

Alabama's **TREASURED Forests**

WINTER 1997

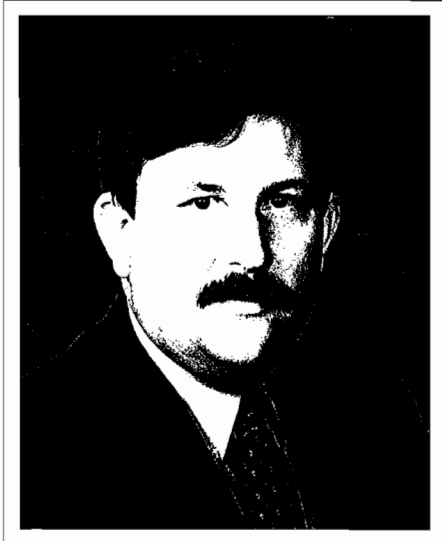
TEAM TREASURE FOREST



2 MILLION BY 2000

STATE FORESTER'S MESSAGE

by TIMOTHY C. BOYCE, State Forester



Our 1996 Alabama TREASURE Forest and Landowner Conference was a tremendous success. The landowners were enthusiastic and seemed to enjoy the time spent sharing information and ideas about their land management techniques with each other.

Prior to the conference, the Alabama TREASURE Forest Landowners Association and the Alabama Forestry Commission held a meeting with TREASURE Forest county leaders to discuss the implementation of an environmental education plan. The plan calls for using three types of educational materials: Plan-It 3, an environmental education program available from Stewards of Family Farms, Ranches and Forests; Project Learning Tree, a national environmental curriculum; and Adopt-A-School, a program strongly supported by the Alabama TREASURE Forest Landowners Association.

We also discussed the need to recruit landowners into the TREASURE Forest program. Follow-up meetings in each region of the Alabama Forestry Commission are planned to discuss specific ways to accomplish this.

The TREASURE Forest program is still the premier forest management program in the nation, but there is still more to be accomplished. Too many landowners are unaware of the program. With an increased emphasis on individual contacts with private landowners, many more acres can be certified.

The Forestry Commission has adopted a goal of having 2 million acres managed under the TREASURE Forest program by the year 2000. I have also challenged other members of the Alabama Forestry Planning Committee to adopt this goal of "2 Million by 2000." You can read more about this goal on page 24.

I am asking that you join me and others in the forestry community in adopting this goal. I truly believe that the goal is realistic, and that if we combine our resources in this effort, we will surpass our expectations.

Sincerely,

A handwritten signature in cursive script that reads "Timothy C. Boyce". The signature is written in dark ink and is positioned above the printed name.

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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Timber, *Wildlife,* Education

"We've enjoyed it and we'll continue doing it."

by **COLEEN VANSANT,**
Forest Education Specialist, Alabama Forestry Commission, N.E. Region, Cullman

▲ **Hayfields and wildlife corridors are scattered over the property.**

Last year four TREASURE Forest landowners out of over 1,000 in our state were recognized for their outstanding efforts by being awarded the Helene Mosley Memorial TREASURE Forest Award. With a little over 1.5 million acres certified in the TREASURE program, these landowners are indeed "one in a million." A little different in some way; going the extra mile; putting a little more into it; making the ultimate commitment and sacrifice. The extra effort, determination, and giving of themselves are what made Horten "Buddy" and Gayle Adcox of Coosa County stand out as the northeast regional winners of the Mosley Award.

Buddy and Gayle purchased their first 42 acres of land in Coosa County in 1978 after Buddy's retirement from the military. After 20 years of army life, having their own farm to come back to every day was a breath of fresh air to the couple and their three daughters. During Buddy's years in the Army the family lived in exotic and far away places like Ethiopia, Thailand, Turkey, and Germany, and some places closer to home, including Maryland, Virginia, Florida,



▲ **A variety of species are used for educational purposes.**

and Texas. "Everything was so restricted in the military," says Buddy. Coming back to their home county permanently took some adjustment.

Buddy's work with the Alabama Forestry Commission introduced him to multiple-use forest management. In 1989, after accumulating a total of 208 acres, Buddy and Gayle's property was certified as a TREASURE Forest. In 1995 the couple were re-certified as a TREA-

SURE Forest with a total of 293 acres of land.

Timber and Wildlife Go Hand in Hand

With timber and wildlife as their objectives, the couple has succeeded in carrying out a multiple-use plan for their farm. Their farm is as diverse as any you will find, including approximately 70 acres of upland and bottomland hardwood managed for mast production for deer and turkey. Roads criss-crossing the property provide easy access to all areas, as well as functioning as firebreaks, four-wheeler and walking trails, and wildlife openings.

Pine timber on the farm is both planted and natural and ranges in age from one year to 40 years old. An active prescribed burning plan is utilized for a variety of purposes including site prep, competition control and wildlife enhancement. In 1993 and 1995 pre-commercial thinnings were conducted on two separate tracts, and in 1996 approximately 25 acres of 40-year-old pine was harvested and re-seeded.

Wildlife is the couple's secondary objective, but in talking with them you

soon realize that they are not managing as much for hunting as they are for the pure enjoyment of the many animals that pass through or call their farm home. They laugh and talk about the enjoyment they get watching deer and other animals while taking walks, and even of hiding in the bushes and grass with their grandchildren so they could watch one animal or another. Around 35 acres of hay fields help support the wide variety of wildlife on the farm. The couple has left wildlife corridors, hardwood stands and stream-side management zones between the fields to provide cover and mast-producing trees for the deer, turkey, and other animals. Approximately 75 sawtooth oaks, 18 plum trees, and four apple trees have been planted to encourage wildlife to the area.

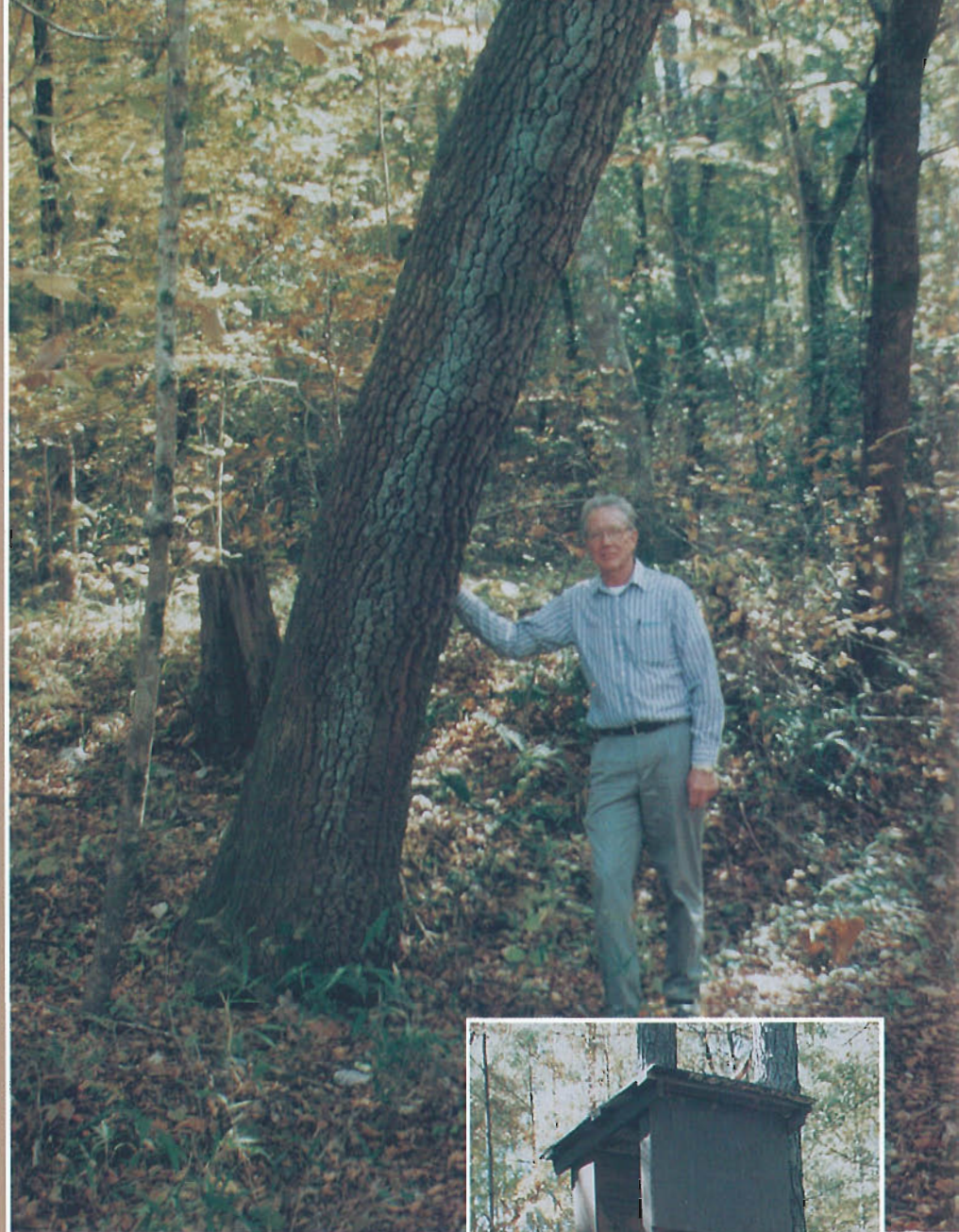
Wood duck boxes have been constructed and placed near the three creeks on the Adcox's property and bluebird boxes have been erected. They even put up owl boxes to attract barn owls. The couple laughs when they tell that all they have attracted to the owl boxes are the neighborhood squirrels. Several acres of planted food plots are scattered across the farm which provide both hunting opportunities and wildlife watching by Buddy, Gayle and their grandchildren.

There are two added attractions the Adcox family likes to show to company. They are the state champion eastern hophornbeam on Weogufka Creek, certified in 1990, and the state champion sourwood on Hatchet Creek, which was certified in 1996. Trees declared state champions are the largest of their species that have been found in the state.

Education a Priority

Although timber and wildlife are Buddy and Gayle's top objectives, they will quickly tell you they have a third objective that is very close to their hearts—education. Over the last few years the Adcox's TREASURE Forest has become a showplace and training ground for fellow landowners, the community, and the youth of Coosa County.

Since 1990 the Coosa Area 4-H Forestry Judging Invitational has been held on the property. Hundreds of school children from seven counties have traveled to the Adcox's TREASURE Forest to compete and have a first-hand look at multiple-use forest management at its



▲ Buddy with the state champion sourwood tree. The tree measures 70.5 inches in circumference, with a height of 73 feet.

best. According to Buddy, his farm has 65-70 different tree species on it. The couple enhanced the diversity of their different tree species by planting many that were not on their property, including sawtooth oak, pin oak, water tupelo, swamp tupelo, cypress, Ohio buckeye, and cucumber trees. This tremendous diversity is an ideal environment for learning as well as competition. Their efforts to support the forestry judging have paid off; teams visiting their farm in competition

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▲ Buddy and his grandsons built this shelter for hunting and wildlife watching.

Editor's Understory

by COLEEN VANSANT, Forest Education Specialist, Alabama Forestry Commission, N.E. Region, Cullman

I like Buddy and Gayle Adcox. I liked them before I visited their home and TREASURE Forest in Coosa County, but I really liked them after I spent a few hours with them. They are what you'd call "good folks." They're down to earth, traditional, diverse, proud, committed and extremely family oriented. They love the simple things in life like children, birds, a morning walk. They have a wonderful way of making you feel welcome. They're the type of people you really want to visit again.

Buddy and Gayle immediately welcome you into their big rambling farm house and right off you feel at home. They've remodeled and restored the old home themselves over the years and they're proud of what they've accomplished. Their home reflects a lot of themselves. Almost every room contains antiques they've collected over the years from the far away places they've lived while in the military. Beautiful clocks, a collection of military smoking pipes, and European furniture grace the house. Their family room reflects their love of hunting with a display of trophy animals.

They have made their home in exotic places like Ethiopia, Turkey, Thailand

and Germany. They've seen and met many different people, lived in different cultures, and experienced so many things that most of us only dream about. They love to talk about their experiences and

he has gone fishing with his grandsons. He smiles with pride as he tells the story about how he and his two oldest grandsons built a wooden stand for hunting and watching wildlife.



Buddy and Gayle Adcox

Both Buddy and Gayle feel it's important to educate, and they tell how they show their grandchildren about trees and birds and all of the different animals on their farm. The Adcoxes don't just tell them—they show them, and they experience it with them. As both of them said during my visit: they're "making memories."

It's this wonderful gift the couple has of sharing both themselves and what they have with others that makes them unique and special. This gift of

share what they've encountered and seen over the years with other people.

The Adcoxes love their children and grandchildren. They enjoy every moment and every moment is precious to them. You can't go very far on their farm with them without one of them sharing some magical moment they have had with one of their grandchildren.

They both laugh and joke about the fact that they've "worn out a riding lawn mower" riding the grandchildren around the farm. Buddy laughs about the times

giving has made an impact on the hundreds of people that have visited their home and farm. Most everyone who visits the Adcox farm leaves a little different, by learning something new, seeing something different, or experiencing something that has never been experienced before.

To Buddy and Gayle from all of the scouts, school children, landowners, friends and family who you've share so much with over the years, "Thanks for the memories." ☪

Alabama's Pine Seedling Shortage

by JOHN RICE, Nursery & Tree Improvement Forester, Alabama Forestry Commission

Alabama landowners are facing another year with a shortage of pine seedlings to reforest or plant their lands. Tree planting cycles are erratic and difficult to predict. Over the past 50 years in Alabama, tree planting in general has increased from approximately 10,000 acres a year in 1950 to approximately 112,000 acres a year in 1995. There were many peaks and valleys during this time. Two banner planting peaks are most notable: the first was in the late 1950s when the Soil Bank Program bloomed, and the second was during the late 1980s when the Conservation Reserve Program (CRP) took effect.

The Alabama Forestry Commission (AFC) has been growing seedlings for more than 50 years. During that time, the AFC nurseries have tried to meet or slightly exceed the public's demand for seedlings. In early 1989, after significantly increasing production to meet the increased seedling demand due to CRP, the AFC destroyed more than 22 million unsold pine seedlings after sales suddenly collapsed. For most of the years since then, the demand for AFC seedlings has remained at a much lower level. The result is the discontinued production of seedlings at the Jake Stauffer State Nursery near Opelika after the 1990-91 season, and at the John R. Miller State Nursery near Autaugaville after the 1992-93 season. Since then, all state bareroot seedlings have been grown at E.A. Hauss Nursery near Atmore.

Demand Suddenly Increased

Despite cutbacks in government sponsored cost-share tree planting programs, the demand for seedlings exploded during the 1994-95 season and the increased demand continued during the current (1996-97) season. Several factors may have contributed to the increased seedling demand:

- Timber stumpage prices skyrocketed over the past few years.
- Cattle prices have fallen and remained down, resulting in pasture land being planted to the more valuable trees.
- The natural trend is cyclic and we are on an upward trend.
- Recent storms have damaged timber and the Southern pine beetle has destroyed trees across the state; both factors have prompted landowners to replant what they lost.

Since there is no one well-defined reason for the increased need, anticipating the demand for seedlings is a very difficult, if not impossible, chore. For some hardwoods with early seed fall and fall-sown longleaf pine, the planned production numbers have to be determined up to 1.5 years in advance.

Nurseries, like most agricultural operations, are vulnerable to the weather. Despite increasing the planned seedling production at AFC's Hauss Nursery this year, a heavy rainstorm shortly after planting resulted in a loss of approximately 6 million seedlings. Those seedlings could certainly have been used this year.

Another challenge now facing the state's nursery program is that it must

now be self-supporting. We no longer compete for funds from the state's general fund, but have to grow and sell enough seedlings to support the state nursery and seed orchard programs. In the past, when we destroyed millions of unsold seedlings, our feelings were hurt; now millions of unsold seedlings can lead to more serious consequences.

Before the recent upsurge in seedling demand, December was the AFC's number one sales month. This meant that harvesting operations began with many seedlings unsold. During the past two seasons, all pine seedlings were sold by early to mid summer. Nurseries, state and private, will continue to gear up for the increased demand. The largest percentage of state-grown seedlings is planted in Alabama on private, individually owned land and our goal will continue to be to serve the people of Alabama.

Seedlings from the Forestry Commission nursery will be used to meet the needs of approximately 1,300 landowners this year. Next year we plan to increase pine seedling production by more than 11 million above current production levels. With this increased production the Forestry Commission hopes to meet the future needs of all Alabama landowners. ♣

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Smoke Management Considerations for Prescribe Burners

by DAVID A. FREDERICK, R.F., Alabama Forestry Commission



This burn was conducted during favorable conditions so the smoke does not affect a nearby road.



Smoke near a busy road can be a safety hazard.

The value of prescribed burning as a forest management tool is well known among forestry practitioners. However, like many tools, prescribed burning can be dangerous if the user is not properly trained. Safety should always be a primary focus when prescribed burning is being planned and conducted. The purpose of this article is to review some basic safety considerations related to prescribed burning.

The most important thing to remember is don't attempt to do something for which you don't have adequate training and experience. If you haven't burned before, seek the assistance of an experienced burner. A listing of private prescribed burning vendors in your area is available from your local Alabama Forestry Commission office. Your county forester with the Alabama Forestry Commission is also available to do prescribed burning. Have

an experienced prescribed burner develop a written burning plan for you. After you have gained experience, you may want to use the written plan and burn on your own, provided you have adequate manpower and equipment at your disposal.

With regard to burning safely, two main areas must be considered:

1. The fire may escape control and damage or destroy your or someone else's property.
2. Smoke from your burn may cause health hazards to others or reduce visibility in smoke sensitive areas such as airports or highways.

Reducing Smoke

The more serious of these two potential problems is smoke. Prescribed burns should be managed in a way that reduces the amount of smoke produced and ensures that it is dispersed quickly.

There are some relatively simple steps that you can take to reduce the amount of smoke produced by your burn:

1. Burn when fuel moisture content is low. Moisture produces more smoke.
 2. Burn when fuel is dead (winter). Green fuel produces more smoke.
 3. Keep the areas to be burned small.
 4. For site preparation burns, broadcast burn or make small round piles rather than long windrows.
 5. Keep dirt out of piles to be burned. Dirty fuels produce more smoke.
 6. Don't burn at night if you can avoid it. High humidities and lack of wind causes smoke problems.
 7. Don't burn under stagnant, hazy weather conditions.
 8. Burn when the smoke dispersion index is 21 or higher. The dispersion index is available from the Alabama Forestry Commission as part of the fire weather forecast.
- Your goal is to manage the smoke that is produced so it doesn't cause a problem.

(Continued on page 13)

Impacts of Forest Management On Wildlife Resources

SOME MISCONCEPTIONS

by STAN STEWART, Alabama Game and Fish Division, Department of Conservation and Natural Resources and
BRIAN BRADLEY, Alabama Forestry Commission, Huntsville

More than ever before, Americans are aware of the meaningful influence of wildlife in our lives. Even though most Americans now live in urban and suburban environments, they are concerned about protecting the country's wildlife resources. For some, it is because they live in the city, but own land in the country. Others who live in the city lease land for hunting and outdoor recreation. Many people just have a natural affinity for wild creatures and care about their well-being. All of this occurs at a time when society is placing more demands on utilization of natural resources and forest products.

Over the next quarter century, the nation will increasingly rely on Southern forests as a source of wood. Clearly, this is a setting for conflict. The conflicts will be resolved, but not necessarily in a manner that is in the best interests of land use or wildlife resources. Informed positions are needed if correct decisions are to be made regarding protection and management of natural resources. Some common misconceptions about effects of forest management practices on wildlife present a threat to the use of certain practices in forestry and to the ability of wildlife managers to manipulate habitats in the best interests of wildlife.

MISCONCEPTION: Forest Management and Wildlife Management Are Incompatible

Some people believe that only natural areas untouched by man can sustain healthy wildlife populations, and that any activity that interrupts natural cycles must be detrimental to wildlife. This idea stems from the observance by early settlers of abundant and flourishing wildlife

resources in this country. The land teemed with wildlife. As land was altered over time, many of those wild creatures dwindled away. Early efforts to restore wildlife focused on creating parks and preserves to offer total protection from man. Experience, however, proved this to be a faulty approach for many wild creatures. This is because so much of the landscape is affected by human populations that very few natural conditions prevail, and natural processes do not influence the land as they once did. For example, fire is a natural event that rejuvenates habitats of many wild animals. Natural fire events can no longer proceed as they once did due to roads and the need to protect property. The red-cockaded woodpecker, an endangered species, requires specialized fire-influenced habitats that can now only be created by man. The red-cockaded woodpecker cannot survive without management. For most wildlife, the only effective approach now is active management.

Two-thirds of the land in Alabama is forested. Timber harvesting occurs or has occurred in virtually all of this forest. The future of wildlife in Alabama's forests depends on how well the needs of wild animals are considered in forest management activities. For some species, there is an opportunity cost to practicing wildlife habitat management in forests, in terms of lost timber production and revenue. But, most landowners consider wildlife on their property a valuable asset. Just knowing wildlife is out there brings satisfaction, and wildlife is increasingly valuable as a revenue-generating commodity. Abundant game and other wildlife create hunting and other recreational leasing opportunities and add sale value to the

land. Even though practicing wildlife management on forestlands may involve an opportunity cost, most non-industrial private landowners do not, nor will they ever, manage for maximum timber production. Many privately owned non-industrial forests in the state are not managed at all. Most of these forests could benefit from management practices that would enhance wildlife habitats as well as improve timber growth and productivity.

Forestland can be managed to produce both timber and wildlife, and most forest management activities can benefit many wild animals. In the natural process of plant succession, one kind of vegetation replaces another over time. Different animal species are adapted to and associated with the varying stages of plant succession. Some animals prefer grassland. Others thrive in young forest. Some require mature forest. Most animals need combinations of vegetation types. These can be created by a disturbance of the natural progression of plant growth so that all vegetation is not ultimately of the same type. Forest management activities such as timber harvesting, thinning and prescribed burning can alter the forest to provide the plant variety that allows a diversity of wild animals to live. Forest management and wildlife management are compatible; even land managed intensively for timber production can support some wildlife, such as deer that can survive in all forest stages.

There are conflicts between timber managers and wildlife managers over how forest management activities should be conducted. The contention is not that timber harvesting and other forest prac-

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Impacts of Forest Management

Continued from page 9

tices should not occur. The debate is in terms of scale and frequency of operations. All wildlife species have unique life requirements and live across a range of habitat variables. Some can survive in only a narrow range of habitat conditions. Others do well across a wide spectrum of environmental factors. So, no single management approach is best for all wildlife. In general, though, habitat diversity equals wildlife diversity and abundance. Forest operations that create habitat diversity benefit wildlife. Conversely, practices that create extensive monotypes are not so beneficial. This is where conflicts can occur between timber managers and wildlife interests. Wildlife is an important resource to society, and the management of wild animals should be part of forest management planning.

MISCONCEPTION: Fire Is Bad for Wildlife

The “Only You Can Prevent Forest Fires” slogan has probably done wildlife more harm than good. This saying gives the impression that fire in a forest is always harmful to the creatures living there. Obviously, wildfire can be destructive to forests and wildlife, especially if it occurs during the critical young-rearing period of the year. But, fire can also be a renewing force and improve wildlife habitats when properly applied.

Prescribed fire is applied in specific locations under controlled conditions to minimize detrimental effects. The goal of a prescribed burn for wildlife is to create a mosaic of burned and unburned areas that stimulates new plant growth for the future and retains adequate cover for the present. The result of properly applied fire is an assortment of plant species and cover types that provide specific habitat requirements of selected wildlife. For example, fire is often used in open pine forests managed for quail to control dense hardwood brush and replace it with grasses and weeds that offer nesting cover and food. Prescribed burning at three-year intervals is very effective in deer habitats to keep browse plants within reach of deer and stimulate new growth of nutritious forage.

Fire has played an influencing role in

the development of some ecosystems and associated wildlife. The longleaf pine forests of the South were maintained by fire and are recognized to support a great diversity of plant and animal species. Fire can also be used effectively in today’s landscape to create favorable habitat conditions for wildlife.

MISCONCEPTION: Clearcutting Is Bad for Wildlife

Clearcutting of timber has a bad reputation because of its aesthetically unsightly appearance. Clearcutting is popularly conceived as a practice that is destructive to wildlife: if the trees are gone, the homes for wild animals are also gone. But, this assumption is based on an idea that all wildlife live in mature forests and require no other habitats. In fact, most wild animals must have a diversity of habitat types to thrive. Mature forest is no more important in their scheme of life than other required plant stages. It is true that some wild animals are found only in mature forests. It is also true that other wildlife species are adapted to live exclusively in young forests.

Plant succession is the gradual replacement of one plant community by another over time. Each plant community is ecologically valuable and used by different wildlife species during all or parts of their lives. The early stage of plant succession is characterized by plants that are prolific in growth. Weeds, grasses, vines and shrubs rapidly occupy bare ground that is exposed to the sun. These plants grow profusely and produce tremendous amounts of seeds, fruits, forage and cover for wildlife. But, this plant stage is relatively short-lived. Trees soon follow, and the site returns to forest. When mature, the forest ecosystem is very stable, but not very productive. It uses most of its energy just maintaining itself. Wildlife productivity is relatively low. Landscapes that consist of different stages of plant succession and various ages of forest are most productive for wildlife.

Because the early stage of succession is short-lived, the beneficial aspects of a clearcut soon diminish. This is compounded when the site is planted in pine trees that quickly dominate other plants. For these reasons, the size, shape, distribution, frequency and subsequent management of clearcuts are vitally important

aspects of their value to wildlife. In general, large clearcuts are less valuable to wildlife. Extensive early succession habitat fails to provide needed habitat types for some animals, just as extensive mature forest fails to meet all the needs of other species of wildlife. Small, well-distributed clearcuts of 40 acres or less are valuable because they are more completely utilized by wildlife, and they provide adequate early succession habitats when interspersed throughout extensive forested area. A timber harvesting strategy that uses small clearcut sizes, with new cuts created periodically, can often develop good wildlife habitat diversity.

MISCONCEPTION: Pine Forests Are Biological Deserts

Plantation pine forests compose about 16 percent of Alabama’s forestland. Natural pine forests make up an additional 18 percent of the forestland. About one-third of these pine forests are sawtimber size trees, less than one-third are pulpwood size timber, and more than one-third are seedling to sapling size. Mature pine forests are generally considered good wildlife habitats because the age of the forest has advanced to allow a variety of other trees and shrubs to develop beneath the larger pines. Plant diversity within the forest provides food, protective cover and reproductive habitats suitable for many animals.

Young pine forests can also be very productive wildlife habitats because of the profusion of grasses, legumes and other herbaceous plants, shrubs and tree sprouts that grow following exposure of the site to sunlight. Food supplies are varied, cover is lush and nesting sites are abundant. This condition changes rapidly as the pine tree crowns grow together and shade out the sun-loving plants underneath. This can actually happen more rapidly in a naturally regenerated pine forest than in a plantation. The number of young seedlings is often extremely high in natural forests and very little space remains for other plants. Plantations that have been densely stocked with genetically improved, fast growing seedlings may also shade out other vegetation within five to seven years. Thus, plant diversity within the forest is limited and wildlife habitats are few. Some forest animals, usually very mobile ones, can survive in this type forest. Deer, for

example, may continue to be abundant because of extensive protective cover. But, physical condition of the animals declines because food supplies are low.

However, pine plantations have the potential to be good locations for wildlife. When properly managed, plantations provide excellent wildlife habitats and are difficult to recognize as a plantation. This requires planning and management. Too many plantations are established, then neglected for many years, and the result is an unhealthy forest. Tree growth declines due to competition, and trees become weak

and susceptible to disease and insect attacks. This situation can be avoided by planting fewer trees per acre and recognizing from the beginning that plantations require continued management attention. If wildlife is important to the landowner, plantation stocking rates can be limited to about 450 trees per acre. This will lengthen the period before tree crowns shade out vegetation important to wildlife.

Noncommercial thinning can also be used to open up young stands and promote vegetation growth. If this is not feasible, a commercial thin can be performed when trees reach pulpwood size. Additional periodic thinnings can keep the pine canopy open and allow growth of understory plants attractive to wildlife. The stage unproductive to wildlife may be limited to a few years in the life of the forest.

Pine forests are used by many wildlife species and actually allow for more wildlife management opportunities than hardwood forests. Pine forests develop faster. They can be thinned often and prescribed burned to maintain a lush growth of understory plants that many wild animals use for food and cover. The inclusion of pine stands in hardwood dominated landscapes can add needed wildlife habitat

diversity. Pine forests interspersed with other habitat types allow for the greatest wildlife diversity across the landscape.

MISCONCEPTION: Hardwood Forests Are Best for Wildlife

Mature hardwood forests are eye-appealing environments to people. They are open underneath. This makes them easy to walk through and allows a good view. Hardwood forests are attractive to some wildlife, such as the wild turkey, for the same reasons. Some animals, such



This open hardwood stand has no vegetation underneath. These types of stands have limited value for wildlife species when mast is not present.

Photo: Dr. H. Matthews

as gray squirrels, are adapted to live solely within mature hardwood forests. But, most wild animals need a variety of habitat types to meet their year round needs. Wild turkeys prefer hardwood forests as winter habitat because of the mast crops available during this season. During the spring and summer, turkeys frequent open fields to feed and raise broods. Some songbirds require hardwood forests as summer breeding range, but cannot survive there year round and migrate to other regions for winter.

Contrary to popular opinion, about 45 percent of Alabama's forests are hardwood types such as oak-hickory and oak-gum. Another 21 percent is mixed hardwood-pine forest. Although hardwoods are abundant, all of this forest is not high quality wildlife habitat. Over the years,

much of Alabama's hardwood forest has been high-graded. The best trees for timber and wildlife were removed, and forests were gradually and naturally replaced with lower quality trees and more undesirable species. Also, much of today's forest regenerated on abandoned farmland. Initially, these forests were mostly in pine. But, cutting cycles removed pine, and hardwoods like sweetgum and maple became more prevalent. The most valuable hardwoods for wildlife are oaks because of the mast they produce. So, even though hardwoods are

abundant, all hardwood forests do not contain an abundance of high quality mast bearing trees.

Mast-producing hardwood forests are important to wildlife, but only provide part of the habitat requirements of most species. Deer feed heavily on acorns during fall and winter, but need succulent sprouts, herbaceous forage and fruits in other seasons. These food sources are deficient in mature hardwood forests, but are abundant in

young forests. In winter, bare hardwood forests provide deer little concealment and protection from wind, rain and cold. Pines and other conifers are welcome habitat types in these settings. Just as extensive pine forest is not an ideal wildlife habitat, unbroken hardwood forest is also a deficient habitat for many wild animals. A mixture of forest types and ages is most desirable.

CONCLUSION

Forest management and wildlife are not only compatible, they are intertwined. Many species of wildlife thrive as a direct result of well-planned forest management activities. Understanding this relationship is critical to the beneficial management of forests and the wildlife that use them. ♣



Red Oaks and White Oaks Telling the Difference



by TIM L. GOTHARD, Forest Management Chief,
Alabama Forestry Commission

Around 30 different species of oak occur in Alabama. You would have to be fairly knowledgeable and well traveled to be an expert at identifying them all. However, you can become very good at telling whether a particular oak belongs to the red oak or white oak group. Once you know this, you actually know (or can learn) a good deal about some of their qualities.

How Can You Tell?

Leaf tips and acorn caps are two good features that can help you find out which group a particular oak belongs to. The leaves of red oaks have bristle-tipped lobes. White oak leaves do not have bristles. Red oaks have small, wooly hairs on the inside of the acorn caps. The inside of white oak acorn caps are smooth and have no hair. If you have leaves and/or acorn caps (ones not very old are best) from a particular tree, you can probably tell which group the oak belongs to.

What if it's the dead of winter and you can't find an acorn cap or tell which leaves go with which tree? If you do know that you're looking at some type of oak, then check out the bark. If virtually all the bark is soft and flaky enough to be picked off easily with your fingers, you are almost certainly looking at a white oak. If the bark is pretty hard and not flaky, there is a good chance that you are looking at a red oak; however, you need to come back when you have leaves or acorn caps to be sure. A couple of oaks in the white oak group do have relatively hard bark that does not flake. Remember, if you're in this situation and don't have a clue whether your dealing with an oak

or not, the flaky bark technique just makes you dangerous—it may have you telling your friends that hickories and hophornbeams are oaks.

What's the Difference?

If you're successful in using the leaves or acorn caps to determine that you have an oak in one of the two groups, you may not know the exact species of oak you're dealing with but you have enough information to get started.

If your oak is in the white oak group, its acorns mature in one growing season and are sweet to the taste. When they drop from the tree in the fall, they will usually sprout before winter. As well, your oak has wood with pores that are blocked. If your oak is in the red oak group, its acorns mature in two growing seasons, are bitter to the taste, and after

dropping from the tree in the fall they lie dormant until sprouting in the spring. The wood pores of red oak are not blocked. The fact that white oaks have wood pores that are blocked is the reason that their wood is preferred for wooden barrels used to hold liquid—they don't leak.

Acorns are a relished food for a variety of wildlife. The fact that white oak acorns are sweeter is the reason that many wildlife species tend to prefer white oak acorns over red oak acorns when both are available. Nonetheless, these same species will also consume red oak acorns in great quantity.

So take a closer look the next time you walk over your property. With some leaves, acorns, bark, and a little bit of practice, you too can be a red oak/white oak expert. 🍂

Common Red & White Oaks

Red Oak Group

black oak
cherrybark oak
laurel oak
live oak
Northern red oak
Nuttall oak
scarlet oak
Shumard oak
Southern red oak
water oak
willow oak

White Oak Group

chestnut oak
chinkapin oak
overcup oak
post oak
swamp chestnut oak
white oak

Notable Environmental Award Recipient

Editor's Note: The W. Kelly Mosley Environmental Award is one of the most prestigious awards given in Alabama. To encourage nominations and recognize recipients, Alabama's TREASURED Forests will occasionally feature award winners in this column.

Robert E. Waters of Auburn was honored with the W. Kelly Mosley Environmental Award during the 13th Annual Landowner and TREASURE Forest Conference in October 1996. Waters retired in 1988 as a wildlife biologist from the Natural Resources Conservation Service, formerly the Soil Conservation Service. Since retirement he has been an Earth Team volunteer, providing more than 1,000 hours of service.

Waters is a frequent speaker at TREASURE Forest meetings and tours, and also speaks at other forestry and wildlife meetings throughout the state. To share his vast knowledge of forestry and wildlife, Waters wrote a publication, "Some Things You Should Know about Wildlife in Alabama," which was published by the Alabama Forestry Planning Committee in 1994. Because of its popularity, it was recently reprinted.

According to State Conservationist Ronnie Murphy, who made the award presentation, "Robert Waters is the perfect example of what the Mosley Environmental Award is about. Few people have had a greater impact on improving



Robert E. Waters (left) receives the W. Kelly Mosley Environmental Award from Charles Kelly (center), Dept. of Conservation, and Ronnie Murphy, Natural Resources Conservation Service.

the management of Alabama's wildlife resources."

The Mosley Environmental Awards program seeks to publicly recognize achievements that result in wiser use of our renewable natural resources. Almost anyone is eligible: youths, adults, practitioners, professionals, technicians, and private citizens who are concerned with forestry, wildlife, fisheries, soil, water, air, wildflowers, non-game wildlife, environmental education, conservation, and urban forestry.

The award consists of a certificate, a cash award of up to \$500, and a framed limited-edition reproduction print of a painting. Individuals who make successful nominations also receive a copy of the print for their efforts.

Nominations may be submitted anytime of the year and must be in writing. For additional information write to Dr. H. Lee Stribling, Dept. of Zoology and Wildlife Science, 331 Funchess Hall, Auburn University, AL 36849-5414; 334-844-9247. ♻️

Smoke Management Considerations

Continued from page 8

To predict what will happen to smoke during the daylight hours, take a map and look downwind (the direction the wind will blow the smoke) for smoke sensitive areas such as busy roads, dwellings, schools, hospitals, or airports. If it looks like your smoke will affect these types of areas, burn when the wind is from a more favorable direction.

As mentioned earlier, try to burn so that the fire is extinguished and not smoking at night. Generally smoke will behave differently at night than it does during the day. This occurs because the wind speed usually decreases, the temperature drops, and the humidity increases at night. These weather factors often cause smoke to stay low to the ground and drift down drainage (the same direction as water would flow) from the burn site.

In an effort to encourage prescribed burning, the Alabama Legislature passed a

law known as the "Alabama Prescribed Burning Act." This law sets up a **voluntary** prescribed burn manager certification system. Burners who choose to become certified are given additional protection from liability. For more information about the new prescribed burn manager certification process contact David Frederick at the Alabama Forestry Commission, telephone number 334-240-9335.

Remember that fire is one of our most important tools, but it can also be very dangerous. Plan ahead and use fire safely. ♻️

Specialty Markets for Forest Products

by PEGGY H. JAYE, Public Relations Director, The Alabama River Companies



There are numerous special uses of the forest and items gathered or harvested from the forest that can be considered for specialty markets. Landowners must realize, however, that financial benefits from these products hinge primarily on marketing factors.

Specialty products are commonly thought of as products derived from unusual tree species or grades not usually found in abundance in Alabama forests. But there are some other product considerations landowners might investigate, as suggested by Doug Link, area forester for Alabama River Woodlands.

Managing pine plantations for pine straw is becoming a common practice by landowners. This involves raking and baling and selling the baled straw for mulching and landscaping. Instructions are available through your county Extension Service office.

Planting Virginia pines for Christmas trees is also popular. However, this venture requires manual labor and the local market may be saturated. Market research should be done before starting a Christmas tree business, Link suggests.

Hunting and Recreation

Probably the most widely-used non-timber use of forestland is for hunting.

Whether the property is made available for family, friends or others, landowners can receive income by making their land available for hunting. Hunting can be for any or all of a number of game species hunted beginning in September and lasting until early spring. Landowners may

covering all game species. Another way is to use several leases—one for waterfowl, one for deer, and one for turkey, all on the same piece of property. Quail or small game may also be included. Hunting dates (seasons) for each game species and the ability to accommodate multiple

hunting parties on the same piece of property will influence the number of leases that are practical. Liability insurance for hunting, such as that offered through a number of vendors, is a must for the property owner.

Other uses of the property, which could even be incorporated along with hunting leases, would be for recreational uses such as camp sites and other day-use facilities for a fee or seasonal lease. Again, insurance for the property owner is a

good idea. Many families today desire a quiet place to carry the family for special outings, weekends or vacations and are willing to pay for the privilege of experiencing the great outdoors. Bed and breakfast arrangements could be made if there is a camp house, lodge or similar dwelling on the property. Hiking, bicycling, photography, bird and animal watching, wildflowers and plants, and simply sitting around a campfire exchanging stories are some of the enjoyments suited to the forest environment.



Hunting is a popular non-timber use of forestland.

charge a fee based on a permit system, day hunts, or an actual hunting lease signed by both the owner and lessee. The amount charged will be determined by a number of factors including the size of the property, habitat, wildlife population and quality, location, accessibility, demand for hunting land in the area, and length of permit or lease period. Trapping is an additional way to generate income.

Hunting rights may be leased in a variety of ways. One way is to use one lease

Nontraditional Products and Specialty Hardwoods

The forest contains an abundance of other nontraditional products available for marketing. These may include gathering materials for dried flowers, floral arrangements and decorations, craft items, wild berries, fruits and nuts, firewood for home use, kindling, herbs for medicinal purposes, Spanish moss for stuffing, mushroom gathering, etc.

The U.S. Forest Service has information on income opportunities in special forest products with ideas ranging from aromatics (such as birch oil and cedar leaf oil) to flavorwood (like hickory and oak).

As for marketing the tree itself, Leonard Breeman, Manager of Forest Operations for Alabama River Woodlands, offers this advice. When considering the sale of specialty wood, the first requirement for marketing is to have a saleable volume of logs. There must also be a mill in the area to purchase the logs.

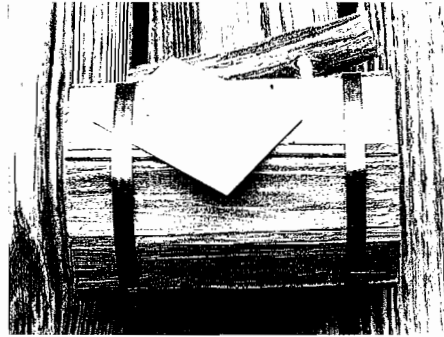
A good timber cruise by a forester who knows the local market is the first step in marketing for highest value, according to Breeman. If specialty products in sufficient quantity are identified, the forester is best suited to contact area log buyers and make them aware of the sale.

If your property contains only a small amount of trees suitable for specialty markets or if a mill is not located near enough to make it marketable, you might have the logs cut for your own use. Before doing this, however, consider the following:

- Have a professional look at each tree before cutting.
- Remember that yard trees generally contain nails and excessive rot and defect. It can cost \$100 to replace a set of teeth in a circular saw or more than

\$1,500 to replace a saw blade due to metal damage.

- Don't expect lumber to be cut from limbs.
- Some hardwoods such as black walnut may require 4 to 5 years to air dry before being suitable for furniture.
- Cut 5-quarter (1 1/4") lumber for furniture.



One Alabama company has successfully marketed kindling as a specialty forest product.

- Hardwood logs crack and split if left in the sun. Have all logs sawn immediately.
- Learn the correct way to stack and air dry lumber *before* any trees are cut.


Milton Loughridge of Buchanan Lumber Company in Selma is considered by many to be Alabama's expert on specialty hardwoods. Loughridge has many years of experience in the business and recognizes that many landowners do not realize what is involved in marketing specialty logs. While many specialty woods like white oak, walnut and cherry can bring a high price, factors such as quantity, quality, transportation costs, and location make it difficult to market in most areas of our state.

There are no slicing veneer mills in Alabama's lower region and most of the country's furniture manufacturers are located in Indiana, Ohio and North Carolina. The selective cutting process is expensive and most mills require a truck-load (or rail car) before they will agree to purchase the wood. A healthy export market does exist for specialty woods, but again there must be a quantity of logs to fill a specially designed container before a load can be shipped overseas.

Persimmon wood is in demand for golf clubs. A buyer from Tennessee used to make an annual visit to various mills in Alabama to buy persimmon logs and haul them back to his plant, Loughridge relates. Walnut in this area is generally darker in color, higher in moisture content and not the desired quality preferred by most furniture makers. Certain pecan varieties also bring excellent prices, but again, the pecan trees grown in this area are usually not desirable for specialty markets.

Basswood, which is grown in small pockets around the state, is a light-colored wood and very desirable for fine, Venetian blinds. According to Loughridge, a good market exists for upper grade basswood. Buchanan Lumber could sell all the basswood it could get, he says, but the quantity and quality are not always available and manufacturers require a guaranteed, consistent supply.

Despite the drawbacks of marketing specialty products, Loughridge encourages landowners to check their property for specialty trees and to contact a veneer mill if they have something exceptional (even with pine).

The forest provides landowners with a wealth of opportunities. The possible benefits from specialty forest products may be worth exploring. 

Forestry Seminar

Date: February 21, 1997 • Time: 8:30 -4:00

Place: Amberly Suites Hotel, Huntsville, AL

The TREASURE Forest Association of Northeast Alabama is sponsoring this seminar. Presentations will be made on several topics of interest to forest landowners, including the following: Hardwood Management and Regeneration; the Longleaf

Alliance; the Alabama Forestry Commission's Tree Improvement Program; and Protection of Sensitive Ecosystems.

There is no registration fee for the seminar. For more information contact Leon Champion at 205-852-2996.

LANDOWNERS

LEGISLATIVE • ALERT

NATIONAL

by BILL IMBERGAMO, Executive Director, National Association of State Foresters



The November election is certainly evidence that term limits of one sort are working; voters used the power of the ballot box to end the public service of several recent arrivals in Congress. Overall, the past few years have seen a nearly 70 percent turnover in Congressional seats.

New Congress Clouds Picture on Forestry Issues

While the voters' displeasure with some incumbents was clear, the overall message sent by the voters was ambiguous. They re-elected the Clinton administration, but returned majorities to the Republicans in both Houses of Congress. While the Republican majority was narrowed, the Senate GOP added to theirs, with many of the new members being considerably more conservative than those they replaced.

Six of the "dirty dozen" candidates targeted for defeat by environmental groups did in fact lose, but many candidates also opposed by environmental groups held onto their seats. Further, like-minded chairmen will either hold onto or ascend to important committee chairs.

For instance, Sen. Ted Stevens (R-Alaska) will move into the top slot on the Senate Appropriations Committee, replacing the retiring Mark Hatfield of Oregon. Stevens is a stern critic of the Clinton administration and firmly believes that Alaska's federal resources ought to be developed, especially the Tongass National Forest and oil resources in the Arctic National Wildlife Refuge. It seems the subcommittee will continue to focus on federal timber issues for the most part.

Of course, Stevens' fellow Alaskans, Sen. Frank Murkowski (R) and Rep. Don

Young (R), will hold onto the Senate Energy and House Resources Committees as well. Their ability to enact legislation will come under scrutiny, especially in the House, where a Young-sponsored reauthorization of the Endangered Species Act supported by private property rights advocates died after clearing his committee.

Other expected changes in appropriations will include the likely move of Sen. Robert Byrd of West Va. to the Senate Energy and Water Appropriations Committee. This leaves room for Patrick Leahy of Vermont to become the ranking Democrat on this panel that oversees Forest Service funding. On the House side, there will be no changes in the Agriculture Appropriations Subcommittee that oversees cost-share programs such as CRP and FIP. Several new faces yet to be determined will be seen on the Interior Committee, which funds other Forest Service programs, including the Forest Stewardship and SIP programs.

Notably, former Congressman Bob Smith (R-Oregon) will return to Congress and take over the House Agriculture Committee. He was lured out of retirement with the offer of the committee chairmanship so that Republicans could hold onto the seat being vacated by scandal-plagued Rep. Wes Cooley. Smith is a ferocious critic of the Forest Service and has said he intends to completely overhaul the agency which he characterized as "a shambles."

The success of Smith and Rep. Young in their efforts to overhaul Forest Service operations and the Endangered Species Act seem unlikely if they take on too many issues at once. Dealing with all aspects of the ESA, including the hot-button issue of private property rights, would likely lead to a bill easily blocked by a large group of moderate Republicans. This group, led by Rep. Sherwood

Boehlert of New York, organizes primarily around environmental issues.

The Senate will see the long-awaited introduction of federal land management overhaul legislation introduced by Idaho Sen. Larry Craig. This may be the environmental bill that will receive the most focus in the Senate.

On issues nearer and dearer to landowners, the Clean Water Act may be reauthorized this year, and tax legislation will certainly be on the agenda. Clean Water has been on the back burner since the first session of the 104th Congress, when a bill dubbed the "dirty water act" was passed by the House. Numerous forestry issues, including the exemption from wetlands permitting for normal silviculture and how EPA deals with several lawsuits on non-point source pollution, need to be addressed by any CWA rewrite.

On tax legislation, no word from the Congressional Forestry 2000 Task Force as to whether or when the Reforestation Tax Act will be introduced. The state foresters will work closely with landowner groups to address capital gains and estate tax laws that impede the practice of good forestry. The tax picture is clouded by recent pronouncements from Congressional leaders and the White House that deficit reduction is to be the number one priority in the next two years.

State Initiatives: Update

One other issue of importance was the outcome of the Maine forestry ballot initiative. Voters rejected a proposal that would have prohibited even-aged forestry in that state's unorganized territory. However, they did not give enough votes to an alternative brokered by the Maine Forest Service, the governor, several large landowners, and some environmen-

tal groups that included voluntary limits on clearcuts and other provisions. The alternative will stand alone on a future statewide ballot, likely next November.

Many observers feel these ballot initiatives will spread, and some preliminary evidence bears them out. An initiative was reportedly underway in Arizona to

ban the harvest of any tree over 120 years old on state or federal land. If nothing else, such a measure would certainly help the market for increment borers. ♣

ALABAMA

by FRANK SEGO, Legislative Liaison, Alabama Forestry Commission



On the morning following the 1996 general election this drowsy-eyed writer took to the typewriter, fumbling for icy-cold keys (still using the old 1972 IBM) to ponder the results of the night before.

Little needed to be said about the predicted outcome of the presidential race—long decided by the media before many of us were privileged to pull the curtain on the voting booth. It might be noted, however, that most Alabamians thumbed their noses at the predictors and went for Republican Bob Dole by about 7 percent.

But away from the big picture and within the confines of this state, voters found themselves going on a “3-D” buying spree. They bought quantities of detergent, disinfectants and deodorizers in record numbers in an effort to curb the effects of the nastiest name-calling, character-dribbling campaign in the history of Alabama politics.

After receiving a flood of complaints from across the state, Alabama Supreme Court Chief Justice Perry O. Hooper, Sr. (himself a target from his opposition two years earlier) took the first step to clean up such negative campaigning.

Reform Committee Named

Hooper promptly named 26 of the state’s premier jurists to a panel whose mission is to recommend ways to raise future campaign standards. It’s especially appalling that a judicial race has to be dragged through the grime that confronted voters during the fall campaign. It degrades the very image and dignity of our judicial process, and most certainly undermines the public’s faith in our judicial system.

Whether such a committee for judicial reform can be successful remains to be

seen, but it’s possible that the Alabama Legislature could also have a role in raising the level of election campaigns.

When the Legislature returns to action in February there will be plenty for the 140 members to handle, but it has been suggested that they might consider a bill that would require all candidates for local, county and state offices to file a report that would document any claim they make before running a political ad. It would require a statement from the candidate saying his ad is not misleading, nor has been taken out of context. It would, at least, force them to provide substance for their claims, thus putting them on record with an official document holding them to their claims should they overstep the boundary of truth in advertising.

Simply stated, if something is not done in the arena of reform, voters will respond to such negative campaigning by avoiding the polls as so many did during the November election.

Senators Will Stay

Speaking of the Legislature, at least two Democratic members of the Senate will continue in their seats after seeking election for higher offices in November. Russellville’s Roger Bedford will retain his seat for another two years after dropping his bid for the U.S. Senate to Attorney General Jeff Sessions. Auburn’s rock of granite, Ted Little, also will keep his position following a razor-thin loss to newcomer Bob Riley of Ashland for the Third District seat in Congress.

A staunch forestry supporter, Senator Little had worked with the Forestry Commission’s legislative liaison during a period before his return to the Senate in 1990.

A Sad Farewell

Alabamians were stunned by the death of Senate President Pro Tem Michael

Figures of Mobile on September 13, just a day after surgery for a brain aneurysm. Figures was the first black to attain this prestigious position in the Alabama Senate. The 46-year-old senator thus became one of the most influential blacks in the annals of Alabama government. You could always count on his word as his bond. He will be sorely missed.

The loss of Figures threw the 33rd District of the Alabama Senate into a contest between his widow, Vivian Davis Figures, a member of the Mobile City Council, and State Representative James E. Buskey of the 99th House District. The outcome of this race was to be decided in December.

Congratulations, Mike

On a happier note, another Mike from Mobile, Representative Mike Box, has been elected president of the National Conference of State Legislatures. Now serving his fourth term in House District 96, Mike assumed leadership of the nationwide body of legislators at their recent convention in St. Louis. He has worked very closely with your legislative liaison in the passage of forestry matters since coming to the Legislature in 1982.

Welcome “Pooker”

Governor Fob James has appointed George “Pooker” Robertson, Jr. of Waverly to a vacancy on the 15-member Alabama Legislative Study Committee. The vacancy was created by the untimely death of William F. (Bill) Sahlie in August. Mr. Robertson is a forest landowner in east Alabama.

The next *TREASURED Forests* Legislative Alert will examine prospects for the 1997 regular session of the Legislature, which convenes the first week of February, and preview legislation that will affect forestry in Alabama. ‘Til then... ♣

There's a TREASURE in Frazier Cove

by COLEEN VANSANT, Forest Education Specialist, Alabama Forestry Commission, N.E. Region, Cullman

Treasure coves are normally associated with pirates: the secret hide-away where the sword-swinging pirate buries his chest filled with stolen gold and gems. But there is a beautiful treasure hidden away in a mountain cove in north Alabama that would tempt the fiercest pirate to abandon ship and take to the hills.

The Hidden TREASURE nestled in Frazier Cove in Jackson County is an approximately 900-acre TREASURE forest owned by Jack and Mary McQuinn of Huntsville. With wildlife and timber as their objectives, the McQuinn farm is an outstanding example of multiple-use forest management north Alabama mountain style.

Approximately 560 acres of over 60-year-old upland, bottomland and cove hardwoods support the McQuinn's primary objective of wildlife. In recent years, around 63 acres of bottomland hardwood and 49 acres of loblolly pine have been planted on what was once agricultural fields. This provides additional food and cover for the deer, turkey and squirrel populations that thrive in the area. In order to enhance quail habitat, the planted hardwood is bush-hogged and natural vegetation is maintained in areas to provide cover and nesting opportunities.

Some open field areas have been maintained, while others have been planted in grasses and other wildlife food. Several acres of food plots have been established in mature hardwood areas. Mr. McQuinn is very concerned with protecting the cove and upland hardwood areas from the danger of wildfire. Firelanes and roads act as barriers against the threat of wildfire, and all fire lanes also serve as wildlife food areas.

With the beautiful and scenic Paint Rock River flowing through the property, as well as several other intermittent streams, Mr. McQuinn is conscious of not only preserving the water quality of the

area but in managing for wood ducks as well. Nesting boxes have been placed in appropriate areas and management objectives are designed to protect water quality with streamside vegetation being maintained and wetland vegetation protected.



Jack McQuinn

According to Mr. McQuinn, non-game wildlife is just as important as game species. He's planted many species of trees and plants that help to attract songbirds and other non-game species. He maintains about one mile of hedgerow planted in species like dogwood, crab apples, autumn olive, bicolor, common persimmon, and a variety of other fruit trees. Because of these efforts, the McQuinns are able to tell an increase in the number of birds.

Aside from the wildlife and timber aspect of their management plan, Jack and Mary are concerned with establishing and maintaining a recreational environment for family and friends. In addition, they want to preserve the scenic beauty and historical significance of the area. They are very proud of their six grandchildren and have

named a special area of the property for each one. There is "Katie's Cove," "Christina's Nature Trail," and "Camp Laurel," a picnic area adjacent to a beautiful mountain stream, just to name a few.

A mobile home has been moved to the area to serve as both a hunting lodge and home away from home for his family. Porches allow the family to enjoy the beautiful mountains, hardwood color, and flowers they have planted. Nature trails, hiking trails, and picnic areas complete the setting and provide everyone who visits the farm with something to enjoy.

The Paint Rock Valley area was once a bustling community, and the McQuinn farm embraces evidence that the valley was once home to early settlers. Frazier Cove itself was named after an early pioneer family. There are two ruins of pioneer homesteads on the property, one with the chimney stones and corner rock foundations still evident. According to Mr. McQuinn, at one time the valley was thickly populated, but an exodus occurred after World War II, leaving the old homes to decay and farms to be taken over by the forest.

Mr. McQuinn is quick to tell you that it would have been hard to accomplish as much as he has without the technical assistance from natural resource agencies as well as cost-share assistance. He received major assistance in his hedgerow development, and was able to plant the food plots on his property under the Stewardship Incentives Program. He also qualified for assistance under several other cost-share programs.

Because of the outstanding efforts and accomplishments of the owners, the McQuinn property has become a favorite site for landowner and other educational tours. Due to the tremendous diversity in wildlife, timber and recreational opportunities, it has become one of the showcase TREASURE Forests in north Alabama. ♣

Artificial Establishment of Hardwoods

by CALLIE JO SCHWEITZER, USDA-Forest Service, Center for Bottomland Hardwood Research, Stoneville, Mississippi

We all have a connection to the land, and that connection is threaded by either what we take from the land or what we leave behind. This affords us a shopping list of opportunities whenever we examine our land. For many of us, trees are part of our lives, our landscapes, our hearts. Recently, there has been growing interest in establishing hardwood forests on marginal croplands for both the environmental and economic benefits that hardwood forests provide. Federal and state cost-share programs have helped make this an attractive option. Private landowners will restore forested lands if they believe that as good stewards it is the right thing to do, if they can afford it, and if they have some help. The purpose of this article is to review what we currently know about artificial regeneration of bottomland hardwoods. Although much of this information comes from studies on bottomland hardwoods, the general principles can be applied on a variety of sites. But remember, this is not pine management.

Planning for artificial regeneration or establishment of hardwoods must consider landowner objectives. It is the responsibility of the landowner to be clear and vocal about these goals so that a plan is developed that meets their needs and desires. The challenge then becomes to design a technically sound plan, using available tools to meet the objectives. Beneficiaries should own the project; it should not be someone else's plan for them.

Species/Site Choices

The biggest difference between hardwood and pine planting is deciding not only which species you want to put in the ground, but also which species are suited to the site. Hardwood sites exist from uplands to terraces to the flood plain. However, within each of these broad areas are numerous sites with different characteristics that will dictate the tree species that will thrive there. Soil type not only affects which hardwood species can survive, it

determines how productive they will be. To be considered along with soil type is site hydrology (water and moisture characteristics)—drainage in particular. For example, flood plains are generally considered flat; however, there are minor differences in elevation throughout a flood plain that significantly affect both the nature of the soils and their drainage properties. Areas right along the edge of rivers or streams (flood plain fronts) are very productive and have better drainage than any other area in a flood plain. Low-lying areas (flats) are dominated by heavy clay soils with poor nutrition and drainage. Slightly higher areas (ridges) are more highly weathered, often have lower available

tree species suited to the site. A publication that may help is **A Practical Field Method of Site Evaluation for Commercially Important Southern Hardwoods**, written by James B. Baker and Walter M. Broadfoot (1979, USDA-Forest Service General Technical Report SO-26), which provides a method for estimating the suitability of sites for Southern hardwood species. **Hardwood Suitability for and Properties of Important Midsouth Soils**, written by Walter M. Broadfoot (1976, USDA-Forest Service Research Paper SO-127) is also a helpful tool. This guide presents descriptions and properties of 40 important midsouth soils and shows manage-

Matching species to site characteristics is the most critical decision to be made.

nutrients, and drainage lies somewhere between that of fronts and flats. As we describe them here, these areas seem as though they would be obvious; however, they often have subtle differences when seen on the ground. These factors must be considered when selecting species. Matching species to site characteristics is the most critical decision to be made.

Here are some general guides for choosing species. First, decide what kind of site you have, then re-examine your objectives. On the right site, for example, cottonwood and sycamore will grow rapidly in a short period and may be used for fiber; but growth rates rapidly slow, diminishing opportunities for sawlogs. If wildlife is an objective, then consider the food and habitat requirements of the wildlife you desire and select appropriate species, such as those that will produce hard mast or provide other needed benefits. One of the best guides to use is a county soil survey. Although not always exact, these surveys do provide soil descriptions, drainage class information, and sometimes provide indications on

ment suggestions, occurrence, and suitability ratings for tree species.

However, don't depend entirely on guidebooks; do some "ground-truthing." Go out and look at the site and let it tell you about itself. Choose a time that is not too wet or too dry and pay special attention to soil wetness so that you get a feel for drainage. Observe the physical characteristics of the site (Baker and Broadfoot's guide may help here), and note any adjacent forested areas which may be used as a reference. Looking at the trees that occur naturally and knowing about their requirements will tell you much about the site and is often the best indicator of what species to plant. Finally, evaluate the site for a mixture of species, not just a single species.

Methods/Operations

The two most common methods used to artificially establish hardwoods are hand or machine planting. Both have been used for planting seedlings and for direct seed-

(Continued on page 20)

Artificial Establishment of Hardwoods

Continued from page 19

ing. The method used is often determined by site conditions. Machine planting requires a fairly clean site and relatively dry ground, while planting by hand can be done around debris and in wet soil conditions. Also figured into this decision is the availability of equipment, equipment modifications and costs. There are advantages and disadvantages of both—machines don't get tired near day's end; hand planting can be done under more diverse and adverse conditions.

Site Preparation

Some site preparation is usually performed before establishing hardwoods. The nature of the site will determine the degree of site preparation needed—there is no blanket prescription. Most landowners choose the least amount that can be gotten by with at the lowest cost. Again, as sites vary—from old agricultural lands to clearcut areas—so do the management objectives. If possible, double disking to reduce weed competition and to allow rapid early seedling growth will aid survival. If the objective is to establish a forest *regardless of use*, then providing a good starting environment is a must.

Seedling/Seed Supply

This is another important factor to consider. First, determine the seed source. It is not wise to plant seedlings in Alabama that originated from acorns collected in North Carolina. Again, match the source to the site. The rule of thumb is don't use seed or seedlings from parent trees located more than 100 miles to the north or south of your location. East to west variation in seed source is much less important.

Seedlings can be obtained from private, state and industry nurseries, although they are not in plentiful supply like pine. Hardwood nursery management is complex, and seedling quality is important. The often cited rule when planting seedlings is "the bigger the better," except that roots must be placed in a planting hole large enough to accommodate them. Of course, planting method must be considered. Most planting methods work well with seedlings that are a minimum of 18 inches

in height (24 inches optimal). Look for seedlings with a good root ball, with at least an 8-inch main root and plenty of lateral roots. The root collar (that area defining where the root ends and the stem begins) should be 3/8- to 1/2-inch in diameter. Hardwood seedlings can be kept in cold storage for several months. Try to minimize the time between lifting (removal from nursery bed) and planting. If storage is necessary, keep roots moist and wrapped to prevent drying. Correct seedling planting is with the root collar immediately below the soil surface. Roots should be extended and not bent, and soil should be adequately packed around the seedling to ensure no air pockets are formed around the roots.

species need 4 to 12 weeks of cold stratification prior to planting. White oak species can be stored in a similar manner, but planting within a month after collection is best. White oak species in the South do not require cold stratification.

Proper supervision of the planting job is critical for direct seeding. Acorns should not be dumped in a pile on the edge of a field, as they quickly dry out and die. Acorns are planted at a depth from two to four inches, depending on the species. Smaller seeds are planted shallower, larger seeds deeper. Experience has shown that about one out of every four sound acorns yields a tree at year 10. Some cost estimates for these establishment methods are given in Table 1.



Newly germinated oaks from direct seeded acorns.

Artificial establishment of hardwoods using seed has centered around direct seeding hard mast species, oak in particular. Obtaining acorns has become much easier, as many nurseries now hire independent collectors and commercially sell acorns, often on a by-order basis. Other successfully direct-seeded species include the hickories and persimmon. Be sure and inquire as to where the seed was collected; the closer to your land the better.

The nursery should have culled bad acorns by immersing them in water and discarding acorns that float (this float test works for all oak species except overcup, which floats even when sound). Acorns of red oak species should be stored in breathable bags refrigerated at 35-40° F. Red oak

Spacing and Timing

Planting seedlings may provide greater success than direct seeding, but it is possible to treat a good hardwood seedling poorly and have low success. Conversely, many direct seeded areas have done well. It is less expensive to direct seed than to plant seedlings, although survival rates dictate that more acorns be put into the ground than seedlings. Overall, most landowners want to establish a closed canopy forest. A high planting rate, such as 400-450 seedlings per acre or 2,000 acorns per acre, will produce a "forest appearance" quicker and will also provide a wider range of management options than stands established with lower numbers of trees per acre. It is much

easier to remove trees (and possibly make some money) than it is to add more trees years down the road.

Most planting and direct seeding is done in the fall and winter, generally from November to March. Hardwood seedlings cannot be lifted until fall dormancy, and it is best to plant them as soon as possible after lifting. Seedling survival is highest when planting conditions are cool and cloudy. Sowing seed is also best done in the fall-winter, but this window can be extended, taking care to avoid direct seeding during hot, dry months. Weather conditions will play a large role in determining the planting date.

Using a Nurse Crop

The nurse crop method is well known in silviculture and has been proposed for use in establishing hardwoods on abandoned fields. A nurse crop is a fast growing, shade-intolerant species planted to aid or nurse an interplanted, slower growing species more tolerant of shade. On certain abandoned agricultural fields in the Mississippi River basin, this technique is currently being tested using Eastern cottonwood as nurse trees for establishing a red oak stand. Cottonwood is established using cuttings, or portions of stem that sprout when planted. After two growing seasons, a red oak species is interplanted in every other row of the cottonwood. The skip row is used for harvesting access and prevents damage to the oak seedlings when the cottonwoods are removed. After 10 years, the cottonwood is harvested for fiber, releasing the oak.

Many options are available using this technique. One possibility is to let the cottonwood sprout and then harvest the stand a second and final time 10 years later. The landowner is left with an oak stand that can be managed for a variety of environmental and economic benefits. The current work with cottonwood has been initiated because of the existing market demand for cottonwood fiber. However, species-site relationships must be considered, and both species must be compatible to the site.

Post-Planting Options

Undesirable vegetation will invade the site. Studies from scientists at the Center

Table 1


Comparison of the Cost in Dollars per Acre of Direct Seeding (Sow) Versus Planting Seedlings (Plant) in the Lower Mississippi Alluvial Valley.

Establishment Method	Site Preparation: Disking and/or Subsoiling	Operation: Sowing Acorns or Planting Seedlings	Materials: Acorns or Seedlings	Total
Sow	\$5-14	\$30-50	\$10-25	\$45-89
Plant	\$5-14	\$35-150	\$40-115	\$80-279

for Bottomland Hardwood Research in Stoneville, Mississippi, have shown that early weed control (by disking or herbicides) will speed seedling growth during the first few years and, depending on the site and species, may increase survival. Too much weed control may reduce the short-term value of the site in terms of food and cover for wildlife, and long-term benefits may not justify the costs. Because many herbicides used in forestry are for broadleaf (hardwood) weed control, we have much to learn about their cost-effective use in hardwood stands. Read herbicide labels, and contact local forestry agencies before using herbicides with hardwoods to ensure proper use.

Causes of seedling mortality and poor growth are varied. Factors such as flooding, coupled with high temperatures or extended dry periods after planting, can lead to seedling or seed death. Another concern is the loss of seedlings or seed to animals. Unfortunately, there is no cost-effective method of protection. Poor planting or seeding practices and/or poor

quality seeds or seedlings also contribute to lower survival. Monitoring the planting operation is essential and can be done by simply walking the area and making observations or by performing a formal assessment. Some indications of poorly planted seedlings are root collars above ground, roots above ground, or seedlings that are not upright. Excavate a few seedlings and check the roots—they should not be bent and wadded in the planting slit. For seed, check the planting depth—acorns should not be visible on the surface of the ground, and there should only be one seed per planting hole. These checks should be done as the planting crew is working, so that improper techniques can be corrected immediately.

Many federal, state and local agencies and private organizations are becoming involved in establishing hardwood trees. For more information about artificial establishment of hardwood trees, call or visit your local office of the Alabama Forestry Commission. 

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13th Annual Landowner and TREASURE Forest Conference

Helene Mosley Memorial TREASURE Forest Award Winners

NORTHWEST REGION



David and Dr. Emory Cunningham, Shelby County. The Cunninghams also received the first C.W. "Bill" Moody Award presented by the Alabama TREASURE Forest Landowners Association to an outstanding TREASURE Forest.

NORTHEAST REGION



Horten and Gayle Adcox, Coosa County.

SOUTHWEST REGION



Pam and Jake Harper, Wilcox County.

SOUTHEAST REGION



W.L. Franklin and N.W. Phillips, Geneva County.

The Helene Mosley Awards have been given annually since 1978.

The County Forestry Planning Committee Awards have been given annually since 1984; the Masters Award since 1990.

County Forestry Planning Committee Award Winners



The Monroe County Forestry Planning Committee received the state award. Other district winners were Lamar and Pike Counties.



The Covington County Forestry Planning Committee received the Masters Award. The Masters Award is presented annually to a committee who has previously won the state award.

FAWN

At Last, A Grass-roots Forestry Education Program

by BOB KEEFE, Champion International Corporation, Cullman

Over the past three years, nearly 7,500 sixth graders in north Alabama have spent a day in the woods learning about natural resource and environmental issues. What they learned was taught to them not only by resource professionals from forest industry and state and federal agencies, but from forest landowners as well. No environmental lies and misconceptions here—just the facts and truth about Alabama's tremendous forest resource and its importance to their lives.

The vehicle for this very successful learning experience is the FAWN program. FAWN is an acronym for Forestry Awareness Week (Now).

FAWN originated in Louisiana and had its Alabama debut in Morgan County in May 1994. Since then it has spread to five other counties and appears to be on the threshold of even greater expansion. Although it is manpower intensive, FAWN is a fairly simple program to conduct and its benefits in educating our society about forestry and other resource issues are incalculable. Most important, the students enjoy it and really learn important things about their relationship with our forests from a conservation or wise-use perspective.

The county forestry planning committee has proven to be the best vehicle to start a local FAWN program. Cooperation between the planning committee and the local city or county school board is critical and so far has been very easy to secure. Once this program has been put on in a local school district, the momentum has been established for a yearly repeat. The schools become active and willing partners.

FAWN takes place in a forest environment, usually one with a half-mile or so round robin hiking trail. Seven or eight learning stations are set up at intervals



Kathryn Flynn of the Auburn School of Forestry teaches water quality.



Retired forester and TREASURE Forest owner Roy Gamble volunteers for tree identification.

along this trail and manned by resource professionals. Learning stations usually include forest management, forest products, forest history, soils, wildlife, tree and plant identification, water quality and Project Learning Tree (PLT).

The students, all sixth graders from the local school system, are divided into seven or eight groups matching the number of learning stations. They are usually in classroom units of 25 or 30 students per group. Each group is given a different col-

ored tee shirt with the FAWN logo to keep them distinct. They then move around the trail, stopping at each learning station for 20-25 minutes. Each group is accompanied by a "trail guide" who acts as a timekeeper and teacher's aid.

The stations provide a positive, hands-on, interactive learning experience for the students. They will feel soil, count tree rings, handle a snake, do several PLT exercises, play learning games and be educated about why they need trees and why management is necessary to keep the products coming while protecting the intrinsic values of the forest.

They will learn to see the forest differently, not only as a beautiful place full of trees where animals live, but as an integral part of their everyday lives. In addition, the teachers are given resource materials and names of people they can call on to continue their education about important environmental issues. This will reinforce the message the students receive at FAWN.

To make Fawn as successful as it can be, by spreading it throughout Alabama, it will take a major grass-roots commitment by the professional forest resource community.

It takes about 30 people per day to run the program and, at most, 200 students per day can attend. To provide this valuable learning tool to each school district in the state on an annual basis will involve many of us. The results are proven and the need is there; we must be committed to fulfilling this need. If you are interested in starting a FAWN program for your county, contact the Cullman County Forestry Commission office at 205-734-0573. ☪



2 Million by 2000

Are You Ready for a Challenge?

A long-term challenge has been issued to all members of the Alabama Forestry Planning Committee. Timothy C. Boyce, state forester and 1997 chair of the AFPC, has announced the following challenge: 2 million certified TREASURE Forest acres by the Landowner and TREASURE Forest Conference in 2000. This is no easy task, but one that can be accomplished if, and only if, all member agencies and groups of the AFPC pull together now in a team effort to meet this challenge. "Team TREASURE Forest" will be developed as a logo and rallying point for the 2 Million by 2000 challenge.

How You Can Help

Individuals from the member organizations of the AFPC are the backbone of *Team TREASURE Forest* and will be the catalyst to meeting this challenge—each of us must contribute. We must begin now to seek out landowners across the state whose property qualifies for and deserves TREASURE Forest recognition. We should also seek out and work with those landowners who share the TREASURE Forest ethic but need only a few more on-the-ground accomplishments to meet TREASURE Forest certification criteria.

Currently there are 1,080 certified TREASURE Forests totaling approximately 1.6 million acres. To meet the 2 Million by 2000 challenge, 400,000 acres must be certified by the end of the campaign. What will it take to do this? Consider the following:

- Over the last four years, the average size TREASURE Forest certified has been approximately 600 acres. Based on this average, if every currently certified TREASURE Forest owner worked with one landowner to help them attain TREASURE Forest status, we would exceed our goal by 250,000 acres. Average size would only have to be 370 acres to meet the challenge.
- There are 19 member organizations of the AFPC. If each member organization annually identified 5,500 acres deserving of TREASURE Forest status, we would meet the challenge by the end of the campaign.
- If each county, through their county forestry planning committee, annually identified 1,500 acres deserving of TREASURE Forest status, we would exceed the goal by 2,000 acres.

Let's get started now. County forestry planning committees can form their own subcommittees to identify and initiate steps to help meet this challenge. Each member organization can also promote in-house steps to identify deserving landowners or landowners who can qualify for the award in the very near future.

To be eligible for the award, a landowner must own a minimum of 10 forested acres and do the following with respect to all their land in Alabama:

1. Choose a primary and at least one secondary management objective for their property. Choices include Timber, Wildlife, Recreation, Aesthetics, and Environmental Education.

2. Possess or acquire a written multiple-use management plan for their property. The Alabama Forestry Commission can help you identify the options available for acquiring a plan if one does not currently exist.
3. Actively practice multiple-use management on their lands in a manner consistent with TREASURE Forest principles. A list of guidelines that outline the level of accomplishment based on specific objectives necessary for TREASURE Forest certification is available from the Alabama Forestry Commission.

Once these items have been addressed, the following steps are necessary to receive the award:

1. The landowner and property must be nominated by someone associated with one of the member organizations of the AFPC. Most often this is done through the county forestry planning committee.
2. The property must be inspected by a registered forester and a wildlife biologist.
3. The nomination and inspection record must be approved by the TREASURE Forest Subcommittee.

If you know of landowners deserving of the award, or landowners who would like to work toward TREASURE Forest status, consult other members of your county forestry planning committee and consider nominating them for the award. We'll keep you updated on the status of 2 Million by 2000 each quarter in this magazine. ♣

The Gopher Tortoise

by TIM L. GOTHARD, Forest Management Chief, Alabama Forestry Commission

The gopher tortoise is a relatively large land turtle with a shell that ranges from 6 to 15 inches in length. The shell is dingy gray to dark brown. The hind feet of the tortoise resemble an elephant's feet. The front feet are shovel-shaped with claws and are used for digging the burrows in which the tortoise lives. A single tortoise may dig one or more burrows that can be as much as 25 feet long and 6 to 8 feet below ground. These burrows serve as a home for the tortoise and are used for various reasons by a host of other animals, including the Eastern diamondback rattlesnake, gopher frog, and the Eastern indigo snake. On the average, gopher tortoises live from 40 to 60 years and have been known to reach ages of 80 to 100 years.

In Alabama the gopher tortoise is found throughout the southern one-third of the state, most commonly on sandy soils where digging burrows is easiest. West of the Mobile and Tombigbee Rivers in Choctaw, Mobile, and Washington Counties in Alabama, the gopher tortoise is listed under the Endangered Species Act as Threatened. In other areas of the state, the gopher tortoise is not considered threatened.

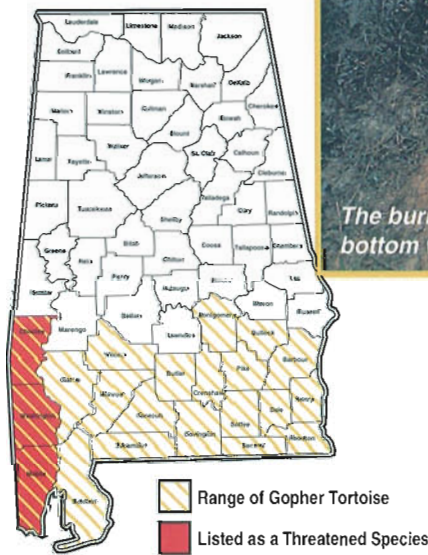
Gopher tortoises spend most of their time close to the burrow site, which is usually located in relatively open areas (open forests, roadsides, field borders, powerline rights of way, etc.) where sunlight reaches the ground. This is important for two reasons; it allows for the growth of low-growing grasses, forbs, and legumes that the tortoise uses for food, and it also provides warmth to incubate the eggs that are usually laid at the burrow entrance.

Breeding peaks in May-June; 4 to 12 eggs are laid shortly thereafter, and hatching occurs in August-October. Eggs and young hatchlings are preyed on heavily by


Gopher tortoises and forest management are compatible. In fact, forest management is necessary in forests where the gopher tortoise occurs. The most important requirement of the gopher tortoise is a condition that is open enough to allow sunlight to the forest floor. This can be accomplished in pine forests by prescribed burning and thinning. Prescribed burning provides benefits by controlling understory shrubs and trees that can shade the ground and eliminate forbs, grasses, and legumes needed for food. Thinning allows for increased sunlight and



The burrow of the gopher tortoise has a flat bottom with rounded, arched sides.



a variety of animals including raccoons, opossums, armadillos, crows, foxes, skunks, and fire ants. As much as 97 percent of a single year's hatchlings may be lost to predation in their first two years.

promotes these same needed food items. When planting trees, wide spacing (8x10, 10x10) will prolong the period before shading becomes a problem. Longleaf pine can be planted and will allow the ability to prescribe burn at early ages when other pine species cannot tolerate fire. When harvesting, performing mechanical site preparation, or conducting other activities using heavy equipment, a 50-foot protective buffer around gopher tortoise burrows will minimize the chances that gopher tortoises will be negatively effected. 

The Advantages of a Written Forest Management Plan

by TIM L. GOTHARD, Forest Management Chief, Alabama Forestry Commission

In general, there are two types of people in this world: those who approach tasks by laying out their course of action in writing, and those who can handle tasks equally as well working strictly from memory, sometimes making it up as they go, or “winging it.” I know a few of each type who are very successful. Without a doubt, I would fall in the category of those benefitting from laying out a plan in writing. Why? Well basically, my memory has been guilty of not serving me well on occasion. Further, as I was recently informed by a schoolteacher friend, I am a “dominant abstract sequential.” According to her, that means that I must have access to all the facts regarding a subject or situation, mull it over a bit, then lay out a course of action before starting the venture. Whether this is true or not, seeing that I am 0 for 13 in debates with schoolteachers, my answer to her was, “OK.”

Because of one or maybe all of these reasons, I make frequent use of lists, outlines, and notes. These may apply to anything from what to get at the grocery store to what I need to accomplish today, this week, this month, etc. Doing so helps me keep track of priorities, goals, deadlines, best times and methods to do the things I need to do. For large or important projects the descriptions may be relatively detailed and well planned.

Managing your forest is just such an important and large project. Regardless

of your objectives, you will be faced with a variety of opportunities and decisions that need to be addressed with attention to detail and pre-planning. The choices you make, or fail to make, will affect the use and productivity of your forest for years to come. Knowing this, wouldn't you benefit from developing a written forest management plan?

A forester can prepare a written management plan for your property. It will include a description of the property and its resources, maps, and a list of management activities to help you best manage your forest.



was to identify where I wanted to go. And third was determining the best approach to get there, including the fast route and the scenic route. Once I identified these items, I headed out. A couple of times along the way, I pulled out the map again to make sure I was headed in the right direction, or to key myself in on turns I would need to make along the

way. It was a fairly long drive; I had a schedule I wanted to keep and I knew that a haphazard approach to getting there would have me lost or late, and frustrated at my errors and backtracking. A written forest management plan is no different than the road map process just described. It provides a straightforward method of determining and documenting several things.

1. Where are you?
 - A) What type and amount of resources do you currently have?
 - trees
 - soil
 - water
 - wildlife

- B) What is the current condition and value of those resources?

- trees—healthy, diseased, merchantable/unmerchantable, etc.
- soil—sandy, clayey, eroding, productive/unproductive, etc.
- water—present/not present, in need of attention, etc.

The Road Map Advantage

A well written forest management plan functions much the way a road map assists you to reach a destination. I recently traveled to Vicksburg, Mississippi for the first time. Before I cranked up the truck, I pulled out a road map and planned my path to get there. My first step was to identify where I was. Second

New Federal Guidance for Managing Forested Wetlands

by JOHN G. GREIS, U.S. Forest Service Liaison to EPA, Atlanta

A cypress stand typical of the permanently/semi-permanently flooded wetland type.

Much has been said and written over the past several years about wetlands in the United States: their value to society, their functions in the environment, their loss over time, and the federal regulations that forest landowners must follow when conducting forestry activities. It seems that too often this information has been either incorrect, incomplete or just plain biased to support a personal point of view. Whatever the case, landowners have not been well served by the confusion—and wetlands haven't either.

In the Beginning

In 1972, Congress passed the Federal Water Pollution Control Act Amendments, and for the first time, under Section 404, required that permits be obtained before *discharging (placing) dredged or fill material into Waters of the United States*. The Environmental Protection Agency (EPA) was given oversight of the program, with the U.S. Army Corps of Engineers (COE) responsible for issuing permits. Interestingly,

wetlands were not included in the original 1972 law, but were later included in the definition of "Waters of the U.S." as a result of court decisions in the early 1970s.

In 1977, the Act was amended (which is usually done every five years), renamed the Clean Water Act, and this time included specific exemptions in Section 404 for many forest management activities, as well as farm and forest roads. In the actual words of the law, discharges from the following activities do not require permits under Section 404:

... normal farming, silviculture and ranching activities such as plowing, seeding, cultivating, minor drainage, harvesting for the production of food, fiber and forest products, or upland soil and water conservation practices...

... construction and maintenance of farm roads or forest roads where such roads are constructed and maintained in accordance with Best Management Practices, to assure that flow and circulation patterns and biological characteristics of the navigable waters are not impaired,

that the reach of the navigable waters is not reduced, and that any adverse effect on the aquatic environment will be otherwise minimized.

The vast majority of professional foresters and forest landowners have been operating trouble-free since the regulations were finalized in the late 1970s. Many had never heard of Section 404 or the exemptions Congress had provided. But this hasn't really mattered for most, because the exemptions were broad enough to cover most bona fide silvicultural activities that prudent foresters and landowners would recommend and carry out.

Unfortunately, a small number of individuals violated the terms of the exemptions or tried to use them to avoid the permitting process for non-silvicultural purposes, such as urban developments or other land use conversions. There have also been a few cases where legitimate forestry activities have been questioned, and the "gray" areas contained in the regulations exposed to scrutiny. These are the confrontations that have made head-

lines, but the complicated circumstances have rarely been explained in enough detail to portray them accurately. Regardless, the Section 404 exemptions, intended to minimize landowner involvement with federal regulators, have not been as well understood and free of red tape and controversy as they could and perhaps should have been.

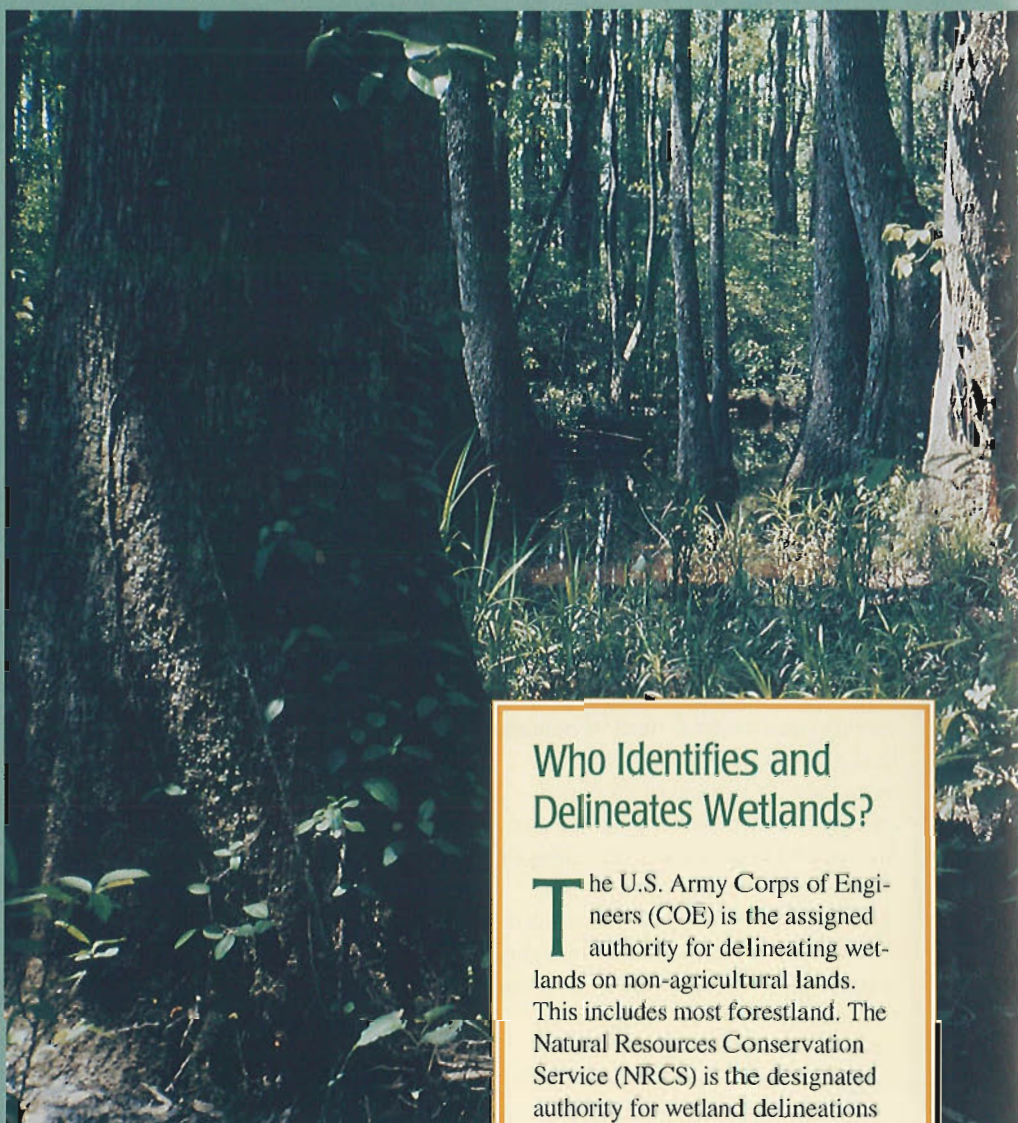
What's Changed?

During the past five years, EPA Region IV in Atlanta has made a concerted effort to clarify the gray areas contained in wetlands regulations and to work more closely with state, federal and industrial forestry experts on forestry issues. In addition, a recent court case involving the use of *mechanical site preparation* for conversion of hardwoods to pine plantations was settled and resulted in clearer guidance about when 404 permits for forestry activities in wetlands are and are not required. To get the word out to practicing foresters, EPA sponsored a series of eight workshops in August 1996 to offer foresters a better understanding of Section 404—especially how it pertains to site preparation activities in wetlands. Alabama's workshop, hosted by the Alabama Forestry Commission, drew 300 people.

The New Mechanical Site Preparation Guidance

As a follow-up to settle the North Carolina suit, EPA facilitated a process between the plaintiffs, EPA, forest industry and the COE that resulted in identifying nine wetland types within which mechanical site preparation and conversion to pine plantations *will* require a Section 404 permit. Wetlands that do not meet the criteria for the nine wetland types do not require a permit. Of the nine, forest management is commonly conducted on four of the types in Alabama, but this does not usually include conversion to pine plantation. The following wetland types require a Section 404 permit prior to mechanical site preparation and pine plantation establishment. The descriptions for each are a brief summary and do not include all the information contained in the new Guidance. Consult the actual Guidance before making final decisions.

1. Permanently Flooded, Intermittently Exposed, and Semi-permanently



A flood plain hardwood forest typical of the riverine bottomland hardwood wetland type.


Flooded Wetlands—These sites almost always have water visible at the ground surface, at least during the growing season. When they don't, the water table will be at or just below the ground. Common trees in this type of wetland include bald and pond cypress, black, water, and swamp tupelo, black willow, and red maple. Other vegetation common on these sites include ti-ti, swamp cyrilla, sweet pepperbush, fetterbush, and wax myrtle. These wetlands include cypress swamps, strands or domes, or muck and peat swamps.

(Continued on page 30)

Who Identifies and Delineates Wetlands?

The U.S. Army Corps of Engineers (COE) is the assigned authority for delineating wetlands on non-agricultural lands. This includes most forestland. The Natural Resources Conservation Service (NRCS) is the designated authority for wetland delineations on agricultural lands. NRCS can also make wetland delineations on non-agricultural lands for USDA participants only.

Landowners or their authorized representatives may make written requests to the appropriate agency for wetland determinations. The COE has offices in Mobile and Decatur. The Decatur office covers the Tennessee Valley region, while the Mobile office covers the rest of Alabama. The NRCS has offices in most counties in the state.

Although these agencies are authorized to make wetland determinations and delineations, there are certified private consultants who offer this service as well. If a private consultant best fits your needs, contact the COE or NRCS for information on private consultants who offer this service. 

2. **Riverine Bottomland Hardwood Wetlands**—These sites are located within active floodplains of rivers (usually first and second bottoms within the 100-year flood plain) and represent what are generally considered high quality bottomland hardwood areas. They typically have surface water present off and on for extended periods (more than 14 consecutive days) during the growing season, unless it is a dry year. However, since individual sites vary within a floodplain, including sites that are relatively dry and support pine naturally, to be considered as this type of wetland 75 percent or more of the forest canopy (tree crowns) must be bottomland hardwoods. In other words, if more than 25 percent of the forest canopy is composed of pine, the site does not fit into this wetland category. A registered forester can help you make this determination if so needed. Common trees on these sites include water, willow, swamp chestnut, overcup and cherrybark oak, green ash, sugarberry, American elm, and red maple, as well as cypress and tupelo on the wetter sites. Understory vegetation often includes buttonbush, ironwood, pepperbush, wax myrtle, and swamp cyrilla.
3. **White Cedar Swamps**—In Alabama these sites are found in the lower coastal plain, mostly in Baldwin and Mobile counties. To fall in this category, natural white cedar must make

up more than 50 percent of the basal area in a stand that has a total basal area (including all trees) of 60 square feet or more per acre. Again, a registered forester can help you make this determination. Trees commonly found along with white cedar in this wetland type include pond pine, slash pine, red maple, and bald cypress. Other vegetation commonly found includes red bay, sweet bay, gallberry, yaupon, fetterbush, and sparkleberry.

4. **Non-riverine Forested Wetlands**—This type wetland occurs in the coastal plain on areas outside of flood plains. In general these areas are rare, high quality wet forests with mature vegetation. If red maple, sweetgum or loblolly pine—alone or in combination—make up more than 50 percent of the total basal area on the site, it does not qualify for this category. There are two major types within this category:
- a) **Wet Hardwood Forests**—Such sites are poorly drained flats typically located along the edge of large peatland areas. To fall in this category, the area must be more than ten acres in size and more than 50 percent of the total basal per acre must be composed of one or more of the following hardwood tree species: swamp chestnut oak, cherrybark oak, or laurel oak. Other tree species that are commonly found on this type of wetland include red maple, American elm, sweetgum, ironwood, and American holly. Other vegetation includes spice bush, high bush blueberry, wax myrtle, beauty berry, and cane.

- b) **Swamp Hardwood Forests**—These sites are just as the name implies, very poorly drained flats. They contain trees such as bald and pond cypress, swamp and water tupelo, or white cedar. To fall in this category and require a 404 permit, the area must be greater than five acres in size.

The remaining five wetland types are: Carolina Bay and low pocosin wetlands—found in states along the eastern coast; wet marl forests—found in the mid-Atlantic states; tidal freshwater marshes—found in immediate coastal areas; and maritime grasslands, shrub swamps, and swamp forests—found on barrier islands. Their descriptions are found in the Guidance as well.

A site type notably absent from the list is pine flatwoods. Up to now, the vast acreages of pine flatwoods throughout the South have been the subject of debate and differing interpretation. Mechanical site preparation on these sites does not require a Section 404 permit.

Remember, this Guidance and the potential need for a Section 404 permit pertains only to the use of mechanical site preparation in the nine wetland types for conversion to pine plantation. Harvesting is still exempt, and mechanical site preparation for planting hardwoods remains exempt. This, and the fact that the nine wetland types are not normally converted to pine, should make the new restrictions non-intrusive to the vast majority of forest landowners.

Before you act, remember to consult a registered forester for forestry advice or assistance, and the COE for final word on Section 404 and your responsibilities under the Clean Water Act. ♻️

Definitions

- Waters of the U.S.**—just about any and all water bodies, including lakes, rivers, streams of all sizes (intermittent and wet weather), tidal waters, and wetlands.
- Discharges of dredged or fill material**—soil, rock or other material, that is placed in “Waters of the U.S.,” including soil caused to enter “Waters of the U.S.” due to mechanical soil disturbance.
- Mechanical site preparation** as related to Section 404—shearing, raking, ripping, chopping, windrowing, piling and other similar methods used to cut, break apart, or move logging debris following harvest for the establishment of pine plantations.

For more information on the mechanical site preparation Guidance and Section 404 in general, call the EPA Wetlands Information Hotline at 1-800-832-7828 and ask that they mail you copies of the Section 404 regulations, Guidance, and fact sheets so that you better know your responsibilities—and rights—as owners of the unique and valuable resources known as forested wetlands.

Sign-ups for Forestry Incentives and Wetlands Reserve Programs Announced

The USDA-Natural Resources Conservation Service has announced sign-ups for two cost-share programs. A sign-up for the Forestry Incentives Program (FIP) began in December and will end January 31, 1997. A continuous sign-up is now being held for the Wetlands Reserve Program.

FIP

Approximately \$500,000 is available for cost-sharing in Alabama for the FIP program in fiscal year 1997. The objectives of FIP are to increase the supply of timber products; to increase the future supply of sawtimber; to continue sustained yield, multipurpose management of private, nonindustrial forestland; and to encourage cost-effective forest improvement practices.

In announcing the FIP sign-up, NRCS State Conservationist Ronnie Murphy stated, "The latest forest survey in Alaba-

ma indicates that 1,050,000 acres of non-industrial private forestland needs timber stand improvement and 2.3 million acres need tree planting. There are also over 500,000 acres of open land that need planting to trees."

WRP

The sign-up for WRP brings several significant changes from the first sign-up. The NRCS will offer landowners three options to participate in the WRP. Eligible land can be entered into (1) permanent easements; (2) 30-year easements; or (3) restoration cost-share agreements.

Permanent easements were offered in the previous WRP sign-up and will be offered again with no significant change. Thirty-year easements are similar to permanent easements; however, the easement will expire at the end of 30 years. The easements will not require public access to the land. The third option, the

"Restoration Cost-share Agreement," provides financial assistance for implementing wetland restoration practices. These agreements provide cost-share assistance for wetland restoration practices and do not involve recorded easements.

According to Murphy, "There were 700 acres of land in Alabama accepted into the program during last year's sign-up. Land accepted into WRP will be ranked according to each site's environmental benefits in relation to the cost. Each tract will compete with other Alabama tracts for acceptance into the program."

Wetland areas are considered valuable because they improve water quality by filtering sediments and contaminants; reduce flooding; supply critical wildlife habitat; and furnish educational, scientific, recreational and aesthetic benefits.

For more information about either sign-up, call or visit your local NRCS office ☎

Timber, Wildlife, Education

Continued from page 5

have gone on to win four state championships and two national contests.

According to Gayle, "It was a culture shock the first time we had a group of kids here." But over the years the couple has come to anticipate and enjoy the crowds. "We've learned as much as the community has," she added.

When the Coosa County Forestry Planning Committee recognized the need for training aids for tree identification, Buddy and extension agent Roger Vines joined together to produce a tree identification video and slide presentation to be

used by local schools. The Adcox property was used because of the wide variety of species available. The video and slides have been distributed not only in Alabama but to states as far away as Idaho.

As active members of the Coosa County Forestry Planning Committee, Buddy and Gayle recognize the need for the education of landowners about multiple-use forest management and the importance of good stewardship. Their property has been graciously offered for landowner education, including a kudzu eradication demonstration and a portable sawmill demonstration. Their farm has also been made available for the Coosa County TREASURE Forest Landowners Tour which highlighted multiple-use for-

est management. The Adcoxes have been instrumental in the certification of other TREASURE Forests in Coosa County.

Their active participation and leadership in the Coosa County Forestry Planning Committee have contributed to the committee's being named the most outstanding committee in their district three times, and in 1991 it was honored as the most outstanding in the state. It's no wonder that Coosa County currently leads the state with the greatest number of TREASURE Forests—42.

It's been hard work over the past few years for the Adcox family. But both of them will tell you it's been worth it. According to Buddy, "We've enjoyed it and we'll continue doing it." ☎

"Alabama Forests" License Plate Available in 1997

Good news! In early 1997 the citizens of Alabama will be able to purchase an "Alabama Forests" license plate for their automobile. Not only does the design of the forestry tag send a message that our forests are diverse and have a significant impact on our future, but the proceeds from the tag will be utilized for educational purposes.

The forestry tag became a reality when the 1995 Legislature passed a bill that did three things:

- Authorized the production and sale of a distinctive forestry license plate
- Provided for the establishment of a Forest Stewardship Education Fund
- Provided for the establishment of the Alabama Forest Stewardship Education Committee to administer proceeds deposited in the Education Fund.

As mandated by the Legislature, the Alabama Forest Stewardship Education Committee was appointed by the Alabama Forestry Commission and is composed of the following:

- Eddie Carlson, Alabama Association of Consulting Foresters
- James Hughes, Alabama TREASURE Forest Landowners Association
- Jennifer Stringer, Alabama Urban Forestry Association

- Vaughn Stough, Society of American Foresters
- Steve Guy, Alabama Farmers Federation
- Harry Murphy, Alabama Forest Owners Association
- H. Phillip Sasnett, Board of Registration for Foresters



- Emmett Thompson, School of Forestry, Auburn University
- John McMillan, Alabama Forestry Association
- Timothy C. Boyce, Alabama Forestry Commission (chairperson)

A contest to design the tag was held last year, and more than 300 entries were submitted for consideration. In February 1996 the committee reviewed all entries and selected the first, second, and third place winning designs. The first place winner was B.D. Peterson of Birmingham. Craig Cheatham of Montgomery was selected as

the second place winner, and third place went to John A. Westcott, also of Montgomery.

All proceeds of the tag, less production costs, will be deposited each month in the Forest Stewardship Education Fund. As outlined in the bill passed by the Legislature, the Fund must be used to promote the management of our forests so that they continue to be healthy and productive; continue providing us with clean air and water; and continue providing adequate habitat to support the abundant wildlife population we have enjoyed for years.

Literally thousands of people in Alabama are either uninformed or misinformed about the environmental and economical impact that healthy, productive forests have on our daily lives, as well as our future. The forestry community now has a tremendous opportunity to educate many of these citizens through the purchase of an "Alabama Forests" tag.

The method for purchasing the license plate is the same as any other distinctive or personalized tag. The purchaser will pay regular fees required by law plus an additional fee of \$50. The additional \$50 is considered a charitable contribution and is tax deductible.

The tag cannot be ordered in advance, but mark your calendar to inquire about the new "Alabama Forests" tag when it's time to purchase your 1997 license plate. ♻️



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