St. Clair Forestry Judging Contest held on the TREASURE Forest of **Bill Carleton** near Pell City. **Ragland High School** placed second and **Ashtville High School** was third. **Jim Keith** of Springville won Individual High Scorer honors. Prize money and trophies were donated by **International Forest Seed Company**. The event is an annual project of the **St. Clair Forestry Planning Committee**.

St. Clair County Forestry Worker **Sandra Jones** was recently elected as secretary of the **St. Clair County Firefighters Association**. Ranger **Dennis Underwood** was elected as training officer.

Ashtville High School in St. Clair County was the site of the District FFA Forestry Judging Contest. Supervisor **Gary Hamilton** served as official judge of the contest.

St. Clair Ranger **Tim Davis** presented a program on "Forestry as a Career" at the Duran School Career Day. Tim spoke to the 6th, 7th, and 8th grade students on the benefits of staying in school and the rewards of becoming involved in a forestry related field.

In cooperation with Arbor Day, the **Walker County Forestry Planning Committee** held a tree planting ceremony at the county courthouse. A redbud tree was planted by members of the committee and local dignitaries.

District 2 had several associates attending the 1990 edition of the Spring Academy: **Willie Holston** of St. Clair, **Lewis Nix** of Winston, **Bob Miller** of Shelby, and **Bryan Langford** of Jefferson.

DISTRICT

3

Local residents got their first glimpse of the new Tuscaloosa County Ranger's Office at an open house in April. The new facility is on U.S. Highway 82 West, next door to the District 3 Headquarters in Northport. The 1,600 square foot building replaces a mobile home at the Smith-Westervelt Tower in Buhl.

During the opening ceremony, State Forester **Bill Moody** presented a TREASURE Forest Award to the McGiffert Family of Tuscaloosa. **David McGiffert, Sr.**, and his three sons—**Allen, Price** and **David, Jr.**—were commended for management of their 870-acre tract of land five miles south of Tuscaloosa in the Moody Swamp area.

Tuscaloosa County Ranger **Harry Kepler** said the McGiffert land is being used primarily for wildlife, but also for timber. He said there are all kinds of wildlife on the land including deer, turkeys, rabbits, squirrels, wood ducks and quails.

Also during the ceremony the Jemison Oak was named to the Alabama Famous and Historic Tree Program. The white oak, which honors the late Robert Jemison, Jr., is on the grounds in front of the new office. The Jemison Oak was featured in the spring edition of *Alabama's TREASURED Forests*. The tree was nominated by District Forester **Wayne Strawbridge**.

Congratulations to the newest members of the District 3 TREASURE Forest family. Certified by the last services subcommittee were **Joe Hollis** of Columbus, MS and **James Cecil Shirley** of Gordo. Both of these new TREASURE Forests are in Pickens County.

Receiving recertification were **George Lowrey** and **James D. Oswald** of Fayette County, and **J. F. Ranier, Hugh Summerville, Richard Walters, H.E. Windle, Steve Skelton** and **James Emmett Gunnels** of Pickens County.

Production Credit presented an informative program to 14 TREASURE Forest landowners in Sumter County. The company has a new loan option available on timberland.

Tuscaloosa County's progress in organizing itself to fight litter has merited a Proud County Award from People Against a Littered State (PALS).

Pickens County and Lamar County have formed PALS chapters, and look forward to education and law enforcement efforts to combat litter.

DISTRICT

5

Chilton County Rangers **Tim Albritton** and **Mike Cleecker** presented a program to Webelos Scouts in Clanton on March 6. The presentation was designed to assist the scouts in obtaining their forester badge. On April 10, Chilton County Rangers assisted in presenting a PALS program to all county schools. **Woodsy Owl** and **Seymour the Dinosaur** visited hundreds of school children.

TREASURE Forest Certificates were awarded to three Marengo County landowners on February 16 at a ceremony

held at the AFC Marengo County Office. Receiving their TREASURE Forest Awards were **Dr. William Bridges, Chuck Kelley, and George Jensen**, all residents of Mobile. Assisting in the awards presentation were State Representative **Harrel Blakeney**; State Senator **Rick Manley**; Assistant State Forester **Charles Pigg**; District Forester **Larry Brooks**; and Marengo County Supervisor **Allen Black**.

On February 26, Marengo County Landowner **Eva Belle Woolf** received her TREASURE Forest Award at a special ceremony at Campground Methodist Church south of Linden. Over 50 people attended the ceremony including several members of Mrs. Woolf's family: State Senator **Rick Manly**; District Forester **Larry Brooks**; Marengo County TREASURE Forest Landowner **Janie Jordan**; Marengo County Commission President and TF Landowner **Jerry Loftin**; and Marengo County Supervisor **Allen Black** and his staff. Speakers at the ceremony included Marengo County TF Landowner **Buck Compton**, who assists Mrs. Woolf in managing her timberland. A camp stew lunch was enjoyed by all attendees.

A group of **Canadian Forest Service** and **USFS Officials** toured Alabama's first TREASURE Forest, which is **PineLand** at Myrtlewood in Marengo County on April 18. The group looked specifically at pine management on the **Kelly Mosely** property. The **Marengo County Forestry Committee** assisted with the tour. **Larkin Wade**, with Auburn University Extension, and **Steve Nix** with the AFC also joined in the tour.

DISTRICT

6

A special thanks to **Lou Hyman** for coming to Dothan during Arbor Week and helping with several programs. Lou was the keynote speaker at the new **Juvenile Services** building and at **Beverly Middle School**.

Dr. Doug McGinty, from Huntingdon College in Montgomery, was the speaker at the last **Houston County Forestry Association** meeting. **Dr. McGinty** spoke on native wildflowers in Alabama. Thirty people attended the meeting.

The Houston County AFC hosted a field day on the TREASURE Forest of **McCallister Farms**. Stops included prescribed burning with **Tracy Lawrence**, herbicides with **Barry Lawrence**, wildlife enhancement with **Wil Maddox**, Dept. of Conservation, and cost-share programs with **Ben Moore**, SCS. Lunch was furnished to the 60 attendees.

Thomas Harris recently presented the **Houston County Volunteer Firefighter Association** with a \$500 check from the AFC. This is a small incentive to keep up the good work.

The Houston County AFC office would like to commend **Thomas Harris** for the unselfish time he spent helping with the flood victims and workers. Thomas took time off from work to help feed these individuals through the Southern Baptist Convention.

Houston County Ranger **Tracy Lawrence** has been selected as vice chairman of a newly formed Alabama Wildlife Federation chapter in Dothan.

Henry County held a ceremony in February in which Abbeville was declared a Tree City USA. On hand to make the presentation was AFC Education Division Director **Cynthia Page**, District Forester **Franklin McAliley**, District Management Specialist **Barry Lawrence**, and Henry County Personnel **Kenneth Blalock, Chris Murphy** and **Steve Snuggs**. Abbeville Mayor **Jimmy Crawford** received the acknowledgement for the city as members of the city council, different garden clubs and several prominent business leaders looked on. Congratulations to the City of Abbeville!

Landowners have planted 1,063 acres of trees under the CRP program in Geneva County. Hopefully these are future TREASURE Forest landowners! Many landowners are now ready to start herbaceous weed control methods on newly planted areas.

Several TREASURE Forest landowners have joined forces with the **Geneva County PALS** chapter to help Geneva become a better place to live.

An Earth Day and county-wide cleanup was completed in Geneva County on April 22. There was a lot of effort put into the cleanup and you can really see a difference.

Coffee County AFC personnel have been busy prescribe burning and maintaining permanent firelanes on several TREASURE Forest and potential TREASURE Forest landowner's property. Firelanes were pushed and 45 acres burned on **Dr. J.E. Pittman's** TREASURE Forest. Fifty-five acres were burned and firelanes reopened on **Fleetwood** and **Mary Carnley's** TREASURE Forest. Prescribe burning of 180 acres was done for the TREASURE Forest belonging to the **Flournoy Whitman Estate**. Management assistance and prescribe burning of 40 acres was done on the **Jack Harrell** property.

The **Dale County Forest Landowners Association** had a program on taxes and estate planning.

The Dale County AFC has been working with TREASURE seeker **Vic Barrios** to finish firelanes and prescribe burning.

A tax program was presented to the **Barbour County Landowners Association** meeting in January by **Harold Curry**, a CPA in Clayton. March's meeting featured a program on wildlife photography by **Buck Taylor**, who is a sports writer and photographer, as well as president of the Landowners Association.

David Gullede has been helping the Southeastern Unit of the Sheriff's Boy Ranch prepare for TREASURE Forest certification. The residents and staff have worked hard developing food plots and riding trails.

Arbor Day in Eufaula was celebrated by planting a Memorial Tree to **V.G. Pappas**. Mr. Pappas was a business, civic, and church leader in Eufaula who passed away last year. The tree commission will accept nominations for a Memorial Tree each year to note the life of a valued citizen and service to the community.

DISTRICT

7

Covington County presented new TREASURE Forest landowner **Jack Floyd** his certification on April 10 at a Forestry Planning Committee meeting.

The **Covington County Planning Committee** sponsored a landowner tour on April 12. The program explained the economic feasibility of pine straw production. The first site visit was at an area where straw was recently harvested. The tour then visited a pine straw harvesting operation.

Butler County Forester **Paul Hudgins** and Area Wildlife Biologist **Jim Schrenkle** visited the property of TREASURE Forest landowner **Dr. George Inge**. They discussed future management plans with **Dr. Inge**. The **Butler County Forestry Planning Committee** is making plans for a National Fishing Day at TREASURE Forest **Sherling Lake Park** in the near future.

The **Escambia County Planning Committee** held a Wild Turkey Management Seminar at the District Headquarters in Brewton. Guest speakers were **Dr. Lee Stribling** and **Ken Tucker**. Fried catfish with all the trimmings was served following the meeting.

Conecuh County Supervisor **Victor Howell** presented an Arbor Day program to Evergreen Middle School. A tree was planted on the school grounds to commemorate Arbor Day.

Two TREASURE Forest Awards were presented in Conecuh County on March 16. **Mr. C.T. Ivey** received his certificate, and **Mrs. Mary Stem** was posthumously awarded her certificate. Mrs. Stem's family accepted the award on her behalf. Her husband, children and grandchildren were presented with the sign and certificate.

Ranger **Robert Taylor** is assisting Hillcrest FFA groups in planting an orchard as a project.

Congratulations to **Wayne Colin, Jr.** for his land's recent certification as a TREASURE Forest in Crenshaw County.

The **Monroe County Forestry Planning Committee** and AFC personnel have been busy organizing the "Make Monroe Beautiful" campaign. The two week litter contest began on April 21 in conjunction with Earth Day and the statewide cleanup day. Each bag of roadside garbage was worth one raffle ticket and a \$1,000 grand prize drawing was held May 5.

The Monroe County AFC and the Soil Conservation Service held a tree giveaway on February 22. Over 225 people came by the Monroe County office to receive free trees.

Rangers **Tony Chandler** and **David Kelley** assisted with the Crenshaw County FFA Soil Judging Contest on April 6. They have also been helping the forestry judging teams prepare for county and district competition.

Butler County Forester **Paul Hudgins**, Area Biologist **Jim Shrenkle**, and Rocky Creek Forester **Kevin Cramer** hosted the Boy Scouts on April 21. A tour of Union Camp's Chapman mill and the Butler County Wildlife Management Area were among some of the day's highlights. They also planted a tree commemorating Earth Day.

Conecuh County Supervisor **Victor Howell** presented various Earth Day programs promoting stewardship of the land to school groups.

The District Seven FFA Judging Contest was held in Atmore on April 6. **Gib Burke**, management specialist, organized the contest. Escambia County Ranger **Randy Cannon** and **Madeline Hildreth** assisted him in setting up the event. Thanks to **Robert Knowles, Victor Howell** and **Steve Lloyd** for their help. Good luck to **Monroe County AVC** and **WS Neal** as they go to state competition.

Escambia County Forestry Planning Committee members participated in the state cleanup by picking up 35 bags of trash.

The **Mobile Forestry Planning Committee** sponsored a landowner tour in January. The theme of the tour was "Forestry and Fire." The group toured the site of a 1987 devastating wildfire and a prescribe burned site. Landowners were shown the benefits of

prescribe burning. Special emphasis was placed on smoke management. District Forester **Stanley Anderson** gave a presentation in February to the **Bay Minette Kiwanis Club** on the "Globalization of Alabama's Forest Products."

Several tree giveaway projects were held in District 8 during Arbor Week. Clarke County AFC associates distributed seedlings to over 150 citizens. In Choctaw County tree giveaways were held in Butler, Gilbertown and Silas. Over 100 Choctaw County landowners received seedlings. Washington County citizens received seedlings at a tree giveaway held in Fairford.

The **Mobile Tree Commission** held their annual tree giveaway at the fairgrounds during Arbor Week. AFC forest rangers provided an exhibit at the tree giveaway and helped Smokey Bear deliver his wildfire prevention messages. As part of their Arbor Week celebration the **Mobile Tree Commission** sponsored a memorial tree planting at Beville Square in downtown Mobile. Forester **Steve Lyda** and Forest Rangers **Bobby McAdams** and **Ronnie Grider** participated in the ceremony.

As part of their Adopt-A-School project at the **Bryant Vocational Center**, Mobile County forest rangers and State Pest Management Specialist **Tim Gothard** presented a lesson to the forestry class on forest insect and diseases.

Mobile County Forest Rangers **Bobby McAdams** and **Ronnie Grider** and Information Specialist **Melanie Curry** have been working with the **Saraland Woman's Club** in their efforts in starting an urban forestry program in Saraland.

Clarke County Forest Ranger **Randy Kinman** and Forester **Mike Breedlove** conducted the county FFA Forestry Judging Contest at the Maubilla Boy Scout Reservation on March 28. The Clarke County High School Blue/Gold Team took first place.

TREASURE Forest Landowner **Cecil Tanner** hosted the Mobile County FFA Forestry Judging Contest. AFC Forest Rangers **Major Harris**, **Bobby McAdams** and County Forester **Steve Lyda** conducted the contest.

The Washington County FFA Forestry Judging Contest was held at the AFC county office and coordinated by County Forester **Lynn Sullivan**.

Brian Hendricks, AFC forester in Choctaw County, helped a third grade class in Lisman with their March 9th tree planting project.

Smokey Bear, assisted by **Brian Hendricks**, made a special appearance at the Choctaw County Special Olympics.

District Forest Management Specialist **Larry Grable** gave a presentation on the importance of forestry to the students of **Old Spanish Fort Christian School**. District Fire Specialist **Charles Rawls**, and Baldwin County Rangers **James Travis** and **Kenneth Lee** assisted with the program's focus on wildfire prevention. Students got to see AFC fire suppression equipment and to the surprise of the students, AFC Pilot **Langston Rowe** flew over in the AFC airplane to show how the AFC detects wildfires in Alabama.

Arbor Week was celebrated with special programs in all cities and counties in District 9. A highlight of the week was the annual Wal-Mart tree giveaway. Thousands of seedlings were purchased by Wal-Mart and given to their customers by AFC personnel.

Arbor Week place mats were used in Florence restaurants. These were provided by the **Florence City Tree Commission** and **Champion International**.

Hamilton and Sheffield have received their Tree City USA certification. **Billy Rye** presented Sheffield with a flag and plaque at a luncheon held in Sheffield. In Hamilton, the whole town turned out and the high school band played for their Tree City Award program.

The Colbert County AFC and the Colbert Heights FFA Chapter held a Forest Products Seminar at **Colbert Heights School**. Ford Lumber Company helped sponsor this program. Speakers were from TVA in Norris, Tennessee.

The **Franklin County Chamber of Commerce** presented two beautification awards to the Alabama Forestry Commission. **Rick Banks** accepted one award for PALS and another for the AFC's effort to clean up the litter in Franklin County.

Earth Day activities included a big riverside cleanup sponsored by the Colbert and Lauderdale County PALS. TVA provided T-shirts in exchange for bringing in trash. Other Earth Day activities included an Earth Day Celebration held in Decatur. A large crowd viewed a special Earth Day exhibit by the AFC and received free loblolly pine seedlings.

The Franklin County AFC and the **Franklin County Forestry Planning Committee** are developing an Arboretum at the **Northwest Jr. College** in Phil Campbell. The arboretum will be on the **Cecil Clapp Nature Trail**. Mr. Clapp was the first forestry instructor at Northwest Jr. College.

Don Burdette has developed a Forestry Assistance Directory for Northwest Alabama. The directory lists all vendors and consultants providing services to the district.

The **Lauderdale County Forestry Planning Committee** recently presented TREASURE Forest Awards to two families. The estate of the late **Emily George** and timberlands owned by **H.W. Killen** were designated TREASURE Forests. **Nancy Danley**, who is caretaker of the Killens' property, said she became involved in the TREASURE Forest Program to protect her 92-year-old parents' investment. The land was losing money, and maintaining the property under the TREASURE Forest program has increased its value.

A new PALS chapter got off to a good start with two donations of \$1,000 each from the **Lauderdale County Commission** and the **Florence Times**.

Louise Bone developed a program on "Landscaping for Wildlife," which has been presented to local garden clubs.

The **Garden Clubs of Alabama** held a statewide workshop in Tuscumbia. The AFC display "How Trees Effect our Environment" was part of the program. The presentation includes photographs on wildlife, aesthetics, clean air and clean water.

Cliff Cobb started early teaching about Earth Day by speaking to a group of ladies from a local garden club about trees and the environment in February. The discussion was not limited to that subject, however; when he finished his presentation the ladies asked questions on subjects from wildfires to urban forestry.

The City of Auburn celebrated Arbor Week with a number of projects: distribution of a new master tree plan for Auburn, beautification project in memory of former Alabama Forestry Commission associate **Randy Quick**, a Nature Study Area, and hardwood plantings on the grounds of the local elementary school.

Russell County Associate **David Boozer** and County Supervisor **Melvin Phelps** assisted Phenix City with their annual Arbor Day celebration by helping to distribute 2,500 hardwood and conifer seedlings. The Arbor Day events also included a concert by the Central High School Band, presentation of the new Tree City flag and presentation of a trophy from the National Arbor Day Foundation for being a Tree City for five years.

Elmore County AFC associates developed 105 Arbor Day Teacher's Packets which were distributed and used by teachers for grades K-6 at Wetumpka and Eclectic Elementary Schools.

Arbor Week was celebrated in a big way in Elmore County this year. The **Wetumpka Tree Commission** planted five 15-foot trees at the Elmore County Courthouse. Late Mayor **Jeanette Barrett** was honored by the planting of her favorite tree, a Southern Magnolia, in her memory. The entrance to Wetumpka was further beautified by planting an additional 10 trees averaging 15 feet. Extension Agent **Rick Beachamp**, AFC associate **Jimmy Foreman** and County Supervisor **Lynn Justiss** were busy giving Arbor Day programs to several elementary schools, a kindergarten, and a 4-H Club. Over 600 hardwood seedlings were given to the children. In addition, a total of 10 trees were planted at the two elementary schools by the Wetumpka Tree Commission. Over 1,500 hardwood seedlings were distributed to citizens in the communities of Coosada, Eclectic, Millbrook, Tallassee and Wetumpka.

The newly formed **Union Springs Tree Commission** celebrated Arbor Day this year. Bullock County Supervisor **Otis French**, Tree Commission Chairman **Brian Agnew** and District Urban Forestry Coordinator **Sharon Clark**, gave a program in celebration of Arbor Day. A tree was planted in the public park in honor of Arbor Day by **Cal Lavery** of Union Camp, TREASURE Forest owner **Arron Sellers**, Mayor **Wayne Chancey**, County Commission Chairman **John Will Waters**, and **Otis French**. Hardwood seedlings donated by the AFC were given away and a local nursery also donated loblolly pine seedlings to give away. Montgomery County Associate **Tommy Wilson** was busy during Arbor Week giving school programs to nine Montgomery County and city schools. The annual Arbor Day program was held at Oak Park in the City of Montgomery again this year. Mayor **Emory Folmar** was presented Montgomery's Tree City Recertification. Montgomery County Supervisor **Bruce Johnson** and State Urban Forestry Coordinator **Neil Letson** gave away 150 tree packets, each containing dogwood, redbud, white oak and loblolly pine.

County Supervisor **Bill Davis** and associates **Juan Burnette** and **Arthur Grant** were kept busy distributing 2,500 hardwood seedlings in the communities of Fort Deposit and Hayneville during Arbor Week.

District Urban Forestry Coordinator **Sharon Clark** gave a presentation on trees and the environment for an Arbor Day celebration in Opelika. The programs also included recognition of school winners for an essay contest which was held in recognition of Arbor Week and trees were distributed to the attending public.

The **Montgomery County Natural Resource Committee** met in March to make plans for the upcoming landowner meetings this summer. Topics will be forest taxation and the role of the private forestry consultant.

District 10 wishes to congratulate another member of our family for gaining the honor of becoming a TREASURE Forest landowner. Lowndes County Supervisor **Bill Davis** and his wife **Pat** were recently certified as TREASURE Forest landowners. **Bill** and **Pat's** TREASURE Forest brings the number of District 10 associates and families who own TREASURE Forests to three.

Bill Davis and Staff Forester **Sharon Clark** were recently recognized by the **Lowndes County Extension Service** by being presented 4-H Leadership Awards for their work with the 4-H Forestry Team who have taken second and third in state competition the last two years. The team is going for first this year.

Earth Day and the PALS Spring Cleanup was celebrated throughout District 10. In the city of Montgomery, **Huntingdon College** had a week set aside for Earth Day. Mr. Moody presented the college with a plaque for having the **Champion Bur Oak**. The school also planted 10 trees to honor Earth Day. On Earth Day **Lou Hyman** of the AFC, **Wallace Graham** with the U.S. Forest Service and **Linda Best** with PALS had booths set up for an afternoon festival at Huntingdon. **Cliff Cobb**, alias Smokey Bear, was on hand to speak on fire prevention and PALS mascot Seymour represented the fight against litter. The **Montgomery PALS Chapter** helped with a local radio station's recycling effort. **Lou Hyman** and **Sharon Clark** of the AFC and **Joy Patty** and **Jack Reichert** of the U.S. Forest Service manned booths at the two malls in Montgomery and distributed information about Earth Day and forestry. In Elmore County a poster contest was held. Adopt-A-Miles were cleaned, and the local PALS chapter picked up litter along two state highways. Several Earth Day programs were held in local schools. The **Lee County PALS Chapter's** main thrust was to clean all Adopt-A-Miles in the county, a big job since they have adopted over 100 miles.

The **Lowndes Forestry Planning Committee** held an indoor Hardwood Management Meeting in April. Speakers were **Tom Cambre** of the AFC and **Dr. Bob Jones** of the Extension Service with Auburn University. The meeting was very informative and an outdoor session is being planned for summer. ♠

CALENDAR

July 17-19—Montgomery, AL. Alabama Farmers Federation Annual Commodity Producers Conference, Montgomery Civic Center. Seminars and field trips. Contact Steve Guy, 1-800-392-5705.

July 29-August 1—Washington, D.C. Society of American Foresters Annual Convention. Contact Richard Reid, 301-897-8720.

August 20-22—Athens, GA. Growth and Yield Prediction and Quantitative Stand-level Management Planning, a Univ. of GA short course. Contact Richard C. Field, Georgia Center for Continuing Education, Athens, GA 30602; 404-542-3063.

October 11-12—Mobile, AL. Seventh Alabama Landowner and TREASURE Forest Conference. Indoor and outdoor sessions. For registration information see page 31 of this issue.

October 15-17—Athens, GA. Herbicides in Forestry, a Univ. of GA short course. Contact Richard C. Field, Georgia Center for Continuing Education, Athens, GA 30602; 404-542-3063.

December 6-7—Athens, GA. Timber Income Tax, a Univ. of GA short course. Contact Richard C. Field, Georgia Center for Continuing Education, Athens, GA 30602; 404-542-3063.

Take Control Of Your Pond From Weeds

by JOHN W. JENSEN, Fisheries Specialist, Auburn University

The invasion of slimy, stinky water weeds is experienced by all pond owners from time to time. Pond weeds cause problems ranging from minor nuisances to catastrophes such as complete fish kills.

Pond weeds are aquatic plants that are viewed by man as undesirable. They include microscopic and filamentous algae, submerged weeds such as coontain and milfoil, floating weeds such as duckweed and water hyacinth, emergent varieties such as cattails and willows, and lily pads such as dollar bonnet and fragrant water lily. They interfere with fishing, make swimming and boating difficult or impossible, cause foul odors and undesirable flavors in fish, lead to excessive water loss through transpiration and are often unsightly. Contrary to what most people believe, weeds usually reduce fish populations.

Hundreds of pond owners contact me each year for information on how to control weeds that have gotten out of control. Unfortunately, proper management would have prevented severe weed infestations and allowed continued enjoyment of their ponds. Prevention and early control are the keys to management. When you see a problem, don't ignore it or try to wish it away. Once established, problem pond weeds usually become more severe; often to the point where control is very costly and nearly impossible.

Prevention

You can assume that wherever there is a pond, weeds will invade it. Plant spores, seeds and fragments can move from place to place by air currents, birds, animals, boats and motors, and nets. Preventing their establishment is the most critical key to managing them. The two principle methods of prevention are proper pond construction and fertilizations.

A pond should be built so that its watershed is large enough to keep it full, or nearly full, throughout the year. However, large quantities of excess water flowing through the pond should be diverted if fertilizer is to be added.

It is difficult for aquatic weeds to become established in deep water. How-

ever, once established in shallow areas, they gradually invade deeper water. Build your pond with steep banks that have a 1 to 1 or 1.5 slope until the water depth is at least 3 feet.

Fertilization of ponds is a practical and inexpensive way to prevent the establishment of aquatic vegetation and to increase fish production. Fertilization during spring, summer, and fall stimulates the growth of desirable microscopic algae (tiny plants suspended in the water) which shade the pond bottom preventing rooted aquatic weed growth.

In ponds with established aquatic weeds, plants generally become dormant during the winter. If fertilization is begun as weeds begin spring growth, they may not re-establish themselves. However, if fertilization is done when the weeds are growing, a heavier weed stand may result.

Water Level Control

Controlling the water level is another practical way to manage some aquatic weeds. As much as 90% of the submerged vegetation can be reduced by drawing down the water level for three successive winters. Expose at least one-half of the bottom to control submerged vegetation. Conduct the drawdown in late fall and do not allow the pond to refill until early spring.

Drawdown may spread needlerush and Hydrilla to new areas of a pond so do not use drawdown where these weeds are present.

Mechanical Control

When you see a potential weed problem, try to remove it by hand. Unfortunately, removing weeds by hand is only practical for small quantities of plants near the shore. Techniques such as cutting, mowing, raking, digging, and pulling can remove small isolated areas of cattails, sedges, and grasses.

There are machines for cutting pond weeds but they are too expensive for most pond owners. Mechanical weed cutters also leave behind many fragments that may deplete oxygen as they decompose. Often, live fragments form roots and colonize new areas. Therefore, harvesting pond weeds is costly;

it presents disposal problems, and sometimes encourages the weeds to spread.

Biological Control

There is considerable interest in finding new means of controlling pond weeds by using their natural enemies. So far, only the alligatorweed flea beetle and the grass carp (white amur) have shown promise. The alligatorweed flea beetle controls alligatorweed very well but the insect's establishment has been only partially successful.

On the other hand, the grass carp, a native of Russian and Chinese rivers, controls most submerged and some floating weeds. They can eat two to three times their own weight in aquatic plants each day and may gain five to 10 pounds per year. Stocked from five to 20 fish per acre, they control filamentous algae, submerged plants, duckweeds and water ferns. They are relatively inexpensive to stock and, compared to mechanical and chemical control methods, they may provide control for many years. TABLE 1 shows the recommended stocking rates per acre for grass carp.

Chemical Control

Sometimes pond weeds cannot be controlled by the methods mentioned, so herbicides must be used. Before you use a herbicide, identify the target weed correctly so that you choose the correct herbicide. Always read the label and follow its instructions carefully. Most aquatic herbicides should be applied during the spring when plants are young and growing rapidly because they are translocated in the plant so readily.

One of the biggest problems that can occur as a result of killing weeds with herbicides is low oxygen. When the dead aquatic plants decay, oxygen is used and when large quantities of plants are killed, a fish kill may occur. Therefore, it is best to treat about one-third of the problem at a time and apply subsequent treatments after oxygen concentrations have recovered. Oxygen problems are aggravated during summer when the water is warm; therefore, it is also best to treat

when water temperatures are between 70 and 80 degrees fahrenheit.

A list of herbicides, with trade names in parentheses, labeled for aquatic use are listed in **TABLE 2** with the type of weed they control.

If you want a weed identified or need recommendations on aquatic herbicide applications contact your county extension agent.

In summary, weeds don't have to ruin your pond. Proper pond construction and fertilization may help to prevent weed growth. If weeds do get started, act quickly. You can pull them up by hand or stock grass carp. Approved aquatic herbicides can also be used alone or in conjunction with other control methods to eliminate the weeds that are causing the problem. ♣

TABLE 1
Recommended Stocking Rates Per Acre for Grass Carp

Bass Situation	Degree of Weed Infestation		
	Slight	Moderate	Heavy
Ponds with bass; stock large fish, 8-12 inches	5/A	10-15/A	15-20/A
Ponds without bass; stock small fish, 2-6 inches	6-8/A	12-18/A	18-20/A

TABLE 2
Herbicide (trade name) Principle Target Weeds

Chelated copper compounds (Cutrine plus)	algae
Cooper sulfate (various trade names)	algae
Dalapon (Dowpon M, Dalapon 85)	cattails, bank grasses
Diquat (Diaquat Herbicide H/A, Weedtrine-D)	duckweed and many others
Endothall (Aquathol)	many submerged weeds
Fluridone (Sonar)	many submerged and emergent weeds
Glyphosate (Pondmaster or Rodeo)	many floating and emergent weeds
Simazine (Aquazine)	algae and submerged weeds
2, 4-D (various trade names)	lily pads, pondweed, milfoil



Dollar bonnet is a floating aquatic weed found in Alabama ponds. It causes problems around shorelines but can also cover entire ponds. Usually a herbicide treatment is necessary for its control.

Lyme Disease... It's Here



by KENNETH LESLIE,
Alabama Forestry
Commission, Selma

The spring and summer are prime times for outdoor activities. These prime times also extend invitations to many insects and other pests. One invitation is extended exclusively to ticks. These ticks, seemingly harmless, harbor the threat of Lyme disease.

Lyme disease is transmitted by the deer tick (*Ixodes dammini*), which is considerably smaller than the dog tick (*Dermacentor variabilis*). It is the dog tick which is associated with Rocky Mountain spotted fever.

Lyme disease originally had its roots in Europe before World War II, but its American roots evolved in its namesake, Lyme, Connecticut. In 1975, high incidences of what was thought to be juvenile rheumatoid arthritis occurred in the Lyme area east of the Connecticut River. During this time a rheumatologist, Allen Steere, investigated these abnormally high outbreaks. With the assistance of the Yale University School of Medicine, he correlated the arthritis to the deer tick's range and outdoor activity.

Steere thought the tick was to blame, but he lacked one thing to prove it: a bacterium. In the fall of 1981, biologists from the New York State Department of Health sent several deer ticks, for the purpose of testing for Rocky Mountain spotted fever, to the National Institute of Health (NIH) in Hamilton, Montana. After examining the digestive tracts of these ticks no fever bacterium was found, but Dr. Willy Burgdorfer found a corkscrew-shaped organism that looked like the bacterium that causes syphilis. In 1984, a name was assigned to this unknown organism—*Borrelia burgdorferi*, for its discoverer. Conclusive tests revealed *B. burgdorferi* transmitted by deer ticks causes Lyme disease.

Life Cycle of the Tick

There are several important hosts for the deer tick, and among these are birds, mice, deer, and man. Migratory birds play a major role in dispersing infected ticks to new locations. The expansion of Lyme disease is due to the tick's two-year life cycle. The tick's life cycle begins during the spring with the hatching of eggs. These eggs constitute about 500 emerging larvae and 10 percent of the larvae already carry Lyme disease.

By summer, the larvae attach to many woodland hosts, as previously mentioned, and the bacteria that causes Lyme disease spreads among the ticks. The ticks eventually fall from the hosts and remain in the ground litter through the first fall and winter. Progressing to next spring, the ticks molt into slightly larger nymphs. It is during this time that they are most likely to attach to man.

By fall they have become adults. Usually males require one final meal before mating and this meal is most often provided by the deer; occasionally a hunter is chosen. Male ticks die soon after mating; females continue feeding until engorged with blood and then drop from the host. The female tick lies dormant through winter, lays her eggs the following spring and dies, thus completing her life cycle. The deer tick may transmit the disease to humans during any stage of its life cycle.

Stages and Treatment

Lyme disease itself develops in three stages. The first stage occurs between two and 30 days after a tick bite. During this stage, flu-like symptoms may occur, such as a fever, backache, headache, sore throat, chills, vomiting or fatigue. Also, about 70 percent of victims experience a rash that often looks like a bulls-eye, white in the center and red on the outside.

The symptoms in stage two have many faces. About 15 percent of victims suffer neurological disorders, meningitis, encephalitis, and Bell's palsy (the paralysis of the cranial nerve which controls the facial muscles). Nearly 60 percent of the victims experience arthritis in the knees, pain in the hips, shoulders, ankles, or elbows. Also, a small minority of victims suffer cardiac complications which may require the temporary use of a pacemaker.

Stage three patients or victims may experience mental problems, chronic depression, memory loss, and a lack of concentration. Advanced nerve damage during this stage may resemble Alzheimer's disease or multiple sclerosis. Lyme disease may be as simple as a rash, or it can be a complicated illness that attacks nearly every system of the body. Only four states haven't reported cases of Lyme disease. Microbiologist Russell Johnson says, "If it weren't for AIDS, it would be the number one new disease facing us today."

Lyme disease is relatively young, therefore much is to be learned. Treatment methods and tests are steadily progressing. At present, tests are not 100 percent conclusive and false readings can occur if tested too soon. Measures aimed at controlling Lyme disease may take years. Doctors have noted that patients are often battling Lyme disease years after being diagnosed, because antibiotics aren't always effective. Doxycycline and amoxicillin are two commonly used antibiotics for the treatment of Lyme disease in its early stages. Advanced stages of the disease may be treated with intravenous antibiotics, such as cephalosporins like Rocephin and Claforan, which are very expensive.

Lyme Disease in Alabama

According to Dr. Charles Woernle, state epidemiologist with the Alabama Department of Public Health, physicians were asked to voluntarily begin reporting cases of Lyme disease in 1988. So far, there have been 47 cases of Lyme disease in the state reported by physicians, 15 of which were confirmed cases where a skin rash was present and lab tests were positive. The ages of those suspected to have the disease in Alabama range from one to 79, with half being male and half being female. Dr. Woernle says the actual number of cases is hard to pinpoint because Lyme disease is hard to diagnose and because the reporting of cases in Alabama is voluntary.

The increased concern for Lyme disease has initiated the search for new tests and cures. The goals are clear: an effective vaccine; a reliable diagnostic test for all stages of the disease; and an antibiotic that will safely knock out every trace of infection from the human body.

Protecting Yourself

The threat of Lyme disease shouldn't prevent anyone from fishing, hunting, or just enjoying the outdoors. By taking some simple precautions, you can almost eliminate your chance of getting Lyme disease.

- Wear light-colored clothing with long sleeves and trousers when outdoors.
- Tuck your pant legs in the top of your boots or socks.
- Wear shirts that have collars.
- Conduct "tick checks" on yourself and children every four to six hours when outdoors.
- Keep grass and weeds around your home trimmed.
- Shower or bathe and thoroughly wash your hair before going to bed.
- Use tick and flea collars on pets.
- The use of tick repellents and clothing sprays play a major role in keeping ticks off.

Lyme disease and its prevention should be taken seriously. Seek medical attention immediately if bitten by a tick or if you suspect any symptoms. ♣

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ALABAMA'S TIMBERLAND: CAN IT SUPPORT INDUSTRY?

by STEVE NIX, Resource Analyst, Alabama Forestry Commission

Over 65,000 workers in Alabama are paid \$1.4 billion each year to make paper, boards, poles, tables and chairs—forest products. Alabama companies annually ship out \$8 billion worth of forest products to domestic and foreign markets.

Existing Alabama forest products companies are eager to expand. New companies inquire daily about locations suitable for product production. The question is, can we sustain this production?

"Timber volumes in Alabama have increased steadily for more than 50 years," writes L. Keville Larson, a leading forestry consultant in Alabama. In a report entitled *An Alabama Timber Supply Perspective*, he suggests, "The acreage in timberland has increased . . . the estimated timber volume for Alabama is at the highest level in this century. Other private lands (nonforest industry) have a consistent history of building volume, with most of this timber available on the open market. These factors and the flexible nature of supply present a favorable situation for timber procurement."

Industry shares this optimism. The Alabama Development Office (ADO) indicates that 25 primary and secondary forest product manufacturers announced new or expanding forest industry investments of over \$800 million in 1988. This represents an increase of roughly 3,500 jobs.

With the announced construction project of Alabama River Pulp Company which will expand their present Monroe County site into the world's largest single pulp and paper production complex, the state's forest products industry needs such assurances. At stake is a resource supporting 284 pine and hardwood sawmills, 28 veneer mills, and 110 other primary producers of forest products.

U.S. Forest Service periodic surveys show a historical upward trend in volume and commercial timber acreage

and give reasonable indications for ample future supplies of both pulpwood and sawtimber. The Alabama Fourth Forest Study projects that softwood inventory in Alabama will experience a small decline, followed by a steady recovery.

There is debate, however, on hardwood supplies and concern about availability. Most likely the problem is regional in scope and is centered on local supplies and demand. General agreement within the forest community is that a heavier demand for hardwood pulp has increased the need to withdraw fiber from the hardwood timber "bank." Market and forest management corrections should quickly improve this situation.

Alabama's commercial forest is estimated to be just under 21.7 million acres. The total merchantable growing stock volume on these acres is over 21.7 billion cubic feet for an average of 1,014 cubic feet per acre. This roughly approximates 10 cords or 3,000 board feet in equivalent pulp or sawlog product volumes per acre.

Today's total commercial forestland is up almost a million acres (902.6 thousand acres) over the 1952 total. This four percent increase in land area lies in the shadow of a total volume increase of nearly 85 percent on net commercial forestland—11.7 billion cubic feet in 1952 versus 21.7 billion today.

An interesting note is that the largest volume increase occurred on lands of nonindustry, nongovernment ownerships; 64 percent of which are in this type. The "independent" forest owner has increased volume per acre by 22 percent since 1970 and will be rewarded at harvest time. This reward will not be lost on the forest industry.

The total net annual merchantable growth determined between 1972 and 1982 was 986.3 million cubic feet versus 854.8 million cubic feet removed—a net annual accrual of 131.5 million

cubic feet. This is analogous to a savings account earning interest, and by its very nature should have portions removed depending on alternate economic opportunities.

The Alabama Forestry Commission's *Timber Cash Receipt Report* (based on Alabama forestry severance tax records) indicates that removal in 1988 approached the average annual growth between 1972 and 1982. Nine hundred and eighty million cubic feet were reported cut last year.

Of the total 1988 harvest reported, 65 percent of the volume processed was pine while 35 percent was hardwood. Pulpwood made up 65 percent of the total harvest volume while only 35 percent was cut into sawtimber or used as other wood products such as poles and piles.

We are anxiously awaiting new survey results. The 1990 U.S. Forest Service Alabama Forestry Survey has started a year-and-a-half gathering of statistics that will help new and expanding mills in their decision making. Early indications suggest that past trends are continuing in North Alabama. It is too early to make predictions about Southwest Alabama's critical "woodbasket."

We are not running out of trees. We are not depleting our resource. Timber owners have been stockpiling volume each and every year since the first survey in 1952. Changing demands have put heavy pressure on selected sizes, grades, and species resulting in local spot shortages. The strong growth potential of Alabama's forest will enable these problems to be solved in the long run.

There is plenty of available timber on the open market without threat of serious supply interruption. Our timbered resource is infinitely renewable. The volume is certainly present and adequate for our immediate needs. Adaptations in wood product and harvesting technology will enable forestry to thrive well into the 21st century. ♣



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FORESTRY



Flying High

The Alabama Forestry Commission utilizes aviation in a variety of ways, from spotting Southern Pine Beetle infestations to detecting wildfires. Turn the page to read more about how the technology of aviation is having an impact on forestry.

Using Aviation in Fire Detection and Suppression

by RAY JONES, Chief Pilot, Alabama Forestry Commission

Since man has been on this earth, there have been three inventions that significantly changed and shaped the world. These are the wheel, automobile, and airplane. These inventions have produced dramatic changes, but the airplane has probably had the greatest impact worldwide.

After a tentative beginning, World War I established the airplane as a tool with which we could accomplish many wondrous things. It would have a profound effect on civilizations of the world. The airplane touches everyone in some way and allows most of us to enjoy the good life. The airplane is much more than an easy way to get from point A to point B. The airplane is the lifeblood that flows through the veins of commerce, and most businesses would cease to function effectively without the airplane to perform those jobs that only it can do.

Aviation is a very demanding field. It requires excellence from all the people associated with it. Aviation, like the sea, is very unforgiving of mistakes. It demands perfection from pilots, air traffic controllers, mechanics, the Federal Aviation Administration, manufacturers, and Flight Service Stations personnel. All of these people are dedicated to making aircraft safe for the user. Aviation is very rigidly controlled and regulated so the user can have confidence in the safety of air travel.

the fire, fire size, intensity, aspect, rate of spread, and direction of spread. He can see any man-made or natural barriers that could prevent the suppression crew from reaching the fire, assist suppression crews into the fire, and establish priorities so the dispatch center can selectively sort the fires for suppression importance. The pilot can loiter over a fire area for surveillance and he can also reconnoiter the fire area for information which may be useful to the suppression crews. Most Commission pilots have completed S-390, a fire behavior course. Therefore, they are qualified to be aerial fire bosses if needed, or at least give pertinent, reliable information about the fire so fire crews can safely attack it with minimum loss of acres.

The Commission has 23 aerial detection aircraft, flying up to 9,000 hours a year, with 96% of those hours spent detecting wildfires. The airplane has allowed us to reach unprecedented levels in controlling wildfires in the forests of Alabama in a cost effective way.

If we are to achieve our goals in fire control, the airplane will figure prominently in those successes. The airplane allows the pilot to look at all the forestlands in Alabama as much as two to three times a day. I believe we must increase this to three to four flights a day in some areas if we are to find and report the fires while they are still small, thereby allowing the suppression

crews to suppress more fires quickly. The 9,000 hours now flown during fire season will probably have to increase to approximately 10,000 hours to meet the increased demands in fire control. This will require two more airplanes strategically placed in the state.

The Alabama Forestry Commission acquired a helicopter through the Federal Excess Program to be used in our fire control program in 1988. The helicopter, with a water bucket attached, is used to suppress wildfires here in the state. The helicopter and a supporting team of firefighters can be very effective on wildfires.

The helicopter is going to play an important role in fire suppression here in Alabama as well as in other states. It is uniquely suited for fire control, extremely versatile, and can do many jobs on fires other than suppression. The helicopter is being used in most of the Southern and Western states and is providing necessary support to other fire suppression units.

I see the use of the helicopter here in Alabama having an impact on wildfire suppression within the next five years. Hopefully, this will be a period of major growth in the use of helicopters on fires. We must take advantage of this type of aircraft and all it has to offer to protect and preserve those natural renewable resources that are so important to the people of this state. ♣

Using Aviation in Forestry

Let's examine what the airplane has done for the Alabama Forestry Commission. The Commission began to use the airplane in a major way approximately 11 years ago. At that time, men with a vision saw the airplane as a better way to accomplish our mission of preserving and protecting the forests of Alabama; we went almost exclusively to the airplane to detect wildfires. The decision to go with the airplane was a bold move that has culminated in a fleet of 25 aircraft. This fleet performs many different jobs for the Commission.

The airplane offers many advantages in the detection of wildfires. The pilot can give the exact location of



Forestry Commission helicopter fighting fires with 96-gallon Bambi water bucket attached.

Seventh Alabama Landowner and TREASURE Forest Conference Mobile Civic Center—Mobile, Alabama—October 11-12, 1990

Registration Form

Name _____
(type or print)

Company _____
(list names of all attendees)

Address _____

City _____ State _____ Zip _____

Phone _____ County _____

County where you own land _____
(Only one county please; if you own land in more than one county, list the county in which you own the majority of your land.)

Category of Participant (Check appropriate categories)

_____ Private Forest Industry

_____ Landowner

_____ Agency*

_____ TREASURE Forest Landowner

*Employees of government agencies that are members of the Forestry Planning Committee. If you are a government agency employee and a landowner, check only the Agency Employee category.

Check Appropriate Choices:

_____ I will attend the meeting on Thursday.

_____ I will attend the banquet on Thursday night.

_____ I will attend outdoor session on Friday.

_____ I need _____ additional banquet tickets at \$15.

_____ I need _____ additional Friday luncheon tickets at \$10.

Registration Fee

There will be a \$35 registration fee. The registration fee includes both days' session, luncheon and banquet tickets. No registration fee refunds will be made after September 14, 1990.

Pre-Registration Deadline

The pre-registration deadline is September 14. Registration will be from 10 a.m. until 2 p.m. October 11.

The program begins promptly at 2 p.m. October 11 and will conclude at 1 p.m. October 12.

Mail upper portion of form and fee (payable to Alabama Forestry Conference) to:

Ms. Deloris Jones, Soil Conservation Service, P.O. Box 311, Auburn, AL 36830

Hotel/Motel Information

For your convenience several hotels/motels for the Landowner Conference are listed below. You will need to make your own reservations.

Stouffer Riverview Plaza
64 South Water Street
Mobile, AL 36602
438-4000

Admiral Semmes Radisson Hotel
251 Government Street
Mobile, AL 36602
432-8000

Malaga Inn
359 Church Street
Mobile, AL 36602
438-4701

Best Western Battleship Inn
2701 Battleship Parkway
Mobile, AL 36652
432-2703

ORDER SEEDLINGS NOW

The Alabama Forestry Commission has begun accepting orders for the 1990-91 planting season. If you need seedlings you are encouraged to order early, as some species of hardwood are in short supply. All loblolly and slash pines grown by the Commission are **SUPER TREES**, genetically improved for sites in Alabama. All seedlings are guaranteed to be of high quality, healthy and vigorous.

Payments and Refunds

Payment or a purchase order must accompany all orders. Orders of 50,000 or more seedlings will be accepted with a 10% down payment with the balance due on December 1. Orders are accepted on a first-come, first-serve basis which began June 1. Cancellation deadline is January 15. No refunds will be paid on cancellations after this date.

For more information about ordering seedlings, contact your local Alabama Forestry Commission office, or write:

**Nursery Section
Alabama Forestry Commission
513 Madison Avenue
Montgomery, AL 36130**

Hardwoods

White Oak
Overcup Oak
Sawtooth Oak
Sycamore
Sweetgum
Redbud

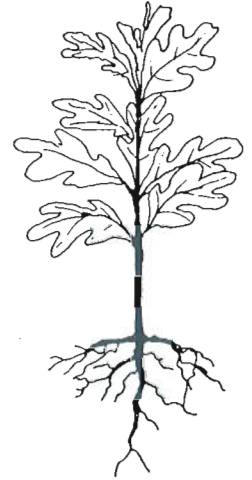
Water/Willow Oak
Swamp Chestnut Oak
Green Ash
Yellow Poplar
Dogwood

Quantity

100 - 200
600 - 1,000
1,000 - 2,500
2,600 - 5,000
5,100 - 10,000
10,100+

Price per 100

\$15.00
\$13.50
\$12.00
\$10.50
\$ 9.00
\$ 7.50



Pines

Loblolly Pine-SUPER TREES
Slash Pine-SUPER TREES
Virginia Pine (Christmas Trees)
Longleaf Pine

\$27.50 / 1,000
\$27.50 / 1,000
\$42.50 / 1,000
\$32.50 / 1,000

Lespedeza Thunbergii

\$27.50 / 1,000



Alabama's **TREASURED** Forests
513 Madison Avenue
Montgomery, AL 36130

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