

ALABAMA'S

# TREASURED

FORESTS

FALL 2000



**Controlling Southern Pine Beetles**

**Selecting the Right Logger**

**The Fayette Forest**

**Common Diseases of Southern Forests**



**DON SIEGELMAN**  
Governor, State of Alabama



**TIMOTHY C. BOYCE**  
State Forester

**A**LABAMA is blessed with rich natural resources. The state's 22 million acres of forestland is one of our greatest assets. These forests provide clean air, homes for wildlife and many economic benefits. The well-being of these forests hinges on private landowners who manage their property wisely.

I'm proud of our many state agencies who are assisting landowners to manage their forestland for this and future generations. This publication is one way the Alabama Forestry Commission keeps landowners informed about good forestry practices. The Forestry Commission also has personnel in every county in the state who are available to assist local landowners with forest management.

The Department of Conservation's wildlife biologists are also key players in assisting forest landowners. The department's new television program, "Outdoor Alabama," as well as their publication of the same name, are helping to inform many about our state's wonderful outdoor recreational opportunities.

I would like to take this opportunity to personally thank all the private forest landowners who, with the assistance of organizations like the Forestry Commission and the Department of Conservation, are working to keep Alabama's forests healthy and productive. Keep up the good work!

**I**F you're an outdoor enthusiast like me, you'll want to be sure and tune in to a new television show being produced by the Alabama Department of Conservation and Natural Resources. "Outdoor Alabama" is broadcast three times each week on Alabama Public Television: Sunday nights at 7 p.m., Wednesday evenings at 6 p.m. and Sunday mornings at 6:30 a.m. Funding to make the series possible comes from the Alabama Power Company, ALFA Insurance and UNOCAL.

Each show will feature segments on wildlife management, environmental topics, and many different kinds of outdoor recreation. In addition to hunting and fishing, other activities such as boating, camping, hiking, mountain climbing, and wildlife watching will be highlighted. These shows also feature programs developed by the Conservation Department to improve wildlife habitat and enhance the state's natural resources.

Some of Alabama's TREASURE Forest landowners will also be featured during the program. Viewers will see several past Helene Mosley winners on upcoming shows. This is one more way that the concept of responsible forest stewardship can be passed on to future generations.

I'm glad that Conservation Commissioner Riley Boykin Smith has taken the initiative to produce this program. It's something that has been needed for a long time. "Outdoor Alabama" now joins "Discovering Alabama" on the Public Television lineup. Both of these shows feature Alabama at its best. I encourage you to watch and support these shows.

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Don Siegelman

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- USDA-Forest Service, Southern Region, State and Private Forestry
- USDA-Natural Resources Conservation Service

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

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**COVER:** The Monarch Butterfly (*Danaus plexippus*) was adopted by the Legislature as Alabama's state insect in 1989. Read more about this and two other state symbols on pages 28-29. Photo by Mark Burkett.

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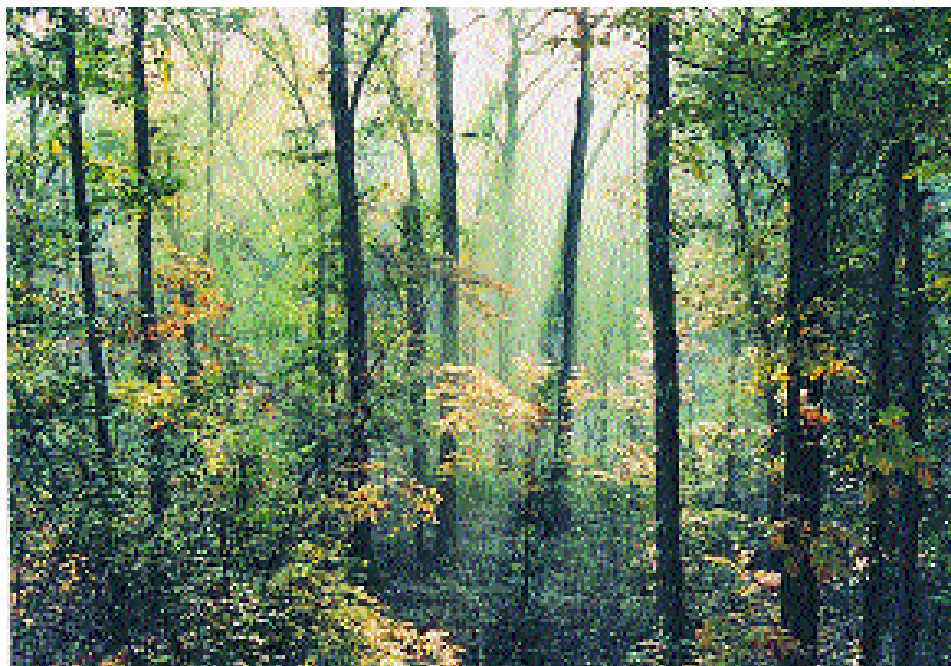
# PARADISE

By KIM G. NIX, Editor

Photo by Ruth Ball

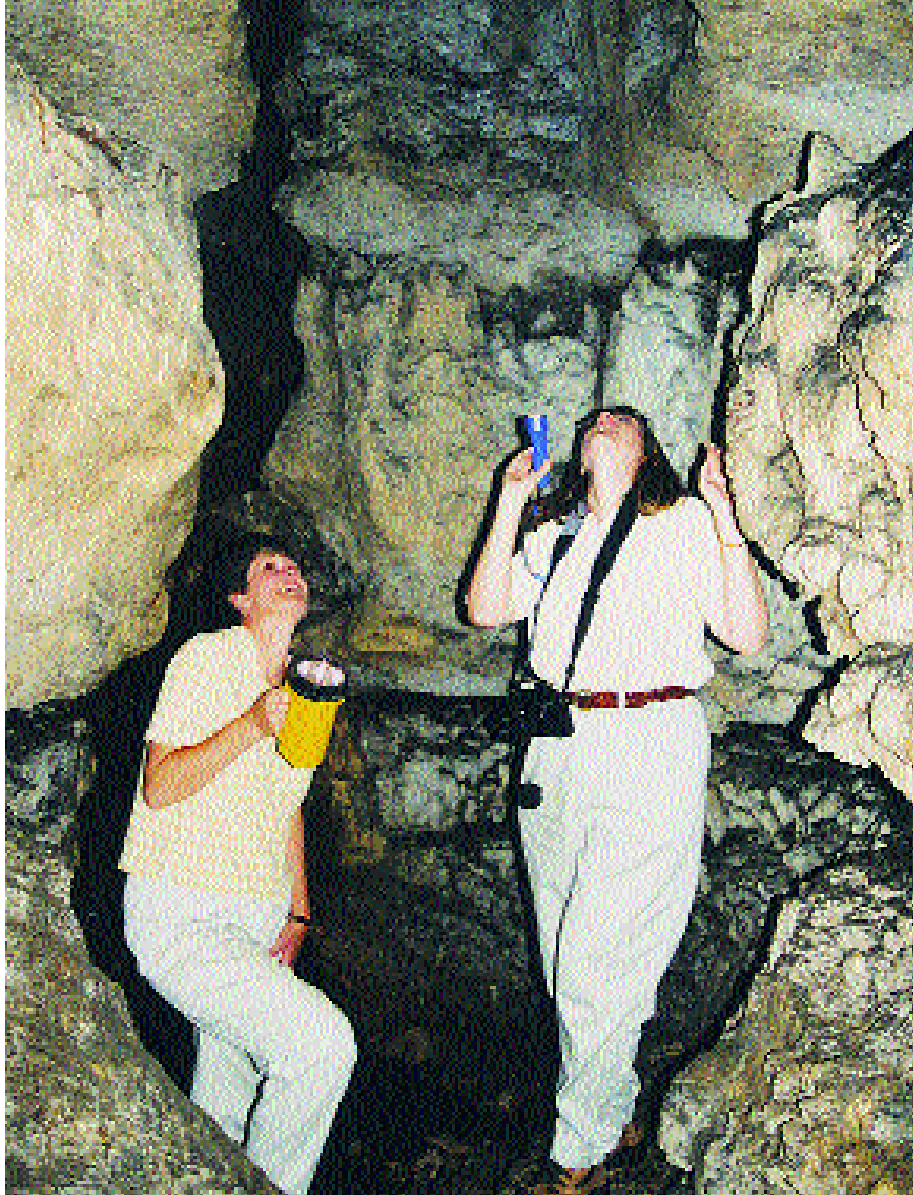
**G**ROWING UP IN ATLANTA, David and Ruth Ball enjoyed excursions to outlying rural areas on a regular basis. Before marriage, their dates included fishing trips and long drives in the country. After they married, one of their long-term goals was to have a place of their own in the country. In 1979 they relocated from Atlanta to Mobile. As luck would have it, they moved just 10 days after Hurricane Frederic hit the city. The couple didn't doubt their decision to move, though, and settled in and began a commercial real estate business, Ball Properties.

Their urge for country life never left them and after a while the couple began searching for some property to use as a retreat. They belonged to a hunting club in Monroe County and liked the location well enough to begin looking in the



Ruth Ball

*The view from the deck of the cabin is spectacular in the fall.*



Ruth Ball

Ruth's favorite place is the slough area, which is abundant with Easter lilies in the spring. Also found nearby is a cave that never fails to delight visitors. The mouth of the cave is small, but once inside there's room for a small group. The cave extends back more than 100 feet into the earth, and a waterfall and beautiful rock formations greet those who enter the cool hideaway.

These special places provide a great opportunity for Ruth to practice her favorite hobby, photography. "Art and nature. Those are my two passions," explains Ruth. Photography is a natural expression of those passions. Ruth's photos reflect how she sees Paradise—as a

*Continued*



*Those who can navigate the small entrance to the cave are treated to a spectacular view inside.*

surrounding area for property of their own. That search eventually led them to Clarke County, where they looked at two different properties. One tract of land was particularly appealing. When Ruth saw the hardwoods, creek and a small cave, she knew they didn't have to look any further. They had found their "Paradise."

### **Favorite Places**

When David and Ruth would make the trip to their Clarke County property it was jokingly referred to as "going to paradise." After a while the name just stuck. The 228 acres was purchased in two parcels, one in 1989 and the last consisting of an adjoining 85 acres in 1990. This is referred to as the "85-acre patch" and is David's favorite because of the hunting and wildlife viewing opportunities in that section of the property.



*David and Ruth Ball*

place of beauty. She keeps a scrapbook of the property and anyone who visits is fair game to be added to the pictorial documentation! Ruth's artistic side can also be seen in hand-lettered signs that are posted throughout the property describing the different areas.

## Managing Paradise

The Ball property was certified as a TREASURE Forest in 1993. They chose wildlife as their primary objective and timber and aesthetics as secondary objectives. "As we worked with that goal in mind, we found that the timber practices played hand in hand with the management of our wildlife," David recalls.

The Balls have worked closely with Department of Conservation Biologist Eugene Widder to enhance the property for wildlife. They put the property in the Deer Management Program with the goal of producing a population of deer with good average weights and are seeing an improvement in the overall health of the species. Ten food plots have been established where a variety of foods are planted at different times of the year. This way deer and other wildlife have food available year round. David says they've concentrated on planting perennials that will come back year after year. Trees such as white oak, sawtooth oak and Chinese chestnut have been planted as sources of hard mast.

Dr. Lee Stribling from Auburn University also made a visit to the property and the Balls are following his



*Ruth's artistic handiwork can be found throughout the property.*

advice in several areas. They've left a strip of low-growing vegetation around the perimeter of food plots. This creates a transition from one habitat to another and provides a diversity in food and cover for wildlife. In addition, some hardwoods were left in clearcut areas and food plots. Foliage was left around the base of these large trees as well.

David has constructed tent-staked cages for honeysuckle that have been strategically placed throughout the property. The honeysuckle, an important deer food, grows around and through the framework.

Permanent firebreaks are planted with bahiagrass and browntop millet. This has helped control erosion on the roads, which was a problem when they first acquired the property.

Where hardwoods were not productive, small clearcuts of 10 to 15 acres were planted with genetically improved loblolly pines. In one harvested area, the windrow composed of leftover logging debris and tops of trees was used as a trellis for gourds. Ruth planted many different sizes to use for birdhouses and crafts.

Since they are absentee landowners, their weekend getaways to the property are usually spent making improvements. "We came to this property with not much but a willingness to work," David said. The existing timber had been high-graded; after thinning, those stands are being naturally regenerated. The Balls also began a prescribed burning program, which has tremendously helped both their wildlife and timber management objectives. "It's real gratifying to see the accomplishments," David says of their hard work. "To be able to share it with other people is very gratifying and that makes the hard work worth while." Ruth adds, "It's a labor of love." Both say their goal is to leave the property better than when they acquired it. The Balls were rewarded for their efforts with the 1998 Helene Mosley Memorial TREASURE Forest Award for the southwest region.

Asked what advice he'd give to other forest landowners, David is quick to recommend professional assistance. "Take advantage of all the talent that's available through the state and other organizations and consultant foresters," he said. Ruth advises landowners to share what they have with others to better educate

them on wise use of our natural resources.

## There's No Place Like Home

As both are enthusiastic nature lovers and travelers, the cabin that David and Ruth built on Paradise reflects those interests. The three-bedroom cabin took four years to build. They constructed it themselves—plumbing, wiring, roofing and everything in between. To add uniqueness to the home, David and Ruth were able to procure several items from restoration projects David has been involved in through his business. Wood paneling came from an old boathouse; glass doors from an old store in Mobile; a dining table and marble for the fireplace from historic homes. Instead of wallpaper, one bathroom wall is covered with a collage of covers from outdoors magazines collected over the years. A large deck across the back of the cabin is perfect for viewing wildlife and enjoying nature.

The couple goes on hunting trips across the United States and to countries like Africa and New Zealand. David is an avid hunter, and while Ruth enjoys it also, she really prefers "hunting with a camera." Trophies from their hunting trips, as well as Ruth's photos from the expeditions, line the walls of the cabin. There are traditional animals represented, like elk and moose, but also animals not found in North America, such as the kudu, an African antelope. A bear skin rug in front of the fireplace is yet another memory of a hunting trip.

The Balls originally purchased the property with the intention of sharing it with their immediate family, but their children have relocated to different states. Son Christopher and his wife live in Colorado, and daughter Jessica has recently moved to Maine with her husband and three children. While family gatherings in Clarke County may not be frequent, David and Ruth enjoy sharing their TREASURE Forest with many friends and have hosted tours on the property as well.

David and Ruth Ball have traveled around the world, but they are always eager to return to their TREASURE Forest in Clarke County—and with good reason. After all, it's not everyone who can say they own a place called "Paradise." 🌲

# LANDOWNERS



## LEGISLATIVE • ALERT

By JAY JENSEN

Washington Office  
National Association of State Foresters

**I**N A presidential election year one can usually expect some extra twists to the legislative process. But this time around Congress appears to be moving at its typical last minute pace to wrap up major legislative business. There is a large question mark as to the final funding figures for the Interior and Agriculture appropriations bills.

The Forest Stewardship Program and the Stewardship Incentives Program under the Interior bill, and the Forestry Incentives Program under the Agriculture bill are the two bills that contain funding for primary forest landowner assistance programs. Although both the House and Senate have acted independently to approve numbers for the two bills, conferring or reconciliation of the two has not yet occurred. And as time ticks by, the chances of a stand-alone conference bill diminishes and the prospect of a catch-all omnibus bill rises.

Here's what we know to date:

### Forest Stewardship Program (FSP)

The FSP provides technical assistance to non-industrial private forest landowners to develop forest management plans. The FSP supports service foresters in the field to work directly with private landowners seeking assistance on how best to manage their forestland. With no acreage limit, the more than 9 million non-industrial private forest landowners across the country are all eligible to take advantage of this resource.

The House approved numbers slightly better than the Senate, recommending a funding total of \$31.454 million in fiscal year 2001 compared to \$30.454 in the Senate. Funding has steadily increased over the past few years, reinforcing the

findings of the Esseks FSP study as highlighted in the Summer 2000 issue of this magazine (Vol. IX, No. 3). The House figure is expected to stick through conference, providing a solid foundation for the program to operate upon.

### Stewardship Incentives Program (SIP)

The cost-share complement to the FSP appears to have lost all favor on Capitol Hill. The SIP provides cost-share money to private landowners to help implement the objectives outlined in forest management plans developed by landowners under the FSP. This might include offsetting costs associated with tree plantings, fish and wildlife habitat improvement and stand improvement.

The SIP has struggled over the past two years and continues to do so as both the House and Senate refused to fund the program at all in fiscal year 2001. With zero funding over the previous two years, the badly needed and popular program has likely seen its last day in the sun. Although SIP may down for the count, this does not mean that a commitment to a cost-share assistance program will be lost. The Esseks study found that forest management plan objectives are two to three times as likely to be implemented and landowners are more inclined to invest more of their own money when

cost-share money is provided. It is this kind of leveraging that is needed to achieve the kinds of goods such as clean air and water, wildlife and timber, that the public demands. The state foresters are actively engaged in developing a new cost-share program to take shape during the 2002 Farm Bill reauthorization process.

### Forestry Incentives Program (FIP)

This program has limped along the past few years at a barely serviceable level of \$6 million for a national program. Highly popular in the South for its focus on timber, the FIP looks again to be supported at a similar level. The House continued last year's trend to not fund the cost-share program and the Senate voted to support the program at a level of \$6.325 million thanks to the leadership of Sen. Thad Cochran (R) of Mississippi.

The FIP works similarly to SIP, but focuses more on non-industrial forest landowner timber resources. FIP money goes toward helping landowners with tree thinning, reforestation and other timber stand improvement costs.

Below is a chart outlining the current and past history of forest landowner assistance program funding for the upcoming and past three years.

There is a high likelihood that the two bills will get lumped together in a year-end omnibus appropriations bill, which will give the president greater leveraging power to get more funding for programs he supports. One of the president's current objections is the lackluster level of conservation funding throughout the budget. This opens the possibility that increased funding beyond current House and Senate levels may occur for landowner assistance programs as well as other programs under the State & Private Forestry budget of the USDA Forest Service. 🌲

### Program Funding Levels (Millions of Dollars)

	FY '98	FY '99	FY '00	FY '01	FY '01 (Recommendations)		
	Enacted	Enacted	Enacted	Admin.	NASF	House	Senate
FSP	23.880	28.830	29.430	29.407	36.500	31.454	30.454
SIP	6.500	0.000	0.000	3.250	—	0.000	0.000
FIP	6.000	16.325	6.325	0.000	25.000	0.000	6.325

# Converting Pine Stands to Hardwood... A Way to Control Southern Pine Beetles?

By **JIM HYLAND**, Forest Health Specialist, Alabama Forestry Commission

**S**OUTHERN pine beetles (SPB) are killing “all” the pines. Should we continue planting and growing pines? Why not grow yellow-poplar, oak, walnut or paulownia instead?

The summer of 2000 was a record year for SPB infestations. The extreme drought weakened and put the pines under stress. The Climate Prediction Center of the National Oceanic and Atmospheric Administration takes data from several sources and creates a U.S. drought monitor map. This map shows Alabama in the extreme and exceptional categories. Exceptional drought means “exceptional and widespread crop/pasture losses, exceptional fire risk, shortages of water in

reservoirs, streams and wells creating water emergencies, 60 percent of rainfall during the last 12 months, topsoil moisture 90 percent shortage, and soil moisture in the top five feet at extreme losses.” Since most tree roots are located in the top five feet of soil, in pines this means no water, no sap, and no protection from SPB.

This stress, combined with an in-place population of SPB, caused record numbers of spots and dead trees. The total number of spots statewide reached over 12,000 and the total number of trees reached over 1 million. This translates into a loss of \$87 million worth of standing timber with an economical value of

\$904 million. Not only was there an immediate loss, but some landowners will have annual losses of CRP payments or have to replant those lost acres.

## Why Plant Pines?

Pines grown on pine sites by non-industrial private landowners (NIPL) are the most economical species and give the best return of money in the earliest time. The NIPL should be growing pines for sawtimber since selling sawtimber is the best return on his or her investment. Pulpwood should be cut (thinning) to select the less valuable trees with a forward view of which trees will be left for the “crop” or sawtimber trees. On pine sites, sawtimber can usually be cut by age 30-40.

## Why Not Grow Hardwoods on Pine Sites?

It is true that since the SPB only attacks pines, to control or prevent SPB infestations one can plant hardwoods instead of pines. BUT, it is not good silviculturally or economically to try to grow hardwoods on pine sites. It is true that hardwoods should be regenerated on hardwood sites. Planting hardwoods on pine sites is expensive. Site preparation costs and seedling costs exceed costs of pine regeneration. And the return on the investment is not as good since you carry a higher cost for a longer time. Hardwood sawtimber takes at least 50-60 years to grow.

When hardwoods are planted the stand has insect problems. Hardwoods grow naturally in mixed stands of different species. In a plantation of one hardwood species it has been shown that usually minor insect populations will increase and kill large areas of trees. Example: cottonwood plantations have been killed by cottonwood leaf beetle and sycamores killed by anthracnose.



*Trees killed by the Southern pine beetle were an all-too-common sight during summer months.*



## Manage Pines to Reduce Impact of SPB

It is not just growing pines but managing your forest stands that is important. You cannot just plant pines and return in 30 years expecting high value sawtimber. An acre of land will grow a maximum amount of wood. This wood can be on a lot of small trees or a few large trees. Since large trees (sawtimber) are worth much more than small trees (pulpwood), then it seems to make sense that a landowner should grow a few large trees as crop trees.

The U.S. Forest Service has published a risk map of the United States. They define a high-risk area as an area where one can expect 25 percent mortality over the next 15 years. This risk is based on insect and disease hazards and forest inventory plot data. In Alabama, there are 11.9 million acres of pine type; 2 million acres of these are in the “high risk” category. These are generally the stands that are being grown but not managed. How did these stands get this way? How can we manage our stands to keep them out of the high risk category?

**Species selection**—Even if a site is a “pine” site there are differences in soil types, geographic location and moisture that are more suited to some species of pine than others. Generally speaking, most sites in Alabama are suited to loblolly pine. But there are sites that are

better suited for longleaf pine, and those should be planted and managed for longleaf. Longleaf pine is more resistant to SPB attack and to some of the major diseases. BUT, to then say longleaf should be planted everywhere is a mistake. On sites suitable for longleaf, a landowner should favor longleaf.

**Regulate stocking**—Starting with the planting process, a landowner should consider SPB in the determination of the planting density (spacing). With modern planting techniques and site preparation methods pines grow faster and thus gain crown closure and start putting competition stress on each other. Stands planted at high numbers per acre reach “high hazard” for SPB at an early age (sometimes before the stand has an average diameter great enough to commercially thin). The easiest and best way to avoid this is by planting fewer than 544 seedlings per acre (8 x 10 spacing). Ideally, spacings of 9 x 10 or 10 x 10 are best.

Dense stocking (high basal area) and slow radial growth characterize high-hazard stands. Thinning will stimulate growth and vigor in stands and reduce the likelihood of future losses from SPB. The poorer crown classes—suppressed and intermediate trees—are cut first. Dominant and codominant trees with large crown ratios and desirable traits should be favored as crop trees. They will

most likely respond to thinning and provide the greatest number of silvicultural options in the management of residual stands. Thinning schedules depend on the close relationships between site quality, stand age, stocking, live crown ratio of individual trees and growth rate. Root and crown competition among individual trees develops at ages 10-15 on most sites. Crowding can occur earlier than age 10 on better quality sites that contain a large number of trees. Initial thinning should be scheduled before live crown ratios drop to 40 percent. Delay will reduce stand vigor to levels unfavorable for growth but attractive to SPB. The risk of beetle attack in most cases will increase considerably when stocking levels exceed 100 ft<sup>2</sup>/acre.

**Minimize logging damage**—Damage from recent logging (within the past year) favors SPB infestations. Careless cutting, skidding, and hauling often cause severe mechanical injury to above and below ground portions of residual trees. Moderately to severely damaged trees are high-hazard and should be removed from the stand as soon as possible.

**Planning and application**—The risk of SPB attack and the rapid spot growth is lowest when insect populations are down. This is the best time to plan and implement silvicultural treatments related to SPB. Mill quotas are not filled with salvage wood, and operators are available to conduct intermediate cutting. The “reservoir” of SPB infested and high hazard trees is removed, and more growing space is provided for residual trees. High hazard stands can be identified and treated to reduce their susceptibility to beetle attack and the potential for spot growth in a future outbreak. Low hazard stands can be tended to maintain vigor and rapid growth. Stands and forests that are highly resistant to SPB attack should be a primary objective of management. Prevention silviculture offers the most practical and long-lasting means of achieving this goal.

In short, good forest management is good Southern pine beetle management.

## Reference

**Silviculture Can Reduce Losses From the Southern Pine Beetle.** USDA Forest Service, Agriculture Handbook No. 576, 1980. 📖

## Terms to Understand

**Crop Tree**—Any tree selected to grow to final harvest or to a selected size. Crop trees are selected for quality, species, size, timber potential, or wildlife value.

**Crown Class**—A tree classification system based on the tree's relative height, foliage density, and ability to intercept light. Crown-class measures past growth performance and calls attention to crop trees that could benefit from future thinning and harvest operations. There are four classifications:

- \* **Dominant Trees**—Larger-than-average trees with broad, well-developed crowns. These trees receive direct sunlight from all sides and above.
- \* **Codominant Trees**—Average to fairly large trees with medium-sized crowns that form the forest canopy. These trees receive full light from above but are crowded on the sides.
- \* **Intermediate Trees**—Medium-sized trees with small crowns below the general level of the canopy. Intermediate trees receive little direct light, are poor crop trees, and should be removed during thinning operations.
- \* **Suppressed Trees**—Small trees that grow below the tree canopy and receive no direct sunlight from any direction.

**Crown Ratio**—The percent of the compacted portion of the tree bole or shrub supporting green, live, healthy foliage when compared to the total length or height.

**Stand**—An easily defined area of the forest that is relatively uniform in species composition or age and can be managed as a single unit.

# Planning a Career as a Forester

By TILDA MIMS

Education Specialist, Alabama Forestry Commission

*"My daughter thinks she would like to be a forester. Do you have any materials she can read?"*

*"My child is doing a project on forestry for Career Day. Do you have any handouts?"*

*"My class is studying community helpers. I want a forester to visit my class and tell them a little about what a forester does."*

PARENTS, teachers and students regularly visit Alabama Forestry Commission offices seeking information on becoming a forester. They are curious about job requirements, salary and, most importantly, what job opportunities will be available in the future.

However, many young people do not really understand what a forester does each day. They like the outdoors, and they believe that foresters spend their days out in the fresh air. They "like to hunt and fish," and believe that is sufficient cause to become a forester.

Often they are surprised to learn that a forester with the Alabama Forestry Commission may be dispatched to a wildfire in the wee hours, spend four hours before a computer monitor, fly a Southern pine beetle detection flight and testify in a court case—all in 24 hours! Forester jobs in private industry can be just as diverse.

Foresters may be found in the woods, in mills, in classrooms and in the halls of government. Forestry is a science that involves managing forest resources in an increasingly complex world. As society's needs for forest products and its attitudes about forest management rapidly change, we can expect the field of forestry to change as well.

## Educational Requirements

A bachelor's degree in forestry is the minimum educational requirement for professional careers in forestry. Although sometimes a combination of education and experience may be acceptable to

some employers, job competition makes this option very difficult.

Most land-grant colleges and universities offer bachelor's or higher degrees in forestry; 48 of these programs are accredited by the Society of American Foresters.

While you do not have to be a forester to work in the field of forestry, you must have a specific education in forestry to be a **forester**. Fifteen states (including Alabama) have mandatory licensing or voluntary registration requirements that a forester must meet in order to acquire the title of "professional forester" and practice forestry in the state. Requirements may vary, but they usually entail completing a four-year degree in forestry, a minimum training time and passing an exam.

Foresters who wish to perform specialized research or teach should have an advanced degree, preferably a Ph.D.

## Future Employment Opportunities

According to the Bureau of Labor Statistics, employment of foresters is expected to grow about as fast as average for all occupations through 2008.

Presently, about two out of three foresters work for federal, state or local governments. The BLS states that of those workers, about 14,000 are employed by the federal government, mostly in the USDA Forest Service; about 9,000 work for state government, and 6,000 work for local governments.

Here are some additional predictions:

- Growth should be strongest in state and local governments and in research and testing services, where demand will be spurred by a continuing emphasis on environmental protection and responsible land management.

- Fewer opportunities are expected in federal government, partly due to budgetary restraints. Also, federal land management agencies, such as the Forest Service, have de-emphasized their timber programs and are increasingly focusing on wildlife,

recreation and sustaining ecosystems, thereby increasing the demand for other life sciences. However, the BLS projects a large number of foresters to retire or leave, resulting in some job openings between 1998 and 2008.

- Recent reductions in timber harvesting in the Northwest and in California will dampen job growth for private industry foresters in those areas. Opportunities will be better for foresters in the Southeast, where much forested land is privately owned.

- Rising demand for timber will increase the need for management plans that maximize production while sustaining the environment for future growth. Salaried foresters working for private industry and consulting foresters will be needed to provide technical assistance and management plans to landowners.

Research and testing firms have increased their hiring of foresters in recent years in response to demand for professionals to prepare environment impact statements and erosion and sediment plans, monitor water quality near logging sites, and advise on tree harvesting practices. Hiring at these firms should continue during the 1998-2008 period, though at a slower rate than over the last 10 years.

## Salaries

Starting salaries vary depending on the job and academic achievement, but is considered to be about \$22,717 a year. State and local government salaries were generally lower than private industry or the federal government.

Median annual earnings of a forester in 1998 were \$42,750. The median annual earnings of foresters employed in state government in 1997 were \$37,500.

## New Trends

The emerging trend toward growth and care of urban forests is opening new doors of opportunity to fulfilling careers. As more and more people are drawn into

the urban environment, the need to reconnect with nature is likely to expand, offering opportunities for people of all interests, backgrounds, and education and experience levels.

Someone who pursues a degree in forestry in 2000 may find themselves employed in a network of professions including arborist, cooperative extension specialist, environmental consultant, school teacher, GIS technician, landscaper, lobbyist, lawyer, nature photographer, nursery manager, transportation engineer, utility forester, wildland fire manager and writer.

## Recommendations

For students evaluating forestry as a course of study, there are several strategies to make your resume more attractive once you enter the job market.

Develop excellent oral and written communication skills early. A recent survey by Auburn University's School of

Forestry polled 650 graduates on several issues, including skills they considered very important in their careers. The highest-ranking skills were oral communication (92 percent) and written communication (85 percent).

New products, equipment, techniques, and issues are emerging almost daily. To have a satisfying career in forestry, like any career, you must keep current. Talk often with forestry professionals, read forestry publications, attend seminars and get active in local forestry groups.


If you plan to work with chemical pesticides and herbicides, consider training and certification before you seek employment.

Look for internships and co-op jobs. These opportunities provide you with experience before you graduate, the chance to see what the work is really like and you may be hired by your employer after you graduate.

Develop proficient computer skills, become familiar with scanners, mapping programs and word processing.

Take courses in Geographic Information Systems. GIS is the use of computers to generate maps for water resources, wildlife distribution, land use planning, etc.,. It is rapidly becoming an extremely important factor in just about all areas of the environmental sector.

## References

- American Forestry Association, P.O. Box 2000, Washington, DC 20013  
Bureau of Labor Statistics;  
[www.bls.gov](http://www.bls.gov)  
Society of American Foresters, 5400 Grosvenor Lane, Bethesda, MD 20814;  
[www.safnet.org](http://www.safnet.org)  
U. S. Forest Service, USDA, P.O. Box 96090, SW, Washington, DC 20090-6090  
[www.urbanforest.org](http://www.urbanforest.org) 

## TREASURE Forest: 6 Steps to Success

Anyone owning 10 or more acres of forestland can be considered for the certified TREASURE Forest award. To be eligible, a landowner must do the following with respect to all their forestland in Alabama:

1. Identify one primary and at least one secondary management objective for the property based on the following list of choices: Timber Production; Wildlife; Recreation; Aesthetics; Environmental Education.

2. Possess or acquire a written multiple-use management plan for the property. Your local Alabama Forestry Commission office can help you identify options for obtaining a written management plan if one does not exist.

3. Actively practice multiple-use management on the property. Your local office of the Alabama Forestry Commission can supply you with information on the level of management activity necessary.

Once these items are in place, the following must occur to earn the award:

4. The property must be nominated by someone associated with one of the member agencies or groups of the Alabama Forestry Planning Committee. You may contact them and suggest a nomination if you feel your property or that of someone you know qualifies for the award.

5. The property must be inspected by a registered forester and wildlife biologist. Your local Alabama Forestry Commission office will arrange the inspection.

6. The nomination and inspection report must be submitted to the TREASURE Forest Subcommittee of the Alabama Forestry Planning Committee for review and approval.

7. If you would like to be considered for the certified TREASURE Forest award, or know of someone else who may qualify, contact your local office of the Alabama Forestry Commission or other member agency/group of the Alabama Forestry Planning Committee. These organizations are listed on page 2 of this magazine. They will be happy to assist you with the certification process.

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# Standards Developed for Containerized Longleaf Seedlings

By **TIM ALBRITTON**, Forest Operations Specialist, Alabama Forestry Commission



system. Landowners who agreed to plant longleaf received more points for certain practices and thus had a better chance of being accepted into the program. This year alone, over 30,000 acres have been accepted into the program.

Another big contributor to the increased popularity of the longleaf pine is the Longleaf Alliance. The Longleaf Alliance has been instrumental in providing information about seedling availability, technical information useful in improving seedling survival, historical information about the ecosystem, and has encouraged and promoted the management of the longleaf pine ecosystem. In addition to providing sound technical information about managing longleaf pine, the Alabama Forestry Commission saw the need to develop standards for containerized longleaf seedlings. The AFC has had minimum standards for

bareroot longleaf seedlings for many years. However, no written standards have been in effect for containerized seedlings. A variety of longleaf containerized seedlings are now being grown in nurseries and sold to the public. The poor survival rates on a significant number of the containerized seedlings planted last year signified the need for written standards.

Developing written standards will not necessarily improve planting success, but it will provide landowners with a guide for what to look for in a quality seedling. Proper handling of the seedlings and proper planting techniques are still vital to the overall success of the planting project.

It is hoped that these standards will help landowners and vendors who are interested in purchasing and planting longleaf to have a successful planting. 🌲

**T**HE longleaf pine (*Pinus palustris* Miller) was specified as the state tree of Alabama by the legislature in 1997. However, it has long been a major timber species in Alabama. Longleaf pine is distributed primarily in the lower two-thirds of the state and grows best in well-drained sandy soils. Its insect and disease resistant traits, its resistance to fire damage, and the high quality products derived from the tree make it an obvious choice among forestland owners and land managers. Also, it has remained the sentimental favorite of many foresters and landowners over the decades, and poor survival rates after planting have contributed to the decline of longleaf.

In recent years longleaf's popularity has increased largely due to the high priority it has received in the Conservation Reserve Program (CRP). In an effort to reestablish the longleaf pine ecosystem, which provides for a unique habitat for many species of plants and wildlife, some changes were made to the CRP ranking

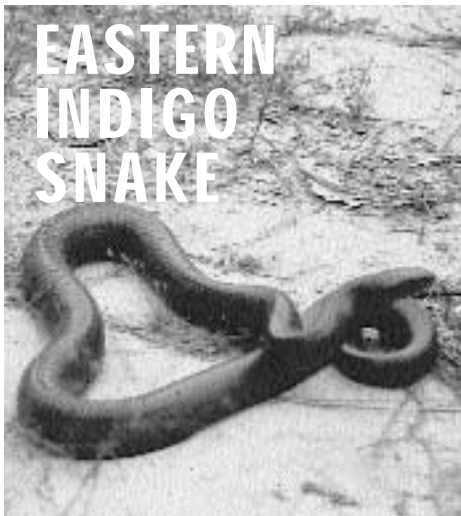
## Standards for Containerized Longleaf Seedlings

1. Needle length must be 3" or greater and live. Completely dead, brown or yellow needles are not acceptable (some at the bottom of the seedling are ok).
2. Root collar diameter of 0.20" or greater.
3. Root system must not be cut or damaged.
4. Plugs must be 3.0" cubic inches or greater in volume.
5. Plugs must be a minimum of 3.25" deep.
6. There cannot be any contaminating substances such as weed and grass seeds and/or sprouting in the potting medium.
7. Plugs must be intact; lost potting medium exposing the root system is not acceptable. Plugs where the roots have grown down the side of the potting medium are ok; loose potting medium that easily washes or falls off during watering or handling is not acceptable.
8. Plugs must be moist.
9. Terminal bud must not be damaged.

Individual companies may request a review of their seedlings. The director of the Alabama Forestry Commission's Management Division will have final approval authority.

Developed: January 2000  
Approved: April 17, 2000  
Revised: Aug 21, 2000

# THREATENED & ENDANGERED SPECIES



By **BARRY HART**,  
Zoologist/Ecologist,  
Alabama Natural Heritage Program

ONE OF South Alabama's non-venomous reptiles that inhabits open, dry sandy ridges and intervening waterways, swamps, and wet depressions is the Eastern indigo snake (*Drymarchon corais couperi*). Attaining a maximum total length of nearly 8 1/2 feet, the Eastern indigo snake is considered the longest snake in North America. However, most adults range between 6 to 7 1/2 feet. The color of this impressive animal is a uniform, shiny bluish-black except for the area about the chin, cheeks, and throat, which may be reddish or cream-colored. The scales are large and smooth (may be lightly keeled along the central 3-5 rows on some males) and occur in 17 rows at mid-body. Hatchlings are typically 18 to 24 inches and are similar in color to the adults with the exception of some having light gray spots that disappear with age.

The indigo snake found in the Southeast is one of eight described subspecies that are primarily tropical in distribution. The species *Drymarchon corais* has an overall range that extends from the Coastal Plain of the United States to northern Argentina with a core distribution of six subspecies occurring in South and Central America. One other sub-

species of *Drymarchon corais* occurs in the United States, the Texas indigo snake (*D. c. erebennus*). The latter is found in the arid region of South Texas to Veracruz and Hidalgo, Mexico.

Eastern indigo snakes are known to use a wide range of habitats. Individuals have been observed along dry sandhills within longleaf pine-scrub oak associations, pine flatwoods, stream bottom thickets, agriculture fields, and margins of swamps and wet depressions. Studies suggest that a mosaic of habitats is needed to complete their annual cycle. Large expanses of gopher tortoise-inhabited sandhills with interspersed wetland areas provide optimal habitat for indigos. Gopher tortoise burrows are used as a retreat and refuge from winter cold and provide nest sites for indigos during the spring. Nearby shaded wetlands provide relief from summer heat and offer foraging opportunities. In areas without an abundance of gopher burrows, refuge may be sought in hollowed root channels, hollow logs, or the burrows of rodents and armadillos.

An active daytime predator, the Eastern indigo will consume practically any vertebrate it can subdue. The diet of an adult indigo snake may include fish, frogs, toads, lizards, turtles, turtle eggs, juvenile gopher tortoises, small alligators, birds, small mammals, and snakes including venomous snakes ("rattlers"). Juvenile indigos feed upon invertebrates but may also consume small vertebrates as well.

The Eastern indigo is often mistaken for other black snakes that occur within its range. The common black racer (*Coluber constrictor*) and the black pine snake (*Pituophis melanoleucus lodingi*) are two species that resemble the indigo at a glance, but these two are distinguishable based on a few obvious characteristics. The black racer is a more slender and faster moving snake that has a divided anal plate. The indigo is a more stout-bodied animal, moves more slowly, and has a single anal plate (most field guides for reptiles will explain the anal plate structure in detail). The single

most separable feature for the black pine snake is the prominently keeled scales on the snake's dorsum (back and sides).

Based on historical sightings, collection records, and guesswork, the Eastern indigo snake was reported to have ranged from South Carolina through southern Georgia, peninsular Florida, and westward to Mississippi and possibly eastern Louisiana. In Alabama, the Eastern indigo snake was recorded from Satsuma and the Grand Bay area of Mobile County, an unreported locality in Baldwin County, and two specimens collected north of Florala in Covington County. These observations and collections all represent records dating from the first half of the 20th century. By the mid 1970s, herpetologists seriously questioned the snake's continued existence in Alabama, and in 1978, the Eastern indigo snake was listed as a threatened species by the federal government. Over-collecting for the pet trade, mortalities caused by the "gassing" of gopher tortoise burrows (often associated with "rattlesnake round-ups"), and habitat loss and fragmentation by residential and commercial expansion all contributed to the species' abrupt decline and eventual listing.

In 1977, Dr. Dan W. Speake of Auburn University began an intensive captive breeding and experimental reintroduction program of the Eastern indigo snake. Various age classes of the snakes were released into protected areas in Alabama, Georgia, Florida, Mississippi, and South Carolina. In Alabama, nine separate localities were carefully chosen and snakes were released in Autaugaa, Baldwin, Bullock, Covington, Escambia, Mobile, and Washington counties between 1978 and 1986. Presently, it is not known if all of the releases were successful. As of late, the most encouraging reports are coming from the northwest corner of Mobile County. However, much work and visits into the release areas are needed to fully ascertain the success of the reintroductions.

If anyone is aware of plausible sightings of indigo and/or black pine snakes in the counties mentioned above, please contact Barry Hart of the Alabama Natural Heritage Program<sup>SM</sup> at (334) 834-4519, ext. 24. Your participation in sharing such observations will greatly lend to the conservation and protection of one of Alabama's treasured animals. 🐍

# An Awakening: The Fayette Forest

By **DR. GLENN R. GLOVER**

Extension Specialist, Private Forest Management Team  
School of Forestry and Wildlife Sciences, Auburn University

**T**UCKED AWAY in northwest Alabama is a little known gem that has not shone brightly in 25 years. The Fayette Experimental and Demonstration Forest is a 1,332-acre forest owned by Auburn University. It is to be used for the purposes of testing and demonstrating forest management practices that can be employed by private forest landowners and forest industry and providing educational opportunities to schools, the community and service organizations. This forest was once bustling with activity, particularly from the late 1940s to mid-1970s, when Sherman Whipple was at the helm of the forest. Since Mr. Whipple's untimely death, there has been no full-time professional forester on the property. Priorities changed and the Alabama Agricultural Experiment Station managed the forest for the past 25 years primarily for income generation.

In 1998, the School of Forestry and Wildlife Sciences (SFWS) became responsible for management of timber sale proceeds from the forest. In 1999, Dean Richard Brinker appointed a forest management committee to review the status of the Fayette Forest and four other forestry units (Autauga, Coosa, Barbour and North Auburn) and propose appropriate management of these forests in an attempt to revitalize their intended purpose. The Fayette Forest is the largest of the five forestry units and has received priority status because of immediate potential use of the forest for research, demonstration and educational activities.

In the spring of 1999, the forestry planning committees of Fayette, Lamar and Marion counties were approached about cooperating in the revitalization effort. The SFWS would allocate a portion of timber sale money to renewing use of the forest if the surrounding counties would utilize it for educational purposes. The county committees responded eagerly; hence a partnership was born. A local

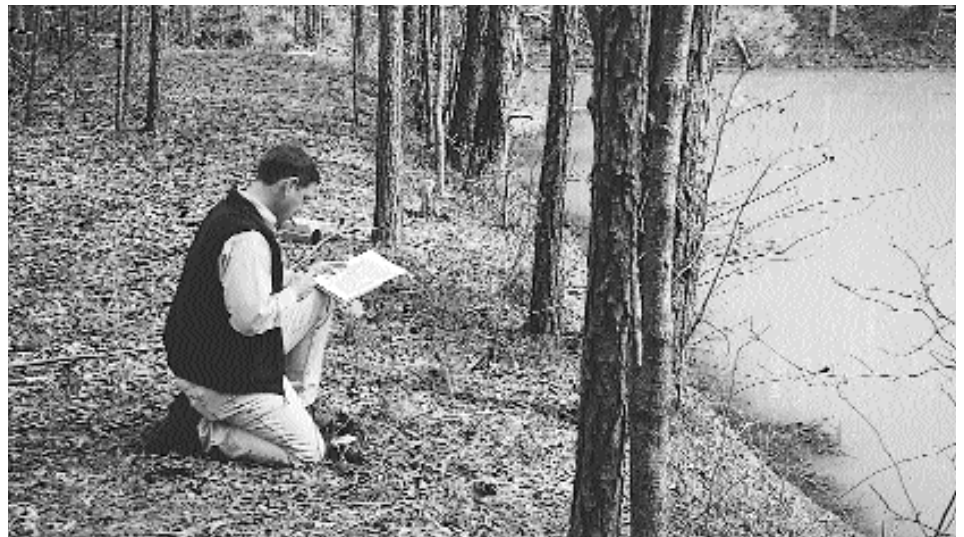
steering committee comprised of representatives from state and federal natural resource agencies, the Fayette Board of Education, the Alabama TREASURE Forest Association, county forestry planning committees, Boy Scouts and Girl Scouts, Wheelin' Sportsmen, and forestry consultants was formed to give local interests a hand in direction and use of the forest. Although the SFWS controls the forest, it is hoped there will develop a sense of local "ownership" and pride in the forest through input and cooperation in demonstration and education projects.

## Managing the Forest

The first priority was to improve access to the forest by rebuilding over four miles of road. Turnouts and cross-drain culverts were installed on the existing road system. Then the road was graded, crowned and graveled. Most of the main road system is now in excellent condition, making the property accessible year-round. Additional roadwork is planned for next year. Seven heavy gauge steel pipe gates guard the entrances, pro-

tecting the roads from unauthorized use.

Wildlife management activities were non-existent, although the property had been hunted without permission for several years. The School wanted to regain control of the hunting activity while maintaining a healthy game population. Jesse Parrish, a local citizen involved with Wheelin' Sportsmen, inquired about leasing the property for handicapped hunting. The inquiry stimulated an idea. The SFWS contacted the Division of Wildlife and Freshwater Fisheries (formerly the Game and Fish Division) about cooperating with Auburn University in designating the forest as a Wildlife Management Area for handicapped hunting. After several revisions of the agreement, the Fayette WMA was officially designated in June 2000, with operation to begin in the 2000 hunting season. This agreement will benefit handicapped hunters and enhance game management on the forest. The Division will manage the hunting and assist the School in wildlife habitat improvement and management. Additionally, this WMA will provide



*A landscape architect studies the location for the educational pavilion along the edge of the pond.*

research opportunities for SFWS faculty that were not previously available.

### Using the Forest for Education

Another exciting project on the Fayette Forest is the planned development of an Educational Area surrounding a small pond in the eastern portion of the property. U.S. Highway 43 splits the property, with about 200 acres lying east and 1,100 acres lying west of the highway. The 200-acre portion will be primarily utilized for small-scale demonstrations of forest resource related activities, educational trails, an open-sided educational pavilion and hopefully, one day, a full-fledged "classroom in the forest." Teachers in the Fayette County School System, the 4-H program, Boy Scouts, Girl Scouts and other educational/service groups have shown great interest in utilizing the property for educational opportunities. Teachers used in-service time this past summer to develop educational programs that will be implemented on the forest.

The dam and spillway of the small woods pond was rebuilt during the summer and will serve as the centerpiece of the educational area. The Fayette County Forestry Planning Committee received a \$20,000 Stewardship Grant (from forestry tag sales) to aid construction of the educational pavilion and educational trails. The SFWS has committed an additional \$25,000 of timber sale money

ed adjacent to the small pond, affords varied educational prospects. A master plan is being developed to guide the design and layout of facilities, parking and other parts of the infrastructure.

### Future Plans

The 1,100 acres west of U.S. 43 will be used primarily for larger-scale forestry and wildlife habitat demonstrations. The forest has not been prescribed burned in over 25 years. There are numerous opportunities to show benefits of fire in this ecosystem, open the forest for improved wildlife habitat and to enhance the aesthetics of the forest. Stands will be thinned as appropriate and harvested areas regenerated using a number of different approaches. One or more areas may be planted in longleaf pine, as this area of Upper Coastal Plain soils lies in the longleaf's native range. An excellent long-term site preparation study exists on the property. Initiated in 1958 and replicated in 1997, the Fayette site preparation study illustrates the results of a range of six treatments, from no site preparation to intensive chemical site preparation with herbaceous weed control.

A Best Management Practices (BMP) demonstration is planned in cooperation with the Alabama Forestry Commission to show how to mark and cut along intermittent streams. Numerous opportunities exist for demonstrating cost-effective and environmentally sound road-building

methods. Roads are often an afterthought on private forestlands. Road design and layout should receive major consideration and be an integral part of the overall forest management plan. Outsloped roads, broad-based dips and grassed turnouts will be featured on secondary roads of the forest.

There are also many opportunities on the forest to demonstrate wildlife habitat management enhancement and improvement. Much of the forest currently consists of older mixed pine-hardwood stands. Many pine-dominated stands need to be prescribed burned to reduce fire hazard and to reduce the vegetation to a size that is accessible and palatable to several important wildlife species. One or more areas may be heavily thinned, treated with herbicide to reduce the hardwood understory and burned on a regular basis with the goal to create an open forest and good quail habitat. Other areas will be treated with herbicide and fire to improve whitetail deer and wild turkey habitat. Small hardwood bottoms and "stringers" will be maintained to protect water quality, increase diversity, and provide habitat for squirrels and other species. The diversity of the forest will provide habitat for a variety of songbirds and other non-game wildlife species.

### A Work in Progress

The Fayette Experimental and Demonstration Forest is a work in progress. Like any gem, it must be shaped and polished before its full potential is apparent. After sufficient accomplishments have been made the forest will be submitted for consideration as a Demonstration TREASURE Forest. Landowners, school children and other citizens in the counties surrounding the Fayette Forest as well as the general public of Alabama will benefit from the reawakening and sustainable management of this forest.

For more information on or use of the Fayette Forest, contact Dr. Glenn Glover, School of Forestry and Wildlife Sciences, Auburn University, AL, 36830 (334-844-1019; glover@forestry.auburn.edu) or Warren Griffith, County Extension Agent, Fayette County, 103 First Avenue, NW, Suite 1, Fayette, AL 35555-0030 (205-932-8941; wgriffith@acesag.auburn.edu).



*Dr. Richard Brinker (rear of photo), dean of the School of Forestry and Wildlife Sciences, assists the road crew in laying out a broad-based dip for demonstration purposes.*

Fall 2000

# Selecting the Right Logger for Your Timber Harvest

**A**S A FOREST LANDOWNER, you may have wondered from time to time if you and your woods could benefit from a timber harvest. College tuitions are looming, or the habitat is no longer ideal for the deer you hunt or the songbirds you love to watch. Maybe the woodlands are getting crowded, or ice or wind damaged a section, or the growth is well matured and you're wondering just what it's worth.

You are at a critical crossroads. How you sell your trees and select the professional contractors who do the harvesting are important decisions. They can either perpetuate the many values of your forest, or badly damage the land and imperil its ability to bring you future financial income and personal and aesthetic pleasure—the reasons you own the land in the first place.

Fortunately, Americans are becoming more aware of how important forests are to themselves personally and to the nation as a whole. That perception is especially visible in a variety of programs and projects aimed at sustainable forestry—practices based on a stewardship ethic that considers all the many values of wooded lands, including non-timber values such as wildlife and water quality. Among the most notable expressions of this ethic is the American Forest & Paper Association's Sustainable Forestry Initiative<sup>SM</sup> (SFI<sup>SM</sup>).

The goal of the SFI<sup>SM</sup> is to broaden the practice of sustainable forestry. An important component of the initiative aims at enhancing professionalism among timber harvesters, foresters, and others in the forestry community. Specific principles focus on the training and continuing education of these forest professionals in using Best Management Practices (BMPs) during timber harvesting; compliance with laws and regulations; forest regeneration and resource conservation; awareness of the Endangered Species Act and other wildlife considerations; logging safety; and business management.

All of this means that the vital job of selecting the right logger for your timber harvest is getting easier. The purpose of this article is to help you act wisely while preparing for the harvest of your trees.

## What Are BMPs?

Best Management Practices, or BMPs, are good forest stewardship practices to follow during forestry activities to protect the water quality of nearby streams, lakes, or ponds. They are set at the state level and may be mandatory or voluntary, depending on state law. In Alabama, BMPs are voluntary. Common examples of BMPs to protect water quality are:

- Erosion control measures on roads and skid trails, such as culverts, broad-based dips, and water bars.
- Vegetated buffer strips, or "streamside management zones," along streams, lakes, and wetlands.
- Guidelines for stream crossings to minimize environmental impacts; for example, crossing streams at right angles, using portable bridges, and using culverts.
- Recommended practices for harvesting to protect sensitive areas; for example, to minimize soil rutting by using high-flotation equipment or using mats on skid trails.
- Recommended practices for site preparation for reforestation, matching techniques with soils, slope, and ground cover on each site.
- Guidelines for safe and effective pesticide use; for instance, leaving untreated vegetated buffer strips around water and property boundaries.
- Control of waste disposal on forestlands; for example, servicing equipment away from wetlands and picking up trash.

To obtain a copy of *Alabama's Best Management Practices for Forestry*, contact your local office of the Alabama Forestry Commission or write to Forest Management Division, Alabama Forestry Commission, P.O. Box 302550, Montgomery, AL 36130-2550.

## Qualities of a Professional Logger

Timber harvesters really earn their keep. Their chosen profession is potentially dangerous and physically demanding. It usually entails long hours in remote and difficult terrain and requires a huge outlay in mechanical equipment and personnel costs. To compete safely and efficiently today, a professional logger must be up-to-date on technology and safety, understand and implement the variety of regulations designed to protect natural resources, and manage people effectively—all of which equates to being a good businessperson.

Many states, including Alabama, offer logger education and training programs. It is reasonable to assume that those logging contractors who take advantage of them are likely to qualify as quality contractors for your timber harvesting needs. A "Professional Logging Manager" directory of loggers who have completed this training is available from the Alabama Forestry Association by calling 334-265-8733. You may also find a listing of PLM certified loggers online at [www.pfmt.org](http://www.pfmt.org).

Like any other group of professionals, loggers have a wide variety of skills, experience, personalities, attitudes and equipment. As you talk to candidates for your timber harvest, try to match the logger's operation with your forest stand and objectives. Talk to the logger in person to get a feel for his or her character, reliability, sense of stewardship and willingness to understand and meet your goals.

Always ask a logger for several references from previous clients, and perhaps from mills and woodyards where the logger most often sells forest products. Loggers worth their salt strive to maintain a reputation for fair dealing and ethical practice.

As you narrow your decision down to a very few candidates, visit a current or recently completed harvesting operation for each logger. If you visit an active logging operation, inspect the equipment and the site and look at the work overall.



Items to look for during the on-site visit include the following:

- Condition of the logging equipment and haul trucks.
- Whether woods workers wear hard hats and other personal protective equipment.
- How trees excluded from the timber sale are protected.
- Condition of streams and stream crossings.
- Appearance of skid trails, landings and haul roads at the conclusion of the logging operation.

By paying attention to these types of details, you'll learn a lot about the expertise of the professional timber harvester and whether that particular operation would be right for your sale.

### Questions For Loggers

Here are some questions to ask potential loggers:

- How long have you been in business? How long have current crew members been with you?
- Are you and your employees covered by workers' compensation and liability insurance? What are the dollar limits, and what kinds of accidents are covered? Will you provide me with certificates of workers' compensation and liability insurance coverage?
- What kinds of equipment do you use? How does it match up with the conditions and requirements of my site?
- Do you handle the entire logging process, or use subcontractors for part of the work? If the latter, how do you ensure that your quality goals are met?
- What types of roads and skid trails do you normally construct? What equipment do you use to build them? How will my skid trails, landings, and haul roads look when you've completed the logging operation?
- Have you completed any kind of logger training/continuing education program? Are you accredited, certified, or licensed in any way?
- How would you handle a dispute over timber trespass (the inadvertent or willful theft of timber) or cutting practices? What options do I have if my property or my neighbor's property is damaged?
- What Best Management Practices do you normally implement? Which ones would be needed on my forest?

- Can you supply me with references of previous jobs and to some of the mills you deal with?

### Questions for a Logger's References

Here are some suggested questions to ask the references you obtain from a logger:

- Did the logger fulfill verbal and written obligations for such things as road restoration, fence repair, and cleaning up trash?
- Was the logger willing to listen to your concerns and answer your questions directly?
- Did the logger get the job done efficiently and within the specified time limit? If not, why not? (Be aware that bad weather can cause unavoidable delays.)
- Did the logger take pride in his or her workers and equipment? How about in previous jobs? Was the logger willing to show you any of these?
- Was the logger careful to avoid damaging other trees and land improvements (gates, fences, culverts, etc.)? If there was damage, did he make appropriate repairs?
- Did the timber harvester seem concerned about environmental matters, such as wildlife habitat, water quality, and visual concerns?
- Did he stop or modify operations appropriately during wet weather?
- Did the logger communicate well with you? Did the logger explain, for example, any necessary changes in the operation? Was he or she flexible in responding to your needs? How were the logger's relations with foresters and neighboring landowners?
- In what shape did the logger leave your skid trails, haul roads, and landings?
- Would you use the logger for future timber harvests? Why or why not?

In the final analysis, landowners should exercise as much care in selecting a timber harvester as they would in choosing a carpenter or painter for their home. When it's time for a timber sale, the decisions you make today can create a brighter tomorrow for both you and your forestland.

Source: *Forest Resources Association, Inc., Southcentral Technical Division, Clinton, Mississippi.* 🏠

# Alabama's Sustainable Forests

## A promise is a promise . . .

In 1995, members of the American Forest and Paper Association united in a formal commitment to engage in practices that promote the wise use of our abundant forest resource. In adopting the Sustainable Forestry Initiative<sup>SM</sup> Program, a promise was made to practice responsible forestry and to keep you, the public, up to date on our progress.



## Specifically, we will . . .

- Reforest harvested areas promptly!
- Ensure maintenance of water quality!
- Enhance wildlife habitat!

## Let us know . . .

If you have a comment or question about a forest operation you've witnessed and which is of interest or concern to you, we want to know about it, too.

So call us, toll free at  
**1-800-206-0981**

Alabama Sustainable  
Forestry Initiative<sup>SM</sup> Program  
555 Alabama Street  
Montgomery, AL 36104-4395

## Planted Pines Were a Profitable Decision

By **TILDA MIMS**, Education Specialist, Alabama Forestry Commission

**F**IFTEEN YEARS AGO, Wayne and Kathleen Baines had a very important decision to make about managing their 97-acre farm in Lamar County. For years, they had juggled busy careers and family responsibilities while putting in long hours raising cattle. Now, they were about to lose half of their work force, since their son Heath was preparing for college and Wayne's father was in his early nineties.

They were evaluating options when young Heath recommended forgoing the cattle operation for planted pine. Wayne followed up on the idea with a visit to the Alabama Forestry Commission office in Vernon, and was soon sold on the idea.

Wayne and Heath converted 70 acres of pasture and hay fields into pine in 1985 with CRP cost-share assistance, and the results have been very profitable. The land had been limed and fertilized for hay fields so the trees grew well. Twelve years later, a thinning generated \$375 per acre or about \$20,000.

"That's about 75 percent more profit from trees than I would have seen with hay and cows in the same 12 years," Wayne said. They will thin again at 18 years according to the weather and the market. "I want someone to keep growing cattle because I want to keep eating steak," laughs Wayne, but his family has never regretted the change.

The deer, turkey and quail in the area are clearly enjoying the change in land management style, too. Wayne and Kathleen say there were absolutely no deer on property in the early 1980s, while today it is not uncommon to see 12-20 deer at a time. In 1999, 16 deer were harvested on the property.

Strips of clover around the four-acre pond have attracted bobwhite quail and, for the first time, they have nesting turkeys. Wayne started the pond about 30 years ago despite advice that the area would not support a pond. He has

enlarged it twice and it is now stocked with catfish, bream and bass.

The Baines have also established wildflower gardens and planted wheat. A spring prescribed burn by the Alabama Forestry Commission reduced wildfire fuels and provided a needed boost to wildlife.

Across the pond is a lovely brick home complete with a brick patio and brick walkway. If you look closely, you will see that most of the bricks are not just run-of-the-mill. They are different shapes and sizes, and some have detailed lettering.

Wayne started collecting bricks long before he had a house to put them on. "In May 1995, they were tearing down the old Brown Motel across from the ALFA office in Vernon and I decided to get a few as keepsakes," Wayne recalls. "Before long I started collecting brick from all around." Policyholders, friends and family have helped Wayne amass a collection more than 17,000 bricks from locations as diverse as Fort Morgan and the Ohio State Correction Center. The lake house, which is home to their son Heath, features bricks from 900 different places.

Wayne and Kathleen Baines were certified as TREASURE Forest landowners in May 1995 and were recertified this year.

Wayne is president of the award-winning Lamar County Forestry Planning Committee and is a member of the Alabama TREASURE Forest Association. "Being active in forestry organizations is very important to us. The opportunity for continuing education through the planning committee or the landowner conference has helped me to pick up ideas for things to try. It may be something as simple as a flower or a tree, but I always learn something."

"Wayne is a landowner who is always receptive to new ideas," says Dan Lassetter, county manager for the

Forestry Commission in Lamar County. Dan and Harold Jordan, forestry specialist, have worked with the Baines family for several years, helping them make sound decisions and to manage their property for optimum productivity. Some future ventures they are exploring include planting more wildlife foods, limbing pines to 16 feet along roadways, installing a culvert below the pond and developing a road around the property to serve as a firebreak.

Wayne is an ALFA insurance agent with an office in Vernon and Kathleen works in the office of the Mississippi School of Mathematics and Science. Their daughter Felicia is a graduate of the University of Alabama and lives in Texas. Their son Heath is a graduate of Mississippi State University and is a registered forester working in private industry in Pickens County. 🏠



Wayne and Kathleen Baines

# Wilderness Survival Training on a TREASURE Forest

By **DON C. EAST**, TREASURE Forest Landowner

**E**NVIRONMENTAL education for our youth is one of the most important uses of TREASURE Forests. There is one type of youth education that so far is unique to the TREASURE Forest belonging to Jerry and Genelle Brown. For three years, their beautiful and diverse property has been used as the site for wilderness survival training for Jerry's students from the Career Tech Center of Tallapoosa County, Conservation Careers Course.

Jerry is the class instructor for this course, designed to prepare high school students for careers in the conservation area—game wardens, wildlife biologists, park rangers, foresters, etc. The Brown's TREASURE Forest is ideal for such



*During survival training the students learned how to build a fire and cook outdoors.*

training because it lies in a remote area along Little Hillabee and Harbuck Creeks in Clay and Tallapoosa counties. The six Benjamin Russell High School students who voluntarily signed up for this year's trip were Rob Carlton, Douglas Daniels, Byran Holman, Bruce Sims, Jason Templeton, and Alex Vardaman. Accompanying the group were four stu-

dents from previous classes who enjoyed the experience enough to try it for a second or third time. They were Lance Gilbert, Troy Smith, Roamon Voss and Wesley Wilbanks.

Jerry Brown is a 31-year veteran of the U.S. Marine Corps who has had survival training and experience. He was assisted by Don East, a TREASURE Forest landowner, 36-year Navy veteran and former survival instructor. Others participating in the event were Bobby Dean, membership services coordinator for the TREASURE Forest Association, and Dr. Neal Waer, a wildlife biologist with Preceda Wildlife and Forestry Management Company.

Prior to the field trip, Jerry gave the students classroom instruction in wilderness survival techniques such as shelter construction, orienteering, survival foods, traps and snares, first aid and other subjects.

The students were taken to a remote area for the first night's camp. The selected site had a nice sandbar along a creek bank on one side and beautiful rock outcroppings along the opposite bank. Jerry used a low light level video system to record each step of the field activity so that it could be used later as a post-event debriefing tool for the class. The students were given instruction on some of the survival foods found in the local area, such as Japanese honeysuckle, fiddlehead ferns, redbud blooms, and smilax leaves.

The students were instructed on how to build cooking and warmth fires on the sandbar. After the fires burned down to a good bed of hot coals and nightfall approached, the students were given some venison and rattlesnake meat, along with an Irish or sweet potato to cook. Since no modern cooking utensils were allowed, the food had to be cooked by

primitive means. According to the hungry boys, this in no way degraded the flavor of the food. After the meal, the students were given a brief lecture and demonstration on night orienteering by using the Big Dipper, Polaris and the huge full moon rising in the east. The next day the students were provided additional lectures on basic survival techniques, foods, sources of water, and daylight orienteering. This was followed by Dr. Neal Waer's presentation on wildlife management. Afterwards, the group hiked through a beaver swamp wetland to sample other survival foods such as cattail shoots, dock leaves, plantain leaves, earthworms and grubs, bear grass tubers, wild violet tubers and the sweet juice from the abundant wild grape vines.

Returning to the Brown homestead area and their well-stocked fish pond, the students were allowed to try their fishing skills. Using any bait they could find in the fields and forest, they were allowed to use the basic fishing equipment they had in their packs to catch a few bass. As the fishing session was winding down, Jerry's father, Mr. "T.J." Brown, showed up with a 19 1/2-pound turkey gobbler he had just harvested from the Brown TREASURE Forest. The students were given instruction on field dressing the turkey to use for a part of their meal that night.

The group was then transported to another remote area near Harbuck Creek to cook their fresh fish and prepare for the second night. The students were told that they would be separated and would have to spend the second night alone in the woods! This would allow them to individually perfect the shelter, fire building and campfire cooking techniques they had practiced the night before. Using the

*Continued on page 21*

# Classroom in the Forest: Forest in the Classroom

By **JANE HARTSELLE**, County Extension Agent, Alabama Cooperative Extension System

**T**HE Alabama TREASURE Forest Association is dedicated to developing a network of landowners and stakeholders who have the desire and ability to encourage and educate our youth, other landowners, and the general public concerning the multiple-use management of natural resources. *Classroom in the Forest: Forest in the Classroom* was created to communicate the role private lands and private landowners play in environmentally and economically benefiting Alabama and its citizens. This project provides forest resource landowners, stakeholders, and professionals with the opportunity to work together to educate children and their teachers. The program can rekindle, through education and encouragement, a feeling of pride and respect for the land and the landowners.

The emphasis of the Alabama TREASURE Forest Association is to promote wise management of all of our forest resources and to educate the general public on the importance of private land ownership and private landowners. Classroom in the Forest: Forest in the Classroom will expose more school age children to the TREASURE Forest philosophy of managing our forests for a variety of resources in a way that sustains productivity for future generations.

## Mobile County First to Adopt Program

The Mobile County Chapter of the Alabama TREASURE Forest Association stepped to the head of the class as the first to adopt Classroom in the Forest. Nine private landowners in Mobile and Washington counties opened their TREASURE Forests to Mobile County Public School children as they completed the second phase of Classroom in the Forest. The ATFA and Jane Hartselle, Mobile County Extension agent with the Alabama Cooperative Extension System, teamed up with other agencies and community leaders to take Classroom in the



*A representative from the Alabama Department of Conservation, Division of Wildlife and Freshwater Fisheries, interacts with students.*

Forest: Forest in the Classroom to fifth grade school children in Mobile County.

In the first phase of the program, volunteer resource development teams were put together. The teams were comprised of three people: a resource provider, a stakeholder and a private landowner. These teams took the forest to the classroom in 23 Mobile County schools. More than 1,125 children were introduced to the many lifelong lessons of the forest.

In the second phase, these same volunteer resource development teams took 12 classrooms (over 600 children) to the forest. Both in the classroom and in the forest, the students were taught the value of forestland and the importance of private land ownership to each of us.

## Neighbors Helping Neighbors

The idea of "Neighbors Helping Neighbors" was never more clearly demonstrated. Private landowners pulled together resources to ensure the success

of each of the forest field trips. School children saw beaver ponds, gopher tortoise habitat, wild turkey, deer, sheep, fishponds, and much more. They were treated to hay rides, nature walks, learning activities, as well as an old fashioned "lunch on the grounds."

## Learning Pride and Respect

The school children as well as the adults had a great time learning the lessons the forest has to teach each of us. Oftentimes, we take for granted the benefits we receive each day from the forest. Classroom in the Forest: Forest in the Classroom leaves each of the participants with a feeling of pride and respect for the forest and private forest landowners. After all, the private landowner and the TREASURE Forest Program have helped to make Alabama's forest the environmental and economic success story that it is today.

## Good Things Will Follow

Classroom in the Forest: Forest in the Classroom was a huge success in Mobile County thanks to the many wonderful volunteers. This program is coming to Montgomery, Huntsville, and Birmingham. Watch for times and dates. Good things will follow as Classroom in the Forest: Forest in the Classroom continues to grow. Look for it to premiere in your county soon.

## Learn More

For more information please feel free to contact the following:  
James Malone, Executive Director  
Alabama TREASURE Forest Association  
(334) 442-2424

Jane Hartselle, State Project Coordinator  
Classroom in the Forest:  
Forest in the Classroom  
(334) 690-8445 📞

## Training, Continued from page 19

abundant forest roads and firelanes on the Brown property, the students were dropped off at pre-selected sites for their night's ordeal.

At daybreak, the instructors began their hike to pick up the students. All were awake and huddled around their fires when Jerry and Don arrived. The group then hiked back to the vehicles for the trip back to the Brown homestead.

Since each generation of Americans is growing farther and farther from the land, even this brief wilderness survival training will be of benefit. The students gained an understanding of what our Native American and pioneer forefathers' everyday lives were like. It also gave them a profound appreciation for the modern conveniences that we take for granted in today's world. Finally, this experience points out the value of Alabama's well-managed TREASURE Forests in providing field laboratories for environmental education. Our thanks go out to Jerry and Genelle Brown for sharing their beautiful and diversified TREASURE Forest, and their tireless effort in making a difference in the lives of some Alabama youths. 📞



Learning about the forest can be fun, as these Mobile County students will attest.

## Promote and Support the TREASURE Forest Program Join the Alabama TREASURE Forest Association

The Alabama TREASURE Forest Association is composed of people who practice TREASURE Forest management, people who encourage others to practice it, and people who believe that management of Alabama's forestlands according to the TREASURE Forest concept is good for both present and future generations.

Membership in the Alabama TREASURE Forest Association is open to certified TREASURE Forest owners (Full Members), any forest landowner who is not certified (Growing Member), and persons, companies, corporations, or organizations that do not own forestland (Associate Member), but want to support and promote the sustainable and wise use of our forest resource for present and future generations.

Yes, I would like to join the Alabama TREASURE Forest Association

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ County: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_ Telephone: (\_\_\_\_) \_\_\_\_\_

Check each category and fill in the blanks as appropriate:

- |   |   |
|---|---|
| <input type="checkbox"/> Associate Member | <input type="checkbox"/> Enclosed is \$20 annual membership fee |
| <input type="checkbox"/> Growing Member   | <input type="checkbox"/> Enclosed is \$25 annual membership fee |
| <input type="checkbox"/> Full Member      | <input type="checkbox"/> Enclosed is \$30 annual membership fee |

Primary objective: \_\_\_\_\_

Secondary objective: \_\_\_\_\_

**Mail to: Alabama TREASURE Forest Association, P.O. Box 145, Chunchula, AL 36521**

For more information about the Alabama TREASURE Forest Association contact James Malone, Executive Director, at (334) 442-2424.

# A Woman's Place Is in the... Outdoors?

By **JERRY A. DE BIN**, Conservation Education Coordinator,  
Alabama Department of Conservation and Natural Resources

**W**HY do fewer women than men participate in outdoors activities like fishing, hunting, shooting, and backpacking? A 1990 workshop at the University of Wisconsin-Stevens Point, "Breaking Down the Barriers to Participation of Women in Angling and Hunting," examined the reasons for this disparity. Focus groups at the workshop identified 21 barriers to participation.

Many of the reasons relate to the fact that women may not have had an opportunity to learn outdoors skills that are necessary to the enjoyment of outdoor activities. Some other obstacles were lack of information, lack of clothing and equipment geared toward women, fear of looking stupid, or social pressure to avoid outdoor sports that are traditionally viewed as men's sports.

The first "Becoming an Outdoors Woman" (BOW) program was begun in 1991 as an experiment to determine whether providing an educational opportunity would be enough to welcome women outdoors. That first workshop filled to capacity and, in fact, could have filled two or three times.

Since 1991, the Becoming an Outdoors Woman program has expanded to 44 states and nine Canadian provinces, with many offering multiple opportunities. The Alabama Division of Wildlife and Freshwater Fisheries began sponsoring the Becoming an Outdoors Woman program in 1995. The agency now conducts its three-day BOW workshop during the first full weekend of October and March. In addition, a series of one-day events are planned throughout Alabama in the near future.

Women are interested in learning outdoor skills. When the opportunity is offered, they line up for the chance to be involved. Participants of the Alabama BOW events typically include residents of a half dozen surrounding states.

## Weekend Workshops

What can a woman expect from a Becoming an Outdoors Woman weekend event? The workshops span a weekend,

beginning at noon on Friday. The weekend is divided into four blocks of instruction lasting about three hours each. An average of 8-10 courses are offered during each instructional period, some of which are repeated due to popular demand. This design enables participants to attend four of the 40 courses offered.

Participants register for their top 10 choices of courses, which are then filled on a first-come, first-served basis. In each instructional period, the menu of course choices covers three topic areas: (1) hunting and sport shooting, (2) angling and boating and, (3) non-harvest wildlife recreation such as backyard wildlife, nature photography, and rock climbing. The teaching is focused on the needs of beginner-level adult learners. All classes are taught in a way that allows participants to learn through hands-on practice.

The three-day BOW weekend workshop is held at the Alabama 4-H Center in Shelby County. The center is a modern conference facility tucked away in a beautifully rustic area along Lay Lake. Participants stay in dormitory style rooms, each equipped with bunk beds and

a bathroom. The center contains all modern basic amenities. Participants give high ratings to the cafeteria-style meals served at the center. The focus for the weekend is learning in a comfortable and non-threatening atmosphere.

The instructors and staff are patient and supportive. The participants share in the success of each group member. This is a non-competitive situation where each individual can learn at her own pace.

The evening activities are filled with fun and camaraderie. There may be story telling, campfire activities, pioneer skills demonstrations, wild game cuisine tasting, outdoors equipment demonstrations, and even an occasional outdoor clothing fashion show. The emphasis is on the enjoyment that goes with the social side of outdoors activities.

## BOW Serves Need

Why is the Becoming an Outdoors Woman program important? It is important to the women who attend because they learn skills that allow them to enjoy the outdoor environment, while building self-confidence. It is important to conser-



*Basic techniques of cooking in the outdoors is but one skill taught during the weekend.*

vation agencies because women who attend the workshops will better understand the role of natural resource management and be more interested in the activities of the agency. It is important to conservation organizations because women who participate in BOW become more positive about wildlife-associated recreation and more interested in resource management and environment protection. It is important to manufacturers and retailers because women represent the fastest growing market for outdoor equipment and clothing. It is important to the tourist industry because women control the majority of family decisions regarding use of leisure and vacation time. It is important to the future of all of us because these women will influence the ideas and activities of the coming generations. The adage is true that, "The arms that rock the cradle, rock the nation."

Society is changing drastically right before our eyes. Gone are many of the traditions and customs that shaped our culture and molded our everyday lives. Unfortunately, it seems that many of the changes are negative ones that make us wish we could go back in time. One of the positive changes is the way women's roles are broadening in the world today. Opportunities for women have increased drastically. They are encouraged to develop their interests,

broaden their horizons and explore new avenues without regard to previous barriers and preconceived notions that society had once determined for them.

Remember the days not long ago when hunting and fishing were strictly "guy" activities? A mention of those outdoor sports conjured up a picture of the guys enjoying the sport together. The Becoming an Outdoors Woman program is helping to change that picture. More and more, women are joining the ranks of outdoor sports enthusiasts, and finding that they enjoy the opportunity to get outdoors and learn about nature. For example, almost 1,000 women have attended the BOW workshop. Many re-turn and bring friends or family members.

Reasons for attending the workshops in Alabama are varied. Participants want to learn outdoor skills, have fun and meet friends with similar interests. Some participants indicate that they want to be able to share these skills with their mates. The instructors, all experts in their fields, offer more than patient instruction; they provide support, encouragement, and sound advice based on their own experiences.

Judging from the participants' comments, the workshops have been tremendously successful. "The weekend was great! I'm leaving relaxed, content and with a sense of achievement," wrote one

of the women on her evaluation sheet.

Another participant gave an enthusiastic account of catching her first fish, "The instructors were great. They made me feel comfortable and confident. I've never been fishing until now, but I caught my first fish—a shell-cracker off the dock. I want to bring my Mom to the next workshop. Many of the women left wanting more. In the words of one: "Best time I've had. I'd like it to last a week!" Years ago, fishing and hunting were traditions in some families handed down through fathers and sons. With the help of Becoming an Outdoors Woman and related programs, the day will come in the not-too-distant future when mothers and daughters taking part in these activities together will be a common occurrence.

### For More Information

To get information on the next Becoming an Outdoors Woman workshop, contact the Wildlife and Freshwater Fisheries Division's Conservation Education Office, 64 N. Union St., Montgomery, AL. 36130; Phone: 1-800-262-3151; E-mail: [jdebin@dcnr.state.al.us](mailto:jdebin@dcnr.state.al.us). Also, visit the agency website at <http://www.dcnr.state.al.us/agfd/bow.html> to access the workshop registration brochure and other workshop details. 📄



*Participants practice their archery skills.*

Fall 2000



*Beginner and advanced canoeing courses are offered.*

# Some Common Diseases of Southern Forests

By SCOTT A. ENEBAK

School of Forestry and Wildlife Sciences, Auburn University

**T**O THE casual observer the forest is a home to many plants and animals that are an integral part of the forest ecosystem.

Upon closer examination, one may stumble across some of the smaller creatures, the fungi that also make the forest their home. These fungi are classified and identified using an elaborate system of Latin that is used by trained pathologists. The diseases they cause are identified using both signs and symptoms. A **sign** is simply an outward expression of the actual organism causing the disease. This can be the “fungus” growing out of the tree or the “spores” blowing in the wind. Rarely do we observe the actual organism causing the problem, which is unfortunate, because it makes disease identification much easier.

In contrast, most landowners will notice a **symptom**, which indicates to them that something is very wrong with the tree. This is also unfortunate because many fungi cause needles to turn yellow, brown, and then red, which makes identification much harder.

Throughout the southern United States disease management receives little or no attention in forest regeneration plans. One reason for this is that using fungicides is not a primary option. This is due to high costs, the fact that they are not registered for use in forest settings and because fungicides are generally not effective. Thus, the best pest management plan is to minimize their effects before they appear. There are hundreds of fungi found in the United States; luckily, most are harmless and go about their daily lives without affecting the objectives of landowners. However, a few of them are capable of causing a tremendous amount of damage. The following are some of the more common diseases found in the Southeast, their signs, symptoms and some recommendations to minimize their affects in forest lands.

## Fusiform Rust

In 1896, when fusiform rust was first observed, it was noted that the disease was so rare that foresters could not believe anyone would spend their time on such an unimportant disease. Fifty years after the first report, fusiform rust had the attention of just about every forest industry in the southern United States and millions of dollars were being spent on tree-breeding programs. Today, over 100 years after its discovery, and despite the money and time invested, fusiform rust of loblolly and slash pines is still one of the most damaging forest tree diseases in the southern U.S. The disease is found throughout the southern U.S. as far north as Maryland, south to Florida and west to Texas.

The disease is caused by the fungus *Cronartium quercuum* f.sp. *fusiforme* and has an elaborate disease cycle that uses two hosts, pines and oaks, and five spore stages. The fungus spreads from oaks to pines in late spring of each year infecting the succulent young pine needles. In 6-12 months, infections result in tapered, spindle-shaped (fusiform) swellings or galls on branches and stems. In the spring these swellings produce yellow to orange spores which are blown around the forest infecting oak leaves.

The yellow spores are no threat to oaks, resulting in a tiny leaf spot that takes a magnifying glass to observe. Mortality is heaviest on pine trees less than 10 years old, but the galls are perennial and persist for many years, resulting in deformity, reducing growth and weakening the stems until breakage in a wind storm. Main stem infections are the most serious with branch infections resulting in little affect on the tree. Susceptibility to the fungus varies, but slash and loblolly tend to become infected much more than shortleaf and longleaf.

Planting disease-free stock from 1st or

2nd generation seed orchards will go a long way in minimizing the effects of this disease. Also, refrain from the addition of fertilizer to the stand before age eight as the increase in nutrients results in pine tissue being more susceptible to the fungus. While reducing the amount of oaks present in the plantation can significantly decrease the disease incidence, it is difficult to stop the fungus from neighboring stands.

## Pitch Canker

This disease is caused by the fungus *Fusarium subglutinans* and results in deformity, growth loss and mortality in planted pines throughout the southern United States. The most severely affected region appears to be slash pine plantations in Florida; however, the disease is becoming more common on other pine species throughout the South. Recently, this fungus has found its way to California on infected planting stock and is now killing thousands of Monterey pines in that region of the United States. While some insects are commonly associated with pitch canker, other agents such as injury from excess winds, ice or hail damage have been known to cause infection.

Symptoms of the disease are cankers (dead, sunken lesion) on the bole, branches, and shoots of infected trees. Cankers on shoots result in branch dieback characterized by reddening of the foliage (flagging) and thinning (needle cast) of the crown. Needles on recently killed shoots are yellow to reddish brown. Cankers contain a tremendous amount of resin or pitch, thus giving the disease its name, pitch canker. Shoot cankers last a year while cankers on the bole and larger branches are perennial.

The type of damage that can be expected depends upon the age and size





*Signs and symptoms of fusiform rust on loblolly pine. The yellow-orange spores give the disease its name. They will infect emerging oak leaves.*



*Symptoms of pitch canker on longleaf pine. Many of the upper 3-6 inches of every branch have been infected and killed by the fungus.*



*This fruiting body is a sign of annosus root rot at the base of a large loblolly pine. The underside is creamy white while the upper side is brown.*



*Brown spot needle blight appears as a brown spot on the needles of longleaf pine amid a yellow band.*

of the tree. In plantations, pole-size trees with extensive shoot dieback may die, while lesser affected trees will suffer from reduced growth. Normally, younger trees are not killed, but are deformed and have many terminal shoots. Stressed, overstocked stands tend to have this disease more than healthy stands. Thus, maintaining a vigorous stand by proper thinnings, spacing, and matching species to site will reduce the chances of this fungus appearing in your stand.

*Continued on page 26*



*Symptoms of littleleaf disease on loblolly pine. Thin crowns and tufted branches on one tree, which is surrounded by a number of healthy trees.*

## Annosus Root Rot

This disease affects all conifer trees throughout the South. Longleaf pine, however, appears to possess considerable resistance to the fungus. Infected trees typically appear unhealthy with thin, off-colored foliage and tree mortality. Trees are often wind-thrown prior to mortality due to the decay of the structural support roots. Infection and mortality often occurs in groups or clusters referred to as “infection centers.”

Confirmation of the disease requires the identification of conks or sporophores (fruiting structure) of the fungus *Heterobasidion annosum*. These will be found on infected roots, stumps and often in the litter at the base of infected trees. Conks are not always present on infected trees, so the absence of conks does not necessarily mean the absence of infection. The disease is common in thinned plantations due to the colonization habits of the fungus. The fungus is spread long distances by the way of airborne spores produced in the conks. Most infections are initiated as a result of spores being deposited on the surfaces of freshly cut stumps of susceptible pines, thus the close association between this disease and thinned plantations. If temperatures and moisture conditions are favorable, then the newly deposited spores germinate on the stump and the fungus grows downward into the roots. Sites high in sand content are considered high hazard sites and care should be taken to minimize the chance of infection.

One recommendation to control this disease is to apply granular borax to the surface of freshly cut stumps during thinning operations. Borax is toxic to the germinating spores and is effective in preventing stump colonization. Summer harvesting, when spore levels are lowest, is also a good method to decrease the chances of fungal infection of the stumps.

## Littleleaf Disease

This disease is actually a root disease caused by a soil-inhabiting fungus. It gets its name from the symptoms that appear late in the stages of infection—little

leaves. Hosts include loblolly and slash, but is most serious on shortleaf pine, resulting in a reduction in available areas for planting. Like the other diseases mentioned, littleleaf is found throughout the Piedmont plateau of North and South Carolina, Georgia and Alabama, which has the distinction of the first report of the disease in 1934.

The disease is most serious in areas with a thin topsoil, cover clay subsoil with poor internal drainage, low fertility and limited aeration. The fungus responsible is called *Phytophthora cinnamomi*, which attacks the tree’s fine feeder roots. Crown symptoms develop as the uptake of nutrients slows and becomes critically low as the fungus feeds on the roots. Needles on affected trees usually become short (thus little leaf) and turn yellowish. Twig growth slows and only the current year’s needles are retained, giving the crown a tufted appearance. Symptomatic trees do not appear as an “infection center” like annosus root rot, but occur randomly in a stand, with trees in various stages in decline and mortality. Also, leaf symptoms do not appear until 20-30 years after planting. Typically, stressed trees attract the Southern pine beetle, which usually gets the blame for tree mortality.

The disease cannot be controlled once a stand has become infected, so establishment of a stand must recognize the high-risk sites and avoid susceptible tree species and/or plan for shorter rotations. Decreasing the planting density will reduce the root competition and lower plant stress. If symptoms appear, then remove high risk trees and consider thinning to reduce the stress and Southern pine beetle risk. Consider fertilizing to increase the supply of nutrients as this has been shown to decrease mortality and increase growth to allow the stand to go to rotation.

## Brown Spot Needle Blight

This disease occurs in most of the pine growing regions in the United States but is most severe in the southern and north central parts of the country. This

disease is caused by the fungus *Mycosphaerella dearnessii*, a foliage pathogen, and is a concern in reforestation programs that use longleaf pine. The disease results in defoliation, reduced seedling vigor and seedling mortality. Continual defoliation with subsequent reduction of seedling vigor delays the initiation of height growth and increases stand rotations. The disease is only a problem while the tree is in the grass stage, so control measures need not be long-term. With a renewed interest in converting areas to longleaf plantations, this disease will become more important to reforestation programs.

Symptoms of the disease appear as small irregular circular spots of a light gray-green color. The spots will then turn brown and encircle the needle, increasing in size until the needle dies. The suppression of fire has had a significant effect on the increase of this disease in the southern United States. The infected needles are cast in October and November, with defoliation often more severe on the lower half of the north side of the tree. In plantations, clearing the area or burning prior to planting will help reduce the disease for a growing season or two. After establishment, controlled burning in the winter will significantly reduce the incidence of the disease and increase seedling growth.

## Summary

While trees are a long-lived species—400 years for longleaf pine—they are not immortal, and diseases play an important part in the forest. Maintaining a healthy forest with proper species and site selection to reduce stress will go a long way in minimizing tree diseases and not interfere with stand objectives. 🌲

## MEMORIAL

Butler County TREASURE Forest landowner Albert Morris Middleton passed away July 15, 2000. He was 75. Mr. Middleton was a well-known business and community leader in Georgiana and Butler County and served over 20 years as director of the First National Bank in Greenville. Mr. Middleton’s 1,100-acre TREASURE Forest was certified as #173 in 1982.

Visit the Alabama Forestry Commission Web Site at:  
**[www.forestry.state.al.us](http://www.forestry.state.al.us)**

# A Forestry Top 10

One-third of the United States is covered with forests. How have they been doing over the past century? The country has more trees now than it did in 1920 on approximately the same amount of forestland. It also has the largest legally protected wilderness system in the world, while at the same time sustaining a highly productive and efficient wood products industry.

The Society of American Foresters, the national scientific and educational organization of the forestry profession, has compiled a “Top Ten” list of forestry-related advances in the United States over the past century.

These “Top Ten” are:

**1. Reforestation**—Until the 1920s, forests were generally logged and abandoned. In comparison, each year an average of 1.7 billion seedlings is planted nationwide—six seedlings planted for every tree harvested. In addition, billions more seedlings are regenerated naturally.

**2. Fire protection**—At the turn of the century, wildfires annually burned across 20 to 50 million acres of the country, with devastating loss of life and property. Through education, prevention, and control, that amount has been reduced to about 2 to 5 million acres a year—a reduction of 90 percent—while fire’s contributions to forest health have also been studied and better understood.

**3. Affordable products and reduction in waste**—Today, advanced technology allows us to use every part of the tree for products useful to society. In addition to lumber and paper coming from the trunk of the tree, bark, resins, cellulose, scraps, and even sawdust are turned into products that range from camera cases to medicines to rugs.

**4. The return of wildlife**—Species such as whitetail deer, wild turkeys, and wood ducks were almost extinct at the turn of the century. Wildlife conservation and habitat enhancement has resulted in flourishing populations of these and other species we now take almost for granted. Now foresters are working with other professionals to improve habitats and ensure survival of other wildlife species.

**5. Wilderness protection**—America’s first wilderness areas were established by the U.S. Forest Service in the 1920s. Forty years later, the Wilderness Act of 1964 gave legal protection to 9 million acres of wilderness. There are

now 95 million acres in the wilderness system, and 149 million more acres of land in parks, wildlife refuges, and other special, set-aside places. No other country in the world comes close to this amount of legally designated set-aside land.

**6. Urban forestry**—Municipal ordinances, civic participation and the growth of urban forestry have resulted in the planting and maintenance of millions of trees in our country’s cities and towns, enhancing quality of life and saving energy costs and usage.

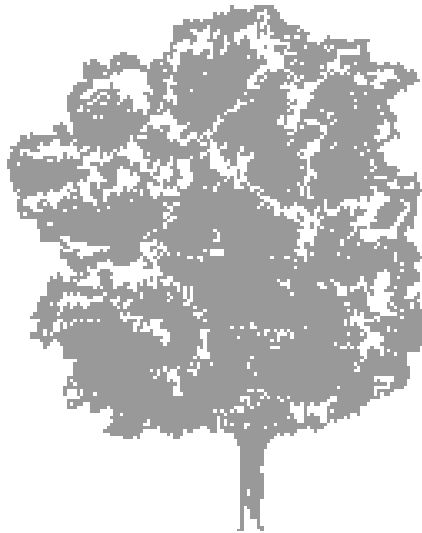
**7. Research**—Decisions made about U.S. forests a century ago were based on what worked in Europe. Since then, forest scientists in the United States have conducted research to control insects and diseases, improve growth rates, enhance soil and water conditions, and to understand other variables that have made our forests among the most productive, sustainable, and healthy in the world.

**8. Satellite imagery and other technology**—Through such technology as satellite imagery, foresters can monitor the health of the forest and target management activities, map fire outbreak, and identify wildlife and fish habitat for protection.

**9. Recreation**—An increasing population, the prevalence of the automobile and more leisure time have combined to increase demands for places to go for all types of recreation in a forest—hiking, birding, off-road vehicle riding, and much more. Visitor days (1 person for 12 hours) to federal sites alone totaled 600 million in 1989.

**10. Professional education**—A century ago, there were no professional forestry schools in the United States. Now, the Society of American Foresters accredits 48 universities to offer specialized forestry education to their students. In addition, 24 institutions are recognized by SAF to offer two-year associates’ degrees. Biology, math, computer science, communications, ethics, and other courses prepare students to deal with the art and science of caring for the forest.

**Source:** Society of American Foresters  
5400 Grosvenor Lane  
Bethesda, Maryland 20814  
Phone: 301-897-8720  
Web Site: [www.safnet.org](http://www.safnet.org)



# Wildlife Symbols of Alabama

## State Bird

**Common Flicker** *Colaptes auratus* (Linnaeus)

Other names used locally: *Yellowhammer*, *Flicker*, *Yellow-shafted Flicker*, *Southern Flicker*

**Year Adopted:** 1927

**History:** The common flicker is the official name of the state bird of Alabama, but it's more commonly known as the yellowhammer. Alabama has been known as the "Yellowhammer State" since the Civil War. The yellowhammer nickname was applied to the Confederate soldiers from Alabama when a company of young cavalry soldiers from Huntsville arrived at Hopkinsville, KY. The officers and men of the Huntsville company wore fine, new uniforms, whereas the soldiers who had long been on the battlefields were dressed in faded, worn uniforms. On the sleeves, collars and coattails of the new Calvary troop were bits of brilliant yellow cloth. As the company rode

past Company A, Will Arnett cried out in greeting "Yellowhammer, Yellowhammer, flicker, flicker!" The greeting brought a roar of laughter from the men and from that moment the Huntsville soldiers were spoken of as the "yellowhammer company." The term quickly spread throughout the Confederate Army and all Alabama troops were referred to unofficially as the "Yellowhammers."

**Description:** The back of the male of the common flicker is a gray-brown color with broken black bars on the body feathers and with the yellow shafts of the flight feathers partly visible. The rump patch is white and the two-pointed tail is mainly black. The crown and back of the neck is gray with a red band at the nape. The cheeks are pinkish-buff with a black "moustache" and bib below the chin on the throat. The underparts are creamy with many, irregular black spots. The undersides of the wings and tail are bright yellow. The female differs from the male in that she does not have the "moustache." Both sexes have gray legs, a dark gray bill and dark brown eyes. The talons are quite sharp. This helps the bird to easily perch on vertical tree trunks.

**Distribution:** Common throughout Alabama.

**Food:** Flickers reportedly eat more ants than any other American bird. In addition, they consume most other types of insects such as grasshoppers, crickets, and caterpillars. The flicker will also eat many types of vegetative materials including all types of berries, nuts, seeds and fruits. The berries of poison ivy appear to be a favorite.

**Management:** Feeding habits of the flicker make it reasonably easy to produce food items that are attractive. Production of berries, nuts and seeds will attract other types of birds also. Since this bird will use a nest box for nesting, it lends itself to this phase of management by providing such sites. A box for a flicker should have a 7 x 7 inch floor, be 16 to 18 inches deep and have a 2 1/2 inch diameter entrance located 2 inches from the top. It should be located 6 to 20 feet above ground. The bottom should be covered with wood chips to a depth of 2 inches.

**Sources:** *Acts of Alabama*, September 6, 1927; *Alabama State Emblems*, Alabama Department of Archives and History, nd.; Davis, James R. *Non-Game Birds in Alabama*, Wildlife Section, Game and Fish Division, Alabama Department of Conservation and Natural Resources, n.d.



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## State Freshwater Fish

**Largemouth Bass** *Micropterus salmoides*

**Year Adopted:** 1975

**History:** The largemouth bass is the state freshwater fish of Alabama. According to the Alabama Department of Conservation and Natural Resources Division of Wildlife and

Freshwater Fisheries, the record largemouth bass caught in Alabama was 16 pounds, 8 ounces. The fish was caught in Shelby County in 1987.

**Description:** Size ranges from 13 to 20 inches with a forked tail. This large-mouthed fish has a dark green or brown back with olive to yellowish-green sides turning to a cream or white color on the belly. A dark stripe present on each side may fade

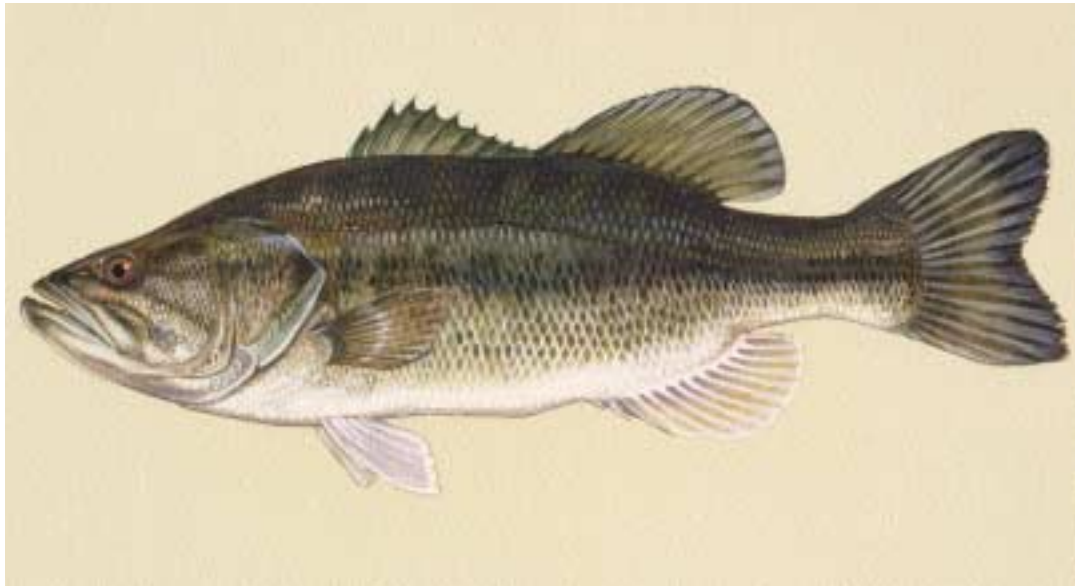
with age. The first dorsal fin is spiny, the second one rounded.

**Distribution:** It is found throughout the state in streams, ponds and lakes, often with vegetation.

**Food:** Young bass eat insects and other invertebrates (worms, crayfish, and zooplankton). Adult bass eat other small fish such as bluegill and a variety of minnows, tadpoles, and crayfish.

**Management:** When resting or feeding, largemouths can often be found near some type of cover or structure. Artificial reefs may be constructed in ponds larger than 10 acres to provide additional cover. Consult your local Extension service or the Alabama Department of Conservation and Natural Resources for additional management techniques.

**Source:** *National Audubon Society Field Guide to North*



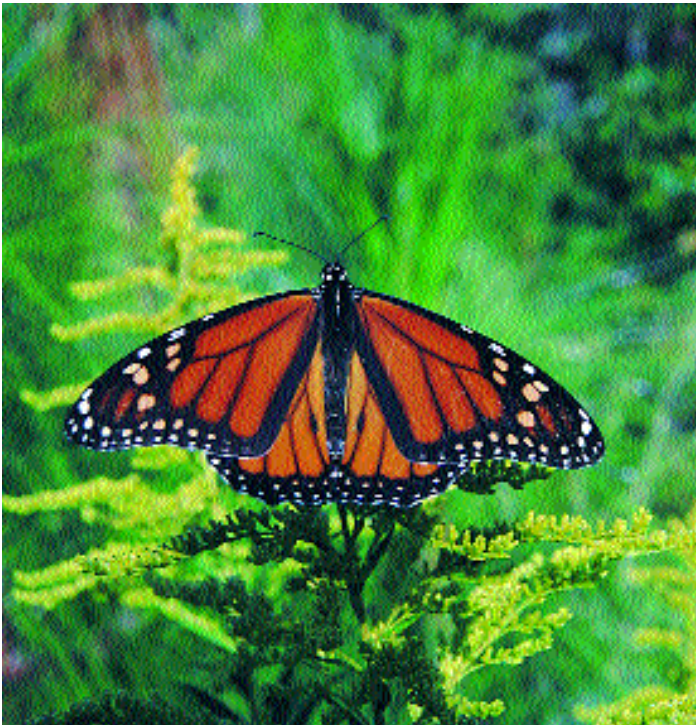
Duane Raver/USFWS

*American Fishes, Whales, and Dolphins* by Herbert T. Boschung and Daniel W. Gotshall, editor, 1983; [www.fieldand-stream.com](http://www.fieldand-stream.com); "Principles of Wildlife Management in Alabama," by Jim Armstrong, Marisa Lee Sasser and Michael P. Masser, Alabama Cooperative Extension System, 1998.

## State Insect

**Monarch Butterfly** *Danaus plexippus*  
Year Adopted: 1989

**History:** The monarch butterfly is the state insect of Alabama. This Monarch is the only butterfly that annually migrates as



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birds do. However, no single butterfly will make the entire journey. Eastern and Midwestern monarchs migrate to Mexico, and Western monarchs fly to the coast of California. These butterflies spend the winter clustered in trees. These areas have become tourist attractions because of the unique sight of so many butterflies in one place. In spring the butterflies head back north, breeding along the way. Their offspring will be the ones to return to the starting point. (Note: the Eastern tiger swallowtail is the state butterfly and official mascot of Alabama.)

**Description:** The monarch, about 3 1/2 inches with wings extended, is bright orange with black veins and has black margins with white dots. The tips of the front wings are mostly black with orange and white spots. Males have a black spot on the vein of the mid-hindwing.

**Distribution:** Common throughout Alabama.

**Food:** Milkweed is the host plant for Monarch butterflies. As a result of eating this plant, the caterpillar and adult are poisonous to predators.

**Management:** Butterflies need both host plants and nectar sources. Leaving unmowed areas where milkweed is present will attract adult butterflies who will then lay eggs on the plants. Natural and planted wildflowers will provide a source of nectar.

**Source:** *National Audubon Society Field Guide to North American Butterflies* by Robert Michael Pyle, 1981.

# Forest Stewardship Education Grants Approved

Proceeds from the sale of the “Alabama Forests” license plate are being used to fund forestry education projects. The Forest Stewardship Education Committee approved more than \$300,000 in educational grants for 2000. Following are the projects approved:

## Forestry Awareness Week Now (FAWN) Programs

Clarke County Forestry Planning Committee	\$2,352.00
Cullman County Forestry Planning Committee	\$5,400.00
Escambia County Soil & Water Conservation District	\$1,975.00
Fayette County Forestry Planning Committee	\$1,000.00
Lamar County Forestry Planning Committee	\$1,200.00
Lauderdale County TREASURE Forest Chapter	\$4,134.00
Marion County Forestry Planning Committee	\$2,100.00
Marengo County Forestry Planning Committee	\$2,500.00
Morgan County Forestry Planning Committee	\$3,250.00
Pickens County Forestry Planning Committee	\$1,662.50
Russell County Forestry Planning Committee	\$3,300.00
Winston County Forestry Planning Committee	\$2,000.00

## Alabama Forests Forever Program

Alabama Forests Forever Foundation	\$150,000.00
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(The Alabama Forests Forever Program is a multi-media educational campaign which includes television and radio spots, a video, outdoor billboards, and a CD-ROM with an instructional guide designed for use in schools.)

## Solon Dixon Field Trip

Crenshaw County Forestry Planning Committee	\$2,189.00
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## Natural Resources Youth Camp

Butler County Forestry Planning Committee	\$1,400.00
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## Discovering Alabama Video Series

Butler County Forestry Planning Committee	\$250.00
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## Using an Old-growth Longleaf Pine Stand for Education in Alabama

School of Forestry and Wildlife Sciences, Auburn University	\$20,000.00
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## Discovering Alabama-Sustainable Forest Video

“Discovering Alabama,” Alabama Museum of Natural History	\$20,000.00
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## Shoals Area Initiative to Establish a Multiple-use Nature Resource Reference Section Area in 9 Public Libraries in Colbert and Lauderdale Counties

Colbert and Lauderdale County Forestry Planning Committees	\$9,000.00
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## Tabletop Displays to Promote Awareness of Forestry in Alabama

Alabama Forestry Commission-NW Region	\$565.00
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## Schoolyard Outdoor Nature Center, Andalusia Elementary School

Covington County Forestry Planning Committee	\$4,262.00
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**Multiple-Use Natural Resource Books, CD-ROMs and Video Purchases  
for 7 Public Schools and 1 Public Library in Fayette County**

Fayette County Forestry Planning Committee .....\$8,000.00

**Fayette Demonstration and Experimental Forest Learning Center and Nature Trail**

Fayette County Forestry Planning Committee .....\$20,000.00

**Environmental Education Camp for Middle School Students in Pickens County**

Pickens County Forestry Planning Committee .....\$3,000.00

**Education Equipment for Forest Resource Learning Center**

Florence Tree Commission .....\$4,790.00

**Updating and Reprinting “Threatened And Endangered Species of Alabama:  
A Guide To Assist With Forestry Activities” Booklet**

Solon Dixon Forestry Education Center, Auburn University .....\$10,000.00

**Instructional Video for Restoring Longleaf Pine**

School of Forestry and Wildlife Sciences, Auburn University .....\$20,000.00

**Hardwood Regeneration and Management  
Options for the Private Forest Owner:**

**A Field-Based Workshop**

Lee County Forest Stewardship  
Committee .....\$430.00

Demonstrate your support of forestry education by purchasing an “Alabama Forests” license plate when you renew your car tag.

For information about the Forest Stewardship Education grants, contact Anita W. Benton, Forestry Tag Coordinator, P. O. Box 302550, Montgomery, AL 36130-2550; (334) 240-9350, or bentona@forestry.state.al.us.



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- Cost: \$50 above fee required by law for regular license plates.
- No additional cost for personalization.
- The additional \$50 is a charitable contribution and is tax deductible.
- Proceeds will be used for educational projects that promote healthy and productive forests, clean water, and abundant wildlife.

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# SASSAFRAS

By **COLEEN VANSANT**, Alabama Forestry Commission

**C**ALLED Green Stick by the American Indians because of its bright green twigs, Sassafras (*Sassafras albidum* (Nutt.) Nees.) is one of the most widely known and recognized trees of the South, not because of its physical characteristics but because of the folklore surrounding its aromatic smell and taste. During Colonial days a “spring tonic” was brewed from the roots and twigs, which sold on the market for 7 or 8 cents a pint under the name of “sassafras tea.” Throughout the South during this same period, the country people made a beer by boiling the twigs in water. To this infusion molasses was added and the whole mixture allowed to ferment. In Louisiana the crushed dry leaves were used to thicken pottage. Because of its medicinal virtues it was one of the first American plants to be introduced into Europe.

Today, oil of sassafras, (which is distilled from the bark, roots, and twigs), is used in the manufacture of flavoring extracts, scented soaps, and perfumes and in the preparation of certain pharmaceutical compounds. The sole ingredient for the spice filè, used in gumbo, is pow-



dered sassafras leaves.

The sassafras tree may reach heights of 60 feet and diameters of 1-3 feet but usually is shorter and hardly more than a shrub. In the South it can grow to 100 feet tall. It is a tenacious tree that can survive fire and sprouts readily. The warm brown bark of older trees is deeply furrowed.

The sassafras leaves are deciduous, 4-6 inches long, and may be entire (not lobed), two lobed (mitten), or three

lobed on the same branch or tree. In autumn, leaves turn yellow, crimson and a rich orange.

The fruit ripens in September and October, with a dark blue berry-like, thin, fleshy covering over the hard seed. Each fruit is borne on a stalk 1 1/2 to 2 inches long. The fruit is eaten in early fall by deer, turkey, bear, and many species of birds including quail.

Sassafras prefers dry sandy soils, usually in association with other species. It is commonly found along fence rows and in abandoned fields. In the South, it is a part of the montane flora and in the Southern Appalachians it ascents mountain slopes up to 4,000 feet.

Sassafras is a small genus that includes only three species of deciduous trees in the world. One is found in China, one in Formosa (Taiwan), and the other is widely distributed throughout the eastern and southern U.S. from Maine to Iowa and south to Florida and Texas.

Sassafras wood is aromatic, soft, weak and brittle. Aside from its oils and historical uses, it is primarily used for pulp, fence posts, slack cooperage crafting, and small, open fishing boats. 🌲



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