

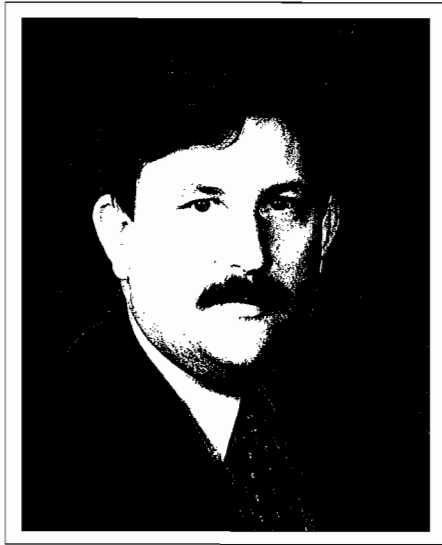
A close-up photograph of a field of yellow cosmos flowers. The flowers are in various stages of bloom, with some fully open and others as buds. The background is a dense field of similar flowers, creating a sense of depth. The lighting is bright, highlighting the vibrant yellow of the petals and the green of the leaves.

Alabama's TREASURED Forests

SPRING 1997

STATE FORESTER'S MESSAGE

by TIMOTHY C. BOYCE, State Forester



No one would challenge the fact that we are now living in the “information age.” The increasing use of the Internet exemplifies this fact. Forestry is no exception; we must have reliable and current data about our forests in a timely manner. The citizens of Alabama need this information and expect it. That is why the Alabama Forestry Commission, in cooperation with the U.S. Forest Service and forest industry, is expediting the process of gathering data about our forests. This process is known as the Forest Survey or Forest Inventory Analysis (FIA), or in the South as the Southern Annual Forest Inventory System (SAFIS).

In February we assigned 10 foresters to the survey. They will spend one week training in Alabama and then travel to Tennessee and train with the U.S. Forest Service survey crew for six weeks before starting the survey in Alabama around the middle of April. Three additional backup foresters will be trained in Alabama after the survey begins.

The whole concept regarding the Forest Survey has changed. Instead of conducting periodic surveys with intervals of 8 to 10 years between them, we are changing to a survey with annual updates after the initial survey is completed in 1999. The annual updates will consist of remeasuring 20 percent of the plots each year. This new process will allow us to have a continuing flow of reliable and current data each year.

The Commission's involvement in the Forest Survey will be a new challenge, but one worth pursuing. I would like to take this opportunity to thank all my Commission associates who are involved in this new endeavor for their dedication, commitment, and cooperation. Their efforts will make an important contribution to Alabama and the forestry community.

Sincerely,

A handwritten signature in cursive script that reads "Timothy C. Boyce". The signature is written in dark ink on a white background.

Timothy C. Boyce
State Forester

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

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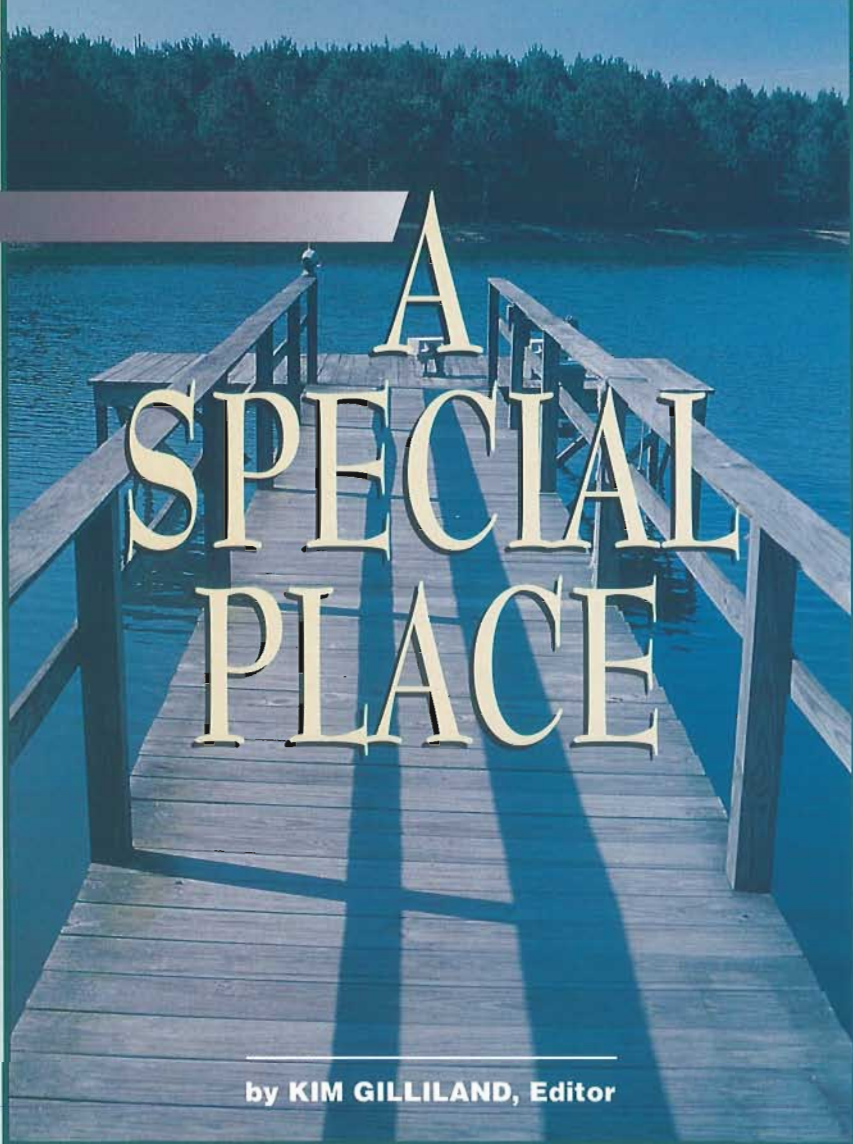
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COVER: Lance-leaved coreopsis is found growing in large colonies along roadsides and in old fields throughout Alabama during spring and summer. Photo by Kim Gilliland.

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A SPECIAL PLACE

by KIM GILLILAND, Editor

Many things make owning a piece of land special. There is a feeling of pride, of accomplishment, of respect for nature. When that piece of land

is a TREASURE Forest, there's another special feeling related to stewardship, the good feeling you get from taking care of something and improving it. Those are feelings shared by N.W. Phillips and his son Lester Franklin. Their 360 acres in Geneva County have been made into a special TREASURE Forest through more than 40 years of management and exceptional care.

Pond Management

The property is managed primarily for recreation, and a large component of that aspect is pond management. The first of three ponds was constructed soon after the property was acquired in the early 1950s and is stocked with bass and bream. Because the pond has been so well managed over the years, it's a favorite spot for fishermen. "We've gotten to the point where we're catching some pretty nice fish in there," Mr. Franklin said as he recalls an eight pounder caught by his son-in-law. A long pier has been constructed out over the pond where one can fish or just enjoy the scenery.

A small catfish pond, which was formerly a watering hole for cattle, is found near the cabin. A third pond has

just been reconstructed. "The dam leaked and we had to completely rebuild it," Mr. Franklin explains. Watching such hard work be destroyed was

difficult, but starting over was the only option. A new dam was constructed and seeded with grass to prevent



▲ Lester Franklin (left) talks with Department of Conservation District Fisheries Supervisor Mike Newman about stocking his fish pond. The pond was recently reconstructed and is filling with water.

erosion. A visit by Mike Newman, district fisheries supervisor with the Department of Conservation, confirmed that the pond is now soundly constructed. It will be stocked this spring but won't be ready to fish out of until 1998. This allows the fish time to grow and begin reproducing.

In addition to the three ponds, fishing is also available in Flat Creek, which borders the property. Fishing in the creek was a favorite pastime of Mr. Phillips when he was younger. He fondly recalls wading up the creek on visits to the farm from his home in Phenix City, where he still resides.

Cropland Conversion

When the property was obtained it was still used for row cropping and cattle production. As time passed, more and more acres were converted to pine trees, but a small field is still kept for growing hay. In the early years of timber management about 40 acres of slash pine were planted. As later technology proved, slash pine is not as well suited to timber production as loblolly pine. The slash acreage will be planted to loblolly after it's harvested, according to Mr. Franklin. Sixty-five acres of loblolly have been planted and are growing well. Those trees will be ready for a first thinning in three to five years.

Some small erosion problems existed on the property at first, but those were quickly repaired. In one case a drain was installed to keep rainwater from washing the soil away. Now these areas have been established with grasses and also serve as wildlife food plots. Water bars on roads also keep washing problems to a minimum.

Timber is an important aspect of this TREASURE Forest, but that doesn't mean just pine. Large hardwoods border the property along two creeks. South Alabama is known for its majestic live oaks, and they are present here as well.

Natural Longleaf

Both owners are proud of the 148 acres of natural longleaf that spans the property. This area has been prescribed burned on a regular basis and recently had a shelterwood thinning. The ground underneath the tall pines is covered with an abundance of tiny longleaf seedlings. Prescribed burning was not conducted this year on the longleaf to give these seedlings a chance to establish themselves.

As happened to many landowners in



▲ Under this longleaf pine stand is an abundance of tiny seedlings making their way up through the soil.

1995, Hurricane Opal left her mark on the property. A salvage on downed longleaf timber had to be conducted after the storm, but loggers in the area were bombarded with calls from landowners in the same situation. "We decided to do a 20 percent thinning to give someone the incentive to come in here," Mr. Franklin said. A year later the damage is not noticeable, and roads used by the loggers have been reseeded with grasses to prevent erosion. They are being used as firelanes and wildlife corridors.

Game and Nongame Birds

The property has been managed in a way that is beneficial to the bobwhite quail. Regular prescribed burning has stimulated plant production, but enough unburned areas allow for sufficient cover. Bicolor lespedeza, an excellent quail food, has been planted as well. This perennial legume produces seeds favored by the birds and is usually available during winter when other food sources may not be. Besides the wild birds, pen-raised quail were kept on the property to train bird dogs until about a year ago. A call-back pen used for this purpose is still visible under the tall pines.

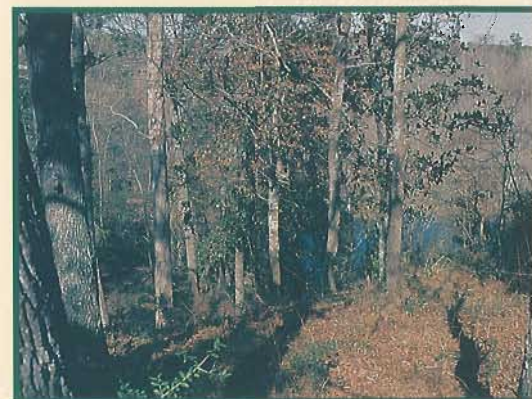
Mr. Phillips is also interested in bluebird conservation. He estimates that 15 bluebird boxes are scattered around the property to provide a home for these non-game birds.

A Special TREASURE Forest

The property was certified as a TREASURE Forest and a Tree Farm in 1987. But long before that date a plan was in

motion that exemplified the multiple-use management aspect of TREASURE Forest. "We hit the ground doing that when we first got the place," Mr. Phillips said. Ronnie Hickman of the Alabama Forestry Commission agrees. He approached Mr. Phillips about becoming certified when he saw how the property was being managed. "You couldn't ask for a more well diversified TREASURE Forest. The versatility of timber management is there and it provides good wildlife habitat," he added.

Mr. Phillips and Mr. Franklin both feel that transforming their property into something productive is one of their proudest accomplishments. They were recognized for these efforts as recipients of a regional Helene Mosley Memorial TREASURE Forest Award last year. This TREASURE Forest now provides recreation, income, wildlife habitat, relaxation and more—a special place indeed. ♣



▲ Hardwoods line the creek that borders the property.

Editor's Understory

by KIM GILLILAND, Editor

As a man who enjoyed fishing, N.W. Phillips frequented the creeks in southeast Alabama, especially in Geneva County. While on one of these outings, he met Bradford Simmons. It was a chance meeting that turned into a lifelong friendship. As the friendship grew, the two men often went fishing and quail hunting together.

Because he enjoyed the area so much, Mr. Phillips began looking for some property to buy in Geneva County. He purchased 360 acres near Samson on August 30, 1952. In December of that same year, Bradford Simmons moved onto the property as caretaker. As the years passed, Mr. Simmons farmed some of the acreage, took care of the cattle and other animals, and made many improvements to the property.

Mr. Phillips had someone he could trust to take care of the place, and Mr. Simmons worked on the farm every day and raised his family there. "Bradford looked after the place like it was his own," said Lester Franklin, Mr. Phillips' son. Mr. Simmons lived on the property for more than 40 years until his death in early 1996. Now his son Buck, who lives only a few miles away, has taken over the responsibility. Since Mr. Phillips and Mr. Franklin are absentee landowners, it gives them some peace of mind to know that Mr. Simmons is taking care of the place for them.

It's usually quiet on the Phillips property, but when Bradford Simmons was alive the yelp of bird dogs was a familiar sound. Mr. Simmons trained the dogs using pen-raised quail. The birds were

kept in a call-back pen built of tin. Tin was also placed around the bottom of the pen extending about a foot away from it. This was to keep predators from digging under to reach the birds.



L-R: Lester Franklin, N.W. Phillips, and Buck Simmons

To train the dogs, the birds were let out of the pen and they would fly out into the woods. The dogs would chase them and point out the birds. This was done several times until the dogs grew proficient at the process. A couple of birds would be left in the pen so they could call the other ones home. A special wire opening allowed the birds to get in from outside, but prevented their escaping from the inside.

Lester Franklin was 12 when his father acquired the property. He says that in his teenage years he could not appreciate what the place had to offer, but as time has passed the TREASURE Forest has become a second home. Mr. Franklin is a pilot for the Southern Company in Atlanta, where

he has lived for 26 years. After the hectic pace of living in a large metropolitan area, coming to Geneva County is literally a breath of fresh air, and he makes frequent visits to south Alabama.

Overnight stays became possible when Mr. Phillips built a cabin several years ago. At first it was just a small room with a screened-in porch attached. A bedroom and bathroom were added on a little later, and then the porch was glassed in. There still wasn't enough room for groups of friends and family, though, so a small bunkhouse was built next to the cabin. These buildings, along with a storage shed and equipment shed, sit under a grove of live oaks.

Mr. Phillips and Mr. Franklin enjoy sharing the recreational opportunities of the property with family and friends. Mr. Franklin's sister Jan and her children and grandchildren all enjoy what the place has to offer. And there's plenty to do: fishing, hiking, hunting, and just plain relaxing on the front porch are the favorites.

Mr. Phillips, who is retired from the Alabama Power Company, currently lives in Phenix City, Alabama. He recalls many visits to Geneva County over the years with his wife, who died in 1996. Things will not be the same now that she and Mr. Simmons are gone, but memories of those special people will stay with him always. Those memories are probably even more vivid when he's sitting on that front porch in Geneva County. ☞

Alabama Streak-sorus Fern

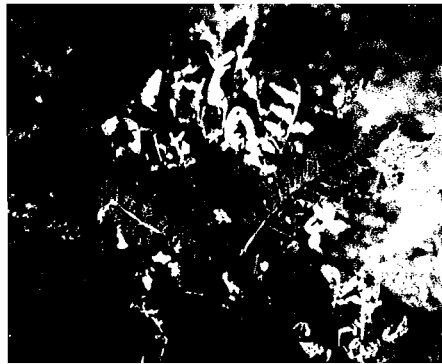
by TIM L. GOTHARD, Forest Management Chief, Alabama Forestry Commission

The threatened Alabama streak-sorus fern is a relatively small, evergreen fern with leaves (fronds) 4-8 inches in length. The leaves are linear to lance shaped, appear in clusters, and arise from an underground stem that is covered with reddish-brown scales. Individual leaflets range from 1-4 inches in length and to 1 inch wide.

Alabama streak-sorus fern is found within a relatively small area along the Sipsey Fork River in Winston County. Fifteen separate locations have been identified in a short 3 1/4-mile stretch along the river. Most of the sites (50 percent) support less than a dozen plants; three sites have 20-75 plants; and three have large populations of several hundred plants. Two sites have extensive populations of more than 1,000 plants.

The sites where Alabama streak-sorus ferns are found are full of character. Pottsville sandstone is a rocky formation that is exposed along the Sipsey Fork and gives rise to rocky cliffs. The plant typically occurs in crevices where it takes root on sandstone overhangs, ledges

beneath overhangs, and on exposed cliff faces. Usually the plants are found directly above the stream, but a few are located short distances from the river.



Alabama streak-sorus fern requires an environment that has three specific items: high humidity, high ground moisture, and shade. These items come about through a fine-tuned system. The humidity is provided by evaporation from the river. The hemlock-cove hardwood forests provide shade and the dense overhanging branches of hemlock trees help trap moisture and hold it in the ravines. Water seeping

across the rock substrates provides ground moisture.

All of the currently known sites are located within the Bankhead National Forest. Forest management activities are not commonly performed in these areas since the terrain is extremely rough and not conducive to timber operations. The most important consideration for Alabama streak-sorus fern is that the fine-tuned, moist and humid environment remains intact. ♣

References

- Kral, R. "A Report on Some Rare, Threatened, or Endangered Forest-Related Vascular Plants of the South." USDA-Forest Service, Tech. Pub. R8-TP2, 1983.
- U.S. Fish and Wildlife Service. **Endangered and Threatened Species of the Southeast United States (The Red Book)**. Prepared by Ecological Services, Division of Endangered Species, Southeast Region. Washington, D.C.: Government Printing Office, 1992.

TREASURE Forest Program Nationally Recognized

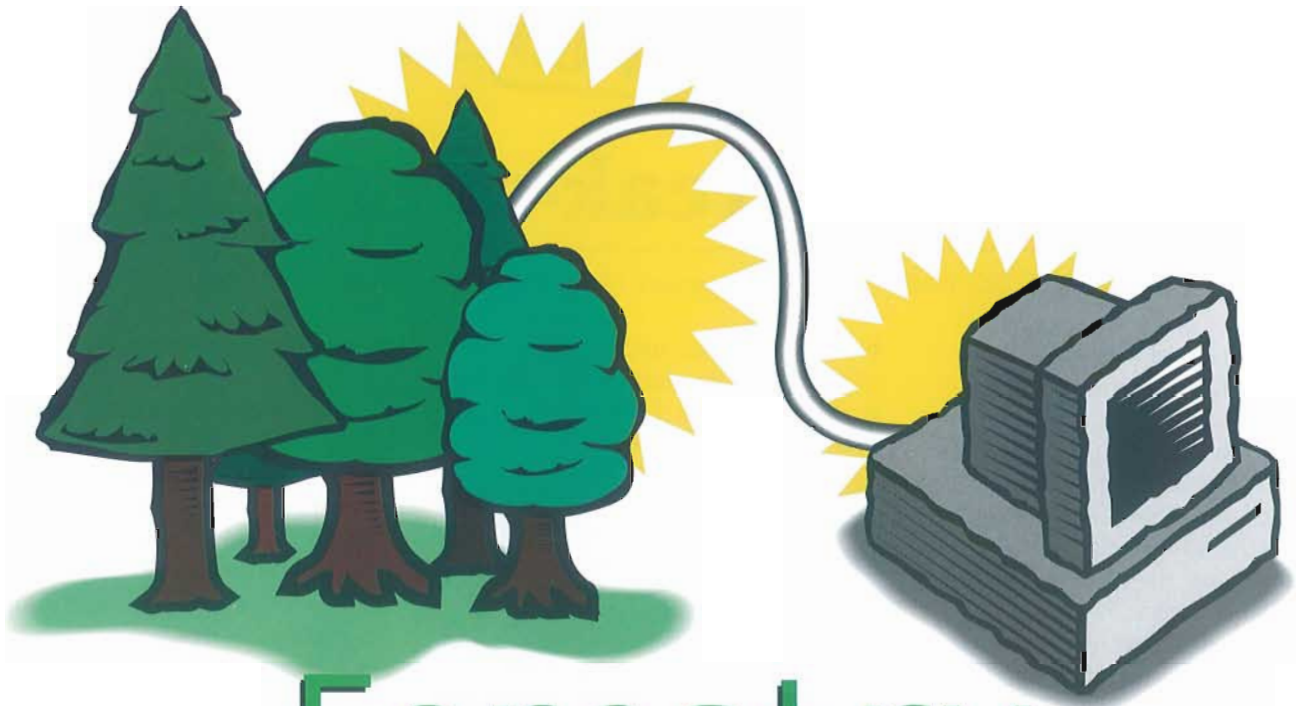
The TREASURE Forest Program has received a Certificate of Environmental Achievement from the Renew America organization. Renew America publishes the "Environmental Success Index" annually, and this year's list includes nearly 1,600 outstanding environmental programs from around the country. The TREASURE Forest Program will be listed along with other examples of effective environmental programs.

Renew America is a non-profit organization founded in 1989. They coordinate a network of community and environmental groups, businesses, government leaders and civic activists to exchange ideas and expertise for improving the

environment. By finding and promoting programs that work, Renew America hopes to inspire communities and businesses to meet today's environmental challenges.

Before being included in the Index, programs undergo a rigorous verification process, including community references, review by state and local experts, and careful screening by the National Awards Council for Environmental Sustainability.

The TREASURE Forest Program began in 1975 and has recognized more than 1,000 landowners who are practicing multiple-use management. The national Stewardship Program was modeled after Alabama's TREASURE Forest Program. ♣



Forestry on the Internet

by MIKE MOODY, Executive Director, Stewards of Family Farms, Ranches and Forests

It is an amazing time to be alive! So many changes are taking place every day that it is hard to keep track of developments. Among the many events that 1996 will be remembered for, the explosion of the Internet will be considered one of the most significant.

Still in its infancy as a public access system, the Internet is slowly changing the way we live and work in America. With more than 106 million users and a growth rate of around 1 million new users every month, this massive resource tool will be a major influence on how we gather, store and disseminate information in the very near future. Because it is still relatively new, many people are trying to define what the Internet will ultimately become.

To some, it will be a way to make money. To others, it will be an outlet for their own personality. But to many, the Internet will be a vehicle by which to learn, share ideas and exchange information. We should focus our efforts to that group.

Those who are honestly seeking information will want to discover all sides of an issue before forming an opinion. The Internet can be a tool in gaining access to the different resources and

information available. We should help promote the Internet sites that can help the public better understand forestry, not only to bring the awareness level up, but to actually educate children and adults about good forest management. We should also encourage those entities who are already on the Internet to use their sites for education as well as information.

Many "search engines" are available to Internet users and some are better than others at targeting specific information. It may take some experimentation with several to gather the information you need. In a recent search of the forest-related sites, one search engine, Yahoo, turned up 18 different categories on the subject. A search in America Online using the words "Alabama" and "forestry" retrieved over 11,000 available sites. Following is a look at some of those sites. Each has been evaluated to give you a better idea of what could be considered good information or something that needs a little more work. Each selected site is rated by its general appeal and useful information that can be gathered. One star (★) means the site needs some work. Five stars (★★★★★) means the site is a must see!

General Information

WWW Virtual Library: Forestry

<http://www.metla.fi/info/vlib/Forestry.html> — The service is provided by the Library of the Finnish Forest Research Institute. This site is an overall good starting place on the Web because it covers subjects such as the following: Working Groups and Networks; Journals, Newsletters and Proceedings; Mailing Lists and Usenet Newsgroups; Bibliographies; Research Papers and Other Publications; Publishers; Legislation and International Agreements; Forest Policy; Software; Databases; Entomology (forest pests); Libraries and Bibliographies; Conferences and Meetings; University Departments and Research Groups [Europe] [Asia] [Pacific] [North America] [Latin America]; Governmental Organizations and Departments [Europe] [North America] [Latin America] [Pacific] [Asia]; Non-Governmental Organizations; Commercial Organizations and Services; Forest Genetics and Tree Breeding; Soils and Substrates. This is just scratching the surface of the gigantic gulf of information that is available at this site. If you are doing any research or just FYI about forestry, the WWW Virtual Library: Forestry is a must stop. ★★★★★

Forestry information resources on the Internet

<http://www.metla.fi/pp/JSaa/doc/forestry-resources.html> — This is another good general site, but what sets it apart is that not only is there an ample supply of forestry information, but they also discuss some basic Internet concepts—such as FTP, gopher, WAIS, and Usenet news—and how to use them. Another good site. ★★★★★

Education

Auburn University Nursery Cooperative

<http://sofserv.forestry.auburn.edu/coops/sfnmc/sfnmc.html> — The mission of this site is to develop and disseminate technologies for the production and utilization of forest tree seedlings in the Southeastern United States. Although this site is comprised mostly of links to other sites, the content is still very strong if you are interested in seedlings. However, if you are not interested in some aspect of seedlings, whether it is insect sites, weed control, cultural practices, disease control, transplanting tips, or water quality, then you might want to browse elsewhere. ★★★

Forest & Shade Tree Pathology

<http://www.esf.edu/course/jworral/> — This site is sponsored by the State University of New York. Contained here is lots of research dealing with tree pathology. What is forest pathology? Forest pathology is the study of tree diseases and is the topic of this site. They cover major diseases of trees, considering their causes (etiology), factors that affect their spread (epidemiology), ecological and economic impacts, and management. On

one hand this site is highly technical in information provided, but if you are interested in learning about forest pathology there is no better site on the Web. ★★★★★

Time Life Electronic Encyclopedia

<http://pathfinder.com/@PxlG@wQAGHkabge7/cgi-bin/VG/vg> — Looking for a plant, tree or shrub? This searchable database contains almost 3,000 species selected for general use in North American horticultural practice. By searching the database at Time Life you are instantly given information ranging from scientific name, geographical location, and even how to grow certain species. The two major pluses for this site are scientific data being coupled with general information. Not only are trees listed here, but plant, shrubs, vines, and herbs as well. ★★★★★

Industry

ForestNet

<http://www.forestnet.com/> — Forest Products Equipment Magazine and ForestNet are pleased to offer an online buyer's guide to help you find companies that produce the goods or services that you need. The data is provided from Forest Products Equipment buyer's guide. This is a great site for staying abreast of the newest machinery and issues involving people in the forestry industry. Another great thing about ForestNet is they offer a free biweekly e-mail update. No matter what aspect of the forestry industry you are interested in, there will be something here of interest to you. ★★★★★

Other Sites of Interest

<http://www.mindspring.com/~alforest> — Alabama Forestry Association


<http://www.forestry.auburn.edu> — Auburn University School of Forestry

<http://members.aol.com/jostnix/index.htm> — Alabama Forestry Link

<http://www.wrldnet.net/~agfd/> — Alabama Dept. of Conservation, Game and Fish Division

<http://www.acenet.auburn.edu/> — Alabama Cooperative Extension System

<http://www.fs.fed.us> — U.S.D.A.-Forest Service

Some of the sites mentioned in this article, plus other site links, can be found in the Educational Resources section of the Stewards home page (<http://www.stewards.org>). This will be an ongoing installment of the Stewards page. If you have a suggested site to be rated or included in the link list, please e-mail us at stewards@stewards.org. 

Sustainable Forestry: A New Idea?

by RICK OATES, Alabama Forestry Association

Forest management which “meets the needs of the present without compromising the ability of future generations to meet their own needs.” Sound too good to be true? What if our forests were managed in such a way that water quality, fish and wildlife habitat and timber harvesting were all done on the same acre? What if reforestation was a given for every piece of forestland harvested? What if all loggers and forest products companies followed, or even went beyond the state’s voluntary best management practices? What if . . . ?

This scenario does sound too good to be true, but hopefully it won’t come as a surprise that the forest products industry has a strong record of stewardship on the land it owns and manages. Forest industry lands include some of the most productive forests in the world and contribute greatly toward meeting our society’s needs for building materials as well as paper and packaging products. At the same time, these lands are managed with innovative programs that preserve, enhance and create habitats and landscapes, enhance the diversity of flora and fauna, and protect our abundant natural resources.

To further improve our forest management goals, the American Forest & Paper Association (AF&PA) approved a set of comprehensive principles to ensure the practice of *Sustainable Forestry*. This ambitious program, called the AF&PA Sustainable Forestry Initiative (SFI), constitutes the AF&PA members’ commitment to sustainable forestry and provides a benchmark for the public to monitor our commitment.

When devising this initiative, the AF&PA interviewed state officials, academicians, conservation groups, loggers and landowners. A comprehensive program that applies to all company lands

and promotes sustainable forestry practices on other ownerships—from our National Forests to the small family-owned woodlands that comprise most of the nation’s forests—emerged from these interviews. The industry intends the SFI to perceptibly improve the performance of member companies, set goals for the forest industry and enhance the public’s confidence in forest management.

The Principles and Guidelines

Embodied in the Sustainable Forestry Initiative is a process to promote, monitor, and report continuous improvement of all forestland in the United States. The SFI recognizes the strong record of the industry, yet commits us to do significantly more, especially on company land and where industry activity affects other private forests.

The Forest Principles spell out five broad elements of sustainable forestry. They are to:

- Meet the needs of the present without compromising the ability of future generations to use the forest for products as well as for ecological and other uses.
- Promote both environmentally and economically responsible practices on AF&PA members’ and all other forestland.
- Improve long-term forest health and productivity by protecting forests against wildfire, pests and disease.
- Manage forests of biological, geological or historical significance to protect their unique qualities.
- Continuously improve forest management and regularly track progress toward achieving the goal of sustainable forestry.

Twelve guidelines identify clear objectives and performance measures by which the public can evaluate whether AF&PA members are meeting these commitments. Nine of the guidelines apply to industry lands and address issues such as prompt reforestation, protection of water quality and wildlife habitat, improved visual quality and others areas of public concern. The remaining guidelines extend beyond company lands to loggers, nonindustrial private lands and the public.

Adherence to the SFI became a condition of AF&PA membership on January 1, 1996. To date, 17 companies have been suspended from membership in the national trade organization for failure to confirm participation in the Sustainable Forestry Initiative.

Non-Industrial Landowners and the SFI

Many questions have been asked about how the SFI will affect private landowners who are not members of the AF&PA. As part of the SFI, member companies are enhancing their outreach programs which stress the importance of reforestation and best management practices. However, the SFI does not require monitoring compliance to the SFI by non-AF&PA member companies or non-industrial private landowners. The forest industry firmly believes that given the proper information, most landowners will make economically and environmentally sound forest management decisions and thereby respects the right of landowners to control their own property. The SFI commits industry to ensuring that private landowners have the materials and resources to make informed decisions about land management.

The guidelines also recognize that loggers, procurement foresters and others on

the "ground level" of forestry are essential partners in successfully carrying out the Initiative. Through the SFI, AF&PA member companies will work to ensure adequate training and educational opportunities for loggers and others in the forestry business. Some AF&PA member companies have even made it a company policy to use only loggers who have completed the SFI educational programs.

The Alabama Connection

So, what's going to change in Alabama? The 12 AF&PA member companies operating in Alabama are firmly committed to making the SFI happen. An implementation committee has been established to oversee the SFI in the state. Made up of a diverse group of industry representatives, environmentalists, college professors and others, this committee and its working subcommittees have responsibility for logger education, public outreach, ensuring the prompt reforestation of Alabama's forests and coordinating the many other aspects of the SFI.

The area which this committee focused on most heavily in 1996 was logger education. Three years before the SFI came to Alabama, Auburn University developed a pilot course for loggers in North Alabama. This developed into the five-day Professional Logging Manager course, a statewide training program which serves as a nationwide model for logger education programs. To date, more than 1,000 loggers have participated in this course.

In the Professional Logging Manager course, loggers learn about BMPs, safety, forest management, business management and many other topics essential to completing environmentally and economically sound timber harvests. Many forest products companies have imposed deadlines by which all of the wood they buy will come from loggers who complete this course. The industry feels that this training program will help improve both the loggers' "in woods" performance and, equally important, the relationship between loggers and the mills.

This committee has undertaken many ambitious projects with the goal of increasing public awareness of sound

forestry. A package containing information on reforestation and forest management was developed. During 1996 industry foresters distributed these packages to more than 6,000 landowners in the state. For 1997 this same information will be consolidated into a single booklet for Alabama's private landowners.

The committee has also worked with Stewards of Family Farms, Ranches and Forests, the Alabama Museum of Natural History and other groups to develop and


The forest industry firmly believes that given the proper information, most landowners will make economically and environmentally sound forest management decisions and thereby respects the right of landowners to control their own property.

distribute environmental education materials to schools. This material integrates sound environmental education across the entire curriculum, giving teachers the resources to teach about the environment and forestry in all subjects.

A new project which we are particularly excited about for 1997 is the expansion of the Forestry Awareness Week Now

(FAWN) program. Developed in North Alabama, this field trip for sixth graders strives to teach the value of forestry to our school children. Seven outdoor stations instruct kids about forest management, soils, water quality, wildlife habitat, forest products and other topics. This program has expanded rapidly in North Alabama, and we hope to transplant it across the state. The SFI Implementation Committee has committed money and manpower to implement this program in at least five counties in the state through the county forestry planning committees. For additional information on this project please call Rick Oates at the Alabama Forestry Association office.

The Sustainable Forestry Initiative is a program which will have an enormous impact on our industry. We need the involvement of the entire forestry community to ensure its success. It is only through programs like this that Alabama's landowners will be guaranteed the right to harvest trees and supply forest products to the world well into the future.

Do you have questions about the Sustainable Forestry Initiative or its implementation? Concerns about forestry practices you see in the state? Want to get involved with the SFI and some of these programs? If you would like additional information about projects mentioned here or other aspects of the SFI call Rick Oates at 800-206-0981. 

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PREDATOR CONTROL —

A Wildlife Management Tool?

by JIM ARMSTRONG, Extension Wildlife Scientist, Auburn University

What measures should a landowner take against predators? To better answer this question, let me give you a little background regarding predator management in the United States. As is often the case with a lot of issues, we tend to take extreme stances when, in reality, the truth may be toward the center. In the early days of wildlife management, predators were considered “bad” and intensive efforts were directed toward their control. Even Aldo Leopold, the father of wildlife management, advocated eradication of predators early in his career. In some areas attempts were made to remove all predators, thereby allowing the game animals—in this case deer—to expand their populations. Unfortunately, we found that the deer herd would ultimately destroy its own habitat and mass die-offs would occur. Through some very hard lessons like this, we realized that predator eradication was not the definitive answer for increasing game populations.

With that realization, the pendulum swung to the other side and predators

were given an almost godlike status where they could do no wrong. Many people today still hold that belief. In actuality, the truth is in the middle; predators are neither good nor bad, they are simply a natural part of the ecosystem that needs to be managed. In some instances predator reduction may benefit selected wildlife populations, and in other instances it may be a waste of time.

Factors Affecting Wildlife Populations

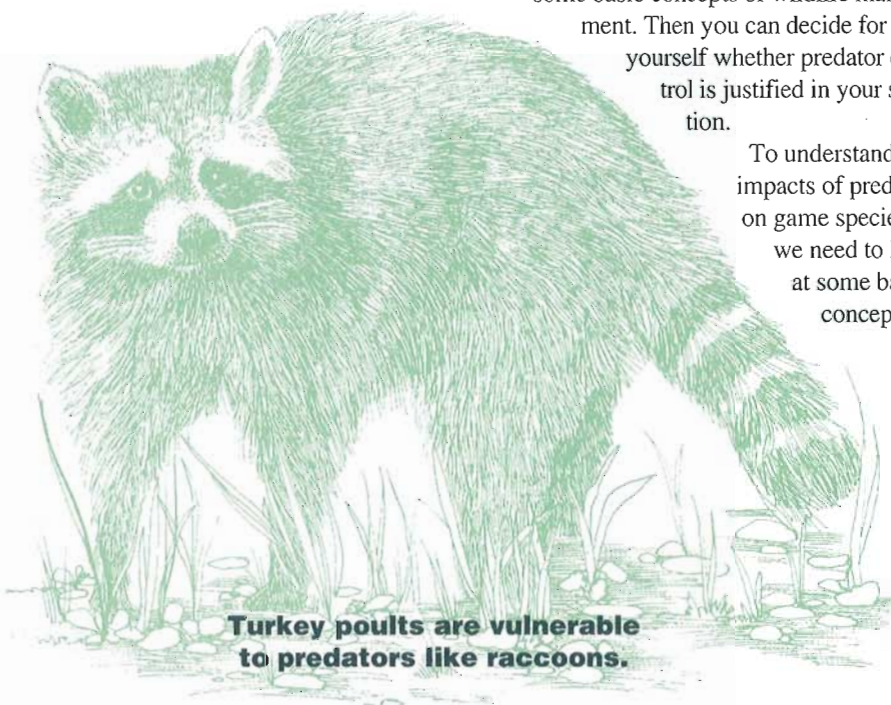
Each year I receive many calls from sportsmen and landowners who are concerned about the impacts of predators on wildlife populations. These concerns center primarily around game species such as deer and turkey. While it is easy to blame predators for perceived declines in a population of deer or turkey, there are many other factors that need to be considered as possible explanations. What do we know about the role of predators in Alabama? We can begin to answer that question by discussing some basic concepts of wildlife management. Then you can decide for yourself whether predator control is justified in your situation.

To understand the impacts of predators on game species, we need to look at some basic concepts

that affect wildlife populations. All animals have basic requirements of food, water, shelter, and space. Of course, this food, water, shelter, and space must be in the proper arrangement or proportions for a particular species. If we don't have the proper habitat in the proper arrangement then we will not have the populations of a desired species. If this is the case, then predator control is not going to be effective for increasing numbers. Simply put, the habitat is just not there for the species you desire. This being the case, it doesn't matter if you introduce or stock the species you want into an area, they just won't make it without the habitat.

Related to this is carrying capacity. Basically, carrying capacity is the number of a species of an animal that a piece of habitat can support for the entire year. If an area supports 25 quail in the spring, summer, and fall and only 15 in the winter, then the carrying capacity of that tract of land is 15 because that is all the quail that will be around to produce offspring. Of course carrying capacity can change naturally or it may be manipulated by humans. You may increase the amount of cover available to cottontails, thereby increasing the carrying capacity of that land for cottontails at that time.

Limiting factors that hold a piece of land below carrying capacity may be too little cover, food, or water, or a host of other things. If a piece of land is being intensively managed for a species and that land is still way below the carrying capacity, then predators may be the decimating factor holding that population below carrying capacity. The true art in wildlife management comes in being able to identify the critical limiting or decimating factors that are suppressing a wildlife population.



Turkey poults are vulnerable to predators like raccoons.

Impacts of Predators on Game Species

With that background information, we can now consider predator impacts on



While the coyote is one of the principle predators on deer in Alabama, it doesn't seem to affect populations as much as people think. Deer populations have expanded greatly over the past few decades.

some of Alabama's most popular game species. Remember that any predator control operations must be conducted under the regulations set forth by the Alabama Game and Fish Division. That means shooting and trapping of mammalian predators (NO POISONS) and it means no control on birds of prey.

White-tailed deer is Alabama's number one game animal and its population has expanded greatly in the last few decades. The principal predators on white-tailed deer in Alabama are coyotes and bobcats. While it is true that coyotes and bobcats prey on deer, quite simply, they don't appear to be a limiting factor on deer populations. Yes, the presence of deer hair in coyote scats increases during fawning season and deer season, but that in and of itself does not mean significant depredation. Once a white-tailed deer in Alabama reaches the one and one-half year-old age class, it can defend itself against most predators. Simply stated, deer populations have expanded to all time highs in Alabama and coyotes and bobcats don't seem to be hurting them any.

Alabama sportsmen can be proud of the excellent turkey population and turkey hunting in this state. Unlike deer, turkeys may be vulnerable to predators at several stages of their lives. Adult gobblers are rarely killed by predators; how-

ever, jakes (sub-adults) may be more vulnerable. Bobcats and gray fox may pose major threats to jake survival.

As might be expected, turkey hens are most vulnerable during nesting and early brood season (April, May, and June). Predators on adult hens during nesting run the gamut from bobcat and gray fox, to feral dogs, and even owls.

Young turkeys, or poults, are extremely susceptible to predation. In fact, some studies have shown mortality rates of 70 percent and higher among poults. Obviously, poult predation can be a major decimating factor on wild turkey populations. Poults are particularly susceptible up until about 14 days of age. Raccoons are the major mammalian predators on poults, followed by gray foxes and bobcats. Major avian predators are broad-winged hawks and red-tailed hawks. Gray rat snakes may prey upon poults as well.

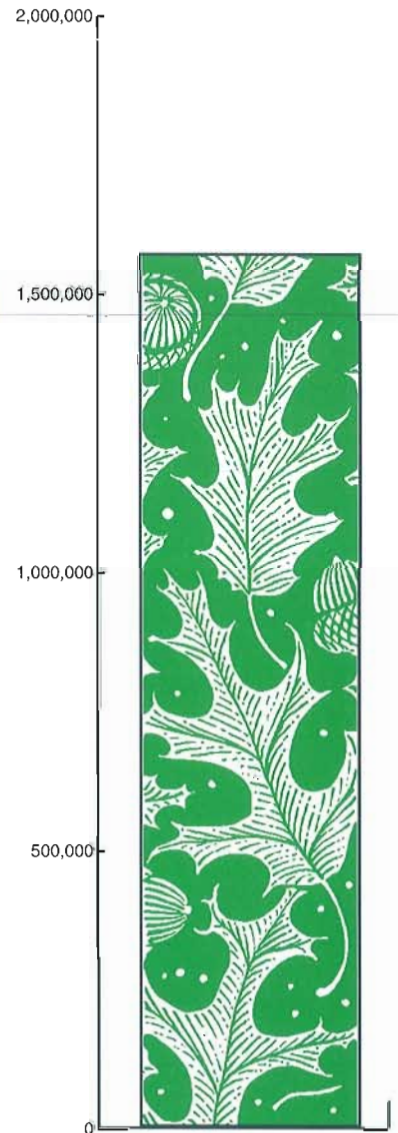
More than 45 percent of turkey nests may be destroyed by predators each year. Here again, raccoons are the major wild predators, followed by opossums, crows, snakes, skunks, gray foxes, and where present, feral dogs are a major problem. Bobcats may destroy the nest in the process of killing the hen, but they seldom

(Continued on page 30)



UPDATE

The TREASURE Forest Program has set a goal of having 2 million acres in the program by the year 2000. The chart below shows the number of acres currently enrolled in the program.



TREASURE Forest and Herbicides— How Well Do They Mix? *Using Herbicides for Site Preparation*

by JOEL D. ARTMAN, Timberland Enterprises, Inc., Charlottesville, Virginia

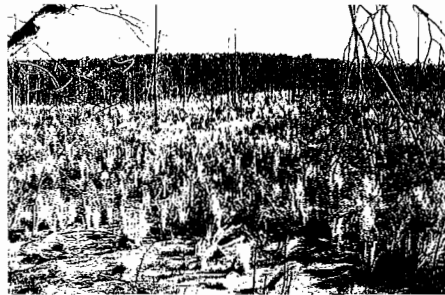
Using the terms TREASURE Forest and herbicides together may seem like a contradiction in terms to some. I can assure you it is not. Herbicide use is alive and well in our forest. Modern-day products are being used to solve many problems faced by foresters and other land managers. Some of these uses, such as for site preparation, will be familiar to most landowners.

Many of today's products work specifically on plant systems—systems that animals (including human beings) don't possess. For that reason, they pose a very low toxicity to mammals. Although I am not a toxicologist, I am an informed user. I am totally convinced of the safety of these products provided they are used according to their EPA-approved label. While toxicity is an important issue, it is beyond the scope of this article, which will address the use of herbicides related to site preparation. There are several concerns that landowners need to address before making decisions.

When asked to write this article, I agonized over this singular theme. After all, along with site prep, forestry herbicides are used to release new and mid-rotational stands from competing vegetation, to control herbaceous vegetation in young stands, to reclaim wetlands and protect water quality, and to re-establish habitat for upland game, waterfowl and endangered species. Herbicides also help daylight woods roads and aid in pine straw production.

It finally dawned on me that if I wanted to do the best job regarding this specific subject, it will have little to do with describing herbicide products. Some of these products are better than others given the time of year, species involved, rate, price, application method, landowner objectives, etc., but herbicides can

help you reach the goals you have set for your forestland. Rather, my purpose concerns the **quality** of what those herbicide products can do for you. It has to do with your planning (or lack thereof) and the options available (or lack thereof) given your planning.



While stumps can be treated with a variety of herbicides to reduce sprouting, that method is far too labor intensive to be practical in most forestry operations. Given that fact, the regrowth after stumps have resprouted, rootstocks have developed, or seed has germinated must be



First and second growing seasons of a loblolly stand that was site prepared with herbicides.

Plan Before Harvest

The time to begin thinking about herbicide-assisted site preparation is **before** timber is harvested. Remember, there are two types of brush that site preparation must handle: the residual material left by the harvest and the regrowth from stumps, rootstocks and seed. Handling only one class of material is unsatisfactory; plans must be made for both, as each will compete with the next crop for essential water, nutrients and sunlight.

The residual material after a harvest can be minimized through proper contracting and supervision. For the regrowth we'll have to wait. The length of that wait, the type of brush species, and the vigor of that regrowth may depend on the season of harvest. More site prep options will be available if they're considered along with and at the time of harvest planning.

dealt with. In fact, regrowth should be well established, with everything sprouted that's going to sprout. Some projects fail when application precedes the competing regrowth.

Types of Applications and Timing

Site prep herbicides are applied from both the ground and by air. Some are granular, while others are liquid. Some are soil active, some are active on foliage, and some are active in both areas. Some herbicides are most active in the early spring, while others are better in the late summer. Still another group can be applied to or into existing stems during the winter. Some products are active on a wide variety of species, while others have limited control spectrums. To bypass these shortcomings, two or more products can be mixed together. For these reasons and more, the choice of product and application method ultimate-

ly relates to the harvest and when there is sufficient growth to feel confident that everything is being treated.

If cut in the winter, hardwoods will not sprout until the following summer. Therefore, an early spring application would not be considered unless the landowner is willing to wait until the second spring following the harvest and sacrifice a year's growth on the next crop. A mid or late summer treatment following a winter cut might be considered depending on species and regrowth. Another concern relates to pine. Winter cuts may mean that seed from the previous crop has dropped and we could face a stand of natural regeneration with many thousands of stems per acre. While a free stand is nice, the options of using genetically superior stock, control of spacing and seedling density is lost. If a prescribed burn is needed, winter cuts often leave an unsatisfactory fuel load, though herbicide products can help "create" fuel when regrowth is treated. Hardwoods cut in the winter have a full load of nutrients on board and, for those that sprout, we can count on vigorous regrowth.

For a summer cut, the date of completion becomes important. Some herbicides can be used until frost, but only if regrowth is sufficient to assure that con-

trol will be adequate. Since stumps from a summer cut have already supported one crop of foliage, regrowth from the nutrient-depleted root system may be slower and less vigorous than noted during winter cuts. Natural pine is not a concern after a summer cut. If a prescribed burn is necessary, summer cuts generally provide adequate fuel. The exception happens in late summer when there is reduced day length, changing moisture regimes and poor fuel curing. The contrary might also be true, however, with late summer treatments. Given the particular season, proper curing coincides with fall conditions that are so dangerous that a burn could not be controlled.

Conclusion

As I got deeper into the preplanning issue, I was reminded that there is a possible similarity regarding my son's profession (a pediatrician) and what I ask of you. Mothers don't wait six months after birth to select a pediatrician. They make a selection during pregnancy. Their choice in a doctor is often present at birth to care for the newborn. Many mothers will accept nothing less. You need to do the same type of early planning for your forestland. Involve a good pediatrician and a herbicide specialist at appropriate

"birth" times. You'll give both the kids and the woods the best chance by doing the advance planning that offers both the most options.

If you were hoping for a "silver bullet," some herbicide and rate that would solve all your site prep concerns, I apologize. The use of herbicides is simply one more tool for the manager's box. Granted, it's a specialized tool, but just a tool nevertheless. Rates are critical, as are timing and product selection. The great thing is you don't need to know it all; you need only to recognize the possibilities and to include them in your early planning. Your state's foresters, consultants and industry foresters are a resource. If they lack the expertise, they know where to get it.

Just as a doctor writes a medical prescription when you have a need, herbicidal prescriptions are available to fill forestland needs. My son will be valuable to you if you bring him your child at six months old, but not as much as if he had been with you before birth. Forestry herbicide specialists can help you six months after the harvest, but they can be much more effective during the harvest planning. Which will you choose for your TREASURE Forest? ☛

Notable Environmental Award Recipient

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

Sandy J. McCorvey was a recipient of the W. Kelly Environmental Achievement Award in 1995 for his efforts in conservation and community service. He manages his 516-acre farm for multiple-use, including recreation, pastureland and forestry.

Mr. McCorvey has demonstrated that marginal and erodible land can be transformed into productive forest and agricultural property. He also allows access of the tract to local and regional community groups and organizations.

A native of Monroe County, Mr. McCorvey was an agriculture and demonstration agent in several Alabama counties. One year was spent as assistant to the dean in the School of

Agriculture at Tuskegee University. After 21 years with the federal government, Mr. McCorvey retired and settled in Macon County.

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

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

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

T R E E S H E L T E R S —

Magic Tubes

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

Sooner or later, most of us plant something. Whether it is a garden, grass, ornamental shrubs, bedding plants, or trees, we want to be successful and see the fruits of our efforts. For most, the first sign of success is seeing what we planted begin to grow (for some of us it may be just to see it live a few days), and we would prefer that it start growing yesterday. This is simply human nature. We want to see some measurable or observable event that tells us we did it right and that things are headed in the right direction. Understanding this, it is easy to realize the frustration we often feel when things we plant don't grow, or at least not as quickly as we would like. This frustration is common when people first plant longleaf pine, especially when they don't prepare the site properly or don't understand that longleaf may stay in the grass stage for several years, appearing not to grow. Likewise, this frustration is also common when planting hardwood trees.

I recall advising a landowner who had a high interest in deer that he might want to try planting sawtooth oak. This tree is capable of producing acorns at earlier ages than most oaks and has acorns that deer seem to relish. He quickly informed me that he had tried those and couldn't get them to grow. But he did say that he would try them again if someone could give him some advice on how to do it



This Chinese pistache was planted as a 12-inch seedling in the spring of 1996. Increased height growth is one of the benefits of tree shelters.

with success. I told him it was simple, all he needed was some *Magic Tubes*.

Magic Tubes

Magic Tubes are most often known by their common name—tree shelters. A tree shelter is a translucent (allows light

to filter through) tubular device of varying size and length that is placed over a young seedling or small sapling. Over time, the tube biodegrades and leaves the tree free to grow. Tree shelters have been around only a short time. The first tree shelter experiments were conducted in the late 1970s in Britain. In 1979, silviculturist Graham Tuley wanted to see if he could mimic the effect of a greenhouse around individual trees in the field. Using some polyethylene sleeves placed on nylon mesh guards, he encased individual trees. It worked, and tree shelter use has been on the increase ever since.

How Do They Work?

Tree shelters provide a variety of benefits. Some are merely protective, while others are a result of improvements in the availability of items trees need for survival and growth. As far as protective benefits go, tree shelters provide protection from animals that can damage young trees and thereby reduce or eliminate their ability to grow. Common animal damage to outplanted trees that can be significantly reduced or eliminated is rodent and rabbit clipping, deer browse, and top breakage due to birds perching on terminal leaders. Tree shelters accomplish this by making the seedling or young tree unavailable: it's covered up, so they can't get to it. In many cases humans are more of a danger to seedlings

and young trees than any of the animals just mentioned. Tree shelters can also provide protection from weed eaters, lawn mowers, bush-hogs, and herbicide sprays by shielding the tree or at least signaling the tree's location to people operating equipment. In fact, the landowner mentioned earlier called me after he had planted more sawtooth oaks and installed tree shelters and told me that those magic tubes were a great idea. Regardless of whether or not the trees grew, at least he knew he wouldn't run over them with the bush-hog.

Perhaps the most significant benefits

discussions is that tree shelters provide weed control and reduce competition. This is not the case. A tree shelter is not a substitute for weed control. However, they do give you the ability to do it safely. When the inherent benefits of tree shelters are coupled with weed control, results can be even more dramatic.

Examples of Increased Survival and Growth

When tree shelters first hit the market, I was somewhat skeptical. Since then, I have read studies and personally observed results that convince me that

son the differences were even more pronounced. Sheltered oak seedlings grew 32.3 inches while unsheltered seedlings grew only 5.9 inches. Concerning survival, one study with oak had a 93 percent survival rate after three years with shelters, while the unsheltered average survival was 64 percent. In another study with oak, survival of sheltered trees was 25 percent higher than for unsheltered trees. Numerous other studies reveal the same trend for a variety of hardwood species with respect to both improved survival and early growth.

So much for formal studies. Many of us place more weight on what we can see versus what we can read. On several different occasions in Alabama I have witnessed oak seedlings growing out of the top of four-foot tree shelters before the end of their second growing season. On sites where the owner left some trees unsheltered, invariably, sheltered trees are nearly or more than double the height of those trees without shelters.

BENEFITS OF TREE SHELTERS

Protection • Identified Planting Position
Increased Survival • Increased Early Growth

tree shelters provide are those that directly contribute to survival and increased growth. Ample water supply is critical, especially immediately after outplanting and during the first few years of life. Tree shelters provide water related benefits in two primary ways. First, tree shelters provide a protective barrier against wind. Wind, even normal daily winds, can rob trees of moisture directly from the foliage. Tree shelters significantly reduce wind-related moisture loss until the tree has grown enough to exit the top of the shelter. Second, because of the lack of air movement, moisture given off when a tree transpires results in higher humidity levels. Water condenses on the inside walls of the shelter and trickles down to the base of the tube where it is readily accessible to the tree. Further, carbon dioxide (CO₂) given off by the soil is not readily blown away and results in increased CO₂ available for tree use and growth. As well, this protected environment can help reduce temperature extremes near the enclosed tree. These factors—high humidity, water condensation, increased CO₂ levels, and relative climate control—all contribute to a greenhouse effect that increases survival rates and early growth.

To achieve the greenhouse effect, shelters should be tamped into the ground to seal off the bottom of the tube. One benefit I have heard mentioned in informal

tree shelters can provide real benefits. A good example is from a recent study. At age three the sheltered oak seedlings were 90 percent taller than oak seedlings without shelters; sheltered green ash seedlings were 100 percent taller than unsheltered ash seedlings. In another study, annual height growth of sheltered oak seedlings was twice that of unsheltered oak seedlings during the first two growing seasons. In Tuley's initial study with oak seedlings, sheltered seedlings grew 6.7 inches during the first growing season; unsheltered seedlings grew 0.0 inches. During the second growing sea-

Problems with Tree Shelters

Everything has a drawback; fortunately, those associated with tree shelters are few and not difficult to overcome. Cost is the biggest drawback to using tree shelters on a large scale. Price may range from \$1 to \$5 per shelter, depending on the size used and whether or not you purchase the stake to hold it up. However, the benefits may outweigh the costs for

(Continued on page 24)

Considerations for Tree Shelter Use

- | | |
|------------------|---|
| Tube Size | To protect against rodent damage use 1-foot shelters.
To protect against rabbit damage use 2- or 3-foot shelters.
To protect against deer damage use 4- to 6-foot shelters—4-foot for light deer populations; 5-foot for moderate; 6-foot for high (browse lines visible).
To develop trees with limb free lower trunks (street and yard trees) use 6-foot shelters. |
| Color | Tree shelters come in various colors or shades. When planting in shaded or partially shaded areas, use light colors (white); when planting in full sun, darker shades are acceptable (tan/brown, which blend in better with surrounding vegetation). |
| Stakes | Stakes should be capable of lasting as long as the tree shelter (usually 5-7 years); aluminum or white oak stakes are recommended for their durability. |

LANDOWNERS

LEGISLATIVE • ALERT

ALABAMA

by FRANK SEGO, Legislative Liaison, Alabama Forestry Commission



The 1997 regular session of the Alabama Legislature is the one that Governor Fob James wanted more than at any time he has been in office—both previously and now.

Why has the governor nailed this session as one of the most significant of our time? One only needs to consider the full plate of issues he presented to the joint session on that opening night in February, and he did it in a most convincing fashion. Many will agree it was his best ever.

Tort Reform

The key word was “reform.” Topping his agenda was the thorny problem of tort reform, perennially a major issue for the business community of this state. John M. McMillan, executive vice president of the Alabama Forestry Association and a former legislator, began working months earlier with the governor, House Speaker Jimmy Clark, Attorney General Bill Pryor and other governmental and business leaders to develop a package that would slam the lid down on reckless lawsuit abuse in Alabama.

As expected, tort reform was the first order of business to hit the House calendar before the end of February. Debate was still ongoing as this article was written. That, by the way, is one major drawback to bringing readers of this magazine the current status of any legislation. As you read this it will be April, and much work may—or may not—have been accomplished on these issues.

The closing date for the regular session is May 19, at which time 30 working days will have been completed. Then there’s always the possibility of a special session if some of the governor’s measures are not

passed—and it’s anybody’s guess as to their fate in the regular session.

Welfare Reform

The next burning issue to face this Legislature was welfare reform, the hot potato tossed into the laps of every one of the 50 states—and solve it they must.

As the governor stated, “Ending subsidized responsibility will be the guiding principle of welfare reform in Alabama.” He asked for laws that would locate absentee parents or “deadbeat dads”; Alabama now has over 70,000 parents owing about \$1 billion in child support.

The welfare issue includes provisions to prevent out-of-wedlock pregnancies and to encourage marriage. Many of the welfare proposals came from the work of a 38-member Commission on Welfare Reform chaired by Representative Jim Carnes of Jefferson County.

Election Reform

Election reform was another of the governor’s top priorities for the session, as it was a year ago before it failed in a special session. As proposed, the Voter Identification Bill would protect citizens from voter fraud such as someone voting more than once, or voting on behalf of a deceased person. And, yes, it has happened.

A \$700 million highway bond issue also took center stage as one of the governor’s proposals. Bond proceeds would allow a number of roads and bridges to be completed or constructed in areas across the state and would initiate engineering studies for further construction. The sum of \$83 million would be earmarked to upgrade Alabama’s rural roads and bridges.

The governor also reminded legislators of one of his continuing issues, that of initiative and referendum. This would require

a constitutional amendment, which has been discussed numerous times without action by any previous legislature.

So, with these and the always prevalent issue of education reform, Governor James, the former Auburn All American, was prepared to run an end around or go right through the middle of the line to score his legislative agenda.

New Senator and President Pro Tem

Vivian Davis Figures of Mobile took the oath of office as the newest senator on the opening day of the session. She succeeds her late husband, Michael, who passed away in September 1996. The Mobile Democrat won a special election bid over Representative James Buskey for the 33rd Senate District in January.

Senator Figures vowed to continue expounding the principles of her late husband, who became President Pro Tem of the Senate in 1995. She becomes the second woman in the current body of the Senate.

Senator Dwayne Freeman of Huntsville received the nod from his colleagues to assume the position of President Pro Tem of the Senate, succeeding the late Michael Figures. Senator Freeman’s preference by Lieutenant Governor Don Siegelman was accepted unanimously, thus placing him next in line behind the lieutenant governor and the House speaker to reach the governor’s chair.

Senator Freeman opted to keep the chairmanship of the Economic Expansion and Trade Committee, which embraces the general fund budget. He has established an excellent relationship with the forestry community and the volunteer fire departments of the state.

(Continued on page 30)

Briarpatch Farm

Clean air and crystal waters...

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

Imagine a piece of property so beautiful and compelling that you would pass up a home in Colorado to have it. That's what happened to Frank and Bess Mason of Mountain Brook a few years ago when they first laid their eyes on "Briarpatch Farm" atop Lookout Mountain at Mentone.

Yes, the story about passing up Colorado for Mentone in DeKalb County, Alabama, is true. The couple laughs when they reveal they had already bought a lot near a ski resort in Colorado when Frank found an 80-acre farm for sale at Mentone. Frank admits that fly fishing was the real reason that he was so attracted to the property. The Little River runs through the middle of the property and provided a resource for one of his passions, fly fishing. "The water in the river is as clear as water in the faucet," says Frank.

Over the years the couple has added to the original purchase by buying adjacent land. Several 20 to 50-acre tracts were bought at different times, and then around 2,500 acres of paper company land was acquired. Since 1970 Briarpatch Farm has grown to around 3,000 acres.

Living near Birmingham, the Masons see the cool forests, rolling countryside, and clear crystal river as a haven for them-

selves and their family. It's a retreat and a place of rest and relaxation from the hustle and bustle of the state's largest city. Since Frank retired from running the family business in 1991, the pair can spend more

the property that provide living quarters for the many friends who come to hunt both deer and turkey. Shooting houses are located adjacent to food plots and large hay fields. Hay and corn production supports a large cattle herd.

The most striking feature of the property is "Bess Lake" named for Mrs. Mason. The lake was created when the Masons built a concrete dam across Little River. The effort backed up water approximately one-half mile along Little River, creating a small lake. Here the family gathers in the large stone picnic pavilion for family cookouts as well as enjoying boat rides up the river. In the



Frank and Bess Mason

time enjoying their mountaintop farm. "The country is where we should have been," explains Bess. "It's just hard to convey the feeling of the air up here."

Frank and Bess love to share their farm with others, and right off you can tell many aspects of their management lean toward the happiness and enjoyment of their six grandchildren. There are farm ponds to fish in, swimming holes, picnic areas, horses, ducks, geese, bluebird boxes and a host of other features that can provide entertainment.

Hunting is important to Frank and there are mobile homes and houses on

spring the view is breathtaking with a show of mountain laurel in full bloom.

Frank and Bess are active members of the TREASURE Forest Association of Northeast Alabama, and Frank is a member of its Board of Directors. In October of last year the couple hosted a tour of their property for the group. Frank is also on the Alabama TREASURE Forest Landowners Association Board of Directors. In 1996, Briarpatch Farm received a "Farm of the Year" award from Southern Select Insurance, Inc. of Birmingham and the Commercial Union Insurance Company.

Trail Maintenance and Management

by JOY MALONE, Dispersed Recreation Manager, National Forests in Alabama

Most forest owners have a system of trails on their property, whether they are planned or unplanned. A trail may lead from a road to a favorite fishing or picnicking spot, or it may develop from repeated horse or all terrain vehicle (ATV) use of a route leading to a particular destination on the property. Some forest owners develop trails for recreational use for friends and families and sometimes the public. Regardless of their origin or purpose, trails become a necessary and important part of forest ownership. They provide an integral part of the transportation system on the property, and they can provide hours of recreation and enjoyment. However, if trails are not properly managed and maintained, they can cause resource damage and potential safety problems.

Common Trail Problems

Resource damage resulting from trails is directly related to the amount and type of use on the trail. One can expect heavier impacts on trails used by horses, ATVs and mountain bikes, compared with trails used only by foot traffic. Besides type of trail use, quantity of use impacts resources. For example, heavily used hiking trails may have more resource-related problems than a horse or ATV trail that is occasionally used.

What types of trail-related resource problems may a forest owner encounter? Soil loss is a common problem, particularly when the trail crosses or runs alongside a stream. Soil moving from the trail tread (the portion of the trail you walk or ride on), often ends up entering nearby streams,

resulting in above normal stream sediment as well as soil loss. Another resource problem associated with trails is tree root exposure. Over a period of time, the trail bed will wear down to the level of tree root systems. This creates a tripping hazard for

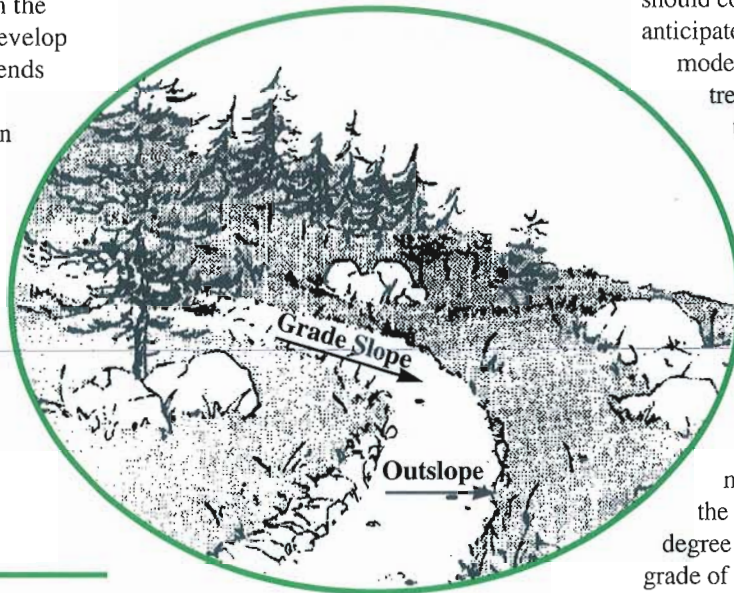


Figure 1.
Grade slope and outslope

people and animals and can result in the eventual loss of trees. Mud holes, which are more of a trail nuisance, may result in resource damage if trail users create new trails by going around the mud hole.

Correcting Trail Damage

Three things are said to cause the most trail damage: water, water, and water. Therefore, the most important element of good trail construction and maintenance

is water control. This is especially true in the wet and humid South where heavy rains can do significant damage in a short amount of time. The best way to avoid the damaging effects of water is proper trail layout and construction.

When planning a trail, the forest owner should consider how much use he or she anticipates on the trail. If the trail will be moderately or heavily used, a trail tread should be constructed. The trail alignment should be planned and marked on the ground before construction begins. In hilly country, the trail tread should run along side slopes rather than ridge tops. This will allow water to drain from the trail rather than collect and create mud holes.

The tread should be constructed with a slight outslope so the majority of water will run across the trail rather than down it. The degree of outslope will depend on the grade of the trail. When trail grades exceed the trail tread outslope, surface water will travel along the trail before it escapes. The greater the difference between the degree of grade and the degree of outslope percentage, the greater the potential for damage (Figure 1).

The grade of the trail tread is also important in mitigating the effects of water. The greater the grade, the faster the velocity of water running down the tread, which increases the potential for trail damage and erosion. Trail grades should not exceed 8 percent, particularly if the trail will be used by horses, ATVs, or mountain bikes. Sometimes a short pitch of greater than 8 percent is necessary, but these occurrences should be kept to a minimum.

In addition to outslope, the trail tread should be constructed with a grade dip,

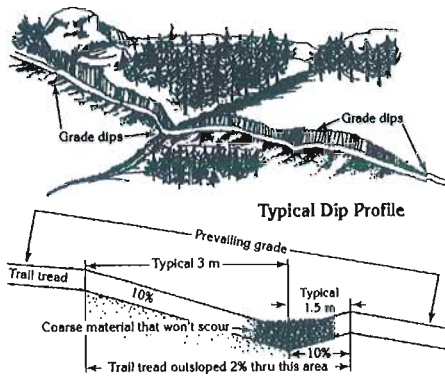


Figure 2. Grade dips are much more effective than waterbars and require less maintenance. Along with outsloping, they are the drainage structure of choice.

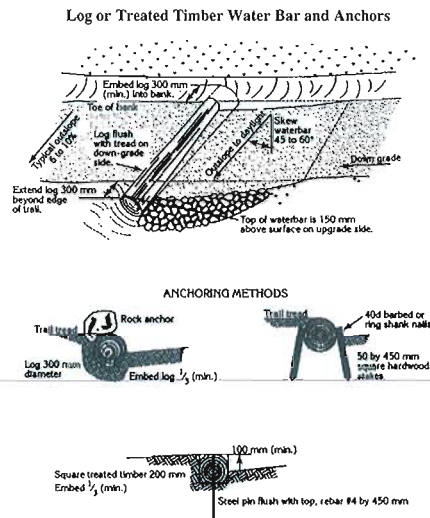


Figure 3. Logs used for water bars need to be peeled (or treated with preservative), extend at least 300 mm (12 inches) into the bank, be staked or anchored, and mostly buried.

such as the one shown in Figure 2. Grade dips will divert water running down the trail tread off the trail, thus reducing the velocity of the water and reducing the erosion potential. The dips should be placed at regular intervals according to the slope of the trail tread and soil type (Table 1).

If the forest owner's trail system is already in place, or if the owner cannot afford the cost of trail tread construction, other methods can be used to reduce the damaging effect of water on the trail. Water bars are often used on trails that either are already in place or exceed 8

Table 1. Soil/Grade Drainage

Grade	Loam	Clay-Sand	Clay-Gravel	(Rounded Rock)	Gravel	Angular Rock	Shale or Sand
2%	350'	500'	1	1	1	1	2
4%	150'	350'	500'	1	1	1	2
6%	100'	200'	300'	750'	800'	800'	2
8%	75'	150'	200'	500'	600'	600'	2
10%	50'	100'	150'	350'	400'	400'	2
12%	3	50	100'	250'	300'	300'	2
15%	3	3	75'	150'	250'	250'	2

- 1 Generally no diversion required for soil stability.
- 2 Grade varies with local amounts of fine clay and silt. Drainage diversions are generally not required in "pure" sand due to the fast rate of water absorption. For sand with appreciable amounts of fine binder material, use "clay-sand" distances shown above.
- 3 Grades not recommended in this material.

percent grade. Like grade dips, water bars are used to divert water from the trail tread. A water bar may be constructed by using either logs or rocks. Figure 3 shows the proper construction technique for a water bar. Again, the principle is to divert water from the trail tread and reduce the velocity and volume of water moving down the trail tread. Water bars should be maintained on a regular basis to retain efficiency. Soil that collects on the uphill side of the water bar will impede the ability of the water bar to divert water. To maintain efficiency, remove the soil collected on the uphill side of the water bar and place it on the downhill side of the water bar.

A relatively new technique for constructing water bars uses thick rubber, such as a conveyor belt, bolted between two 2 X 4 planks. The water bar is placed in the ground so that only the rubber is exposed above ground. The rubber diverts the water but can be run over repeatedly by wheeled vehicles or horses (Figure 4).

Wet areas may present more of a problem. A turnpike, fill material such as gravel, or a puncheon or boardwalk may be used over wet areas. The method used depends on the type of trail and the pref-

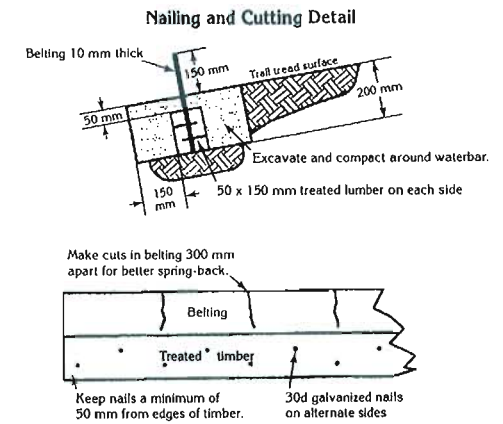
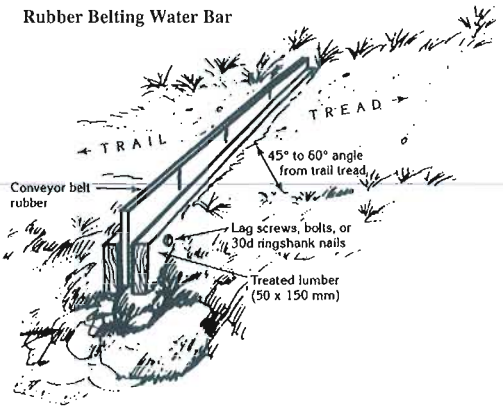


Figure 4. Rubber belt water bars are good choices on trails used by wheeled vehicles.

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Trail Maintenance and Management

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erence of the forest owner. Some methods, such as a puncheon, may be unsuitable for some types of trail use. Figures 5 and 6 show various methods used to construct or repair trails in wet areas.

In severe cases, trail repair may not be practical or feasible. In these cases the best alternative is to relocate the trail along another route and reclaim the old trail surface. It is important to keep a vegetative cover on the reclaimed trail surface to prevent further soil loss.

Other Trail Care

Trails require maintenance outside of tread repair. This includes removing debris that has fallen across the trail path, cutting encroaching vegetation, and removing trees that may be safety hazards to trail users. Trails should be checked regularly for fallen trees or large limbs that will impede the travel of trail users. This will allow for maximum enjoyment of the trail. Encroaching vegetation should be cut back to allow easy passage of a person, animal or ATV. The width of the trail clearing will depend on the type of trail. Horse and ATV trails should have about 4 1/2 feet of clearing width. Finally, dead and unsound trees that may fall across the trail should be removed to prevent injury to a person or animal during high winds.

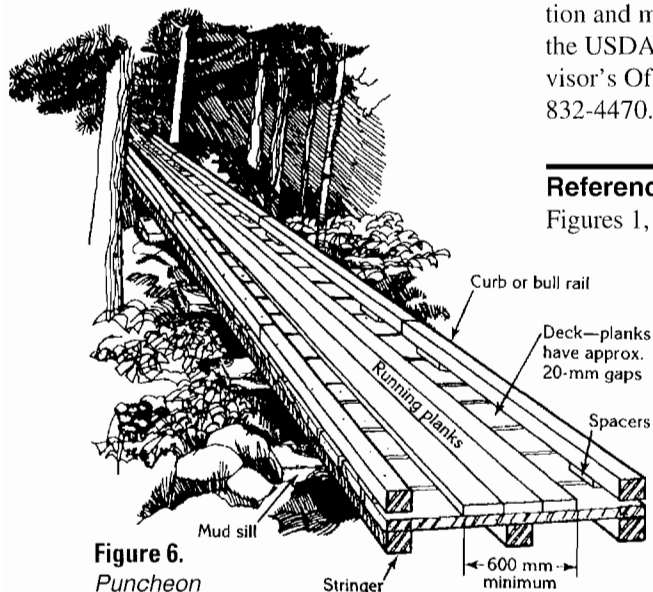


Figure 6.
Puncheon



Turnpike

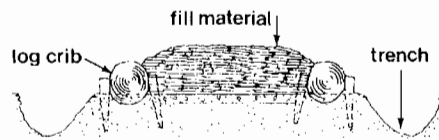


Figure 5.

In low areas where seasonal standing water or marshy ground produces poor trail building conditions, a trail tread may be developed satisfactorily through the use of a turnpike.

Trail management and maintenance takes time and effort, but trails will make your trips to the woods more enjoyable and relaxing. Keep them in good shape and you will be able to use and enjoy your trails for years to come.

For more information on trail construction and maintenance, call Joy Malone at the USDA Forest Service, Forest Supervisor's Office in Montgomery; (334) 832-4470. ♣

References

Figures 1, 2, 3, 4 and 6 are from the Forest Service publication "Trail Construction and Maintenance Notebook." Table 1 and Figure 5 are from the State of Arkansas publication "Construction and Maintenance of Horse Trails in Arkansas State Parks."

MEMORIAL

Sumter County TREASURE Forest landowner William G. "Billy" Rumley died January 14 at the age of 80. Rumley was also a former county supervisor for the Alabama Forestry Commission.

During his 24 years with the Forestry Commission he saw many changes in firefighting techniques. He became a county ranger in 1953 just as tractors were becoming available to fight wildfires and when detection of wildfires was a major problem. Since there were no rural telephones in Sumter County at that time, Rumley had to rely on state-owned telephone communications between three towers.

At his retirement from the AFC in 1977 it was noted that the number of wildfires had decreased dramatically in Sumter County since his employment. Improved communication, good media relationships and public education directed by Rumley were credited for this success.

Rumley Tower, a wildfire look-out tower in Sumter County, was named in honor of Billy Rumley. Rumley's TREASURE Forest, number 58, was certified in 1979. ♣

Alabama Youth Teams Capture National Titles

Two high school forestry teams won national titles in 1996 4-H and FFA competitions. The Tuscaloosa County 4-H Forestry Team defeated 18 other states to take top honors at the annual national competition in Weston, West Virginia. The team of James Boles, Ryan Cotney, Ashley Couto and Adam Henry earned the right to represent Alabama by winning the state 4-H Forest Judging and Ecological Studies Contest. In addition to team honors at the national competition, James Boles finished with the second highest score, while Ryan Cotney had the tenth highest score. Ashley Couto won the Joe Yeager Leadership Award.

Since Alabama began competing in the National 4-H Forestry Invitational in 1984, Alabama forestry teams have won seven national championships, more than any other state.


At the 1996 National FFA Convention in Kansas City, Missouri, the team from Lincoln High School in Talladega County won first place in the Forestry Career Development Events. This is only the second time that Alabama has won one of the 12 national team contests.

Team members were Donny Milam, Brad Ponder, Jeremy Ramsey and Josh



The 1996 Alabama 4-H Forestry Team delegation, L-R: Assistant Coach Jarrod West, Ashley Couto, Adam Henry, John Kummel, Alabama Forestry Commission, Ryan Cotney, James Boles and Coach Wayne Ford.

Ramsey. There were 156 participants in the contest, and all of the team members finished highly. Brad Ponder finished first, received a \$1,000 scholarship, and received the highest award in Forestry Concepts. Josh Ramsey finished sixth and also won a \$1,000 scholarship. Donny Milam finished seventh, won a \$1,000 scholarship, and received the highest award in Forestry Applications. Jeremy Ramsey finished 17th.

The state can certainly be proud of the accomplishments of these young men and women. 

Free Publication

If you own forestland in Alabama, you may be interested in the *Alabama Forest Owner's Guide to Information Resources*. This publication aims to help forest owners understand and use information resources. There is also a comprehensive list of publications and their sources. Request a copy from Kim Gilliland, Alabama Forestry Commission, P.O. Box 302550, Montgomery, AL 36130-2550; phone: 334-240-9355; fax: 334-240-9390.




The 1996 FFA Forestry Career Development delegation, L-R: Coach Stanley Clarke, Talladega County Forester Arthur Hitt, Brad Ponder, Donny Milam, Josh Ramsey, Jeremy Ramsey, and Johnny Ponder, Georgia Pacific.

small scale or high value plantings. Other than cost, the two most commonly mentioned drawbacks are decreased wind firmness in shelter grown trees and the lack of “hardening off” before winter.

Shelter grown trees grow rapidly in height, with most of the foliage being concentrated at the top of the tree. As well, the tube around the tree gives it support. For trees grown in tall tubes (3 foot and larger) this results in trees being somewhat top heavy and having not developed the rigidity that they would have if developed under natural wind conditions. Tree shelter producers realize this fact and are currently working on design improvements to address this drawback. We should see them in the near future, but they are currently considered trade secrets not open for discussion. As far as a homemade remedy, I suggest gradually reducing the height of the tree shelter once the tree has grown out of the top of the tube. Once that point is reached, a box cutter or similar instrument can be used to remove sections of the tube gradually, starting at the top, over the course of a few years. This will gradually expose the main stem to more stress and give it the ability to acquire increased rigidity naturally. Depending on how many trees you have in shelters, and how much time you have to devote to such a project, you might want to concentrate this activity on only a portion of the trees, targeting the best of the lot.

Hardening off is a problem with some species, black walnut in particular. Tree shelters decrease the amount of natural exposure to the elements compared with that received by unsheltered trees. This can result in a tree that is not as cold hardy as a tree grown without shelters. Fortunately for us, most of the problems with cold tolerance have occurred well north of Alabama. In most cases, sheltered trees will do well in Alabama. In other areas, trees may need to be exposed during the fall to help them better prepare for the winter months.

Tree shelters certainly have their place. Are they “Magic Tubes”? Not exactly, but their results could certainly lead you to this conclusion. 

Tree Shelter Designs and Sources

This alphabetical list contains currently available tree shelters. All may not be suitable for reforestation efforts. Some shelters may give good results under certain conditions but not others. The length of time before the product biodegrades also varies. Make sure the tree shelter company knows exactly how you plan to use the shelter before you purchase one. In addition, ask about assembly, shipping charges, and if the product comes with stakes or if they're sold separately.

Protex Pro/Gro—Made from polyethylene and is an opaque, light blue. Two weights available, heavy weight with wooden stake; shipped flat; mesh top available.

Norplex, Inc.
P.O. Box 814
Auburn, WA 98071
206-735-3431

Terra Tech
International Reforestation Suppliers
2100 W. Broadway
P.O. Box 5547
Eugene, OR 97405
1-800-321-1037

Rigid Seedling Protector with Grow Chamber

—Rigid polypropylene diamond mesh tube. 2- mil thick poly sleeve (sold separately) is slipped over the tube.

Norplex, Inc.
P.O. Box 814
Auburn, WA 98071
206-735-3431

Self-staking Conical Tree Shelter (Tree Pee)

—2-foot self-staking (cone) shelter made of polyethylene; 8-inch base and 4-inch top. Two 1-foot sections are snapped together in the field. Tree Pee Plus has an additional 36-inch diamond mesh top.

Bailey's
44650 Hwy. 101
P.O. Box 550
Laytonville, CA 95454
707-984-6133

Tree Sentry
P.O. Box 607
Perrysburg, OH 43552
419-872-6950

Supertube—Seamless, twin-walled, translucent polyethylene tube with flared rim. Sold in sets of five; netting and stakes available.

Ben Meadows
3589 Broad St.
Atlanta, GA 30341
800-241-6401

Treesentials
(Call here for additional distributors)
Riverside Station
P.O. Box 7097
St. Paul, MN 55107
800-248-8239

Tree Pro and Tree Pro Junior—formed from a single-faced (corrugated) polyethylene sheet rolled into a tube at installation and attached to a wooden stake. Custom sizes available; sold with either permanent or seasonal venting capability.

Forestry Suppliers
P.O. Box 8397
Jackson, MS 39284
800-647-5368

Terra Tech
International Reforestation Suppliers
2100 W. Broadway
P.O. Box 5547
Eugene, OR 97405
1-800-321-1037

Tree Pro (Call here for additional distributors)
3180 W. 250 N.
West Lafayette, IN 47906
800-875-8071

Tubex—Twin-walled tube made of polypropylene with a flared top. At one time was the predominant product in the U.S., but there is no known distributor in the U.S. at this time. Must be imported from Canada or England; net provided.

Nova Sylva, Inc.
1587, Denalt, Sherbrook, Qc
Canada J1H 2R1
800-567-7318

Tubex Limited
Tannery House
Tannery Lane
Send, Woking, Surrey, GU23 7HB
England
0483 225434

Black Cherry

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

If you've ever shopped for furniture you know how beautiful and expensive solid black cherry furniture can be. Because of its handsome color and grain, black cherry is one of the most sought after woods for making high quality furniture.

Black cherry (*Prunus serotina*) is a deciduous tree with leaves 2-6 inches long and one-half to three-quarter inches wide. The leaves are narrowly-oval or oblong and pointed, and have finely toothed edges with in-curving teeth. The white flowers bloom on 4-6 inch racemes (clusters of flowers which grow on small stalks) when the leaves are about half grown. As the fruit matures the racemes gradually droop as the berries reach full size. When fully developed, the cherries are dark red, but turn black with dark purple flesh as they ripen. Cherries are an excellent food source for wild animals and birds.

The bark on the branches and trunks of a young tree is thin, satiny, and reddish brown, with horizontal white to gray markings or stripes. The bark on an older tree is in small scaly plates with edges slightly upraised.

Black cherry trees can be found across the state, and a mature tree can reach a



Photos: Bob Gilman



height of 50-75 feet and a diameter of 3 feet or more. It grows on all kinds of sites except those which are swampy or extremely dry. Black cherry is the largest of the native cherries in the United States, and the only one of commercial value.

The black cherry is an intolerant species, which means that it will not sur-

vive for long when in competition with other trees for sunlight. To regenerate and grow successfully, this species requires open conditions with abundant sunlight.

Black cherry wood is stiff and strong with a high resistance to shock. It stays in place well after seasoning, and is relatively free from checking and warping. The wood is difficult to work with hand tools, but has an excellent bending strength.

Nearly all black cherry harvested is used for lumber that is re-manufactured into a large variety of valuable products, especially high quality furniture. In less expensive furniture, cherry veneer is utilized to display the exceptionally attractive color and grain of the wood.

Black cherry wood has a distinctive light-to-dark reddish-brown color, and often has grain patterns that

are quite striking. Because it is very stable after seasoning, it is commonly used as backing blocks for electrotype plates and in pattern-making. Other uses include, woodenware, novelties, and interior finishes for buildings. Lower grades of the wood are sometimes utilized for the interior parts of furniture and for molding and trim. ♣

How Much Does a Cord of Pulpwood Actually Weigh?

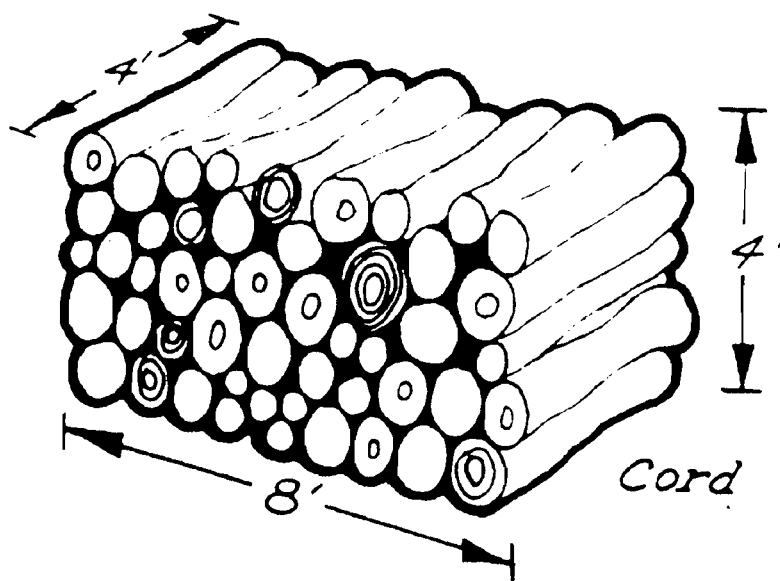
by DR. HONORIO F. CARINO, Extension Forest Products Specialist,
Alabama Cooperative Extension System and Associate Professor/School of Forestry, Auburn University

How much does a cord of Southern pine pulpwood produced in Alabama actually weigh? Timber Mart-South, a quarterly wood industry trade publication, suggests that a cord of pine pulpwood weighs 5,000 to 5,620 pounds; about 5,350 pounds on average.

Such an estimate stems not from the results of a comprehensive scientific study considering the inherent variability of pulpwood materials, but rather from the results of a survey of conversion factors used by pulpwood dealers and processors. Each company has its own conversion factor. There is no single industry-wide standard volume-to-weight conversion factor used for pulpwood in Alabama or elsewhere.

To be sure, nobody knows exactly how much a cord of Southern pine pulpwood weighs because of the varied nature of the pulpwood materials, which come in different species, sizes, shapes, moisture content, and specific gravity (or density). What is known is that a standard cord of pulpwood with bark in place has a gross volume of 128 cubic feet; it's equivalent to a stack of roundwood 4 feet high, 4 feet wide, and 8 feet long.

Regardless of the stacking procedure used, however, air spaces invariably exist in a cord of pulpwood. For this reason, the cord provides an imperfect approximation of the actual volume of solid



wood contained therein. Nevertheless, the cord has been widely used as a unit measure of volume in pulpwood transactions, including the assessment of severance taxes. In practical terms, it doesn't matter what conversion factor is used as long as the parties of the pulpwood transaction agree on the basis of pricing.

However, there are compelling reasons for taking a closer look at the weight-volume

conversion factor (WVCF) for Southern pine pulpwood produced in Alabama. For one thing, almost all pulp mills in the South, including those in Alabama, pay for delivered pulpwood based on weight,

although the initial valuation of pulpwood timber for timberland owners is usually based on volume. The reason for this is simple. It is more efficient to weigh than to stick scale incoming truckloads of pulpwood. This means a volume-to-weight conversion factor has to be used. Also, a closer look at WVCF is needed in light of the changing nature of the timber resources available and mode of delivery.

The average diameter of harvested pine timber has been decreasing and the use of fast-grown plantation timber is increasing. The

USDA Forest Service projects that by the year 2000 about 50 percent of the softwood timber supply in Alabama will come from pine plantations. The proportion of plantation-grown softwood increases to about 68 percent a decade later. This means available pine pulpwood will over time generally have lesser weight per unit volume and may in fact be smaller in average size.

The lighter nature of the wood of fast-grown plantation timber can be attributed to the presence of a high proportion of juvenile wood which has been estimated, based on merchantable volume, to be as high as 85 percent of the merchantable volume in 15-year-old trees and 55 percent in 25-year-old trees of loblolly pine. Because of the greater amount of juvenile wood resulting from rapid growth at young ages, wood specific gravity of trees grown in plantations is nearly always 0.02 to 0.04 (i.e., about 4 percent to 8 percent) less than from trees of natural stands of the same age growing in similar environments.

Also, plantation timber is generally more uniform in size, straighter, and less knotty than the conventional pulpwood material (mostly the top portion of naturally grown trees left after cutting off the sawtimber portion) commonly used in the past. What would be the overall impact of all these? The solid wood volume (in cubic feet) in a cord is expected to increase, but equivalent weights (in pounds or tons) may be less than what they are now or were 20 or 30 years ago when most of the weight-volume conversion factors currently in use were established.

Since the volume of solid wood in a cord is variable, its weight is also variable for the same reasons stated above. Two major factors contributing to the variation in the weight of a cord of pulpwood are moisture content and specific gravity. Both factors, in turn, are known to vary with species, season, position in tree, tree age, and rate of growth. Moisture content of pulpwood also varies with the elapsed time between harvest and actual usage or processing at the mill.

With the increasing popularity of delivering tree-length logs to the mill, weighing of truck loads of such logs and converting the weights into cords have become increasingly popular as well. However, it should be apparent from the above that accurately converting the weight of a load of pulpwood into cords is complicated and certainly not an easy proposition. Often, the adoption of a factor for converting weight measurement to volume estimates, or vice versa, is not to everyone's satisfaction, but the practical value of having one is undeniable.

In this connection, Auburn University

Table 1. Calculated cordwood weights (in pounds) for various Southern pine species in Alabama

Species	Cordwood Weight Estimates (Pounds)		
	Low	Average	High
Loblolly pine	4,873	4,971	5,168
Shortleaf pine	5,154	5,252	5,351
Slash pine	5,462	5,462	5,551
Longleaf pine	5,351	5,539	5,726
All Species	5,011	5,112	5,277

School of Forestry researchers (Drs. H.F. Carino and R. Meldahl) conducted a study to estimate the cordwood weight of Southern pine pulpwood, by species, using previous research results and other published data (see Table 1). The estimated average cordwood weights for the major Southern pine species such as longleaf, slash, shortleaf, and loblolly pines are 5,539; 5,462; 5,252; and 4,971 pounds, respectively. The overall average cordwood weight for the Southern pine species considered is about 5,112 pounds. For the longleaf-slash pines combination only, the estimated cordwood weight would average 5,494 pounds and range from 5,416 to 5,624 pounds. Likewise, for the loblolly-shortleaf pines combination only, the estimated cordwood weight would average 5,019 pounds and range from 4,921 to 5,199 pounds.

For more information on this topic contact the author, Dr. Honorio Carino, at (334) 844-1090; fax: (334) 844-4221; e-mail: carino@forestry.auburn.edu. ☎

References

- Koch, P. "Utilization of the Southern Pines." USDA Forest Service Southern Forest Experiment Station, Agricultural Handbook No. 420, Vols. I & II, 1,663 pp., 1972.
- Vissage, J.S. and P.E. Miller. "Forest Statistics for Alabama Counties 1990." USDA Forest Service, Southern Forest Experiment Station, Research Bulletin SO-158, 67 pp., 1991.
- Walgren, H.E. and D.R. Schumann. "Properties of major southern pines: Part I Wood density survey." USDA Forest Service, Forest Products Laboratory Research Paper FPL-176, 57 pp., 1975.



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Stream Crossing in a Basket

by DR. RICHARD W. BRINKER, Extension Forester and Timber Harvesting Specialist

Installing stream crossings is a major concern for most landowners. These structures are difficult to construct, expensive to maintain, and have the potential to create pollution problems in your stream. The best advice for most landowners is to avoid stream crossings whenever possible. You should look for another route that will bypass the stream

half of the fill material around the culvert. If culverts are not adequately sized to handle high water caused by storm flows, the culvert and all of the fill material may be washed down the stream channel. Culverts can also be a maintenance problem because limbs and debris can clog the culvert inlet and reduce its efficiency.

location where the stream bottom is stable, firm and little work is required on the approaches. But frequently this is not the case. The location where you want to locate your ford crossing may have a soft, silt or clay soil that will not support the weight of a vehicle. What are your options to install a ford-type stream crossing? If a natural crossing is not possible, you may want to consider a constructed ford.

If your stream is perennial, or flows during the entire year, you may want to consider constructing a ford using a cellular confinement structure. Commonly called a "Geoweb Crossing," this polypropylene, honeycomb device is laid on a heavy rock foundation set into the streambed and then filled with a fine textured, crusher-run rock. If the stream is



The assembled gabion wire basket.

crossing, but this choice is not always possible. Therefore you should invest adequate time to determine the type of stream crossing structure that will accommodate your expected traffic load. The three basic stream crossing structures are culverts, bridges, and fords. Let's take a look at each and go into some detail about a permanent stream crossing structure that may be the answer for your stream crossing problem.

Types of Stream Crossings

The most frequently used structure in stream crossings is the culvert. It is most commonly made of galvanized corrugated steel, but you may also find culverts made of concrete, aluminum, or plastic. Whether used on perennial or intermittent streams, culverts can be designed to handle practically any amount of stream flow, but they can cause problems. If not properly installed, culverts often "wash out" due to poor compaction of the lower

Bridges overcome many of the shortfalls of culverts. A bridge can usually accommodate more water flow and the larger opening allows more debris to pass under the bridge. But if not properly sized, installed and secured to the bank, bridges can also be washed away during high water. Often, little or no engineering design calculations are made, and the load-bearing capacity is only estimated. If an accident occurs, a landowner can incur legal liability for users of the bridge. Also, bridges are expensive to construct and are labor intensive to install. The best advice is to avoid bridge structures whenever possible.

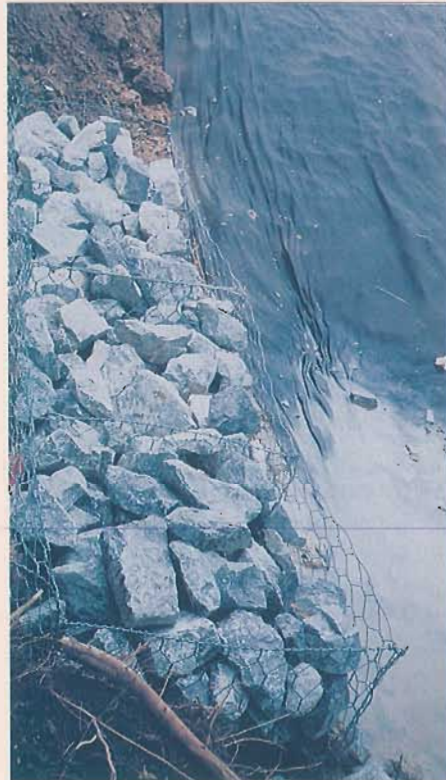
A ford-type stream crossing is sometimes the most desirable stream crossing structure. Fords are natural appearing structures, require little maintenance and, when properly designed and constructed, can handle all levels of storm flows. They can be the least costly type of crossing, especially if you can find a

an intermittent stream or one that goes dry during part of the year, you may want to consider building a "Gabion Wire Basket Crossing." This type of structure provides an all-weather crossing that allows the stream to pass through the basket during normal flow. During high water caused from a storm event, the stream can flow over the top of the crossing.

The gabion wire basket is constructed of a galvanized wire mesh similar to the material used for a chain-link fence. The basket can also be purchased with a plastic coating if your stream is slightly acidic. Shipped as a folded unit, the basket is unfolded and assembled on-site. The assembled basket is available in lengths of 6, 9, or 12 feet, a width of 3 feet and a height of 1 1/2 or 3 feet. The baskets can be used individually, set end-to-end, or stacked and wired together as your stream crossing situation dictates. Once filled with rock, the basket functions as a retaining wall to hold the stream



Site selection is extremely important.



Gabion wire basket filled with rock.



A geotextile fabric will lengthen the life of the approaches and reduce the amount of rock needed. Note the baskets placed on either side of the fabric.

crossing in place, and allows the stream to flow through the crossing structure.

Installation of a Gabion Wire Basket

Construction of the gabion wire basket crossing is not very difficult, but does require some planning and use of heavy equipment. A backhoe or excavator is preferable, but a bulldozer with a skillful operator can be used for the excavation. Preferably, the installation should be done when the stream is dry or during a low water period when the water flow can be dammed for the two to four hours required for construction.

Once the location of the stream crossing has been determined using the guidelines outlined in the Alabama Best Management Practices (BMP) Guide, the first step of the installation process is to excavate the roadway portion of the stream crossing. Excavation should be to a depth of 18 to 24 inches depending on the streambed conditions, and a width of approximately 12 feet for a single-lane crossing. On the outside boundaries of the roadway excavation, a level section should be excavated to hold the basket. This basket platform should be excavated to a depth such that the top of the basket will be about 6 inches above the normal stream height. This will allow the stream to flow below the road height and through the basket during normal stream flows. The completed excavation should now be at least 18 feet wide.

Next, set the assembled, empty basket on the excavated shoulder area, and fill the basket with crushed rock. This rock

should range from 3 to 8 inches in size, and should be carefully placed in the basket either by hand or gently raked from the bucket of a backhoe or front-end loader. Once filled, the basket lid is wired closed. The center area of the crossing is then filled with 8 to 12 inches of crushed rock, or surge stone. If the streambed is a soft, silty soil, lay a non-woven geotextile fabric on the excavated roadway before you apply the surge stone. This material will keep the rock from being absorbed into the streambed. The surge stone can be dumped directly from the dump truck to a level approximately 3 inches below the top of the basket. The final layer of crushed rock should be a smaller rock. A #4 rock (1 1/2 to 2 inches), allows water percolation but does not damage vehicle tires. Continue the surface application of #4 rock on the roadway approaches to the crossing to reduce the formation of ruts in the roadway. Remove the temporary dam, if necessary, and watch your new structure do its job.

Finally, follow the BMPs. The heavy machinery used for excavation disturbed the soil in the Streamside Management Zone (SMZ), so revegetate with a grass seed that will germinate quickly and spread a hay or straw mulch to minimize soil movement. Also, avoid using fertilizers in the SMZ, as they may wash into the stream. Remember, the job is not complete until you have installed the BMPs.

The publication *Alabama's Best Manage-*

(Continued on page 30)



Completed wire basket crossing ready for traffic.

Stream Crossing in a Basket

Continued from page 29

ment Practices for Forestry is available at your local Forestry Commission office.

Costs

The cost of the gabion wire basket stream crossing varies with the size and number of baskets required, amount of rock and hauling distance from the quarry to your site, and the amount of machine time required. The cost is usually more than a properly installed culvert crossing, but less than a bridge crossing. An itemized cost for a recently installed crossing on Tom and June Turnipseed's TREASURE Forest in Montgomery County is shown in Table 1.

Conclusion

The gabion wire basket stream crossing is a permanent, constructed ford.

Table 1. Construction cost of the Turnipseed Gabion Wire Basket Crossing.

Item	Amount	Cost
6'x3'x1 1/2' Galvanized Gabion Wire Basket ¹	4 ea.	\$107.10
S-800, Non-woven Geotextile Fabric ¹	12 1/2' x125'	164.43
Surge-run Stone.....	52.83 tons	667.70
#3 Crushed rock ²	27.98 tons	353.67
Bulldozer Excavation & Rock Spreading.....	8.5 hrs.	<u>425.00</u>
	Total	\$1,717.90

¹ Gabion wire baskets and geotextile fabric was purchased from Southeast Materials Corp., Birmingham, AL (205)871-1206.

² #3 rock substituted for recommended #4 rock.

Properly designed and installed, it can adequately handle loads common on forest roads. Usable as long as water levels allow vehicular passage, it is a low maintenance, very stable stream crossing. If you have questions about this technique,

call me at the Auburn School of Forestry, (334)844-1038. It is not the solution to every stream crossing situation, but it may be an option for your stream crossing problem. ☪

Predator Control

Continued from page 12

eat the eggs. One potential predator that is not on this list is the coyote. Coyotes have been present in Alabama since the early 1920s, and their populations really boomed in the mid-1970s. However, studies at this time do not show them to be a major decimating factor for turkeys. Perhaps coyotes don't key in on ground nesting birds. Studies in the waterfowl nesting areas of North Dakota have found foxes to be a much more serious threat than coyotes to ground-nesting waterfowl. Let me add a disclaimer: coyotes are amazingly adaptable animals and it may just be a question of time until they start showing up as significant predators on turkeys.

Reducing Predation

What can be done to reduce predation and increase brood success? First, let me remind you that the concept of carrying capacity still applies and that even with predator removal there will still be some mortality. However, I do think that a vigorous furbearer trapping program during trapping season, coupled with the removal of feral dogs can increase turkey

populations. Habitat management which encourages greater herbaceous height and cover, and good visibility for nesting hens may reduce predation and increase nesting success. In addition, good nesting cover adjacent to open fields will provide bugging areas for poults and thereby improve poult growth and health. Remember, the quicker the poults mature and the healthier they are, the less susceptible they are to predation.

So, is predator control a viable wildlife management tool for deer and turkey in Alabama? Well yes, no, and maybe. In most situations at this time, it appears that predator control is not justified for white-tailed deer. However, for wild turkey there may be good justification for some forms of predator reduction. Each case must be evaluated independently and decisions made based on available habitat and landowner objectives. Additionally, remember that you must receive special permission from the Alabama Game and Fish Division to conduct any control activities on species that do not have regular open hunting or trapping seasons. Consult a professional wildlife biologist for a habitat assessment and specific management plan for your property. ☪

Alabama Legislative Alert

Continued from page 18

Farm and Forest Rights Act

Just as this column was going to press, the Stewards of Family Farms, Ranches and Forests Partnership, headed by former State Forester Bill Moody, introduced a new version of a bill to compensate property owners for the diminished value of agricultural or forestland once it has been taken by a governmental entity. The bill requires a state or local governmental entity to provide a written statement of any proposed action prior to taking any action that would diminish to value of such private property.

This bill has been successful in the House for the past several years but has stalled consistently in the Senate. The 1997 House version contains 33 co-sponsors headed by Representative Bill Fuller, chairman of the Ways and Means Committee.

The Summer issue of *Alabama's TREASURED Forests* will contain a roundup of action taken on the aforementioned issues, plus a look at the 1997-98 budget for the Forestry Commission, which had been recommended for an increase by the governor. ☪

Absentee Ownership

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

Shouldering the responsibility of land ownership is hard enough, but when you don't live on or near your property that responsibility can become a heavy burden. For a great number of landowners in Alabama, absentee ownership is something that has to be incorporated into the overall management of their farms and forests.

The TREASURE Forest Association of Northeast Alabama (TFANA), based in Huntsville, is a landowner group that meets once a month to share ideas and plan education activities for their area. Members of the group live in Huntsville, Decatur, Birmingham, and other cities in north Alabama. The unique thing about the group is that the majority of the members are absentee owners. Their land is as far away as Conecuh, Pike, Chambers, Tallapoosa, Cherokee, Winston, and Marion Counties, just to list a few. Absenteeism is a very important factor in how their land is managed, and over the years most of them have learned (sometimes the hard way) that being away from your land can be a problem in itself.

Suggestions for Absentee Owners

One of the most important things an absent landowner should do is to find someone to "look after things," a person who is around the property periodically. Illegal dumping, vandalism, poaching, timber theft, and marijuana growing is a very short list of unwanted activities that can take place when someone is not around on a regular basis.

Some landowners depend on friends or relatives who live in the area to keep a close eye on their property. Many have contracted with consulting foresters, or have leased hunting rights, both of which help keep down trespassers and other unwanted and illegal activities. In some instances, these same people also act as

farm managers and are responsible for agricultural and silvicultural practices that take place on the land.

According to several members of the TFANA, because of the distance involved, (in some instances as much as six hours away), many trips to their property are limited to a day or two in length and can be as infrequent as two to three times a year. Having a manager or consulting forester can ensure that management practices take place correctly and timely. A manager or consultant can handle all of the details of timber sales, reforestation, herbicide treatments, prescribed burning, etc. with limited involvement from the landowner. At the same time, they are on the property frequently, which helps keep down trespassing.

Having clear and properly marked boundaries is another important factor for the absentee landowner. Many of them tell horror stories of adjoining landowners logging across the line, or another type of boundary dispute or problem. Having a correct survey conducted and clearly marking the boundary lines may prevent problems in the future. This will also help you stay on your side of the line with your farm and forestry practices, especially if you are hiring someone who is not familiar with the property. Besides that, your children and grandchildren will thank you for it someday.

Another important thing that can help an absentee owner limit trespassers is to restrict access to the property. Any private roads or other entrances to the property that do not have to be open should be blocked with gates or other types of barriers. By limiting access to the property, unwanted visitors will be on foot instead of driving motorized vehicles. It will also be a deterrent to timber theft and other vandalism. If they can't get to it, they are

not as likely to steal or tear it up.

Being away from your property limits the amount of time you are able to participate in the actual day-to-day work, but it doesn't have to limit the amount of work that goes on. Many absentee landowners agree that having a plan helps set objectives, keep you in focus, and acts as a blueprint of what to anticipate in the future. A TREASURE Forest plan or other type of farm plan can help do this. Hiring a consultant forester or farm manager can help carry out the objectives outlined in the plan, and ensure your investment will work for the future.

Probably the most important thing an absentee landowner needs to do is to make sure he can be found. It is vital that a current mailing address is on file at the tax and probate office in the county where the property is located. The greatest problem most tax and probate offices deal with during the year is incorrect mailing addresses for absentee owners in their counties. It's a problem for them every year to send information and tax notices when addresses of landowners are several years old and incorrect. Having a correct mailing address listed in the tax or probate office also helps other agencies find you if there is a problem on your land. For instance, the Alabama Forestry Commission depends on updated information at the courthouse to notify landowners if they have Southern pine beetle infestations on their land, damaging wildfires, or in many cases timber thefts. Other government agencies also rely on this information from time to time.

Most absentee owners will tell you the best thing about having property somewhere else is that there is always a place to get away. Being an absentee landowner may have its problems, but most agree the benefits far outweigh the inconveniences. ♣

Alabama Forestry Commission 1997-98 Season

Orders are now being taken for the 1997-98 season. Seedlings will be available for pickup after December 1, 1997. Orders are taken on a first-come, first-served basis, but seedlings will not be sold to customers outside the state of Alabama prior to July 15.

A non-refundable, 10 percent down payment on seedling orders is required. The date for paying any balances due, canceling an order or reducing the size of an order is January 1, 1998. To obtain an order form, call the E.A. Hauss Nursery at (334)368-4854, fax a request to (334)368-8624 or write to: Seedling Order Form Request, E.A. Hauss Nursery, 4165 Ross Rd., Atmore, AL 36502.

PINE & HARDWOOD SEEDLING PRICE LIST

PINES

	\$ FOR 500	\$ PER 1,000
Loblolly—Improved		
Coastal Seed Source	\$22	\$34
Piedmont Seed Source.....	\$22	\$34
1.5 Generation Loblolly		
Coastal Seed Source	\$24	\$37
2nd Generation Loblolly		
Piedmont Seed Source	\$26	\$40
Coastal Seed Source	SOLD OUT	
Slash—Improved.....	\$22	\$34
1.5 Generation Slash.....	\$24	\$37
Longleaf.....	SOLD OUT	
Longleaf—Improved	\$41	\$62

HARDWOODS

Species: Cherrybark Oak, Green Ash, Nuttall Oak, Shumard Oak, Water Oak, White Oak, and Yellow Poplar

Hardwood Prices

Orders of hardwoods totaling	
100-1,900 trees	2,000 + trees
\$20 Per 100	\$175 Per 1,000

Total hardwood together to determine the price to use.

Minimum order of hardwood seedlings is 100 per species.

Discounts for orders that are picked up at Hauss Nursery in Atmore, Alabama

Pines: 500	1,000 +	Hardwood orders totaling 2,000 or more
\$1	\$2 per thousand	\$2 per thousand

WILDLIFE SPECIES PRICE LIST

LESPEDEZA

	\$ FOR 500	\$ PER 1,000
Thunbergii.....	\$26	\$42
Bicolor	\$26	\$42

Discount for lespedeza orders picked up at Hauss Nursery
 \$1 - order of 500
 \$2 per thousand

OTHER WILDLIFE SPECIES

Autumn Olive, Chinese Chestnut, Crabapple, Dogwood, Overcup Oak, Native Pecan, Persimmon, Native Plum, Redbud, Sawtooth Oak, and "Gobbler" Sawtooth Oak.

Wildlife Package	Number of Seedlings		
	Per 100	500+	1,000+
\$12			
25 Seedlings	\$40	\$150	\$250
<i>Species may be mixed</i>	(.40 ea)	(.30 ea)	(.25 ea)
<i>Minimum (5) per species</i>	<i>Species may be mixed per 100</i>		

The Alabama Forestry Commission encourages planting for wildlife in our TREASURE Forest plans and also in the state's cost-share program plans. To enable landowners to locate tree seedlings that would be beneficial to wildlife, we have added new species to our nursery production. A one-time planting of tree seedlings that will bear fruit for wildlife to eat can be more cost-efficient for landowners than planting different grasses annually. **Refer to the brochure in the center of this issue for specific information on wildlife species available.**



Alabama's TREASURED Forests
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