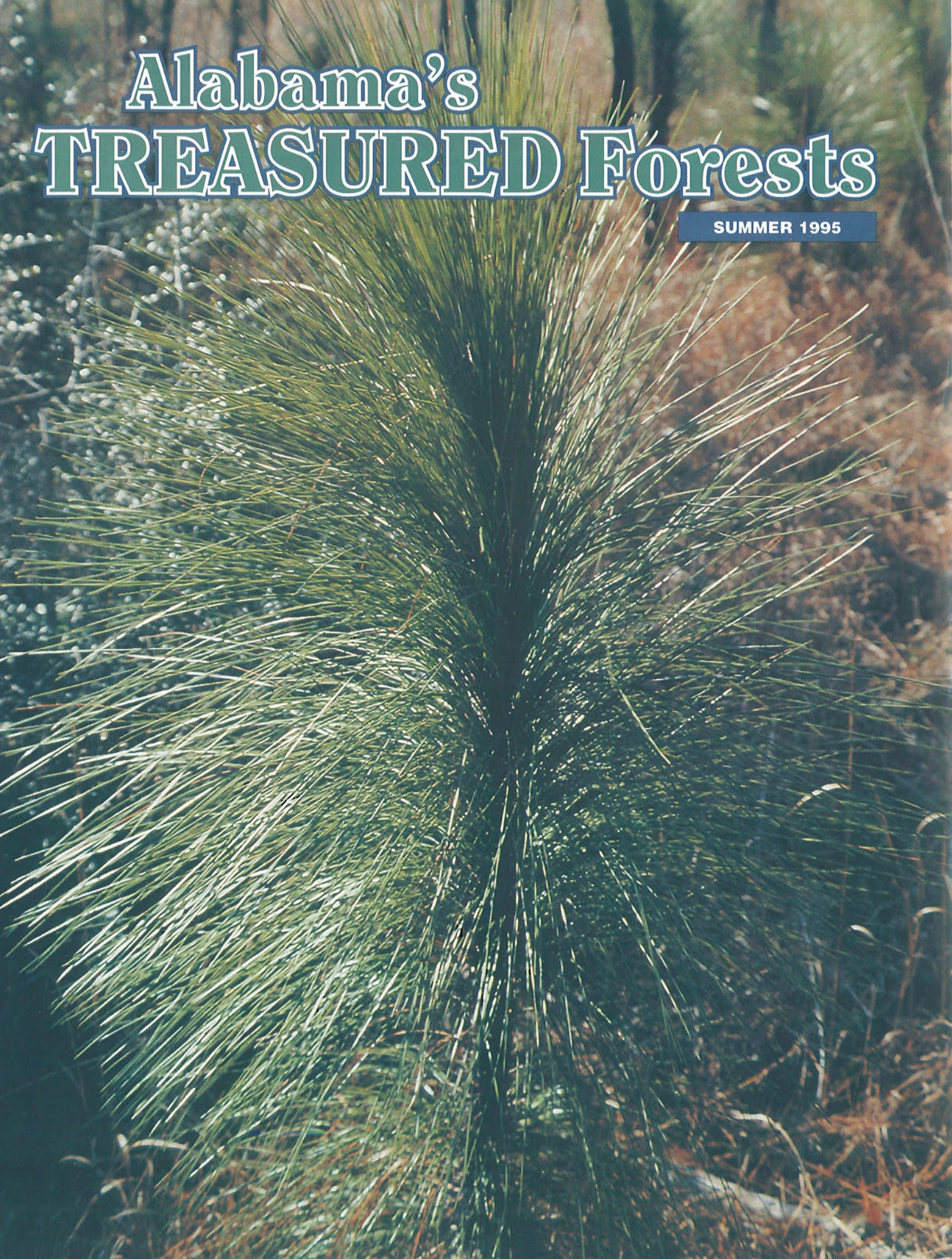


Alabama's TREASURED Forests

SUMMER 1995



STATE FORESTER'S MESSAGE

by TIMOTHY C. BOYCE, State Forester



We often say that the forests of Alabama are among our greatest natural resources because of the benefits they provide, but I want to recognize two groups of people who are working for the good of an even greater resource—our children.

Four years ago the Alabama Forestry Association and the Alabama Loggers Council initiated a statewide forestry campaign called “Log a Load for Kids.” All funds raised through the campaign are used to help sustain special medical facilities where Alabama’s critically ill and injured children are treated.

All forest landowners in Alabama and every person who depends on the forests for their livelihood are encouraged to participate in this effort, and literally thousands have responded with overwhelming support. More than \$450,000 was collected during the first three years, and the target for 1995 is \$250,000.

Support for the campaign comes in many ways. Many individuals in the forestry community donate the amount of money a logger would get for a load of logs—about \$300. Others choose to participate in events such as a fishing tournament, golfing tournament, equipment auction, and many other creative events to raise valuable dollars for children’s hospitals.

Since all administrative and support costs are covered by the sponsors, the children benefit from every dollar that is collected.

At some point in life, each of us has wished for a miracle. I applaud the dedication and commitment of the Alabama Forestry Association and the Alabama Loggers Council for making miracles happen for children in need.

Sincerely,

A handwritten signature in cursive script, reading "T. C. Boyce". The signature is written in dark ink on a white background.

Timothy C. Boyce
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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Alabama's TREASURED Forests

Volume XIV. No. 3

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COVER: The longleaf pine (*Pinus palustris*) is appropriately named for its long, bright-green needles. Longleaf grows very little above ground the first few years of its life. It is found most often in sandy soils and is distributed primarily in the lower two-thirds of Alabama. Read about game management and longleaf pine on pages 28-30 of this issue.

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Dedicated to Stewardship

by KIM GILLILAND, Editor



Food plots of clover are planted for wildlife.

The history of Dorothy Reynolds' TREASURE Forest unfolds as she turns the pages of her scrapbook. Barren fields turn into young planted pines and thriving plantations. Pride escapes the pages as well, and is in her voice as she talks about her accomplishments. "I'm the first one who ever planted a tree up there," she said of the property. "I think it's a legacy that I'll pass on to my children and grandchildren. It's not every person that can live to see a dream passed on."

Dedicated to Stewardship

And not every person has the dedication of someone like Dorothy Reynolds. Faced with the challenge of managing just over 900 acres, she has met it head on. "It's been hard, but I don't mind calling on folks," she said. "I listen to everybody and then I pick what I want to do."

Reynolds became a member of Union Camp's Private Landowner Utilization Service (PLUS) program in the early 1980s. Foresters in the PLUS program assist private landowners to manage for set goals and objectives. Over the years

they have given Reynolds management advice on planning, planting, insect and disease control, how to apply for cost-share programs, and timber sales. She has



Forester Steve Jennings explains to Dorothy how her trees have been marked for thinning.

also worked with the Soil Conservation Service and the Alabama Forestry Commission to manage her property.

Reynolds has made some good decisions over the years. The first was to begin planting 100 acres a year until all the sites suitable for pines were planted. Now there are approximately 400 acres of planted pines. A prescribed burning program began in 1994 and now all of the stands that are old enough have been burned. A thinning will take place this summer on about 200 acres, which includes planted pines and a few natural pine areas.

The soil type varies on the acreage, which is spread out over four parcels in Macon County. While a small portion is not suitable for loblolly pine, there is also some excellent soil for growing pines. Steve Jennings, a landowner assistance forester with Union Camp, is currently working with Reynolds. According to Jennings, she has some of the fastest growing 10-year-old pines he's ever seen, describing one stand as a "textbook example" of what good timber looks like. The success can be attributed to several factors. This particular 16-acre stand was planted on an

open field which had been used for rowcrops, so there was little vegetative competition for the seedlings. There may also have been a residual fertilization effect left over from when crops were planted. In any event, the trees are now 65- to 67-feet tall. "For a 10-year-old stand, that's just unbelievable," Jennings said.

During the first thinning, the very best trees are to be kept in the stand. These were marked with blue paint before the timber sale. The stand is on a 25-year sawtimber rotation. In another five years it will be thinned again, and in 10 to 12 more years, the final harvest will take place and the stand will be replanted.

Although she didn't start managing the property for its monetary aspect, Reynolds now realizes the potential. At first, she says, "It was fun and it was something to do. I never planned on cutting." She now understands the value of the trees and the importance of replanting after cutting. Working with professional foresters has also made her give top priority to spelling out clearly what she wants in a timber sale contract and understanding the bid process. "I want to get the very best price that I can," she said. Best Management Practices will also be strictly followed during the harvesting process, according to Reynolds.

Reynolds uses the many roads on the property as walking trails. She takes in

the natural beauty on her walks and is also able to monitor the progress of management activities.

The property is leased to a hunting club in Florida, so wildlife is an important consideration. Food plots of clover and grasses are abundant. The property is also under the Alabama Department of Conservation's Deer Management Program. To give maximum benefit to wildlife, hardwood stands are not being cut and are interspersed among the pine plantations. This provides a diverse habitat for wildlife. Sawtooth oak, a popular wildlife tree, has also been planted in several areas.

The area of Macon County where the property is located is known to have a high wildfire occurrence. While some fires are set by arsonists, many occur when people cannot keep debris burning under control. Two fires have been set on the Reynolds property already this year. Fortunately, neither did permanent damage. Firelanes have been established throughout the acreage and are maintained on a regular basis by Dorothy's son, Hunter. The firelanes were an expensive project, but one Reynolds felt was worth the money, considering the risk. The periodic reduction of brush through regular prescribed burning will lessen the damage that might be caused from future wildfires.

Becoming a Leader

As the last pages of the scrapbook are turned, the photos show other accomplishments Dorothy Reynolds has made over the years. Awards and recognition of her participation with the Soil and Water Conservation District, a speech she made when accepting her TREASURE Forest certification, and other memorabilia tell the story. That story is of a woman who has become a successful forestland manager.

When Reynolds went to her first forestry field day on a TREASURE Forest, she remembers being the only woman there. Now, she says, it's become more common for women to be active land managers. She wants others to know that women are as interested in the practice of stewardship as their male counterparts. One of her proudest moments was being named the outstanding tree farmer in her district several years ago. "Whatever I undertake, I try to do the very best that I can," she explains. "It puts a lot of responsibility on you. You want them to know that a woman **can** be a leader." There's no doubt that Dorothy Reynolds is one TREASURE Forest landowner meeting that challenge with leadership and dedication to proper land management. ♣



Regular prescribed burning will not only benefit wildlife and control competing hardwoods, it will reduce the damage of any wildfires that may occur.

Editor's Understory

by KIM GILLILAND, Editor

When there's a meeting concerning forestry in Macon County, the chances are good that Dorothy Reynolds will be among the attendees. The chances are just as good that she will be in a leadership position at the meeting. In fact, one of the ways she learned about forestland management was to gain information through attending forestry functions around the state.

Dorothy and her husband, Hunter, inherited 1,000 acres of land in Macon County in 1976. Before the couple had a chance to decide what to do with the property, Hunter passed away, leaving Dorothy with the responsibility of managing the acreage. Upon the advice of her attorney, she decided against selling or giving it to her three children right away. "It changed my whole life," she said of her involvement with forestry.

A tour of a TREASURE Forest convinced her that it was a program she wanted to be a part of. Four years later, in 1987, her property was certified, and was recertified in 1992. Throughout the years Reynolds has become increasingly involved in forestry-related organizations and committees.

Currently she serves as a district supervisor for the Macon County Soil and Water Conservation District, a position

she has held since 1983. District supervisors are appointed by the State Soil and Water Conservation Committee and are charged with the responsibility of overseeing soil and water conservation needs in their respective counties. In 1987 Reynolds was named supervisor of the year, and has also served as state president for the Association of Soil and Water Conservation Districts.


landowners in her home county. It has also afforded her the opportunity to travel abroad. In years past she has visited Oregon, Canada and Maine. This past spring she visited Hungary, Austria and Germany as a member of the Farmers Analysis Program, which is sponsored by the Farmers Federation. During the trip, participants stayed with local farmers. For someone who loves to travel, this was

definitely an opportunity not to be missed. Other involvements include the Alabama TREASURE Forest Landowners Association, where she served as treasurer for two years, and the Practices Committee of the Alabama Forestry Association.

Reynolds is retired from the probate office in Tuskegee, where she worked for 25 years. In the late 1980s she ran for probate judge. While her bid for office wasn't successful, she feels the experience was invaluable.

Although she still assumes the responsibility of managing the property, about half of it now belongs to her two daughters and one son. They will eventually inherit it, and Dorothy hopes her eight grandchildren and one great-grandchild will enjoy the property in years to come.

They already enjoy short visits to hunt, hike and enjoy the scenery.

Dorothy is pleased with how her property has progressed over the years and continues to cherish its simple beauty. "I love the outdoors," she said. "I can go up there and settle all kinds of problems. I'm extremely proud of it." 



Dorothy Reynolds

Reynolds is also currently a director with the Alabama Farmers Federation and serves as the forestry commodity chairman in Macon County. This leadership position allows her to stay abreast of current events related to forestry and to then share this information with

What Is an Ecosystem?

by DON BURDETTE, Conservation Education Forester, Alabama Forestry Commission

You may remember reading about “Ecosystem Management” in articles by Dr. Kathryn Flynn and Lou Hyman in last summer’s issue of this magazine. Since then, some of our readers have asked for more information about ecosystems. This article will help you to understand ecosystems as they relate to your property, to the general area where you live and their significance to the entire state of Alabama.

Ecosystem Basics

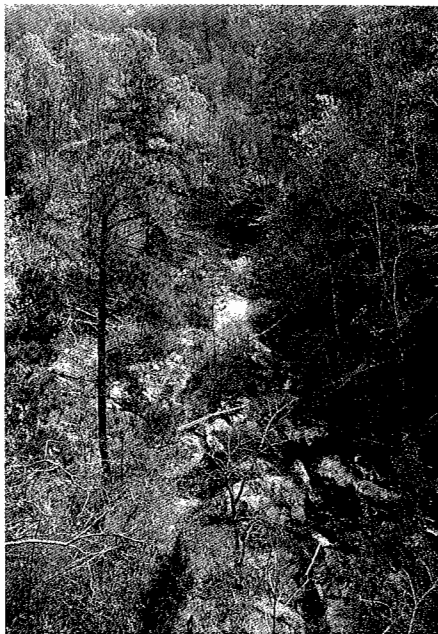
Let’s start with this textbook definition: “**an ecosystem is a community of different living organisms interacting with each other and with the nonliving components of its environment.**”

If you’re like me, that definition may not have soaked in on the first try, so let’s review the main points. 1) **Living organisms** refers to some kind of plants and animals but doesn’t say what kind; 2) **Non-living components** refers to physical factors in the environment like soil, climate, geography, and human activities that influence living conditions; and 3) **Interactions** refers to processes like predator/prey relationships; producer/consumer/decomposer relationships; life, nutrient and water cycles; plant succession and so on.

Did you catch the part about a **community**? To a scientist, a community is a group of plants and animals living under relatively similar conditions. When changes in living conditions result in corresponding changes in the plants or animals occupying that area, then you are in a different ecosystem unit. Sometimes these changes are abrupt, like when you jump off a river bank within a forested ecosystem into an aquatic ecosystem filled with fish and pond scum. Sometimes the change is more subtle, such as walking out of a bottomland hardwood forest into an upland hardwood forest; you eventually notice differences but it may not be so easy figuring out when you made the transition.

Now, let’s concentrate on elements that make one ecosystem different from

another. Non-living (abiotic) components of an ecosystem such as geography, soils, hydrology and topography can be relatively constant or very slow to change.



Two ecosystems are immediately evident in this scene: a stream and a mixed pine-hardwood watershed. A closer look would reveal smaller micro-sites or ecosystems within this landscape: rocky outcrops along the stream bank, a dry ridge supporting mostly pine and chestnut oak, moist northerly slopes that support a greater population of hardwood trees, and seeps where water comes out of the ground and supports mountain laurel.

Other abiotic elements may be variable and subject to change within a short time period: temperature, moisture, sunlight and wind. Vegetation grows where conditions are favorable and where species are able to survive, if not dominate, competition with other plants. Animals that find abiotic and plant conditions favorable as habitat become part of the community. When changes occur in the environment, both plants and animals must either adapt, move or perish and be replaced by other species.

Another basic point is that ecosystems come in all sizes and any one spot on earth may be part of several ecosystems as viewed from different perspectives. A pothole in a dirt road could conceivably be an entire ecosystem in itself if it has all of the elements. The pothole is also part of a bigger dirt road ecosystem and has some connection to all of the other potholes in that dirt road. Eventually you begin to see the pothole as a diminishing part of a watershed ecosystem, a regional ecosystem, a state and national ecosystem, a continental ecosystem and eventually as an extremely small part in the worldwide ecosystem (or biosphere).

Making It Relevant

Okay, so what do ecosystems have to do with you? Well, since you’re a living thing dependent upon other living and nonliving things, wouldn’t you like to know where you fit into the entire ecological scheme of things? This is where this article finally starts getting fun.

Why don’t we start with your property—not all of it at first, just a little piece of it. Let’s take some nonliving factors like soil, hydrology and topography into consideration first. Do you have a stream or drainage running through your land where the soils are darker, more organic and moister than the surrounding land? Have you noticed whether trees grow bigger and taller there? If you look closer you may find that certain types of plants, such as ferns, and certain types of critters, like salamanders, occur only in that area surrounding the stream. Right off the bat, you know you have at least two types of ecosystems on your property; but there are probably more. Other ecosystems that you might distinguish could include the stream itself, a beaver pond, a young pine plantation, an older mixed pine-hardwood stand, a rocky outcrop, a hay field, your house site, an old mine pit and so forth. Each of these places is a world within itself and also part of a

(Continued on page 30)

Gentian Pinkroot

by TIM GOTHARD, Alabama Forestry Commission

The endangered gentian (jen´shun) pinkroot (*Spigelia gentianoides*) is an erect, perennial herb with a single, stiff stem 4 to 12 inches tall. Leaves are oppositely arranged and since they have no petiole or leaf stem, the base of the leaf attaches directly to the plant stem. Leaf size varies, but the larger, more noticeable leaves range from 1 to 2 inches, are dark green above and have a paler color on the underside. In May-June, 1/4-1/2-inch pink flowers appear and resemble small ribbed tubes. The flower actually gives the appearance of elongated buds ready to open, but they seldom do.

Now as best I recollect, it was an infamous brother of one of our past Southern presidents who eloquently stated something similar to the following, "You can choose your friends, but you sure can't choose your relatives;" circa 1979, the aroma of fresh roasted peanuts, and the introduction of a new beverage. But then again, maybe I have it backwards about who said what about whom. Nonetheless, I could easily see where gentian pinkroot might feel much the same way.

Consider this: gentian pinkroot belongs to a family of plants known as the Loganiaceae or "strychnine" family. Certain members of this family yield chemicals which are very powerful. One plant yields strychnos, which has been used in fish and rat poisons and as a component in the lace for poison darts. Some of gentian pinkroot's other family members have been used as worm killers (no, not fishing worms; the kind your mother said you had when she couldn't seem to keep you away from the kitchen table), sometimes leading to the death of both the worm and the wormee. Another species of gentian pinkroot's family has been hailed as so poisonous that even touching the plant is dangerous; still another has been used to carry out executions. And who knows, gentian pinkroot

may be of similar character. After all, what we do know—which stacks the deck against gentian pinkroot's chances of being different from its relatives—is the fact that Alvan Wintworth Chapman discovered it along the Apalachicola River in 1837—on his way to perform an *amputation*.



The powerfully potent legacy of the Loganiaceae family is not necessarily a discredit to gentian pinkroot. From this same family came the basis for "alcuronium" which has been used as a muscle relaxer during surgery. And never forget, the difference between medicine and poison is often determined simply by the dose.

It has been over 150 years since Chapman discovered gentian pinkroot along the Apalachicola river in Florida. The general nature of the habitat where it was found was best described as longleaf pine-wiregrass; a few modern era sites found in the same general vicinity in Florida were described as pine-hardwood. Then in 1992 a new gentian pinkroot story began to take form. Tim Stevens and Jim Allison got together to canoe the Little Cahaba River. As they canoed along, Allison noticed some rocky outcroppings and cedar glades. Being a botanist who just hap-

pened to specialize in this type habitat, he had to stop and take a look. When all was said and done, Allison had made a remarkable discovery: gentian pinkroot doesn't grow only in longleaf pine-wiregrass, it grows pretty doggone well on Ketona dolomite outcroppings and cedar glades in Bibb County, Alabama. In addition, he also found the threatened Mohr's Barbara's Buttons, which was only known in Alabama from a few northeast counties. At this time, Allison is also attempting to classify six plants that he believes are previously undescribed species.

Because gentian pinkroot was known from so few locations prior to 1992, little is known about this species. Perhaps the new finds in Alabama will offer the opportunity to learn more. Gentian pinkroot is certainly a plant with both a story and a lineage, but much of its life story remains to be told. ♣

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CROSS-COMPLIANCE: *Does It Apply to You?*

by TIM GOTHARD, Alabama Forestry Commission

The Food Security Act (FSA) of the 1985 Farm Bill and subsequent amendments in 1990 initiated two new provisions potentially affecting land use: the Wetland Conservation Provisions (Swampbuster) and the Highly Erodible Land Conservation Provisions (Sodbuster). Both provisions designated specific land types on which certain activities could not be performed by USDA participants. If activities are performed in violation of these provisions, landowners become ineligible for applicable USDA benefits (see Table 1).

Swampbuster

From 1985-1990 the Swampbuster provision was based on the so-called "planting rule," which stated that any person who plants an agricultural commodity on a wetland converted after December 23, 1985, is ineligible for applicable USDA benefits (Table 1). Conversely, if a wetland was converted after the 1985 date but a crop was not planted, no violation of Swampbuster would occur. For agricultural row-crop interests, the Swampbuster provision restricted the ability to farm any wetland areas that were not in production prior to the 1985 date. For forestry interests, Swampbuster had no effect; forestry activities in wetlands do not involve the production of applicable agricultural commodities. Therefore, landowners who owned forested wetlands and wished to manage them for timber production had nothing to fear, even if they owned row-crop land and even if they were participating in USDA programs.

In the 1990 Farm Bill, the Food Agriculture and Conservation Trade Act (FACTA) amended the FSA to place additional restrictions on wetland conversions occurring after November 28, 1990. This amendment declared that conversion

of a wetland after the 1990 date such that the production of an agricultural commodity (including hay or pasture) could be possible, would constitute a Swampbuster violation. Violations result in the ineligibility for applicable USDA benefits for that crop year and all subsequent crop years until the wetland is restored. This represented a significant change. Previously, a crop had to actually be planted in order to be in violation of Swampbuster. The 1990 amendment reduced the point of violation for any conversions after the 1990 date to the threshold of making production possible.

What are the implications of Swampbuster, which seems to be much more of a topic of concern recently than when it was actually passed? For row-crop agriculture interests, the 1990 provision further tightened the restrictions on manipulating wetlands. For forestry interests, the question is whether or not certain site-

preparation activities (heavy mechanical treatments) constitute "making production possible" and would therefore be considered a Swampbuster violation—especially in light of the Section 404 Exemption of the Clean Water Act which authorizes the proper use of the same silvicultural practices in wetlands.

According to the Third Edition of the National Food Security Act Manual (February 1994), for manipulation of a forested wetland to be considered a violation of Swampbuster, stems, stumps and brush must be removed such that production of an agricultural commodity could be possible. Therefore, as far as forestry practices are concerned, a landowner may perform forestry operations in wetlands according to *Alabama's Best Management Practices for Forestry* and be in compliance with the Swampbuster as

(Continued on page 10)

Table 1

USDA Programs Subject to Swampbuster and Sodbuster Provisions of the Food Security Act

Program	Agency	Program	Agency
Agricultural Conservation Program Payments	CFSA	Farm Operating Loans	RECD
Agricultural Credit Act Payments	CFSA	Farm Ownership Loans	RECD
Agricultural Water Quality Incentives Program Payments	CFSA	Federal Crop Insurance Payments	FCIC
Commodity Loans and Purchases	CFSA	Feed Grain Production Stabilization	CFSA
Conservation Reserve Program Payments	CFSA	Payment for Storage of Agricultural Commodities	CFSA
Cotton Production Stabilization	CFSA	Soil and Water Loans	RECD
Disaster Assistance Payments	CFSA	Storage Facilities Equipment Loans	CFSA
Emergency Conservation Program	CFSA	Watershed Protection/Flood Prevention Loans and Cost-share	CFSA
Emergency Loans	RECD	Wetland Reserve Program	CFSA
Environmental Easement Program Payments	CFSA	Wheat Production Stabilization	CFSA

CFSA—Consolidated Farm Services Agency (formerly ASCS)

FCIC—Federal Crop Insurance Corporation

RECD—Rural, Economic and Community Development (formerly FmHA)

Cross-Compliance

Continued from page 9

well as the Clean Water Act, regardless of whether or not he is receiving USDA benefits, unless the activity will completely remove all stems, stumps, and brush. Most site-preparation activities will leave some stumps on the site.

If an acceptable silvicultural treatment to be used in a wetland (such as shear, rake, pile and bed in the lower coastal plain) will result in removal of stems, stumps, and brush, the Natural Resources Conservation Service (NRCS, formerly the Soil Conservation Service) will accept a plan which documents the treatment so long as the plan is consistent with the provisions of the silvicultural exemptions under Section 404 of the Clean Water Act (For reference see *Alabama's BMPs for Forestry*. A copy is available at any Alabama Forestry Commission office). If avoiding a potential Swampbuster violation is in your best interest, be sure to supply the local NRCS with a copy of the plan before beginning the practice.

Sodbuster

The Sodbuster provisions of the FSA state that it is a violation if a landowner plants an agricultural commodity on

highly erodible land without following an approved conservation plan. With respect to forestry activities, the Sodbuster provisions do not apply. However, clearing activities associated with wildlife food plots, etc., can have an impact.

Wildlife food plots are often planted to crops that are considered agricultural commodities but are not used for commercial use. For this and other reasons, there is an exemption under the Sodbuster provision that allows up to two acres of highly erodible land per farm to be planted to an agricultural commodity for non-commercial use. This would allow for planting crops such as corn, millet, rye, wheat, etc., for wildlife and other noncommercial uses such as small gardens. However, the same two acres of corn used to feed the cows would not be considered noncommercial use. In some operations, landowners may wish to plant more than two acres on their farm for wildlife purposes. If this is the case, first look and see if the desired wildlife plantings can be located on soils that are not classified as "highly erodible" (check with your local NRCS office if you are unsure about the classification of your particular soils). If your plantings can be located on non-highly erodible soils, you will not have to worry about potential Sodbuster violations. If for some reason you are restricted to planting on highly

erodible soils, your Soil and Water Conservation District Board can approve a conservation system which will allow you to plant on highly erodible soils.

Who Should Be Concerned?

First, if you do not participate in any applicable USDA programs and are not concerned about future eligibility, Swampbuster and Sodbuster do not apply to you. If you do participate in any of the USDA programs listed in Table 1, Swampbuster and Sodbuster do apply to you. Similarly, if you do not currently participate in any of the applicable USDA programs but wish to remain eligible in case you desire to participate in the future, Swampbuster and Sodbuster also apply to you.

Whether you should be concerned can be determined by answering two questions: 1) Do you have wetlands and/or highly erodible soils on your property?, and 2) What is your current and planned use of these areas? If the answer to Question 1 is "NO," you have no reason to be concerned. If your answer to Question 1 is "YES" and the answer to Question 2 does not violate the Swampbuster and Sodbuster provisions described earlier in this article, again, you have no reason to be concerned. However, if your answer to Question 1 is "YES" and your answer to Question 2 is not in line with the provisions of Swampbuster and Sodbuster, you have a decision to make: Which do you desire most, USDA benefits or the use you have in mind for the particular area?

If on highly erodible soils you choose a use not in line with Sodbuster, there are no additional implications other than loss of applicable USDA benefits. But remember, these soils are highly erodible—whatever land use you choose, practice good stewardship. If on wetlands you choose a use that is not in line with Swampbuster, there may be implications under the Clean Water Act in addition to loss of USDA benefits. To be sure, evaluate the potential impact of your planned use relative to the Clean Water Act. And again, whatever you choose to do with your wetlands, practice good stewardship.

For more information on Swampbuster or Sodbuster, contact your local Consolidated Farm Services Agency or Natural Resources Conservation Service office. ♣

Who Identifies Wetlands and Highly Erodible Soils?

WETLANDS

The Natural Resources Conservation Service (NRCS) is the delineating authority for agricultural lands, including narrow bands and small pockets of woodland interspersed among agricultural land. NRCS is also responsible for delineating wetlands on both agricultural and forest land for USDA participants. If you are a USDA participant and need a wetlands determination on your property, fill out an AD-1026 at your local NRCS office to formally request a determination. For wetland delineation on lands not served by the NRCS, contact the U.S. Army Corps of Engineers.

HIGHLY ERODIBLE SOILS

The NRCS is the authority on highly erodible soils. To find out about the classification of your soils, contact your local NRCS office. Many soil types can be classified as highly erodible or non-highly erodible based on the soil series; others will require on-site measurements to determine their classification.

Wetlands—Functions and Values

by DR. KATHRYN M. FLYNN, Extension Forester/Assistant Professor, Auburn University

Many people wonder why wetlands are important. This article will discuss what wetlands are, what they do, and why they are valuable to society. For many years wetlands were considered to be nuisances which could be used more productively by draining and converting to a “higher use” such as agriculture or commercial development. That thinking has changed. What has driven the change is the realization that wetlands have unique values and that some states have lost as much as 90 percent of their wetlands. Alabama has lost approximately 50 percent of its wetlands. Decisions as to how wetlands will be managed, regardless of the direction taken, should be made with a clear understanding of what wetlands do for us.

The legal definition of wetlands is “those areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” As you can see, this definition is open to interpretation. A simpler way to describe wetlands is to say that they are areas located between dry land and water.

Because of this location, wetlands provide valuable services to society, including water quality protection; groundwater recharge and discharge; streamflow maintenance and water supply; flood protection; production of food, fur, and timber; habitat for a variety of wildlife; shoreline stabilization; and recreation. Not all wetlands perform all of these functions. The location, size, condition, and land uses employed on uplands adjacent to wetlands all serve to determine which of these functions a specific wetland can and will perform.

Physical Protection

Inland wetlands often serve as reservoirs for stormwaters, gradually releasing these waters into adjacent river channels

or other bodies of water. This results in reduced river flood stages and the losses associated with severe flooding. Removal or isolation of floodplains from river channels by flood protection levees or drainage can result in increased downstream flooding. This was the case in the Midwest two years ago adjacent to the Mississippi River, and the Flint River in Georgia last year. Coastal wetlands are important buffers since tidal surges associated with hurricanes and tropical storms are deposited over coastal wetlands rather than moving directly onto upland areas. Storms moving ashore lose some of their strength before upland areas are reached.

Water Quality Protection

Many wetlands help to maintain water quality by trapping sediment and contaminants carried from an upland through a wetland to a river or other water body. As water moves into a wetland, the terrain flattens out, velocity of the water slows down, and the vegetation within a wetland traps sediment and debris. Excess nutrients can then be taken up by microbial and plant communities. In addition, chemical reactions can occur in wetlands which serve to remove contaminants such as heavy pesticides and heavy metals. Man-made systems designed to perform these same functions are extremely expensive and complex.


Wildlife Habitat

Both inland and coastal wetlands are important to wildlife. Because wetlands are intermediate between uplands and open water, they are often very rich in terms of food for animals. Coastal wetlands serve as nurseries and feeding grounds for many economically important fish and shellfish. Inland wetlands are important for production of species such as catfish, trout, and perch. Waterfowl use both inland and coastal wetlands. Fur-bearing animals including muskrats, nutria, mink, beaver, otter, and

raccoon all inhabit wetlands. A large number of threatened and endangered species depend on wetlands for some or all of their life cycles. One source states that wetlands are necessary for the survival of 50 percent of threatened or endangered amphibians, 31 percent of threatened or endangered birds, 31 percent of threatened or endangered reptiles, 15 percent of threatened or endangered mammals, and 54 percent of threatened or endangered fish.

Timber Production

Forested wetlands can be important sources of valuable timber products, and it is possible to practice forest management in these systems. This means that such wetlands are not only valuable for the products they provide society, but also for the easily measured income they provide landowners. However, special precautions must be taken to ensure that these activities do not interfere with the other functions of forested wetlands. In particular, road construction and use of heavy equipment must be done so that water movement is not hampered and sediment generation does not adversely affect water quality.

Obviously, these are only a few of the important and valuable functions performed by wetlands. These functions, which have been identified by society as services or benefits, are what give wetlands value. Generally speaking, these functions are valuable to society at large, and loss of these functions is often extremely costly to society. However, most of these functions, with the exception of timber production or commercial fisheries, do not generate income for individual landowners. This makes the protection and long-term sustainability of wetlands a challenging task and one that society must deal with. If you are interested in learning more about wetlands, contact Kathryn Flynn at M. White Smith Hall, School of Forestry, Auburn University, AL 36849; phone (334) 844-1036. 

Is the Forest Industry Really Important to Alabama?

Questions & Answers...

by STEVE NIX, Forest Resource Analyst, Alabama Development Office

Q: I understand that forestry and the forest products industry is of major economic importance to Alabama. How is this so?

A: According to the U.S. Department of Commerce's Survey of Manufacturers, forest product manufacturers return \$4.2 billion back to Alabama's economy annually. This is more value-added than from any other industrial sector they survey. The value of products shipped out of Alabama is worth 9 billion dollars.

The latest data indicates that over \$51 million in state, county and local taxes are paid by the pulp and paper industry alone. In addition, some \$60 million in payroll taxes and social security withholding was paid to cover these forestry employees.

In a word, billions of dollars can be attributed to the manufacture and sale of tree products in Alabama each year.

Q: Is forestry a major employer?

A: The most current manufacturing directory published by the Alabama Development Office indicates that the state's forest products manufacturers employ over 65,000 people. They provide lumber and solid wood products, paper, furniture and hundreds of other unique wood products.

This work force makes up 14 percent of Alabama's 464,000 manufacturing jobs. Out of 20 manufacturing classifications compared, forest products manufacturing is second only to textiles in providing jobs to Alabamians. One out of seven manufacturing jobs in Alabama is forestry related.

There are 282 primary roundwood using forest products operations and 781

secondary remanufacturing operations. These firms manufacture over 400 products worth \$9 billion.

Q: I have been told that the forest industry only consumes our timbered resource and does not invest in Alabama. Is this true?

A: This is not true. Alabama's forest product industry has invested some \$5 billion into in-state operations over the last 5 years. The total investment made by the forest product industry has overshadowed all other manufacturers in total dollars of new and expanding capital. Even the highly publicized Mercedes Benz plant is expected to have a corporate investment impact of only \$520 million over the next six years.

Forestry also pays workers \$1.7 billion in wages annually. This equates to an annual salary of approximately \$26,000. The average manufacturing wage in Alabama, as indicated by the Bureau of Labor Statistics, is \$25,344.

A large part of this payroll comes from the pulp and paper industry. It just so happens that Alabama's pulp and paper manufacturing industry leads top manufacturing sectors in hourly wages, paying an average of nearly \$18. Out of 22 manufacturing categories and sub-categories reported by the Alabama Department of Industrial Relations, pulp and paper is second only to coal mining (which is not a major Alabama employer) in wages paid.

Q: Does forestry pay adequately for the timber purchased and processed in Alabama?

A: Alabama forest owners received \$660 million for 1.1 billion cubic feet of

timber "stumpage" they sold in Alabama last year. According to the Alabama Forestry Commission's "Cash Receipt Report on Forest Products Harvested in Alabama," this timber value plus its cost to harvest and transport was \$1.1 billion. This "delivered" price can be considered its commodity value.

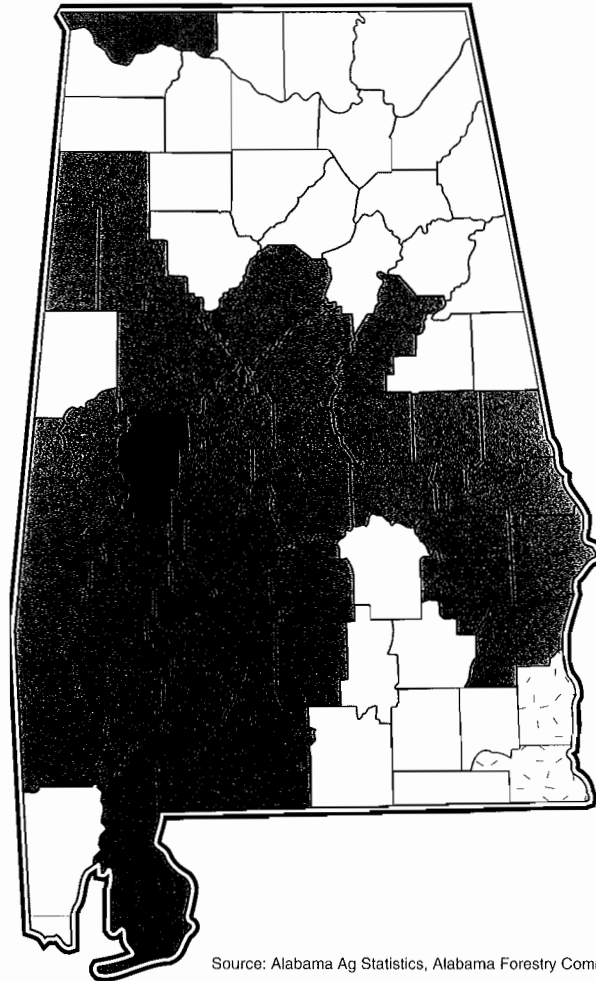
The value of forestry as a commodity, when compared to other agricultural commodities, is excellent. Ranked alongside other traditional commodities, timber follows only the poultry industry in the value of commodity production. However, timber leads all commodities when ranked by production value by number of counties. Timber is the top commodity as determined by production value in 34 counties (see map).

And don't forget about the price paid for timber. Stumpage prices have skyrocketed during the last three years. According to Timber Mart South, Inc.'s price reports since 1992, payment for pine sawtimber has increased by 56 percent, hardwood sawtimber by 76 percent, pine pulpwood by 32 percent, and hardwood pulpwood by 34 percent. Obviously, this enhances the forest owner's investment and encourages new investments in forestry.

Q: The South is fast becoming the nation's wood and fiber provider. How does Alabama fit into the southern equation?

A: Approximately 40 percent of U.S. timberland is located in the 13 southern states. These states include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia. The South grows 23 percent of the nation's softwood timber

Leading Commodity by Alabama County Based on 1993 Cash Receipts



Source: Alabama Ag Statistics, Alabama Forestry Commission

and 44 percent of the hardwood timber. In a recent survey, 43 percent of the nation's softwood sawlogs and 53 percent of hardwood sawlogs were harvested in the South. These southern states also accounted for over half the plywood roundwood and two-thirds of the pulpwood.

Trees thrive in this Southeastern temperate climate. Indeed, the South is the premiere region of the nation, as well as globally, for present and future forestry production.

Alabama is a southern forestry leader. Only North Carolina and Georgia grow more total volume of timber than Alabama's 22 billion cubic feet. In the number of commercial forested acres—22 million—Alabama follows only Georgia (Georgia and Alabama lead the nation in available commercial forests). Alabama has the second largest net growth of all the southern states—1.2 billion cubic feet annually.

Alabama leads the South in available timber resource. This is not a secret to those who need raw materials for forest products. The Alabama Development Office indicates that national and international requests for locating new forest product mills has become one of their most frequent projects.

Q: Can the Alabama forest survive pressures that are sure to increase as timber demand is increased?

A: There have always been those who predict the fall of forestry. To this point, Alabama forestry has not only survived, but is growing vast numbers of trees with the greatest volumes ever recorded. This is a tribute to adequate forest practices of the past, improved utilization, and to a resilient, renewable forest that defies the saw.

The question is not whether we will have a forest, but whether the forest will continue to provide the proper species, ample sizes and grades for specific products, proper genetic material and maintain levels of available wood now used by existing industry. All of this has to fit with non-consumptive uses of the forest—uses which cannot always be defined in monetary terms.

For 40 years, Alabama has enjoyed a surplus of both pine and hardwood. Although the hardwood resource still grows an annual surplus, Alabama's pine timber is now being cut heavier than

growth can replace this cut. This concerns the forestry community, who have historically had surplus volumes to use.

Q: How will this forest remain strong?

A: The TREASURE Forest owner—as well as any private owner of forest land in the state—is extremely important to the state's forest future. Since 70 percent of the state's forest is privately owned, the fate of Alabama forestry is tied to how effectively these private non-industrial forests are managed in the future.

Estimates are that most forestland in Alabama can produce twice the timber presently being grown. In fact, the forest industry is doing just that on their own forests. Growth and grade on timber managed by professional foresters on industry property exceeds the same on

lands owned by non-industrial owners. Their timber remains healthy as well.

And timber prices have upped the ante. With sky-high values being paid for timber, your investment must be protected and increased using proper management.

In a nutshell . . . most Alabama forest owners can increase stocking levels of valuable species and maintain adequate grades. Forest owners can increase growth by introducing better management routines. With increased management, forest owners can develop a healthy forest, free from insects, disease and fire.

Forest owners can do all this by asking for professional help which is available in every county in Alabama. If you need guidance, please contact any of the Alabama Forestry Planning Committee member agencies. They are listed on page two of this magazine. ♣

Using Photography to Record Forest Management

by COLEEN VANSANT, Forest Education Specialist, Alabama Forestry Commission, Gardendale

Everyone loves a good photograph. The old saying, "A picture is worth a thousand words," holds true for most people. Good photos catch our attention, make a statement, and evoke different feelings. They capture those special moments that otherwise would gradually slip away over the years. They record facts and detail that we never even dreamed.

and necessary to the forest owner as well as the forest professional. But the best thing of all—they're fun.

To many people, cameras can be as intimidating as computers and answering machines. But you don't have to be a professional to take attractive, good quality photographs. Below are just a few hints that will help you take and keep the perfect photograph.

The viewfinder is entirely under the photographer's control. It's not demon possessed like many claim when they get their photos back and there are things and places that they hardly recognize. The camera doesn't have a mind of its own. It has to work off yours. (That can be a little scary at times.)

The last thing to remember is to identify the most important elements of a photograph. Walk around the subject or change positions two or three times if possible to check out different angles. With most subjects, the position of the camera is the only adjustable factor. Moving the camera just a few feet in any direction can often have a very dramatic effect on the outcome of the photograph.

Try not to center all of your photographs with everything in the "bull's eye." Photographs are always more pleasing when the subject is just a little off center. Or better yet, let the subject come into the photograph from one of the corners or sides. Many unsuccessful pictures are the result of the photographer failing to isolate the subject and frame the picture correctly.

Remember, the photographs you are taking, whether wildlife, trees, children, etc., will tell some kind of story. It was interesting to you in some way or you wouldn't have wanted to snap the photo to begin with. You want it to be good.

Take your time, think about the shot, and snap away. You'll be surprised at what you get for your efforts.



Even the most amateur of photographers can take good photographs. Learning how to "see like a camera" is the key to composing pleasing photographs.

Photographs can be very helpful to the forest landowner in recording the history of his or her property. Photographs and slides can be used to record tree planting, harvesting, site prep, or any other forest management activity. They can also be used to document different species of wildlife, varieties of trees and flowers, and recreational opportunities.

You can mark reference points and return to the same spot two, five, 10 or 20 years later and take a photo to record growth or change. This is especially good for regeneration, whether natural or mechanical.

With a greater emphasis being put on education, photographs or slides of forest management activities are very helpful

Seeing like a Camera

One of the biggest mistakes a photographer can make is taking a photograph of what he's seeing instead of snapping what the camera is seeing. Our eyes are guides to the most interesting things in a scene. The camera sees and records exactly what is there.

To take attractive photographs you have to learn what to leave and what to take out of the photograph. This is probably the single most important thing a photographer can do. Everyone has seen the artist or photographer make a frame out of his hands and hold it towards the object of interest. This is the same principle in learning to control the viewfinder of the camera.

Helpful Hints

Never substitute quality for price. You get what you pay for. Always use **quality** film, **quality** paper, and **quality** processing. Shop around, ask questions, and don't settle for less.

If you aren't going to use up the last few frames of film for quite a while, sacrifice the remainder of the roll and go ahead and have it processed. The film will lose its quality if left in the camera for months.

Take care of your equipment. Clean lenses and outside surfaces regularly. Like

CALENDAR



Keeping a record of forest management practices can be beneficial to the landowner. Taking a photo of a harvest can be followed up periodically with photos of the same site to record regeneration and growth of the stand.

any other piece of equipment, it will perform better and last longer if maintained.

Stay away from "stand and grin" or "kids on the porch" photos. Nothing is or

has ever been exciting about anyone's feet. Walk up a little closer to the subject and shoot from the waist up. Better yet, catch them when they're not looking and get a very pleasing natural photograph. Think texture. Take photos of bark, soil, rocks, or leaves. A rough, rugged isolated

shot of an object can be very pleasing.

Consider always having double prints made at the initial processing. Many labs charge as much as two-thirds more if you have reprints made at a later date. Double prints can be shared with your friends and family and you'll still have a complete set.

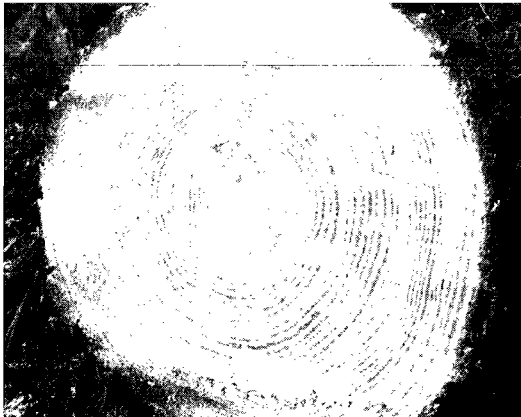
Don't let photography end with the processing. Storing prints, slides and

negatives is very important. Use only acid-free plastic sleeves. They can be purchased at most discount stores, photo shops and office supply stores. They

come in all sizes for everything including slides, negatives and prints. Don't use the magnetic "peel and stick" photo albums. After several years the photos will stick to the glue on the pages and can be damaged when removed.

Always identify your prints on the back of the photograph.

All of us have those boxes of old photographs where the people, places and occasions are all a mystery. But don't write directly on the photograph paper. Many inks will bleed through. Use a mailing label or some other label to record the information on and then stick it on the photo. Include names, dates, places, and events. Your grandchildren will thank you for it some day. ☺



A photo of growth rings on this loblolly pine stump records the age of the trees when harvested.

July 24-28—Auburn, AL. "Timber Harvesting and Procurement," an Auburn University short course. For more information call 334-844-1042.

August 9-10—Auburn, AL. "Pest Management in Urban Forests," an Auburn University short course. For more information call 334-844-1042.

August 19—Monroeville, AL. "Estate Planning for Forest Landowners," a seminar for landowners, attorneys, foresters and CPAs. Dr. Harry L. Haney, Jr., Va. Tech Dept. of Forestry, will be the instructor. Sponsored by the Monroe County Forestry Planning Committee. Registration fee required. For more information call Gary Cole at 334-743-2350.

September 13-14—Auburn, AL. "Harvesting Operations in Wetlands," an Auburn University short course. For more information call 334-844-1042.

September 27-29—Athens, GA. "Addressing Forest Resource Issues Through Education and Outreach: Highlights and Opportunities in the Southern United States." This conference will provide a forum to investigate current educational, technology transfer, and outreach strategies of agencies and organizations involved in forest resource management. For more information call Bill Hubbard, 706-542-7813.

September 28-29—Birmingham, AL. Twelfth Annual Alabama Landowner and TREASURE Forest Conference. Indoor and outdoor sessions. Information and registration form on pages 30-31 of this issue.

October 18-19—Auburn, AL. "Forest Roads," an Auburn University short course. For more information call 334-844-1042.

November 21-22—Auburn, AL. "Forestry for the Non-Forestry Professional," an Auburn University short course. For more information call 334-844-1042.

LANDOWNERS



LEGISLATIVE • ALERT

NATIONAL

by BILL IMBERGAMO, Washington Office, National Association of State Foresters



While this column usually focuses on domestic

policy developments that may impact American landowners, in this issue we will focus on recent developments in international affairs that could have equal, or greater, impact. These international negotiations may effect trade in wood products, and therefore may have considerable direct effect on how we manage our forestlands.

Did You Know?

Did you know that the United States is committed to achieving sustainable forestry by the year 2000? That the definition of sustainable forestry (and the broader term sustainable development) is currently the subject of negotiations among the U.S. and 10 other countries? That some are seeking to make certification of timber products a condition for trade in those products?

This set of related issues was set in motion at the 1992 United Nations Conference on Environment and Development, better known as the Earth Summit. One of the primary documents to emerge from the Rio conference was Agenda 21, a plan for sustainable development worldwide by the 21st century. Chapter 11, entitled "Combating Deforestation," established objectives including multiple roles and functions of forests, protection and sustainable management of forests, and efficient utilization of forest resources. In addition, the conference produced a set of nonlegally-binding "forest principles" to guide international policy on forestry.

The principles included the following: respect of each nation's sovereign rights to manage their forests; developed world support for forest conservation efforts in

developing countries; definition of the multiple roles and benefits of forests; and discouraging the use of trade restrictions to implement forest policy.

The United Nations created the Commission on Sustainable Development in 1992 to follow up on the implementation of Agenda 21. The third meeting of the Commission took place in April of this year. Several efforts to put some substance into the forestry sections are underway. The United States is taking part in what is known as the "Montreal Process," an informal working group of 10 countries. In addition to the U.S., the following countries are involved in the Montreal Process: Australia, Canada, Chile, China, Japan, New Zealand, Mexico, the Russian Federation, and South Korea. The countries of the European Union are involved in similar discussions in a series of negotiations known as the "Helsinki Process."

State Foresters Get Involved

The objective of these efforts have been to define what exactly we mean by the term "sustainable forestry." After learning of these developments, the National Association of State Foresters decided to become more involved. A small group of state foresters, led by Missouri State Forester Marvin Brown, reviewed the developments and recommended to the NASF Executive Committee that state foresters become more actively involved.

Since September 1994, NASF has been a member of the official U.S. delegation to most of these negotiations. There are somewhat complicated relationships among them. The countries negotiating through the Montreal Process are developing a set of criteria and indicators which are being defined to measure

trends and changes in the management of forests. At the domestic level, NASF is participating with other members of the U.S. delegation and registered non-governmental organizations in developing the official U.S. position, which is then carried forward to both the Montreal Process negotiations and to other United Nations forums, such as the recent meeting of the UN Food and Agriculture Organization's Committee on Forestry.

The *Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests* is the rather long-winded title of the set of criteria developed by the Montreal Process. The seven criteria, agreed to by the 10 member nations in Santiago, Chile, in February of this year are:

- Conservation of Biological Diversity
- Maintenance of Productive Capacity of Forest Ecosystems
- Maintenance of Forest Ecosystem Health and Vitality
- Conservation and Maintenance of Soil and Water Resources
- Maintenance and Enhancement of Long-term Multiple Socio-Economic Benefits to meet the Needs of Society
- Legal, Institutional and Economic Framework for Forest Conservation and Sustainable Management
- Maintenance of Forest's Contribution to Global Carbon Cycles

There are 67 indicators which help measure whether a country is moving closer to or away from sustainability. There is no threshold level of acceptability for these indicators. They are not a cookbook for stand level forestry.

(Continued on page 18)



Any time the future of Alabama's forestry funding is threatened, you can count on our citizens to come to our support.

Such was the case in the early days of the '95 regular session of the Alabama Legislature. The Forestry Commission was facing a cut of \$830,000 in its current budget—a slash that was, by far, larger than any other agency was slated to suffer.

Commission officials, including foresters and county supervisors, were joined by the state's wood and paper industries, forest landowners and concerned citizens in an all-out appeal to the governor and members of the Legislature to thwart this effort that would threaten the layoff of some AFC personnel.

After a number of meetings with state budget officials, the fiscal office, House Speaker Jimmy Clark, Pro Tem Seth Hammett, Ways and Means Chairman Bill Fuller and others, the supplemental budget bill (HB233) was substituted to bring the proposed cut down to \$200,000. Tough as it was, Commission officials felt they could survive with this through the remainder of the current fiscal year which ends September 30, 1995.

Next Year's Budget

By the time this publication reaches your home or office, the Legislature's regular session will have reached its twilight hours. Whatever happens to the general fund budget for the next fiscal year will, no doubt, have been decided. When the session began back in April, it was expected that most state agencies would have to absorb as much as a 15 percent reduction in their budgets for fiscal 1995-96.

The Forestry Commission was no exception to this drastic reduction. Once again, the AFC found itself calling on every available source in an effort to, at least, get the AFC budget back to level funding.

It's a dilemma that State Forester Tim Boyce and his staff have had to grapple with for the past two years. The Legislature is constantly appraised of the neces-

sity for providing adequate funding to the Forestry Commission. It's just that the general fund coffers are drained to the limit.

Needs Are Critical

Most lawmakers realize that volunteer firefighters have to depend on the AFC budget for assistance. Fires must be contained. A severe pine beetle epidemic continues to ravage the state's green pine resource. The money must come, but only the general fund of the state of Alabama can supply the bulk of this demand.

Forestry Commission personnel have labored long hours with all the capabilities at their disposal. Equipment is aging rapidly. The men, women and their resources at hand can only do so much to protect the state's forestland.

The November 1994 general election brought 53 new legislators to the Alabama State House. Eight of the new senators had previously served in the House. But many new lawmakers were actually not aware of the significant role the Forestry Commission plays in the making Alabama better for its people through forestry. Here again, is where a program of forest education is so vital. And that's part of the Forestry Commission's mandate as it was enacted by the legislature in 1969.

"Alabama Forests" Tag

One method of promoting forest education was introduced in the '95 regular session. There has been no provision for the issuance of a special motor vehicle license tag or plate to support Alabama's forest resource.

The bill (sponsored in the House by Rep. Jimmy Warren of Castleberry and in the Senate by Sen. Bobby Denton of Tusculumbia) would provide for the "Alabama Forests" distinctive license plate to promote the resources of our forests. It also would establish a "Forest Stewardship Education Fund" and a "Forest Stewardship Education Committee" to administer funds from the sale of these tags.

The Stewardship Committee would be appointed by the Forestry Commission and be composed of the following:

- One member of the Alabama Association of Consulting Foresters.
- One member of the Alabama TREASURE Forest Landowners Association.
- One member of the Urban Forestry Association.
- One member of the Society of American Foresters.
- One member of the Alabama Farmer's Federation.
- One member of the Alabama Forest Owners Association.
- The chair of the Board of Registration for Foresters, or his or her designee.
- The dean of the Auburn University School of Forestry, or his or her designee.
- The executive director of the Alabama Forestry Association, or his or her designee.
- The state forester, or his or her designee, would serve as chair of the committee.

The first six members who are appointed to the committee would initially serve two-year terms. At the expiration of the two-year terms, the members will serve staggered three-year terms as designated by the chair of the committee. Each of the members appointed from the above association, society, or federation would be appointed by the Forestry Commission from a list of three names submitted by the state forester.

Prescribed Burning

Still another measure moving through the Legislature at the time we went to press was the "Prescribed Burning" bill. The act would provide legislative findings and purposes regarding prescribed burning as a management tool.

The act authorizes the Forestry Commission to establish rules for the certification of prescribed burn managers and set guidelines for the prescribed burn.

(Continued on page 18)

National Legislative Alert

Continued from page 16

While many of these concepts may seem a bit intimidating, it is important to keep in mind that the United States is, largely, already doing much of what is included within the criteria. For instance, Criterion Number 7 of the Santiago Declaration reads, in part: the "extent to which legal framework (laws, regulations, guidelines) supports the conservation and sustainable management of forests, including the extent to which it . . . clarifies property rights, provides for appropriate land tenure arrangements, recognizes customary and traditional rights of indigenous people, and provides means of resolving property disputes by due process . . ."

With our extensive network of federal environmental laws, state laws, recommended Best Management Practices, and a well established legal system designed in part to protect property rights and to define the responsibilities of private landowners, the U.S. is well ahead of many nations in this criteria. Similarly, the major economic contributions made by forestry in the U.S. indicates that we are also doing quite well on some of the other socio-economic indicators.

Many of the indicators, though, are somewhat abstract and, as the delegations to the Montreal Process acknowledge, are not readily measurable at this point.

Forest Products Certification

It is also important to keep in mind that international negotiations on sustainable forestry are distinct from market-based developments in the certification of forest products. As you may be aware, numerous efforts are underway by private sector organizations to develop a system that will allow buyers to be sure that the forest products they purchase are grown and harvested in a sustainable manner.

A few forest ownerships in the U.S. have received certifications from a company called Scientific Certification Systems. They evaluate both the silvicultural and other natural resource aspects of a forestry operation, as well as the social and economic contribution a given forest makes to the community. The forest products industry at the national level is

working closely with the International Standards Organization on their Series 14000 certification, which takes a systems approach to evaluating the environmental quality and impacts of a given company. A group called the Forest Stewardship Council has tried to establish itself as an umbrella group that will certify the certifiers, although its efforts have met with mixed results.

Some parties to the international negotiations on forestry issues have sought to have sustainable certification included in various agreements, and to allow nations to restrict trade in forest products if those products do not have some type of certification. The U.S. delegation has strenuously resisted the inclusion of certification in international agreements.

As State Forester Marvin Brown notes in his draft report to the NASF Executive Committee, the "position of the United States . . . is to discourage trade restrictions. Where a criteria and indicator assessment shows a need for improvement . . . good faith efforts to make improvements should pre-empt any arguments for trade restrictions. Support for this position is important to the maintenance of forest markets. Without suitable markets, the financial attractiveness of properly managing forests is substantially diminished."

In plainer English, the U.S. position is that any timber certification must truly be voluntary and market driven; it should not be included as part of international agreements. That doesn't mean that landowners and foresters in Alabama and elsewhere can ignore the growing trends towards certification. It is entirely conceivable that one day some type of certification process will emerge that gains widespread credibility and recognition, to the point where it draws no more attention than the Underwriter's Laboratory sticker found on most electrical appliances.

On the Home Front

Of course, as these negotiations roll on, the outlook for domestic forestry programs is uncertain. The major agricultural legislation known as the Farm Bill is due for reauthorization this year. The important thing to remember is that many of the forestry programs authorized in the 1990 Farm Bill (i.e., the Stewardship Incentives Program) do not expire and do

not need reauthorization. These were created by amending an earlier statute, the Cooperative Forestry Assistance Act of 1978.

The Forestry Incentives Program (FIP), however, does expire this year and must be reauthorized. This program has made major contributions to forestry in the U.S., especially in the Southeast. NASF is working to ensure that FIP is reauthorized so that a major backlog in reforestation does not develop. Other programs, like the Conservation Reserve Program and the Wetlands Reserve Program, also need reauthorization, and NASF is working to ensure that they are tailored to become more forestry friendly.

Congress is approaching the Farm Bill in large part from the perspective of deficit reduction. Senate Agriculture Committee Chairman Richard Lugar (R-IN) has floated a proposal which would cut agricultural subsidies by \$15 billion over 10 years, and eliminate the USDA's Export Enhancement Program. Other Congressional leaders, including House Agriculture Committee Chairman Pat Roberts, have expressed serious reservations about such proposed cuts. The Clinton administration is also opting for a less drastic approach, although the full substance of their Farm Bill positions is not yet known. ☪

Alabama Legislative Alert

Continued from page 17

The AFC would collect fees from persons applying for certified training as a prescribed manager and handle all other administrative aspects of the law.

It further provides that a property owner conducting a prescribed burn according to the requirements would not be held liable for damage caused by the fire unless negligence is proven.

A Commitment

So, as the sun prepares to set on the '95 Legislature, it is only fitting that we remind our readers that the future of Alabama's forestry program is of paramount importance to State Forester Boyce and his staff. In spite of reduced funding, the commitment is to provide the best possible services to make Alabama better for all of its people.

Our next issue will detail the results of the '95 session. 'Til then . . . ☪

A TREASURE That's for the Birds!

by JOEL D. GLOVER, Wildlife Biologist, Rockford, Alabama

Monetary value is often an important aspect of forestland. Money generated from forest resources is normally discussed using terms such as stumpage, sawtimber, veneer, cords, etc. However, when Coosa County TREASURE Forest landowners Charlie and JoAnn Simpson discuss forest resources, their vocabulary revolves around tree bark and muscadine vines. The Simpsons are the owners of Coosa Rustics, a small craft business which makes unique use of forest resources that aren't normally considered merchantable.

The primary objective on the Simpson TREASURE Forest is the proper management of wildlife, with timber management being the secondary objective. The landowners are employing the cornerstone of the TREASURE Forest program—multiple-use management—in a unique and imaginative way. The creation of Coosa Rustics was in part a result of the Simpsons' efforts to achieve both objectives while generating some income from their forestland at the same time. Noticing an abundance of young yellow poplar trees which were crowded and off site, Charlie realized that the removal of some of the trees would not only improve the timber stand but would also open the forest canopy. In turn, this would allow sunlight to reach the forest floor, increasing the production of palatable browse for deer. Therefore, the trees were removed and their bark was used to create supplemental urban and rural wildlife habitat in the form of bird houses and feeders.

Coosa Rustics' first creations were crafted in a small 12' x 12' workroom. Charlie stripped the bark from the trees and he and JoAnn would then place it on the houses and feeders in a shingle-like fashion. As they began showing their



Charlie Simpson at work. While of similar design, no two items produced by Coosa Rustics are identical.

wares, demand for the products increased. Realizing the need for a perching site on some models, Charlie began modifying the houses and feeders with the addition of some muscadine vines. The result was another increase in demand. With the evolution of feeder and house designs and an increase in orders came a corresponding evolution in the tools of the trade with the addition of a band saw and pneumatic nail gun. Today, Coosa Rustics is an exhibitor at some of the largest and most prestigious arts and crafts shows in the Southeast, including the Kentuck Festival in Northport, Alabama, and the number one craft show in the country, the Yellow Daisy Festival in Stone Mountain, Georgia. Not only has the couple had to build a larger workshop, they've also constructed an 1,800-square-foot warehouse.

Feeders continue to be the best sellers for the company due to their ability to produce viewable activity. The houses built by Coosa Rustics are based on designs supplied by the Alabama Cooperative Extension Service to ensure that they are of proper dimensions to provide

adequate shelter and nesting habitat for various species of birds. Many customers have reported excellent occupancy of the houses. In addition to the covered platform feeders and houses, the company also offers peanut butter feeders, baskets and hummingbird feeders.

The Simpsons are pleased that their products allow their customers to provide food and shelter for wildlife. Through their participation in shows across the region, the TREASURE Forest landowners are often afforded the opportunity to share their multiple-use management philosophy with thousands of landowners—one Georgia festival had 350,000 visitors in three days.

Currently, Coosa Rustics products can be found throughout the United States, including Alaska and as far away as Japan, France and Germany.

Coosa Rustics is the epitome of the multiple-use management concept. In addition to improving their property for both timber and wildlife, the bark from the trees is then used to provide homes and feeders for wildlife around the world. The wood byproducts from the manufacturing of houses and feeders are used as firewood by the Simpsons' friends and neighbors and the tree tops are available for use as brushpiles to benefit wildlife. Therefore, the Simpsons have found a way to improve their woodlands, improve habitat for wildlife across the country, **and** produce an income for themselves.

The underlying theme for the Simpsons is the wise use of the natural resources they have been entrusted with. Although their business could be described as "for the birds," the ingenuity and efficiency it exhibits should be a model for everyone who utilizes our precious natural resources. ♣

Peace of Mind

by TRACY W. LAWRENCE, Information and Education Coordinator, Alabama Forestry Commission, Dothan

Many things turn out differently from their original intent. Such is the case of the woodlands known as Slingluff Farms and its management. The farm is owned by Morris Slingluff and is located in the middle of Henry County just outside of Abbeville.

Slingluff Farms is a 487-acre TREASURE Forest that was certified in 1992. The land was purchased in 1985 as a place where Slingluff and his son, Benjamin, would have a place to hunt and enjoy outdoor activities. That was 10 years ago, and they still enjoy hunting and the outdoors. But many things have changed.

Slingluff, who owns and operates an independent insurance agency in Dothan that his father started in 1928, still enjoys his work. Lately, though, he has enjoyed his TREASURE Forest more and more. "It is a place where I can leave the city and forget my problems for a little while," he said. "Also, when I'm on the property I feel at peace with myself, a closeness with God and nature. It is a wonderful place of retreat."

He has enjoyed the land so much that in 1987 he constructed a five-acre pond that he was told couldn't be built. In 1990 a cabin was built overlooking the pond. Since he and his son enjoyed hunting, they established 12 lespedeza plots as quail food. There are 124 acres of rowcrop land that are planted each year, and, through an arrangement with Roger Scott, the farmer who tends the land, a few rows of each crop are left unharvested for wildlife. An additional 20 acres are maintained in various food plots.

Tree planting and maintenance have become part of the overall program. Each year trees have been planted in designated areas for erosion control and future timber harvest. To date, 62 acres of pine have been planted and 230 acres of pine-hardwood mix and 14 acres of natural

pine are maintained. Keyton Branch, which runs through the property, is bordered by approximately 30 acres of bottomland hardwood. The hardwood make excellent mast producing trees for deer and other wildlife.

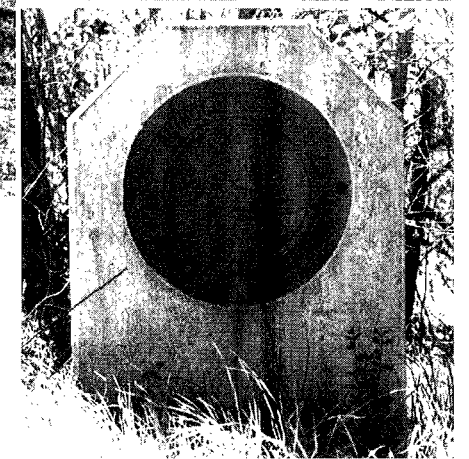
and those that visit a greater sense of appreciation for nature and good land stewardship," Slingluff said. "I also hope this property will be in better shape when I leave it than when I received it. I hope my family members and friends get the same sense of



This cabin overlooks a five-acre pond.


Many people have visited the property and commented on its beauty. This beauty just didn't happen, Slingluff said. "It's a creation of God's and a labor of love." Slingluff, Benjamin and son-in-law Myron have spent considerable time enhancing the property. Weekends may see other family members and friends chipping in to help with the upkeep. Something needs to be done all the time, but there is also time to sit back and relax. Whether it is quail or deer hunting, fishing or just taking a leisurely stroll through the woods at the farm, it relaxes the body and revives the soul.

What does the future hold for Slingluff? "It is my wish that I create within myself



A manhole cover was manufactured into an entrance sign by a friend and longtime hunting partner.

well-being and peace that I get when I'm on the property and that they will encourage others to share this happiness."

This happiness and well-being may come to you, also, when you visit a Hidden TREASURE like Slingluff Farms. 

Fire Break

by TOM LANG, Forest Management Specialist, Alabama Forestry Commission, Selma

In the center of Bibb County, at the beginning foothills of the Appalachian Mountains, the Cahaba River winds its way through some beautiful forestland. Wild turkey and deer roam amongst hardwood hollows and pine ridges. George and Sandi Morris of Tuscaloosa own a 200-acre retreat in this area known to them as "Fire Break."

The name "Fire Break" has a literal meaning. George has been with the Tuscaloosa Fire Department since 1978, and relaxing or working on his property is a release from his firefighting job. George also teaches at the Alabama State Fire College, and has given many firefighting courses to volunteer fire departments across the state. George's father was a fireman for 50 years in Tuscaloosa and Northport. Sandi also likes to get away from her business in Tuscaloosa to enjoy the TREASURE Forest. She is also very involved in the management of the property. Sandi enjoys observing the variety of wildlife on the rolling hills and hollows of the property, and has become a hunting enthusiast.

George and Sandi bought their land in 1990 from a friend and former University of Alabama professor who wanted the land to stay in the hands of people who would be good stewards of the property. George and Sandi have proven worthy of being good stewards of their land through the carefully executed improvements done on their property since its purchase. Forestry consultant Terry Jacobs wrote a Stewardship Plan for the property in 1992, and the Morris property was certified as TREASURE Forest that same year.

George originally contacted Bibb County Ranger Joe Barton for advice on timber management as soon as he bought the tract. Game and Fish District Biologist Mike Seivering was also contacted for wildlife advice. George and Sandi



The pond is a favorite place on the property for both George and Sandi Morris.

immediately began to carry out some of the land management recommendations given to them. A prescribed burning program was begun on pine stands, after permanent firelanes were established. A select cut harvest was done on all pine stands, leaving the most vigorous sawtimber candidates to grow. George has since bought a John Deere 450 bulldozer to maintain his firelanes and roads.

Wildlife enhancement began by clearcutting two small upland hardwood areas and planting back to loblolly pine. This created some badly needed bedding areas for deer on the property. Several food plots were established on old field areas with some 30 acres planted in ladino clover, wheat, sorghum, vetch, and sunflowers. Fruit orchards were planted, and fields were lined with sawtooth oak, lespedeza and autumn olive. Before their management recommendations were carried out, Sandi said, "The wildlife were coming onto the property with suitcases" and were just moving through. Now the deer population has greatly increased,

and wildlife are staying on the property.

Another major project George and Sandi undertook was rebuilding a large dam on a three-acre pond. The creek entering and exiting the pond feeds the Cahaba River just to the north. The pond is well stocked with bass, bream, catfish, sunfish, and grass carp. The pond site is a favorite spot on the property for George and Sandi. They enjoy fishing and feeding the resident mallard ducks. Although they have a nice house in the center of the property with a good view, it wouldn't be a surprise if a cabin is built at the pond site in the future.

George and Sandi allowed their property to be used for a regional FFA land and forestry judging competition in March of this year. Students and teachers from 11 high schools participated, and the variety of sites on the property allowed for a well-rounded competition.

George and Sandi Morris are dedicated to improving their land during their "Fire Breaks." They are hard working people who enjoy their TREASURE Forest. ♣

Mourning Dove

by STANLEY D. STEWART, Wildlife Biologist
Alabama Department of Conservation and Natural Resources, Game and Fish Division

The mourning dove is the most abundant and widespread gamebird in North America. It is also the leading gamebird species, with annual harvests of 40 to 50 million birds.

Dove Ecology

Most mourning doves are migratory, with those nesting in northern parts of the breeding range moving south in the fall. Dove hunting tradition is strongest in the South where migratory populations build and hunting season lasts longest. About 2 million doves annually are taken by hunters in Alabama. The majority of doves harvested in the state are resident birds. About 25 to 30 percent of the doves harvested are migrants. Most of Alabama's migratory doves, about 65 percent, originate from the mid-central and north-central states: Tennessee, Kentucky, Ohio, Indiana, Illinois, Michigan and Wisconsin. Most of the other migrants, about 30 percent, come from mid-western states: Missouri, Iowa and Minnesota.

An interesting note on mourning dove behavior is that most early migrants are immature birds, and these birds begin migration in late summer before hunting seasons open in September. Adult females and, finally, adult males follow in migration. Doves migrate in small flocks of usually 50 or fewer birds. They move at a leisurely pace, 20 to 100 miles a day, congregating at feeding areas along the way. The number of migratory birds builds through September to a peak in October.

Mourning dove migratory and flocking habits allow management opportunities for attracting birds to feeding areas. Holding doves at a particular feeding area can be difficult, however, because of their

flighting behavior. Like most small birds, mourning doves have a high body temperature to maintain, and their metabolism is affected by air temperature. Dove metabolic rates are influenced by air temperature changes more so than actual temperature. Consequently, when cold weather or even a mild cool front passes through, doves will be on the move to maintain their comfort level. Feeding areas that had been holding large numbers of doves will suddenly be empty as birds move on. This can be frustrating to managers who prepare fields and plan hunts for a particular day in the season.

Attracting Doves for Hunting

Mourning doves are ground-feeding seed eaters. Their diet is 99 percent seeds or plant parts. They cannot feed in thick vegetation or heavy ground litter where seeds are difficult to find. Crops planted for doves and feeding fields prepared to attract doves should be designed with this feeding habit in mind. Fields used heavily by doves are characterized by an abundance of seeds scattered on relatively bare ground. This is why harvested agricultural crop fields such as corn and peanuts attract large numbers of doves. These crop residues are not necessarily preferred dove foods. But, the agricultural operation after harvest provides an abundant food source on relatively bare ground where crop stems have been removed and little other vegetation exists due to weed control.

As a general rule, large fields will attract more doves than small fields, and 5 acres is a recommended minimum size. This is another reason why agricultural fields attract high numbers of doves. They are usually large and have the capacity for more birds.

Doves are opportunistic feeders and will use a wide variety of natural and cultivated seeds if the feeding conditions are to their liking. A variety of seed crops can be grown to attract doves if the crops are planted and manipulated to provide suitable feeding conditions: seed on relatively bare ground.

Sunflower

One of the better plant species for use in dove fields is sunflower. It is a choice food that will attract and hold birds. The small black-seeded oil varieties such as Peredovick should be used. Large-seeded varieties are too big for the doves. Peredovick sunflower requires 120 days to mature. Planting for doves should be made early enough in summer to allow for seed germination (1 week), plant maturation (17 weeks) and additional time for doves to become accustomed to feeding on the mature crop (2 weeks) before the season opens or hunting begins. In Alabama, sunflowers should be planted in early to mid-May to be ready for the opening of dove season in September.

Sunflowers grow best on fertile, well-drained soils, the same areas where you would plant corn or soybeans. They should not be planted on the same site for more than 3 years in a row because yields will continually decrease. The seed bed should be prepared several weeks in advance of actual planting to aid in weed control and allow the soil to settle. Lime and fertilizer should be applied at this time according to soil test recommendations. For best results, a pre-emergent herbicide should be applied according to recommendation to control weeds and provide sufficient bare ground on which mature seeds can fall so that doves will have optimal feeding conditions.

Plant 5 to 7 pounds of seed per acre in rows 3 feet apart with plants about 1 foot apart in the row. Cover seed 1 inch. If herbicide is not applied, several cultivations will be needed to control grasses and weeds. Care must be taken when cultivating so that plants are not damaged.

When sunflowers are grown in this manner the plants can be left standing without harvesting. Doves can feed easily on seeds as they shatter out onto bare ground. Strips may be mowed after the crop matures to expose more seed and provide open ground for easier retrieval of fallen birds. Mowed strips should be 30 to 100 feet wide and cross strips can be mowed to break the standing sunflowers into blocks. An advantage of manipulating sunflowers in this manner is that hunter capacity of large fields can be improved. Sunflowers provide a substantial amount of taller cover that can be used to separate and distribute hunters throughout large fields when the plants remain standing in blocks. Open areas that could not have provided more than one shooting station per 20 acres (which would place hunters 300 yards apart for safety in open areas) may be managed to comfortably allow several hunters around a standing block of sunflowers.

Browntop and Proso Millet

Browntop and proso millet are preferred dove foods and the most common crops planted to attract doves. They are adapted to a variety of soils and site conditions. Browntop matures in 70 days; proso millet matures in 80 days. Both crops can be planted at the same time on adjacent sites to extend the time period during which mature seeds are available to doves. Do not mix the two seeds on the same site, however, since the browntop will mature and the seed will fall into the still growing proso where it will be unavailable to doves. For best seed production, plantings should be made before mid-July. For a September dove season opening, plantings should be made from early to mid-June.

Prepare the seed bed several weeks before planting, and apply lime and fertilizer according to soil test. Millet can be broadcast or planted in rows. Best feeding conditions for doves occur when seed is planted in rows. Plant 8 to 10 pounds



Photo courtesy of Bob Farris

The mourning dove is the most abundant gamebird in North America.

of seed per acre in rows 3 feet apart. Cover seed 1 inch or less in depth. Herbicide application of several cultivations should be made between rows to control weeds and provide bare ground. No harvesting of the crop to attract doves is necessary if millet is grown in this manner. When broadcast planting, apply 20 pounds of seed per acre. Since weeds cannot be controlled in broadcast stands, the crop should be mowed after seeds mature and at least 2 weeks prior to hunting. After the plants have dried they should be raked and baled. This will leave seed scattered on relatively open ground where it is available to doves.

Combination Dove Fields

The period of time over which seed is available to doves can be extended by planting alternating strips of browntop millet, proso millet and sunflower on staggered planting dates so that crops mature over a period of time. For late season shooting, hybrid corn can also be included as a crop that will provide seed for doves after the others have disappeared. Choose a late maturing variety and plant so that the seed will mature before frost. The corn should be mechanically harvested or mowed at least 2 weeks prior to hunting to make scattered kernels available to doves.

Legal Requirements

Crops that have been grown for the purpose of attracting doves and manipulated by harvesting or mowing to make seed more available to feeding birds can be legally hunted. Harvested agricultural crops or seeds sown as part of bona fide agricultural operations that attract doves can also be legally hunted. It is illegal to hunt doves on fields where a crop has been harvested and redistributed or more seed added, or on crop fields that have been "sown" several times. These are not normal agricultural practices. Plantings for wildlife are not considered a normal agricultural practice, and doves attracted to freshly planted seed on these areas cannot be legally hunted. Growing a crop to attract doves is an effective management practice, and hunting doves attracted to such crops is a legal activity. ♣

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Uneven-aged Management Of Pine: A Challenging Opportunity

by L. KEVILLE LARSON, Larson & McGowin, Inc., Mobile, Alabama

There are 8.5 million acres of natural pine and pine hardwood forest types in Alabama. On these lands, past management or natural events sometimes create uneven-aged stands which may be loosely described as multi-storied. Such stands perhaps have an overstory, midstory and understory, or at least two out of the three. The first reaction of many landowners and foresters, conditioned by years of plantation management psychology, is to work toward a uniform size and spacing of the trees. This may be a mistake. Uneven-aged stands **can** be managed, and in many cases represent an overlooked opportunity to maintain a well stocked forest with good merchantable volume at all times.

Characteristics of an Uneven-aged Stand

The pines of the South are frequently described as being intolerant of shade and therefore needing the full sunlight of a clearcut for successful growth. This is an exaggeration. Pines like the sun, but as we have all observed, can survive and grow in partial shade, especially at younger ages. Loblolly and shortleaf are more shade tolerant, but even slash and longleaf can grow in uneven-aged stands.

A feature of uneven-aged management is that with trees of different sizes using different areas of soil space and air space, competition is less than in a fully stocked even-aged stand. Seedlings and saplings may be growing directly under larger trees with high crowns, as well as in small openings. As described by Russ Reynolds, "Many of these trees are half grown replacements for the dominant trees when the larger trees are cut. They are there waiting for growing space and it is not necessary to start with new seedlings in the opening made by the cutting of the bigger tree" (Reynolds, 1974). At the same time, the reduced competition allows the larger trees to increase faster in diameter than in a

fully stocked even-aged stand. This can allow frequent cuttings of the larger, high-value trees. Many of the advantages of uneven-aged stands derive from the continuous progression of trees from large to small on an acre. Uneven-aged management is not easily adopted as a complete system on large properties—say over 1,000 acres—and requires real silvicultural understanding and technical skill to perpetuate as a permanent condition over a long time. However, for smaller tracts or specific stands on any property, it can very successfully achieve certain objectives.

Uneven-aged Management Attractive to Some

Forest management practices, of course, depend on landowner objectives and forest conditions. Managing uneven-aged stands may be a useful and attractive management practice for those who (1) are unwilling or unable to invest capital; (2) have stands in need of rehabilitation; (3) believe quality will bring a premium; (4) are interested in natural conditions and appearances; (5) have acres with site constraints; or (6) wish to preserve continuous income opportunities. The reasons cited are discussed below and represent advantages over the option of clearcutting and planting, but some of them also present advantages over even-aged natural stands.

Managing an uneven-aged stand, as in managing any natural stand, generally requires low out-of-pocket capital investment. No costly site preparation and planting is required. This will appeal to the "land poor" or the heir who has just cut much of the mature timber to pay estate taxes. It may even appeal to owners with available capital who realize although a plantation yields more total merchantable volume, the return on investment can be much greater from managing natural stands. Money invested in a plantation is not only illiquid for a long time but is also at risk of damage from fire, climatic extreme or other natural

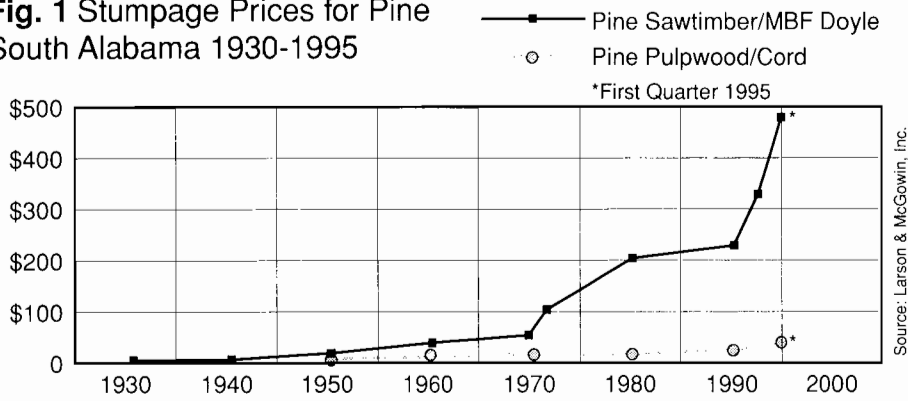
disaster. In the past, those who used any extra capital to buy more acres, and minimized investment by encouraging their natural stands, have done well. Some studies have demonstrated excellent potential for volume and value increase when stands or tracts that are understocked, but have trees of varying sizes, are left to grow. Return on investment is often sooner, greater and more often than had the stand been planted. Some studies have suggested that for higher value products there are cost efficiency advantages to managing what you have, even if understocked, instead of capital-intensive plantations (Baker, 1985).

Quantity or Quality?

Since the rebirth of the Southern forest we have debated the question of whether quantity or quality will be the more important issue for Southern pine. Certainly the historic price trend comparison for pulpwood and sawtimber demonstrates the wisdom of those who chose to grow quality (see Figure 1). It is apparent today that quantity is becoming a more important issue for the South, however, many believe quality always commands a premium well worth any extra time and cost. Uneven-aged forest management, which uses a target volume and cutting cycle for control instead of rotation age, puts a higher emphasis on and produces a higher percentage output of, quality products such as poles, veneer and sawtimber. Pulpwood and chip-n-saw are purely by-products.

Surveys of both non-industrial private forest owners and the public find mixed feelings about clearcutting and strong support for preserving environmental and aesthetic values. Such things as plant and animal diversity, habitat maintenance, water quality and soil protection are considered important. Uneven-aged management of pine, perhaps more than any other management type, fits the objective of maintaining natural conditions and appearance. There are trees of different sizes and even

Fig. 1 Stumpage Prices for Pine South Alabama 1930-1995



Source: Larson & McGowan, Inc.

after a cutting, cover is always in place. Textbooks teach that “the soil is better and more evenly protected in the uneven-aged stands” because there are several crown classes of trees present and the canopy is deeper. This protection, afforded by multiple layers, is relatively uniform from year to year since all harvests are partial cuts (Toumey, 1947).

Harvesting the Uneven-aged Stand

Nearly all properties have acres with management constraints that may require some type of cutting limitation. Uneven-aged stands may be particularly appropriate for these situations, which may include fragile soils, steep slopes, streamside management zones or scenic areas. Constraints such as these do not necessarily rule out all cutting, but do preclude clearcutting, which removes all canopy, leaves soil bare and is not scenic to most people. In all these situations stands with several canopies (multi-storied) can still produce timber but protect the site. Many streamside management zones (SMZs) called for under Alabama’s voluntary Best Management Practices have mixed pine-hardwood stands which might be managed to favor pine in uneven-aged stands. This could give a good continuous cover but provide better income than letting the site be dominated by hardwood. To accomplish this, hardwood should be removed, leaving pine of whatever sizes are available, to make up the 50 percent crown cover required to be left, and to reseed the area. Where this works, SMZs can produce a good return.

The opportunity to realize income at any time and shorter periods between cuts are important for nonindustrial private owners who frequently have an average tenure of less than 20 years. As with limited capital, owners with limited time hori-

zons will find advantages in managing an uneven-aged stand. It provides continuous liquidity. There can be periodic cash flows and no long gaps without income. The basic idea is that stands are kept well stocked, and between cuts a stand or compartment grows back the previous volume removed. For instance, a stand with 5,000 feet Doyle per acre might be cut back to 3,000 feet and within six to nine years (depending on site index) will have grown back to 5,000 feet, when another cut may be made. One of the techniques for this is called the “guiding dbh limit” (g.d.l.), in which a diameter limit is picked which will produce the desired volume. In execution however, poor, slow-growing or crowded trees below the g.d.l. are taken and compensated for by trees above the g.d.l. which need to be left. The method also allows considerable market flexibility. Larger trees can be in a holding reserve until prices are higher. (Farrar, 1980)

An Opportunity and a Challenge

Minor points sometimes mentioned in the literature about uneven-aged management include the preservation of natural genetic variability and the fact that because of the varying sizes of trees, there is less vulnerability to losses from risks such as fire, ice storms or insect attack. Also mentioned is the fact that silvicultural treatments such as prescribed burning, tree injection or use of herbicides may be used to improve uneven-aged stands. Logging damage has been a significant deterrent to uneven-aged management. Today, improvements in logging equipment, which is now often smaller, lighter and more versatile, along with better trained operators and more attention to logging techniques, such as directional felling, should encourage more foresters to consider managing uneven-aged pine stands. It is suitable for

environmentally sensitive places and times because it follows and fits into nature’s pattern of growth and development. It also satisfies the owner’s objective of periodic removal of high value products.

Uneven-aged management is a feasible alternative and should be in the repertoire of any forester, especially those in consulting, extension or landowner assistance because they work with nonindustrial private owners. It is an opportunity and a challenge for landowners and foresters and an excellent method for economic and environmental success. ♻️

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Game Management in the Longleaf Pine Forest Type

by RHETT JOHNSON, Director, Dixon Forestry Center

Game management in the longleaf pine ecosystem is very similar to game management in any of the other southern pine forest types, with a few significant differences. For instance, longleaf forests today typically occur on nutrient poor soils that range from extremely droughty sands to fairly productive loamy sands. These soils are usually low in organic matter and plant nutrients, particularly nitrogen, leach quickly

fire adapted plant community. It tolerates fire throughout most of its life cycle, may be burned later in the growing season than other pines, and often may be burned “hotter” than other Southern pines. These characteristics make fire a very flexible tool in the hands of forest and wildlife managers. Through its judicious use, plant communities in the forest system may be set at desired successional stages to favor selected wildlife

op good seed crops, provide fuel for competition-controlling fires, and shelter the young stand until it is well established and ready for release from the overstory. The structure of the forest achieved through the shelterwood system is ideal for many favorite Southern game species. In addition, there is growing evidence that longleaf may be managed successfully in an uneven-aged system, although there may be some growth and financial tradeoffs necessary. Young longleaf stands, either planted or in natural situations, retain herbaceous components much longer than do young stands of other Southern pines. The unusual growth form and the “grass stage” most seedlings experience for varying lengths of time delay canopy closure for 15 years or more for plantings on typical spacings. This characteristic, of course, favors many game species and aids in the use of fire as a management tool.



A 6-year-old longleaf plantation

through the root zone and are unavailable to surface vegetation. These nutrient deficient, moisture limited soils grow forages and fruits that are often low in nutritional value, are unsuitable for many commonly planted wildlife foods, and will support only a few specially adapted succulent plants in dry periods. These habitat limitations restrict carrying capacity of these forests for many wildlife species in general and some game species in particular.

The Longleaf Forest

Another characteristic of the longleaf forest which makes it different from the other Southern pines in regard to wildlife is the frequent use of fire in its management throughout the life of a stand. Longleaf is a fire adapted species, part of a



A mature burned longleaf forest

species. Or a variety of habitat types may be created to accommodate several different species or to address a variety of needs for one or more target species.

Longleaf regeneration and its growth forms also are a little different than those of other Southern pines and these differences may be used to influence wildlife habitat quality. Natural regeneration of longleaf is usually accomplished via the shelterwood method, where several cuts are employed to select seed trees, devel-

Using Prescribed Fire

Managers can affect the plant community under and in which longleaf grows by varying fire frequency, intensity, and season. Winter or dormant season burns every two or three years seem to be a standard choice in many forest management plans and provide a good middle ground for management of most Southern game species. This type of fire top-kills woody brush, especially if backing fires or strip headfires are used, and stimulates sprouting to provide readily available nutritious succulent browse for whitetail deer. Fires of this type and frequency also allow fruiting species such as huckleberry and blueberry time to produce good quantities of these valuable wildlife foods between burns.

Burns later in the dormant season have the advantage of a shorter “black”

period and a quicker “green up” in the spring. If adequate sunlight is allowed to filter through the canopy, at least some herbaceous response should result and legumes, grasses, and other forbs produce valuable seeds and a substrate for the insect populations which are invaluable in the early lives of turkey poults and quail chicks. Repeated winter burns in many longleaf forests can lead to a temporarily dominant community of bracken fern, a plant with no wildlife value and some negative aspects. Annual winter fires, as practiced on many longleaf forests to improve grazing or quail habitat, may actually reduce nesting and brood rearing cover to the point that increased losses to predation outweigh any positive effects of the fire regime. “Ring-arounds” (an unburned area inside a burned area) are frequently used to provide cover and can be successful in doing so if they are large enough in size. Excluded areas should be no smaller than an acre and ideally should be three or more acres in size. Smaller areas tend to concentrate nests and, consequently, predators, and may function as potential population sinks.

Early spring and growing season burns can eliminate much of the woody perennial vegetation from the understory of longleaf stands, leaving a community of forbs and grasses and favoring those wildlife species which are desirous of small seeds, grazing, insects, and open spaces. Bracken fern is selected against by growing season burns. However, growing season burns may serve to decrease production of fruits by woody shrubs as well as permanent cover. Ground and shrub nesting birds will be adversely affected by late spring and growing season burns, but if burned areas are reasonably small in size (<100 acres) and a “patchwork” of burned and unburned areas is maintained, there should be adequate re-nesting to offset the losses. Some combination of dormant and growing season fires might be best for the widest variety of wildlife species.

Many longleaf forests consist of a series of sandy ridges cut by small drains or stringers containing bays, ti-ti, fetterbush, etc. These stringers can make useful firebreaks and it is recom-

mended that firelines not be plowed to exclude them from the burn. The abrupt edge created by the fireline interface is unnatural and excludes many of the transitional zone plants and accompanying wildlife habitat from the system.

Wildlife Thrive in Longleaf

Game species that thrive in the longleaf forest include whitetail deer, wild turkey, bobwhite quail, cottontail rabbit, fox squirrel, and, surprisingly, the grey squirrel. The open nature of a managed longleaf forest with its intermingling of drains to provide travel corridors, water, and escape and resting cover appeal especially to quail, turkeys, and fox squirrels. They are all highly visually oriented and the sparse understory provides a clear view of their surroundings. Some of the favorite foods of these species are to be found in these forests. Soft masts like blueberries, huckleberries, dogwood berries, and persimmon all occur regularly. Hard mast species like post oaks, bluejack oaks, water oaks, laurel oaks, live oaks, turkey oaks, Southern red oaks, dwarf live oaks and hickories provide valuable food during the fall and early winter. An overlooked food source of excellent palatability and nutritional value is the longleaf pine itself. The seed is the largest of the Southern pines and is a fall favorite of grey and fox squirrels, turkeys, and quail.

Deer browse the sprouts of woody species top-killed by fire. Huckleberries and blueberries are particular favorites in south Alabama and are seldom found unbrowsed. Other, less favored species include hollies, yaupon, and beautyberry. Mallow or wild hibiscus is a frequent component of the longleaf understory and may be used as an indicator of very high deer populations relative to the habitat's carrying capacity. If this species is frequently browsed, look out! The hard coated seeds of many legumes, such as wild lespedezas, partridge pea, beggar lice, and others survive fires very well and may even be scarified by them, hastening and improving germination. Ragweed often follows fires in open stands and has been shown to be a frequent and important component in quail crops.



Chufas is a wildlife food perfectly suited to grow on longleaf sites.

Wildlife Plantings

One of the limitations of wildlife management in the longleaf ecosystem is the difficulty in successfully growing many of the available and popular wildlife food supplements on the sites on which longleaf occurs. From my personal experience, almost any crop may be grown with some success given good rainfall, but it is difficult to grow almost all in very dry periods. I have had limited success with small grains planted as winter forages on the sandier soils and have achieved my best results with top-dressings of nitrogen after planting. I have found the same thing to be true of millets and sorghum planted for seed crops, and have had dismal failures during hot, dry summers and falls. I have had better success with Egyptian wheat as a seed source, except in the driest of years. Corn, another crop which requires good soil moisture and high nitrogen levels to produce well, typically is not successful in the longleaf forest.

Most of the soils are too dry for white or ladino clovers, but I have had success with crimson, red, and red-top clovers in plots in longleaf sites on loamy sands. The one wildlife food supplement that seems perfectly suited for longleaf sites is chufas. The fibrous tubers are favorites for turkeys and quail, and rabbits and squirrels eat them readily if turkeys scratch them up. We have also gotten improved results when we top-dress chufas with nitrogen. Drilled chufas are usually more productive than broadcast seed and more easily cultivated. In areas with high raccoon populations, however, the rows draw them like magnets and turkeys don't get much

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benefit from the planting. Another pest animal on chufas is the feral hog, which many regard highly as a game animal. Hogs and longleaf are not a particularly good mix. Hogs can devastate longleaf regeneration and chufa patches quickly, and I would recommend they be excluded from longleaf forests where possible.

Perennial wildlife plantings can be successful in longleaf forests if chosen carefully. I have had good success with bicolor and thumbergii lespedezas on all but the poorest soils. Autumn olive will grow successfully on many longleaf sites and sawtooth oak will do well on the better loamy sands with cultivation during the first establishment years. Partridge pea is a productive seed producer for quail and turkeys on all but the driest soils and will reseed if fire or other soil disturbance is present. Deer will not browse partridge pea.

Nesting Boxes

Research carried out at the Solon Dixon Forestry Education Center by Rich Fisher, Tom Nupp, and Nick Holler of Auburn University has revealed that mixed longleaf/upland hardwood forests can support large populations of grey squirrels and that those populations may be increased significantly with the addition of artificial nest boxes. Nest boxes added to pure pine stands did not significantly increase grey squirrel populations, indicating that some other factor, possibly food, is the limiting factor in that type. Fox squirrels use leaf nests almost exclusively and are not affected by the addition of nest boxes to the forest environment.

Summary

The managers of longleaf forests should be experienced in the use of fire and its ecological effects. In addition, managers should recognize the special limitations and advantages inherent in the longleaf forest type for wildlife management. For instance, herd control takes on added importance for deer managers, as relatively poor habitat quality may limit quality potential and carrying capacity. The challenges and rewards of managing longleaf and its associated forest types for timber and wildlife are great. It is encouraging to see renewed interest in this historic native species. ♣

Birmingham Area to Host 12th Landowner Conference

The Twelfth Annual Alabama Landowner and TREASURE Forest Conference will be held September 28-29 in Birmingham. The Wynfrey Hotel is the setting for the indoor sessions, while an outdoor tour of a TREASURE Forest in Shelby County will take place the second day.

The indoor session offers a new option for attendees this year. Programs will be presented on six topics, and participants may choose four of those to attend. Topics expected to be presented include Longleaf Management, Alternative Income Sources, Quail Management, Turkey Management, and Effects of Recent Legislation.

A banquet to honor outstanding TREASURE Forest landowners and county planning committees will be held on Thursday night at the Wynfrey. Jim Byford of the University of Tennessee, Martin will be the guest speaker. Byford is currently dean of the School of Agriculture and Human Environment at UTM. He received his Ph.D. from Auburn University and has received numerous awards and honors over the years, including the Tennessee Conservationist of the Year Award in 1992.

On Friday morning, a tour of the Emory Cunningham property will feature the following topics of interest: Wildlife Management,

Pond Management, and Longleaf Management. The Cunningham property is located in northeast Shelby County and consists of 670 acres. It offers a beautiful setting of rolling hills and valleys comprised of longleaf pine and mixed pine-hardwood stands. These are separated by areas blanketed with wildflowers, native shrubs and clear-flowing streams and lakes. Because of the natural and planted wildlife plots, many game and non-game wildlife species make this their home. Transportation to and from the property from the Wynfrey Hotel will be provided, and a barbecue lunch will be served after the tour.

The Jefferson and Shelby County Forestry Planning Committees are sponsoring this year's conference. Registration for the event is \$35, which includes the indoor sessions, banquet, outdoor tour and lunch on the second day. To avoid the late registration of \$50, please register by August 28.

Once again a special luncheon for TREASURE Forest landowners will take place at 11:30 a.m. on the first day of the conference. The cost of the luncheon, which is open to TREASURE Forest landowners only, is \$15 per attendee.

To register for this year's conference, please fill out and return the form on page 31.

What Is an Ecosystem?

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mosaic of connected ecosystems within your property boundaries.

I don't remember who, but someone once said, "No one is an island unto themselves." That's true; you're connected somehow to other people and to living and nonliving elements in your surrounding environment. The stream, for example, is a part of a small watershed that is part of a bigger watershed and so on, until the water that was once on your property eventually reaches the Gulf of Mexico. Everyone connected to the stream has a stake in the stream ecosystem and a responsibility to avoid messing things up for neighbors downstream. There are other ways that neighbors may be connected within an ecosystem, such as sharing part of the range for some species of wildlife. How many different ecosystems can you identify around the immediate community

where you live? Which ones appear fairly natural and which ones are the results of human manipulation of living and nonliving elements within the environment?

If you believe that "variety is the spice of life," then you'll agree that Alabama is blessed with a wide diversity of ecosystems statewide. This diversity can best be appreciated by traveling around the state. In addition to local variations in soils, hydrology, vegetation and wildlife, there are also regional variations in topography and geology that vary from the shores of Dauphin Island in Mobile County to the mountains and plateaus of Talladega and Jackson Counties. It must also be mentioned that a huge share of the credit for Alabama's diversity goes to people like you who own the land and manage it for many individual reasons and objectives.

The next time you're on a trip across the state, maybe you'll notice the transitions from one ecosystem to the next at local and regional scales of size. Knock yourself out! ♣

Twelfth Annual Alabama Landowner and TREASURE Forest Conference

Wynfrey Hotel • Birmingham, Alabama • September 28-29, 1995

REGISTRATION FORM

Name(s) of Attendees:

#1 _____

#2 _____

#3 _____

#4 _____

Company: _____

Address: _____

City: _____ State: _____ Zip: _____

CATEGORY(IES) OF ATTENDEES (Check one category only)

#1	#2	#3	#4	
___	___	___	___	TREASURE Forest Landowner
___	___	___	___	Government Agency/TREASURE Forest Landowner
___	___	___	___	Landowner
___	___	___	___	Government Agency/Landowner
___	___	___	___	Government Agency
___	___	___	___	Private Forest Industry/Consultant
___	___	___	___	Other

Indoor session on afternoon of September 28; banquet on night of September 28.

Outdoor tour of Emory Cunningham TREASURE Forest on September 29. Lunch will be provided after Friday's tour.

I am attending the conference and am enclosing

\$35 preregistration x _____ attendees =\$ _____

I am attending the TREASURE Forest Landowner Luncheon and the conference, and am enclosing

\$35 preregistration x _____ attendees, plus \$15.00 x _____ luncheon attendees = \$ _____

NOTE: The TREASURE Forest Luncheon is for TREASURE Forest landowners only. Luncheon is by preregistration only.

CONFERENCE INFORMATION

- **The first day of the conference is indoors. The second day will be an outdoor tour. Please dress appropriately.**
- The registration fee includes indoor session and banquet on Thursday; tour and lunch on Friday. Registration will be from 10:00 a.m. until 2:00 p.m. Sept. 28. Preregistration fee for conference **per person if postmarked by August 28 is \$35.**
- Preregistration fee for conference and TREASURE Forest Luncheon **per person if postmarked by August 28 is \$50.**
- **NOTE:** The TREASURE Forest Luncheon is for TREASURE Forest landowners only. Luncheon is by preregistration only. Luncheon will begin at 11:30.
- Registration fee for the conference after August 28 is \$50.
- Mail upper portion of form and fee payable to **Alabama Forestry Conference to:
Ginger Mullins, Alabama Farmers Federation, P.O. Box 11000, Montgomery, AL 36191; 334-613-4293.**

HOTEL INFORMATION

- You will need to make your own reservations.
- The Wynfrey Hotel is offering a special room rate of \$80 single or double. Please specify that you are attending the Alabama Landowner & TREASURE Forest Conference when you make reservations there.
Wynfrey Hotel, 1000 Riverchase Galleria, Birmingham, AL 35244; 1-800-476-7006
- A registration confirmation, map, agenda, and complete list of area hotels will be sent to everyone who preregisters.

Alabama Forestry Commission 1995-96 Season

Orders are now being taken for the 1995-96 Season. The seedlings will be available to pick up and plant after December 1. Orders are taken on a first-come first-served basis. To obtain an order form, call your Alabama Forestry Commission county office; the seedling sales office in the Montgomery Headquarters at (334) 240-9345; FAX a request to (334) 240-9390; or write to: Seedling Order Form Request, Alabama Forestry Commission, P. O. Box 302550, Montgomery, AL 36130-2550.

PINE & HARDWOOD SEEDLING PRICE LIST

PINES

	\$ FOR 500	\$ PER 1,000
Improved Loblolly		
<i>Coastal Seed Source</i>	\$20	\$30
<i>Piedmont Seed Source</i>	\$20	\$30
2nd Generation Loblolly		
<i>Piedmont Seed Source</i>	\$22	\$35
Improved Slash	\$20	\$30
Longleaf.....	\$30	\$50

HARDWOODS

1 year old seedlings: *Green Ash, Yellow Poplar, Nuttall Oak, Shumard Oak, Water Oak, White Oak*

2 year old seedlings: *Cherrybark Oak*

Hardwood Prices

Orders of hardwoods totalling

*100-1,900 trees	*2,000+ trees
\$ Per 100	\$ Per 1,000
\$20	\$150

*Total hardwoods together to determine the price to use
The minimum order of hardwood seedlings is 100 per species

All loblolly and slash pine, including the second generation loblolly are **SUPER TREES**, genetically improved for sites in Alabama. All seedlings are guaranteed to be of high quality, healthy and vigorous.

WILDLIFE SPECIES PRICE LIST

LESPEDEZA

	500 Seedlings	Per 1,000
Thunbergii.....	\$ 25	\$ 40
Bicolor	\$ 25	\$ 40

OTHER WILDLIFE SPECIES

Autumn Olive, Chinese Chestnut, Crab Apple, Dogwood, Allegheny Plum, Overcup Oak, Persimmon, Redbud, Sawtooth Oak, Wild Pecan

Pricing For These Wildlife Species

25 trees	100 trees	500 trees	1,000+ trees
\$ 12	\$ 40	\$150	\$ 250/M

Species may be mixed on the wildlife species orders

The Alabama Forestry Commission encourages planting for wildlife in our TREASURE Forest plans and also on the state's cost-share program plans. To enable landowners to locate tree seedlings that would be beneficial to wildlife, we have added new species to our nursery production this season. A one-time planting of tree seedlings that will bear fruit for wildlife to eat can be more cost efficient for landowners than planting different grasses annually. We have brochures on our wildlife species seedlings to guide you in making a selection. Call or write to the Alabama Forestry Commission to receive one of the brochures.



Alabama's TREASURED Forests
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 Montgomery, Alabama 36130-2550

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