

Alabama's TREASURED Forests



FALL ISSUE 1984



STATE FORESTER'S MESSAGE

It is increasingly apparent to me that one reason some landowners do not manage their forestlands more intensively is that they simply don't know what to do. This is why it was most gratifying to see so many landowners at the First Alabama Forestry Conference in Montgomery. More than 400 people gathered to share information on forestry and to honor some who are doing good work. Franklin, Clarke, and Russell Counties were honored as having the best forestry committees in their respective districts. Russell County was also recognized as the most outstanding county forestry committee in the state.

At the awards banquet, it was my privilege to recognize all TREASURE Forest landowners present, as well as those who had signed the TREASURE Forest Creed. Everyone with whom I spoke at the conference said they not only learned much, but enjoyed the fellowship and association as well.

Bealie Harrison, TREASURE Forest owner from Clarke County, made a stirring presentation at the banquet about stewardship and our responsibility to leave this world a better place than we found it. This thought sums up what the TREASURE Forest Program is all about, and I continue to salute those landowners managing their forestlands in such a way as to be eligible for certification.

I hope that all current and prospective TREASURE Forest owners will be on the alert and attend the Second Annual Forestry Conference already in the planning stages for next year. You should hear about it in Alabama's TREASURED Forests.

I would like to take this opportunity also to thank the Alabama Forestry Planning Committee, the Alabama Forestry Association, and the Alabama Farm Bureau who worked together to make the First Alabama Forestry Conference the outstanding success that it was.

Sincerely,

C. W. Moody

State Forester

Dear Mr. Moody,

May we please express to you and those in charge of the Forestry Division how much we enjoyed all the seminars, bus tours, food, and fellowship July 26, 27th in Montgomery. It was wonderful!

We learned so much, had so much to "think upon" and so much desire to put so many things in practice in our forest here at home. We have followed up with a tour of Mr. Bealie Harrison's forest which we enjoyed and learned also.

Do you know Mr. Mosley's address or how we could reach him? We would so love to see "Pineland," the first treasure forest and learn from Mr. Mosley's practices if he would allow us.

We are building our red squirrel boxes this week from plans we asked for in Montgomery and received last week. Our Bluebird trail has flourished. We think, this year from your plans. We have five boxes occupied out of twelve. We are following up this year plantings recommended for our deer, turkey. We're ready to set out about 60 acres of new improved pines and we're going to buy and use herbicides after seeing and reading through your publication. demonstrations, the value this is for the tree farmer. How can we thank you for so much inspiration? It has been wonderful!

May I say again, "All work stops when your publication, Alabama's TREASURED Forests, arrives!" Meeting you was indeed a great pleasure at the Forestry Convention. After reading Alabama's TREASURED Forests we felt we had a kinship, a sharing, and a love in our forest, wildlife love with all of your people.

If you could secure Mr. Mosley's address or telephone number we would be most grateful — "Pineland" must be lovely!

Thank you all for inspiring us to come home and continue our 38 years of caring and loving our forest. May I amend that sentence. We have each loved all our life, 54 and 56 years our forest and wildlife. We've spent 38 years together as a team working, loving, improving our forest.

Your friends in Forestry Wildlife.

Robert, Carolyn Brown

Robert, Carolyn Brown

Alabama's TREASURED Forests

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

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COVER: Reproduction of print painted by W. C. Baggett, Jr. presented to W. Kelly Mosley Environmental Award recipients.

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Alabama's First Reflects ..



Black TREASURE LANDOWNER ALWAYS DID WANT SOME TIMBER!

by CYNTHIA K. PAGE, Editor

At age 70, Aaron Sellers recalls his first tree planting from 40 years prior with the same enthusiasm that he felt then. "I always did want some timber . . . , "he trailed off," I always did want some timber." At that time, he had just purchased 60 acres of land from his mother and had become one of Alabama's few black landowners. Since then, he has made three additional land purchases bringing his total holdings to 229 acres, 82 in pine, 25 in hardwood and the rest in row crops and a home-site!

Sellers and his wife of 45 years, Nettie Pearl, have always worked hard and **together!** Even though they started out in a two-room house which they built, they've always managed to "make a good living" working at various jobs over the years **and** working the land! Their two daughters Gladys Washington (New York) and Annie Pearl Sims (New Jersey) both completed college at Tuskegee Institute with money received from timber sales.

An Impression Was Made

Relating how he first got started, Aaron pointed out, "I knew I had some land that'd grow timber, so I went down to the SCS (Soil Conservation Service) and they said 'Aaron, if you put it out, don't set it out too thick,' and then they said, 'In eight or ten years, you'll be ready to thin it.' Well, all that sort of impressed me!

A few years later, an ag teacher, Mr. Poe, started teaching night classes at Merritt Junior High School. Sellers went and when the lesson was presented on timber, he started asking questions. As a result, he and the other members of the class set out 30 acres of pine trees on his property. In 1971, he cut that timber for his daughters' college tuition.

This bahai spillway surrounds Sellers' agricultural fields for erosion control.

Pine Wasn't His Only Interest

While pine certainly was the most profitable for timber, Sellers also paid attention to other advice he obtained. In 1972, he had driven down to a local store and happened to see Bruce Johnson (Alabama Forestry Commission) about to leave. Not being certain who he was, Sellers just asked him, thinking he was the game warden!

That lack of bashfulness led to a relationship that pushed Seller's land to becoming a TREASURE Forest in ten years, the first belonging to a black landowner in this state!

Johnson visited Sellers' farm, explaining various techniques to him — what to cut, when to cut, when to burn, what to leave. He convinced Sellers that his hardwoods had value beyond just the wood. He asked, "Aaron, don't you like to hunt?" Sellers responded, "Well, I like it pretty well, but I also like to see things grow!"

Taking Johnson's advice, he left those hardwoods for the wildlife. He also leaves his fence rows rough to provide food and cover for game birds. He has a substantial population of deer, turkey, quail, dove, squirrel, and rabbit. By leasing hunting rights on his property, some additional income is provided! Sellers also has about ten acres of pecan trees. Each year he and Nettie gather pecans and sell them.

All of the Land Is Important

Sellers is protective of his land and believes in **total** stewardship. Some time back, the SCS showed him how to terrace his cropland and how to do contour plowing. Also, he has a strip of bahia grass 25-30 feet wide planted all around his cropland. This strip, called a "spillway" helps the water to "walk out" instead of "run out" with valuable topsoil.

With his farm tractor and disc, he



plows around his young pine plantations to provide fire protection. "I hope to do some prescribed burning soon," he says, "to kill out the unwanted variety, help the wildlife, and also cut down on the risk of fire."

In 1980, he had a pond dug. Not only is it a source of water for wildlife, but contributes to Nettie's favorite hobby — fishing!

Experiments Pay Off

Sellers is always thinking and planning how to get the most out of his land. With 20 some-odd head of cattle, he wanted to find a way to provide grazing, but still grow trees.

He has accomplished this on one plot with wide spacing of pines so that the grass can still grow between them.

He also had a cooperative cucumber operation last year. Through guidance of the Tuskegee Cooperative Extension Service, he and other families tried their hand at sharing the responsibility and profits.

Sellers says it wasn't as successful as it could have been, but it worked!

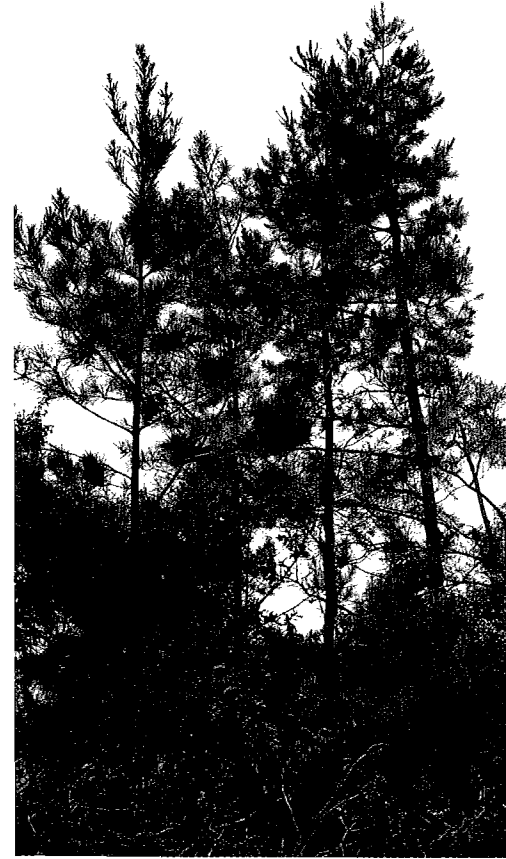
He's also going to allow a relative to build a house on a piece of his property, simply for "helping to look after the place" in return!

What Advice Would He Give

Sellers is a pragmatic man, who takes a logical approach to most things. "I want my daughters to have something to come back to," he says. "I'll never see these young pines out here mature, but they will. In fact, one daughter's already said she's moving back here when she retires in four years. I really believe she'll keep looking after this place the way I do. At least, I tried to teach my children how much the land can give back to them!"

Sellers has already given much of his time and energy to encouraging other black landowners in his area to develop their woodland. Four years ago, he was on contract to work with minority landowners who qualified for FIP (Forestry Incentives Program) and ACP (Agricultural Conservation Program) funds. He has also spoken to groups and appeared on television programs just because he wanted to help. "Being black hasn't been an obstacle to me," he says. "It shouldn't be for anybody."

"Most folks don't want to grow pine trees," he pointed out, "cause it's too slow. But I look at all that land out there just doing nothing when I **know** it can be growing timber — helping me, helping the county economy, and helping the whole state!"



These young pines will give the children "something to come back to."



Nettie and Aaron have spent 40 years working and planning together.

EDITOR'S UNDERSTORY

by CYNTHIA K. PAGE, Editor

This understory, I hope, will do far more than reveal the Sellers' character. Perhaps, having been raised in the Heart of Dixie during the most serious racial confrontations, I, better than some, know the difficulties and barriers which Aaron Sellers had to overcome to raise his family and his timber. He is to be respected and admired for all that he has accomplished and still maintain the humility of a simple and honest man.

A white sandy dirt road winds back toward the four-room house where Aaron and Nettie Sellers have spent 44 of their 45 years together. Linoleum floors are worn, but "clean enough to get off of" as we used to say. Bare plank walls in the bedrooms express the simplicity of this family who works from "sun-up to sun-down" to make an honest living. There is no air conditioning and oscillating fans stir the air with an almost lullaby hum. And, yet, as you get to know the Sellers, you find more than a "simple" pair, you find a sincere and rare compassion for fellowmen, a love for the land, a devotion to each other, and a contentment to have basic needs met on this earth while preparing the soul for its reward in the hereafter.

July, 1983, was the first time I met this family. You can tell a person's character by his handshake and how he carries himself. Aaron Seller's callused hand grips firmly without being overpowering. His movements are steady, not too quick, but he keeps a constant pace. Nettie, too, makes every motion count as she bustles around to complete a full day's work for most women in just a few short hours.

Photographs are strategically placed in the living room, with each daughter

and grandchildren receiving equal attention. Also on the living room wall is the W. Kelly Mosley Environmental Award plaque and framed print. Other awards are assembled on the same wall, each telling the story of Aaron Sellers' dedication to improving himself and his land.

Both Mr. and Mrs. Sellers went back to school to obtain a G.E.D. high school diploma. Education is important to the couple whose two daughters — Gladys and Annie Pearl — both completed college at Tuskegee Institute. One finished with a business degree and the other as a dietician. Now a granddaughter is about to complete an engineering degree!

The family has always worked hard. When crops were short, Aaron would cut cane or go off to work in the coal mines with his brother. Later, he drove a school bus for 15 years which permitted him time during the day to tend to his land! Nettie, too, worked. Not only did she keep an immaculate house, but worked for Head Start for 14 years while still looking after her family.

Aaron always was asking questions and trying to learn all he could about the development of his land. "You know," he said, "my daddy was kind of different. He went back to school over there in Selma even after he had three children. He used to talk around the table and that talk went in me just like the food!" He sought out the help he needed and then put the advice to work for him!

"I hope my children will feel the same as I do about this place after I'm gone," he said. "I believe they will. I certainly did all I could to acquaint them with the land."



Sellers is always "thinkin' on" how to improve his land.

Sellers is always encouraging and helping his friends and neighbors who respect him and admire him. They've done some cooperative farming and some tree plantings. His brother (now deceased) had one of the first Tree Farms owned by a black landowner in Alabama.

Sellers says that probably he'll not see his 10 year old pines cut at maturity. At age 70, he feels like that's something he's leaving for his children to come back to, and hopes they, too, will do the same for their children.

Aaron, I hope that you do see them cut. On the day they take out the first tree, I'd like to be there. What you say we cut watermelons out under the pecan trees to celebrate? ♣

Nest Boxes For Wood Ducks

by ROBERT WATERS, Biologist, U.S.D.A. Soil Conservation Service

Twenty-six species of wild ducks have been reported in Alabama and in coastal waters of the state, but only one of them — the wood duck — breeds in appreciable numbers.

The wood duck is fairly common year-round in most of Alabama. Sometimes it's called "woodie," "summer duck," or "native duck." Wood duck is a fitting name for the species because it is more dependent on woodland, especially bottomland hardwoods than any other waterfowl in the country. It obtains a good bit of food by foraging on the ground in woody swamps. During breeding season, it spends a good bit of time perched in trees. For the most part, it nests in hollow trees—a trait not typical of most ducks.

This article contains instructions for building, erecting, and maintaining a certain kind of wooden nest box for wood ducks. The box discussed here is inexpensive and fairly easy to build. All that's needed are a few easy-to-obtain building materials, common tools used by most carpenters, a little spare time, and a sincere desire to be of real help to the wood duck. This article also contains information on the wood duck's nesting habits in Alabama to help you understand why certain recommendations are made regarding nest boxes.

If nest boxes are properly built, erected, and maintained, they increase the number of wood ducks on an area. With increased numbers, the wood duck can provide hunting where other ducks are either scarce or absent. Often, these increased numbers can provide income from the lease of hunting rights or the sale of hunting permits.

Nesting Habits

The wood duck, like nearly all other wild ducks, is migratory. Every fall, large numbers fly into Alabama to spend part of the winter. They come in from many states, particularly those north of Alabama and east of the Mississippi River. In the fall, a few wood ducks fly out of Alabama to spend the winter in other states — states in all di-

rections from Alabama. Therefore, in late fall and most of winter, swamps in Alabama usually contain "woodies" that were hatched and raised in the state as well as those that have flown in from states mostly to the north.

Courtship and pairing off take place in late fall and in winter. After pairing off, the female leads the way and the male follows as the pair travels from place to place. When they leave the wintering ground to seek a nest site, usually in February, the female returns to her previous nest site or to the general area where she was hatched. The male follows her. Thus, a male hatched in another state and paired with a female from Alabama follows his mate to her previous nest site whether in-state or out-of state.

The female's tendency to return to her former nest site or to the general area where he was hatched makes it easier to increase the breeding population on beaver ponds, oxbow lakes, natural ponds, and other such places, especially if suitable nest boxes are erected and maintained.

In Alabama, egg-laying may start in mid-January, but it usually starts about the first of February. The eggs resemble those of a domestic chicken, but are smaller and darker. Two or more hens may lay in the same nest. Such nests may contain up to 40 or more eggs, but they are often deserted by the females. In nests where eggs are laid by only one hen, the average is about 10 to 12 eggs per nest.

As a rule, one egg is laid every day, usually early in the morning. If the hen is not frightened, she covers the egg with decaying wood or other loose material such as leaves. These loose materials must be available within the tree cavity or nest box because neither the male nor the female brings nest material to the site. After laying the first few eggs, the hen starts collecting down from her breast by preening. She uses the down to cover the eggs. No longer does she bury them in litter. She continues adding down as the rest of the eggs are laid.

Nesting season in Alabama is usual-

ly from mid-February to May, sometimes as late as July. The peak is in March and April. The hen incubates the eggs, usually starting the day after the last one is laid. Incubation takes about 30 days which is longer than for most ducks. (The mallard, for example, has a normal incubation period of 22 to 24 days.) During incubation, the hen usually leaves the nest twice a day—early in the morning and late in the afternoon — to feed and rest with her mate.

The wood duck nests again and again until it is successful or until the end of nesting season. If her nest is destroyed, the hen usually moves to a different location before starting another nest. She may have two successful nests during one season.

Raising The Family

Ducklings usually leave the nest during early morning of the day after they are hatched. Their down is dry and they can swim at that time. When it appears that the brood can safely leave the nest, the hen calls from the ground, the water, or a nearby limb. As she calls, the ducklings jump toward the entrance, and their sharp claws catch on the side of the tree cavity or nest box. They rest a moment, then jump upward to gain another hold. Three or more successful jumps may be required before they reach the entrance. They pause a moment at the entrance before jumping with feet outstretched and wings beating, apparently unafraid of the fall. Sometimes they jump from as high as 70 feet. Occasionally, some of the weaker ducklings are unable to reach the entrance and die of exhaustion in the nest.

If the nest is over land, the hen leads the brood to the nearest suitable body of water. If the nest is over water, the hen and brood swim to the nearest suitable brood habitat. The hen usually remains with her brood until the young are able to fly, or about eight to ten weeks.

The drake, having left his mate at hatching time or just before, joins other males on secluded woodland ponds or in dense swamps. Here the males lose

their flight feathers and are unable to fly for a short time. The drake is free of family ties until he again takes a mate during the following winter.

Building the Nest

As stated earlier, the wood duck prefers to nest in tree cavities near water, but such cavities suitable for nests are so scarce in Alabama that nest boxes are usually recommended.

Properly constructed and maintained nest boxes are effective and increase the number of wood ducks, but if improperly built, erected, and maintained, they may do more harm than good. They may be little more than death traps for the hen and sometimes for her brood. Therefore, when building and erecting nest boxes, closely follow the instructions in this article or obtain instructions from some other reliable source.

Nest boxes can be made of many materials. Those made of wood and metal are most popular, however, boxes made of other materials are being used a good bit in some places. Here are instructions for building and erecting one of the common wooden nest boxes.

Use well-seasoned 1 x 12 inch boards. Ten linear feet is enough for one box (FIGURE 1). Boards may be either

rough sawed or dressed. Rough-sawed cypress boards are recommended, but pine and other less durable boards may be used if they are treated with a relatively clear preservative such as one containing pentachlorophenol. Creosote and other dark preservatives are not suited.

The back of the box should be 24 inches high; the front should be 23 inches. Other outside measurements should conform to the following specifications: width of front and back — 12 inches; width of sides — 14 inches; roof — 12x16 inches; bottom — 12x14 inches; and the door — 6x12 inches. The roof should overhang the front about 2 inches. It should be flush with the rest of the box (FIGURE 2).

Cut an oval entrance hole in the front. It should be four inches wide and three inches high. The top of the hole should be about three inches below the roof.

Tack a four-inch strip of hardware cloth on the inside of the front, from the bottom to the entrance (FIGURE 3). The hardware cloth makes it easier for ducklings to get from the nest to the entrance, especially in boxes made of dressed boards. Mesh of the hardware cloth should be one-fourth of an inch. Sharp ends should be bent under.

Drill a small hole in the back and opposite the entrance. It should be one-fourth of an inch in diameter and about six inches below the top of the back. The hole is needed for attaching the box to the post.

Drill four small holes in the bottom to allow for drainage (FIGURE 3). They should be one-fourth of an inch in diameter.

The small door on the side makes it easier to clean the box every year and to add nest materials as needed (FIGURE 2). Use a three-inch cabinet hinge for swinging the door. The hinge and its screws should be rustproof. Edges of the door may need trimming to ensure smooth operation. The homemade door stop on the inside of the front and the homemade latch (FIGURE 2) are for fastening the door which must be fastened tightly at all times. If the door isn't fastened tightly, "woodies" won't use the box.

Boxes must be tightly constructed. Use box nails that are large enough to hold securely in spite of weathering and rough handling. Eight-penny, zinc-coated nails are recommended. Seal all cracks and knot holes, preferably with galvanized sheet metal.

Boxes made of dressed boards should be painted with an outside, flat,

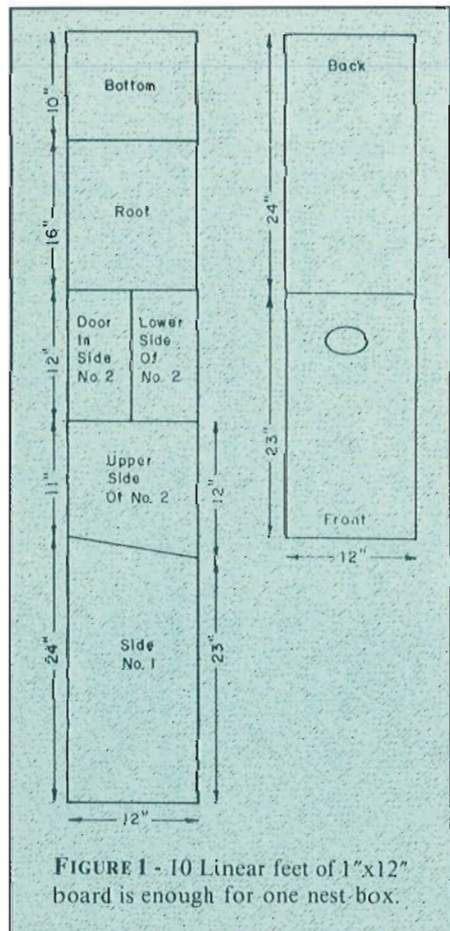


FIGURE 1 - 10 Linear feet of 1"x12" board is enough for one nest box.

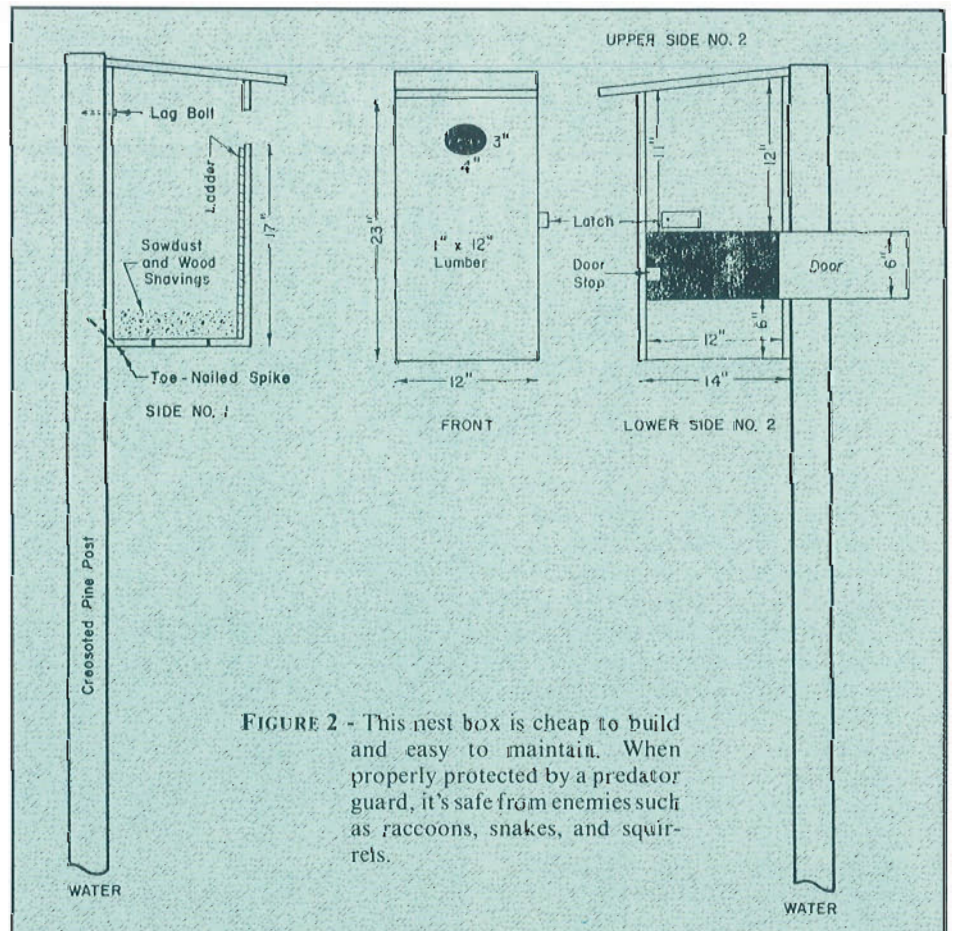


FIGURE 2 - This nest box is cheap to build and easy to maintain. When properly protected by a predator guard, it's safe from enemies such as raccoons, snakes, and squirrels.

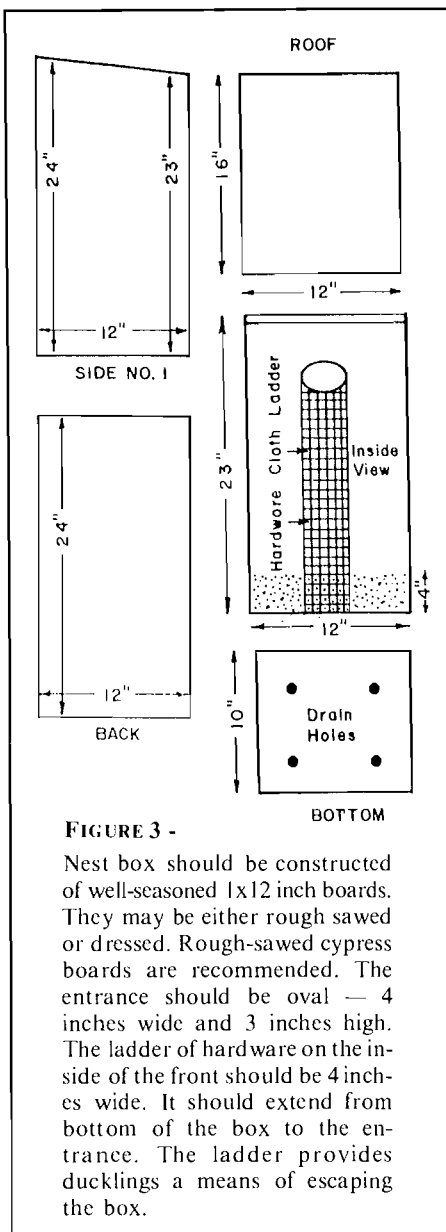


FIGURE 3 -

Nest box should be constructed of well-seasoned 1x12 inch boards. They may be either rough sawed or dressed. Rough-sawed cypress boards are recommended. The entrance should be oval — 4 inches wide and 3 inches high. The ladder of hardware on the inside of the front should be 4 inches wide. It should extend from bottom of the box to the entrance. The ladder provides ducklings a means of escaping the box.

light-colored paint. Paint makes them last longer, improves their appearance, and makes them cooler during summer.

Erect nest boxes during early winter, preferably before January 1. Erect them in areas known to be used by wood ducks. Erect nest boxes over water or on the edge of water. Over water is recommended. Beaver ponds, oxbow lakes, natural ponds, and other small bodies of water surrounded by bottomland hardwoods are ideal places to erect nest boxes. Avoid large bodies of water and areas where wave action is heavy.

Erect nest boxes on treated posts. Creosoted pine posts are recommended. Posts should be at least four inches in diameter. Erect boxes at least five feet above flood level. Those erected over water should be out of easy reach of people. Boxes at such heights are readily used by wood ducks and are fairly easy to service and maintain.

Drill a pilot hole about six inches below the top of the post. It's needed for attaching the box. The hole should be one-fourth of an inch in diameter and at least two inches deep.

Erect boxes in places where they can be easily seen by wood ducks. To increase visibility, it may be necessary to cut away small limbs and brush. The entrance should face open waters, and if possible, it should face either northward or southward. Such placement reduces the amount of light that can enter.

Erect nest boxes either vertically or with a slight forward tilt. A backward tilt may hinder ducklings on their exit from the nest and may allow water to enter.

Use lag bolts for attaching boxes to posts (FIGURE 2). Lag bolts should be three-eighths of an inch in diameter and at least four inches long. Place a flat washer on the lag bolt. Insert the bolt through the hole in the back of the box and into the pilot hole in the post. Tighten the bolt until the box is drawn firmly against the post.

Fill the bottom four inches of the box with wood shavings and sawdust (FIGURE 2). These are needed for covering the eggs. You will recall that neither the male nor the female brings nest material to the boxes. Wood shavings keep the sawdust from packing.

Protect boxes with a predator guard (FIGURE 4). Such guards protect nests from climbing enemies, especially the raccoon—one of the worst nest preda-

tors in Alabama. The guard should be at least three feet above flood level, and it should fit the post tightly enough that snakes can't squeeze through.

Make predator guards from 26-gauge galvanized sheet metal. FIGURE 5 is a layout for cutting three guards from a 3 x 8 foot sheet. When installing the guard, overlap the cut edge to the dotted line. Cut on solid lines and follow the sequence of numbers. Make circular cuts in a counter clockwise direction. To make the initial cut on line AB, make a slot at A with a cold chisel. Use tinsnips and wear leather work gloves.

As indicated in FIGURE 4, drill two small holes near the outer edge of the guard. They are needed for forming the guard into a cone. Holes should be one-fourth of an inch in diameter.

Form the guard into a cone by overlapping the cut edge to the dotted line. Insert a round-headed stove bolt through the holes near the outer edge of the guard and tighten. Stove bolts should be one-fourth of an inch in diameter and one-half inch long.

Bend the brackets to conform to the underside of the guard and to the upright post. For attaching brackets to the guard, use six stove bolts of the kind described above.

Brackets can be attached to the post by No. 8 screws. They should be one-fourth of an inch in diameter and at least one inch long. Pilot holes are recommended.

Erect only a few nest boxes on an

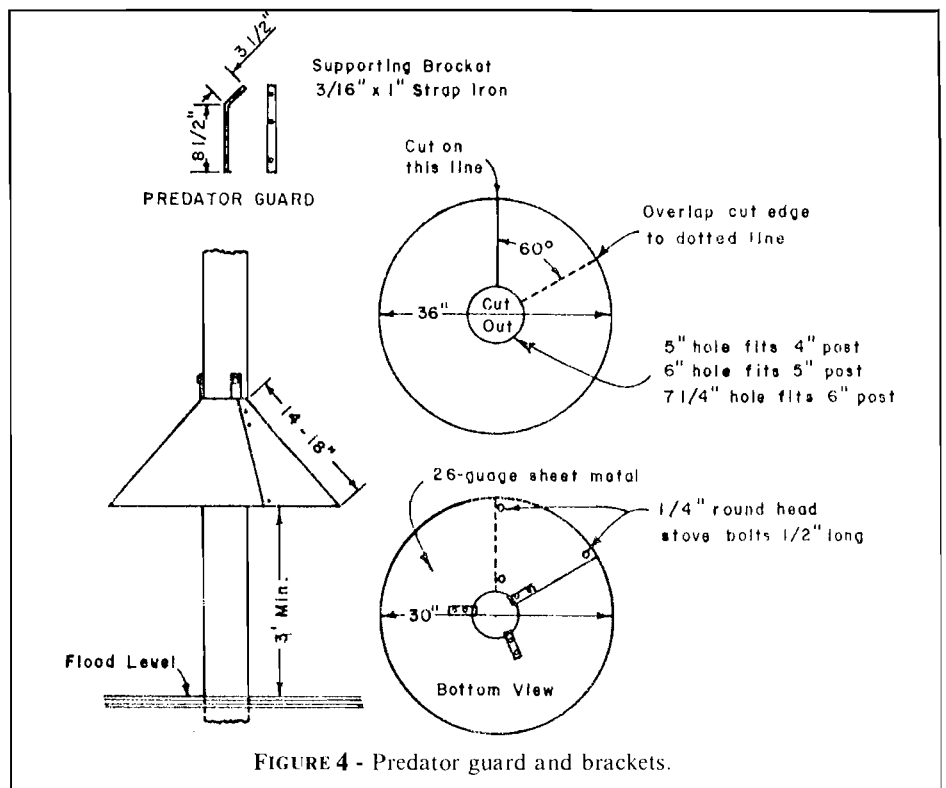


FIGURE 4 - Predator guard and brackets.

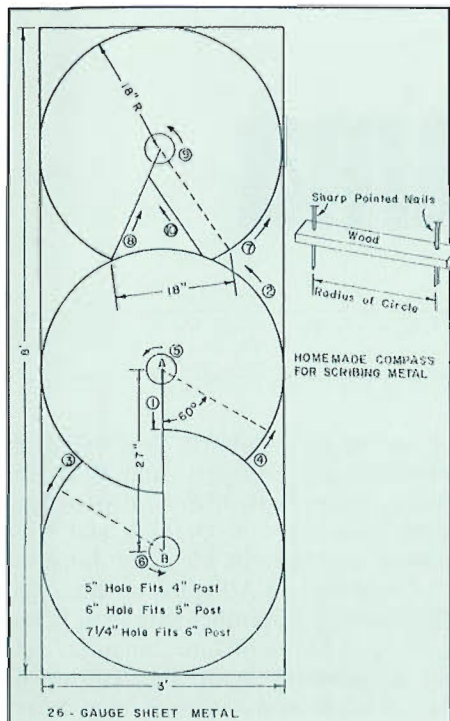


FIGURE 5-

Layout for cutting three predator guards from a 3x8 foot sheet of 26-gauge galvanized sheet metal. Cut on solid lines and follow the sequence of numbers. Make circular cuts in a counter clockwise direction. To make initial cut on line AB, make a slot at A with a cold chisel. Use tinsnips and wear leather work gloves. When installing a guard, overlap the cut edge to the dotted line.

area during the first year—no more than two per acre and spaced 50 to 100 yards apart. Add more as needed.

Boxes that have been in the same place for two nesting seasons and have not been used by wood ducks should be moved to a better location.

Clean and service nest boxes at least once a year, preferably in December or early January. At that time, make needed repairs, add nest material if needed, and loosen the sawdust and wood shavings. Spray inside with lysol or other disinfectant to discourage bees and wasps. Your boxes are now ready for wood ducks to set up housekeeping!

You can obtain more information on building, erecting, and maintaining nest boxes from the Soil Conservation Service, your county agent coordinator for Cooperative Extension, the Alabama Department of Conservation and Natural Resources, the Alabama Forestry Commission, and the U.S. Fish and Wildlife Service. Technical assistance in managing habitat for the wood duck and for all other valuable wildlife is available from these agencies also.

Building Materials

Nails	25 - 8-penny, zinc coated	Post	1 - treated post (Creosote is recommended) at least 4 inches in diameter. Length will vary depending on depth of water and water level at flood stage.
Spike	1 - at least 4 inches long		
Lag bolt	1 - 3/8 inch at least 4 inches long and flat washer		
Hinge	1 - 3-inch cabinet hinge and screws. These should be rustproof.	Sawdust and wood shavings	- enough to fill the bottom 4 inches of nest box
Hardware cloth	1 - 17 inch strip, 4 inches wide (All sharp ends should be bent under.)	Predator guard	1 - 26-gauge galvanized sheet metal as shown in FIGURE 4 and 5

Goat Grazing On Woodlands

by BARRY LAWRENCE, Grazing Specialist

Has anyone ever recommended that you fence off the area and put goats in it and you laughed at the recommendation?

Throughout history, goats have proven to be very useful in range management. They not only have proven useful in undergrowth utilization, but also have provided an economic source in the form of skins, meat, milk and fiber. The goat has compared favorably with all other domestic ruminants (cud chewers) in economic production. Goats have a tendency to spread their grazing pressure evenly over an area more so than cattle. This results in a lighter utilization of vegetation, especially grasses.

Perhaps, the biggest use of goats on the range would be to help utilize unwanted hardwood brush. Before turning loose a herd of goats on your property, however, there are several factors that need to be considered:

1. *Goats require a larger amount of browse than cattle.* Areas that have not been prescribed burned with low hardwood brush would be a perfect place to graze goats. Even after burning, goats can help maintain the hardwood that might come back.
2. *Goats require a wider range of plant species than cattle.* Cattle can get by with large amounts of grasses where goats need more than just grass.

3. *Goats will travel longer distances than cattle in search of preferred forage.* Consideration should be given to the amount of area to be grazed. If there is not a large supply of different types of browse available, then expanding the grazing area should be considered.
4. *Spanish and Angora goats are the two preferred species.* Of them, the Spanish goat is preferred because they are a more efficient browser. Also, the Spanish goat has less hair than the Angora, thus permitting grazing in thicker brush.
5. *Goats and deer have similar grazing habits.* Overgrazing by goats can severely reduce deer habitat if not controlled.
6. *Goats can be grazed in rougher topography than cattle.* Cattle prefer level areas with more grass, whereas goats can graze successfully on steeper terrain with less grass. In mixed terrain, grazing of both cattle and goats can be successful with careful planning and management.

All of these factors should be considered before utilizing goats as a brush control tool. A careful study of the area should be conducted to determine if sufficient grazing opportunities are present.

Deer In Alabama

by RALPH H. ALLEN, JR.

Deer have occupied the North American Continent for millions of years. Those species that have been unable to adapt to the ever-changing environment have long since disappeared from the face of the earth. The species of deer we have today, the mule, the white-tail, and their subspecies are truly American and there is no evidence of direct relation of these deer to the deer of the rest of the world.

Of the species and subspecies of deer that inhabit our continent, the white-tail is the most widespread and is the only deer native to Alabama.

Introductions of exotic deer have been made in several areas of our state in recent years. Only the European fallow deer introduced in the Miller's Ferry area of Wilcox County has survived and spread to nearby areas.

Important Role In Man's Life

Deer have played an important role in the life of man. In prehistoric and pioneer days deer provided food, clothing, and tools. Although deer still provide food for a number of people, perhaps their most important role in our time is providing countless days of outdoor recreation to hunters, naturalists, and just plain sightseers.

There are many conflicting opinions concerning the deer population in North America at the time of the arrival of the early Old World explorers and settlers as compared to the population of today. One well-known naturalist estimated the deer population at the beginning of the 16th Century to be 40 million while most other biologists and naturalists believe the population at that time to have been considerably less than the population of today.

Deer are primarily browsing animals and for that reason they prefer to feed on leaves and tender shoots of brush, weeds, and sprouts that are within easy reach above the ground level. This is not to say that deer will not eat



legumes and grasses at ground level when other preferred foods are not readily available. Maximum browse is most likely to be found in or along the edges of openings and in the more open woodlands where sufficient sunlight can reach the understory.

Browse Plants at Minimum

The vast virgin hardwood forest that covered much of the eastern United States in the 16th Century provided an extremely open park-like understory due to the dense shade. In such areas preferred browse plants in reach of deer were at a minimum. For this reason it would appear to me that the second growth forests and extensive openings of today are capable of maintaining a much higher deer population than were the vast virgin hardwood forests of several hundred years ago.

Alabama's native deer have an entirely different breeding and fawning season than do deer from all other areas

of our nation. Alabama deer breed in January and February and fawn in August and September. In all other areas deer breed in October and November and fawn in May and June.

Some deer in Alabama do breed in October and November with their fawn arriving in May and June, but as far as I can determine these are the offspring of deer brought into Alabama from other areas for restocking as I will discuss later.

The reason for the late breeding and fawning season for deer in Alabama is not known. To me, the most plausible explanation is that at some period in the past within our state a specific disease or parasite caused the loss of early fawns and over period of time only those fawns that were born after the disease or parasite had "run its course" probably by midsummer, were able to survive. Thus a late breeding and fawning strain of deer was developing in our state.

Plentiful in 1850

Information indicating deer were plentiful in Alabama as late as 1850 is found in a history of Clarke County, Alabama, entitled "Clarke County and Its Surroundings." It reads: "In 1858 a singular calamity befell the deer in Clarke County. Up until that time they had been very abundant. In that year, a disease similar to what is called the *black tongue* in cattle swept them all off. They were found lying dead in the woods, in their old haunts and runways, and none seemed to survive the pestilence. Some have since found their way here from other places, or possibly some still lived in the deeper recesses of the pines and river bottoms and again some deer are found in favorable locations."

By 1900, unrestricted year round hunting and land use changes had reduced the deer herds in Alabama to a few in isolated areas.

With the organization of the De-

partment of Game and Fish in 1907, a number of statewide laws were passed in an attempt to protect and increase Alabama's wildlife. Those laws affecting deer provided for a specific hunting season, a daily and seasonal bag limit on buck, a year round closed season on all antlerless deer, prohibited night hunting, required written permit when hunting on the lands of another and set up an enforcement staff for enforcing game and fish laws.

Laws Useless Without Support

Unfortunately, laws without public support are practically useless. So it was with the early game laws. In spite of game laws and officers to enforce them, the deer population in Alabama continued to decline.

By 1910, huntable deer populations were to be found in only two or three isolated areas in Southwest Alabama. In fact, it is doubtful that any native deer would have survived in the state if it had not been for several big landowners whose interest in conservation dictated the rigid protection of the species on their property.

Conservationists recognizing the big game potential within our state and working with officials of the U.S. Forest Service and residents of several North Alabama counties purchased 125 deer from a private company in Iron Mountain, Michigan, in 1925. Some 105 of these deer were released in the Bankhead National Forest in Winston and Lawrence Counties. Five of the deer from Michigan and seven additional deer obtained as fawns from Washington County were released during the same year on the Bassett Creek Game Preserve in Clarke County.

The remaining deer from Michigan were held in pens on the W. T. Smith Lumber Company lands in Butler County and on the Henderson Farms in Wilcox County. In 1934, these deer and their offspring from both areas escaped or were liberated into the wild.

200 From North Carolina

From 1935 through 1941, a total of 200 deer were obtained from the Pisgah National Forest of North Carolina. These deer were released in two areas of the Choccolocco National Forest, on the Fort McClellan Reservation in Calhoun County and the Ted Joy Game Preserve in Jefferson and Tuscaloosa Counties.

Due primarily to these releases, by 1940 the deer population in Alabama

had increased to approximately 15,000 animals. Conservation officials, encouraged by the results of these earlier releases and with the realization that future trends in land uses in Alabama would be detrimental to small game but beneficial to deer, initiated an accelerated deer restocking and management program.

In order to provide deer for release, traps were constructed and set on the Game and Fish Division's two game sanctuaries in Clarke County. Later portable deer traps were constructed and used on private lands in Clarke, Marengo, Pickens, and Sumter Counties. Since 1945, a total of 2,850 deer have been stocked in 53 Alabama counties.

All Counties Have Deer

Today, all 67 Alabama counties have a huntable deer population. Overall, Alabama's deer herd is approaching one million animals with an annual harvest in excess of 120,000. This population and harvest places Alabama among the top five states in the nation, in both categories.

Alabama hunters, until recent years, were forced to travel to Maine, Pennsylvania, Michigan and other states for good deer hunting. The reverse is now true as deer hunters from these states

come in greater numbers each year to Alabama.

Much of the success for building Alabama's deer herd from a few thousand to upward of one million within a period of less than 40 years has been the result of close cooperation between sportsmen, landowners and our Conservation Department.

The history of deer in Alabama makes for interesting conversation, but of greater concern is an answer to the question — WHERE DO WE GO FROM HERE?

In building a deer herd with the objective of developing a huntable population within the shortest period of time, management requires the protection of antlerless deer. In order to maintain the herd in a healthy condition once the population has reached the carrying capacity of the land, management dictates the annual harvest of surplus deer, both antlered and antlerless.

Huntable Population Attained

In Alabama, the objective of developing a huntable deer population of each of the state's 67 counties has been reached. This is not to say nor imply that the deer population is uniform throughout the state. Man's diversified use of the land, combined with differences in land capability, weather, and



numerous other factors, which vary from area to area, precludes the possibility of ever obtaining a statewide uniform deer population.

Deer are prolific. Although deer produce offspring only once each year, does in a healthy condition normally produce one fawn during their first breeding season and two or more fawns during each succeeding year.

In an uncrowded habitat, where mortality is normally low, the deer population is capable of more than doubling itself within two years.

In studies made by our department over the past 15 years, we have found the sex and age ratio for each 100 deer in Alabama to be — *five bucks*, one year or older, with antlers containing three or more points — *ten bucks*, one year or older, with spikes visible above the natural hairline — *five bucks*, one year or older, without visible spikes — *20 bucks* (fawns) less than one year old — *20 does* (fawns) less than one year old — *40 does* one year or older.

With a "bucks only" hunting season, only 15 out of each 100 deer are legal for harvest. Even under the most intensive hunting pressure with our present season and under our present deer hunting laws and regulations, it would be virtually impossible to harvest half the legal bucks within the state each year. The present statewide harvest is normally less than one-third of the legal bucks. Even if we use the high harvest figure of one of each two bucks with antlers visible above the natural hairline, the legal kill would be less than eight out of each 100 deer. By no stretch of the imagination could the harvest of this small number of deer be considered practical method of preventing a deer herd from becoming over-populated and destroying their range within a few short years.

Questions Answered

In order to better explain the problems confronted by management that are necessary to correct the problems associated with over-populations, I will pose a number of questions that are commonly asked, and follow with an answer.

QUESTION: When does a deer herd become over-populated?

ANSWER: Deer are considered to be over-populated when the deer in an area exceeds what the land (habitat) can support in a healthy condition during all seasons of the year.

QUESTION: How can one tell when a deer herd is over-populated?



ANSWER: To the trained observer, symptoms of an over-population are apparent much sooner than to the average hunter or landowner. The trained observer is able to determine the status of the population by the amount of deer browse on certain indicator plants. To the hunter, landowner, and other casual observer over-populations are not normally apparent until the deer have reached the stage that body weight and antler development are drastically reduced, browse lines become extreme, crop damage extensive and/or deer die-offs are observed. When these extreme conditions occur the deer population is in critical condition as a result of having a heavy infestation of internal parasites and are near starvation.

QUESTION: What effect does an over-population have on a deer herd?

ANSWER: This question has been partially answered in the preceding discussion. If the over-population is recognized early and necessary management initiated to remedy the situation immediately, little damage to the herd will result. If the over-population is allowed to continue unchecked either as a result of not recognizing the problem until it has reached the critical stage or because of the inherent hesitation of hunters to harvest sufficient antlerless deer necessary to reduce the population to the numbers that the habitat can support, deer will continue to decline in weight and antler development. The herd will become less able to overcome disease and parasites and will cause increased crop and habitat destruction and ultimately severe die-offs will occur.

QUESTION: Are there areas in Alabama where over-population is a problem?

ANSWER: There are many areas in Alabama where over-population is a

problem. In fact, there are areas where the problem has already reached the critical stage. Although the problem is more widespread in Central and South Alabama, there are a number of problem areas in North Alabama. In fact, the most serious problem we have experienced to date occurred in the Bankhead National Forest in Winston and Lawrence Counties.

An over-population began to become apparent there in the early 1940's and became progressively severe until 1948 when a disease destroyed upwards of 95 percent of the deer population on the area within a six week period. Because the over-population continued to go unchecked for several years, many of the preferred and secondary deer food plants were completely destroyed. It required a period of more than 20 years for the range to recuperate and only within the past four or five years have the deer been able to increase sufficiently to again provide good hunting.

Over-populations are occurring in many areas of South Alabama as indicated by the continued decline in body weight, antler development, deterioration of habitat with obvious browse lines, increased crop destruction, extremely heavy parasites infestation and even die-offs in some areas.

For several years an excessive number of deer have been dying in several South Alabama counties. This year, several hundred deer have died in the vicinity of Choctaw Bluff in Clarke County. Dr. Forest E. Kellogg, Leader of Field Operations for the Southeastern Cooperative Wildlife Disease Study Center at the University of Georgia, was called in to determine the reason for this die-off. We quote from Dr. Kellogg's report, dated July 1, 1975:

"Gross and microscopic examina-

tions indicate substantial numbers of deer are being lost to lungworm disease. Losses from lungworm disease are usually low during any one week but occur week after week. Numbers of lungworms peak during the late summer and mortality rate may substantially increase at that time. Young male deer are most susceptible to lungworms and may die more frequently than females."

"Gross abomasal (stomach) parasite levels found in the Choctaw Bluff deer suggest that insufficient food supply is compounding the disease problem. Adequate reduction of deer numbers by hunting would be an ideal way to solve both the disease and the food supply problems. If numbers of deer are not reduced, lungworm disease losses will continue until a virulent bacterial or virus disease gains entry into the area. When this occurs, the majority of the deer herd may be lost, but the habitat will get a chance to recover and you will see an increase in body weight and antler development. This is a tremendous waste, but it is a regular occurrence on tightly controlled private lands in the Southeast."

Although the die-off that occurred in Clarke County in 1858 may not have been caused by lungworms that are responsible for causing the chronic die-offs of the past several years, it would be safe to assume that over populations were the cause of both.

QUESTION: Are food plots plantings for deer a practical way of providing supplemental food for deer in areas of over-populations?

ANSWER: Food plots are not the answer to keeping a deer herd healthy. In fact, food plots most often compound the problem. Food plots do provide more food for a short period of time, but deer tend to come from long distance and concentrate on food plots. In addition to feeding on the food plot they also browse on what natural foods remain within the area. When the food plots are eaten out, the deer most often remain in the area. Thus one usually ends up with more deer than would be present if food plots had not been developed. One of the most damaging aspects of green food plots is that deer are forced to graze at ground level where they come in direct contact with the droppings of other deer. As a result of this contact with animal waste, disease or parasites harboured by any one individual may well spread to all other deer using the plot.

QUESTION: If food plot plantings are not the answer, what can be done to reduce a deer herd that is over-popu-



lated or is approaching over-population levels?

ANSWER: The one and only way to reduce a deer herd is to remove surplus deer of both sexes.

QUESTION: Will not the removal of antlerless deer result in a drastic reduction of harvestable bucks in the future?

ANSWER: The answer to this question is an emphatic *NO*. In fact, the reverse is true. This has been clearly demonstrated on the Fort Rucker Reservation in Dale and Coffee Counties. Until 1967, deer hunting in the area had been limited to bucks only. The population had already begun to exceed the carrying capacity of the land as evidenced by the fact that deer weight and antler development had begun to decline. Up until this time buck harvest had never exceeded 191 animals with the average annual harvest being less than 150. Beginning in 1967, a short antlerless deer season was initiated. Between 1967 and 1975, a total of 312 antlerless bucks, 1,383 does and 2,212 antlered bucks were harvested. From 1971 through 1975, an average of 306 antlered bucks were harvested — more than twice the number that were harvested in the five years preceding the opening of the antlerless season.

Because of the over-population that existed prior to the antlerless season, it required several years of antlerless harvest to reverse the downward plunge in the weight of the deer. During the past five years there has been a noticeable build up in the live weight of the deer

that have been harvested, but even now the weight is well below deer harvested from areas which have not experienced an over-population.

Now for the sixty-four dollar question — WHERE DO WE GO FROM HERE?

We are at the crossroads in deer management in Alabama. If we follow our present course and continue to disregard the advice of wildlife biologists with training and experience in deer management and follow the advice of the street corner experts whose only training and experience is looking down a gun barrel, we will end up with a small population of scrawny, undernourished, and diseased animals.

If we back up and turn at the intersection we have just passed and follow the directions posted by trained and experienced personnel, we can improve the quality of our deer and more than double our deer harvest at the same time. Which road we take is up to you but I must warn you if we continue on our present course, the problem will become more critical with each passing year. ♣

Editor's note: This is the first of two articles which appeared in *Alabama Conservation*, November-December, 1975. These articles deal with the history of deer in Alabama and although the deer population has increased since that time, the information contained in these articles is still very applicable today.

LANDOWNERS' LEGISLATIVE ALERT

NATIONAL by J. KENNETH MYERS, Legislative Affairs Staff, Forest Service, U.S.D.A.

The 98th Congress is drawing to a close; the House and Senate returned from summer recesses for the political conventions and for the Labor Day period in early September and will remain in session through that month. They expect to adjourn in early October. The members will be returning to their districts for reelection campaigns.

Top priority for the remaining time will be the annual appropriations legislation, but several other significant national issues will be debated. Apparently, one issue that will not be debated

is the "Soil Conservation Act of 1984." This bill, which is designed to protect erosion-prone marginal cropland by prohibiting USDA payments to farmers who plow these lands, passed both the House and Senate earlier in the year. The bills, however, were substantially different and conference committee action was required. The conferees met to resolve their differences on the bill in late June only to disagree further. As a result, the bill has "stalled" and is not expected to be approved by Congress before adjournment. This legislation is

expected to appear again when the Congress begins consideration of the 1985 Farm Bill early in 1985.

Other legislation pending before Congress that would grant certain tax benefits to landowners who make soil and water conservation improvements on their land, and to repeal the existing Internal Revenue Code provisions that treat timber income as a capital gain, are also not expected to be approved before adjournment.

STATE by FRANK SEGO, Legislative Liaison, Alabama Forestry Commission

While the 1984 Regular Session of the Alabama Legislature, which began in February, considered hundreds of measures including general fund and education budgets, the Forestry Commission was vitally interested in a number of bills that would directly affect forestry in Alabama.

Seven new forest acreage assessment bills were passed on the final day of the session and have been signed into law by Governor George C. Wallace:

ACT 84-518 (HB 840) HALE COUNTY (10¢ pending referendum)

ACT 84-525 (HB 970) TALLADEGA COUNTY (10¢ effective now)

ACT 84-548 (HB 705) MARION COUNTY (10¢ effective now)

ACT 84-554 (HB 417) PICKENS COUNTY (10¢ pending referendum)

ACT 84-561 (HB 569) WINSTON COUNTY (10¢ pending referendum)

ACT 84-572 (HB 482) CLAY COUNTY (An additional 5¢ effective now)

ment to be declared the owner for the vehicle. This bill cleared the House and the Senate Judiciary Committee, but died on the calendar when the session ended abruptly on May 21.

Still another bill to amend the Code relating to the willful and malicious burning of woodlands, so as to clarify the definition of paraphernalia used in arson, also passed the House but died on the Senate calendar.

Forestry Improvement Bill

The most "sought-after" forestry legislation was HB-611 by Rep. Dwight Faulk of Honoraville, which would have established the "Forestry Improvement Act of 1984" and a State Forestry Improvement Program for the improvement of Alabama forestland and forestry development. The bill could have raised approximately \$1.75 million per year by doubling the severance and processor taxes on forest products. a special fund, designated as the "Forestry Improvement Fund," would be administered and supervised by the Forestry Commission.

An advisory committee, appointed by the governor, was to advise the Forestry Commission on the expenditure of \$1 million annually. Funds in excess of the \$1 million — approximately \$750,000 — would be spent at the discretion of the Forestry Commission.

Forestry Landowner Assistance

Monies in the "Forestry Improvement Fund" were designated to assist

private landowners in the planting and replanting of tree seedlings, for forest fire protection and suppression, and for such other forestry improvements as might be recommended by the advisory committee.

The bill was introduced on March 20. It cleared the House Committee on Natural Resources on April 10. It passed the House on a 56-6 vote and was assigned to the Senate Small Business Committee during the final week of the Regular Session. Every effort was expended to get the bill on the special order calendar by the final day. Early adjournment killed all hopes for final passage.

10% Pay Raise

In the special session which convened on May 22, lawmakers voted a 10% salary increase to state employees. Amounts necessary to pay the raise for the fiscal year, beginning October 1, 1984, are to be appropriated from such funds as the salaries of the state employees are paid.

\$347,483,000 in Bids

Lawmakers expected a second special session in 1984, following the acceptance of bids for exploration of Alabama's oil and gas potential. Governor Wallace indicated that a session may not be necessary, as the \$347,483,000 from the oil companies may be placed in a trust fund with the annual interest earmarked for the operation of state government. ♣

RCFP Committee Expanded

The Commission was also successful in passing Senate Bill 472 by Gerald Dial of Lineville, with a companion bill by Rep. Curtis Smith of Clanton. This new act increases the composition of the Rural Community Fire Protection Committee from 12 to 13 members by authorizing the appointment of a member of the Alabama Association of Volunteer Fire Departments.

HB-326 by Rep. James Warren of Castleberry would have amended the Code to allow a government agency (either city, county, or state) which is entitled to the use and possession of a vehicle under a lease-purchase agree-

CALENDAR*

October 1 - Cleburne County, 6:30 p.m. Regular Meeting of County Forestry & Wildlife Association. Contact Glenn Berry, 463-2876.

October 4 - Tuscaloosa County 10:00 a.m. Program on Timber Marketing plus see Portable Sawmill. Call Forestry Planning Committee at 333-1590.

October 6 - Clay County 10:00 a.m. Financing Forestry Investments; Investment Returns; Tour Pine & Hardwood Regeneration Area; See Herbicide Test Area. Call Mark Elliott, 354-2182.

October 9 - Jefferson County, AmSouth Bank, Hoover. Dr. Bill McKee of Co-operative Extension Service will present two closely linked programs. You may attend all or part. Meeting is free and open to public. Dinner is dutch treat.

1:30 p.m.-5:00 p.m. How to do a Forestry Investment Analysis.
6:00 p.m. Dinner at 5th Quarter, Vestavia.

7:30 p.m. Frequently Asked Questions About Forest Investments

October 9 - Tuscaloosa County, 7:00 p.m. Record Keeping for Tax Purposes. Round-Table discussion at local restaurant. Contact Jack Rigsby at 345-6803.

October 11 - Colbert County, 10:00 a.m. Forest Economics Information for

Lending Agency Personnel. Tell your banker to attend. Contact Jerry Parker, 383-1363.

October 16 - Meridian, Mississippi, 2:00 p.m. Forestry Field Day. Contact Margarie Davison, (601) 693-6091.

October 21 - 27 - NATIONAL FOREST PRODUCTS WEEK

October 23 - 25 - Athens, Georgia. Es-sentails of Forestry Investment Analysis. Contact Leonard Hampton, (404) 542-3063.

**Any Alabama Forestry Planning Committee member agency may be contacted for information of listings in this section.*

ACTIVITIES

DISTRICT

5

DISTRICT 5—Three cities in District 5 have received Tree City USA certification - Selma, Prattville, Linden. In Prattville, Mayor Grey Price was presented a flag and plaque by Neil Letson and Harold Cleveland. In Linden, Allen Black, David Pearce, and Ed Eldredge presented Roy Vice, mayor and Bill Barley, city administrator, a flag and plaque. Selma's Mayor Joe Smitherman and Tree Commission Chairman Charles Himes received a flag and certification plaque from Ed Eldredge and Jim Bible.

In Marengo County, Lloyd Ferguson, Janie Jordan, and Terry Barr have been nominated as TREASURE Forest recipients.

District Five personnel have placed 1080 Gypsy Moth traps in Autauga, Bibb, Chilton, Dallas, Marengo, Perry, and Wilcox Counties. Several suspect moths have been caught, however, none have been verified as being a Gypsy Moth.

In Marengo County a spot gun demonstration was held for interested landowners on the property of Dr. H.L. Allen.

Marengo County employees helping with the new Scott Park in Linden were recognized at the park's opening ceremonies.

Mickey Barton, son of Bibb County Ranger Joe Barton, won first place in the FFA State Forestry Management Competition. Mickey was recognized at the FFA State Convention in Montgomery, Alabama. He received a \$100.00 cash prize and will be eligible to compete in the National FFA Forestry Man-

agement Competition.

Bill McKee, Forest Economist, spoke to the Wilcox County CRD committee on forestry investments.

The Camden Fire Department was given State Certification on July 23, 1984.

The volunteer fire departments of Dallas County formed an RCFP Association.

DISTRICT

8

DISTRICT 8—The Choctaw Advocate Newspaper, in Choctaw County, ran a forestry insert in their paper covering all aspects of forestry. Choctaw County Supervisor Chuck Quinn, assisted the newspaper in this effort.

Mike Hinson, Clarke County Supervisor, assisted the U.S. Forest Service with a tour of Mr. Bealie Harrison's TREASURE FOREST and tree farm in April.

Lynn Booth, Fire Specialist, presented a fire prevention program to 11 Cub Scouts, from Bay Minette, on May 5.

Lisman Volunteer Fire Department, in Choctaw County, was recently approved as meeting the requirements for certification as a volunteer fire department.

Patrick Waldrop, Mobile County Supervisor, made a fire prevention presentation to 60 pre-schoolers on May 16.

Robert Dismukes, Baldwin County Supervisor, and Mr. John Crosby, Jr. of Crosby Lumber Company in Bay Minette, participated in an "Industry on Parade" day at Faulkner State Jr. College. The event was sponsored by the Baldwin County Chamber of Commerce on May 17.

The Baldwin Times Newspaper published an 8-page Forestry Edition in May 1984. Baldwin County Supervisor, Robert Dismukes, and other Forestry Planning Committee personnel assisted.

Baldwin County Supervisor, Robert Dismukes, was the guest speaker at the Daphne Fire Department's Awards Banquet on May 19, 1984.

Chester Billie, Wildlife Specialist, presented a program on deer management in Fairhope on May 22.

The Forestry Committee of the Mobile County Farm Bureau, toured Scott Paper Company's mill in Mobile and some pulpwood concentration yards in North Mobile County on May 24.

Baldwin County Supervisor, Robert Dismukes, worked with WKRK TV in Mobile and the National Arbor Day Foundation on a program they are planning, on TREE CITY USA. Robert also presented a program on TREE CITY USA to the Stockton Civic Club in May.

Mike Hinson, Clarke County Supervisor, and other Clarke County Forestry Planning Committee members, attended a Forestry Investment Seminar in Thomasville on June 6.

The Second Annual Southwest Alabama Forest and Wildlife Festival will be coming up in November, contact Mike Hinson for more information.

In June Mike Hinson assisted a Boy Scout group in Clarke County with a tree identification training program.

Baldwin County is happy to announce that John Martin has been named as the new Baldwin County Supervisor. John's appointment was effective July 16. John transferred to Baldwin County from Brewton where he was a staff forester. Robert Dismukes has been

promoted to a District Forester Trainee position. He will be working in the State Headquarters as part of a training program for his new job.

John Martin, Baldwin County Supervisor, presented a fire prevention program to a church camp group in Baldwin County on July 24, 1984.

David Frederick, District Forester, presented a program to the Rotary Club in Robertsdale on July 24, on the AFC's organization and programs.

DISTRICT

9

DISTRICT 9—held its annual picnic at Joe Wheeler State Park. Employees took this occasion to say goodby to Clayton Schwind and Jonathan Melton who recently transferred to other positions and to present Danny Deaton with a gift from AFC employees to assist in replacing his home which burned recently.

Hammie Stamps, a member of the Florence Garden Club and a student of artist Bob Thomas, prepares seasonal flower arrangements for the District 9 offices. A recent display of natural art was featured in the Times-Daily Newspaper and open to the public.

Construction is underway on the District 9 shop building.

District 9 continues to work toward "bringing back the bluebirds". The district office bluebird family numbers 5 - parents and three baby bluebirds.

USDA Middle Managers - Area I held a meeting at the District 9 Headquarters on May 22, 1984.

The Wildflower Society held its annual picnic at the District 9 Headquarters on May 26, 1984. Each member brought a plant to add to the natural landscape of the district office grounds.

A TREE PLANTER FOR MARGINAL CROPLAND

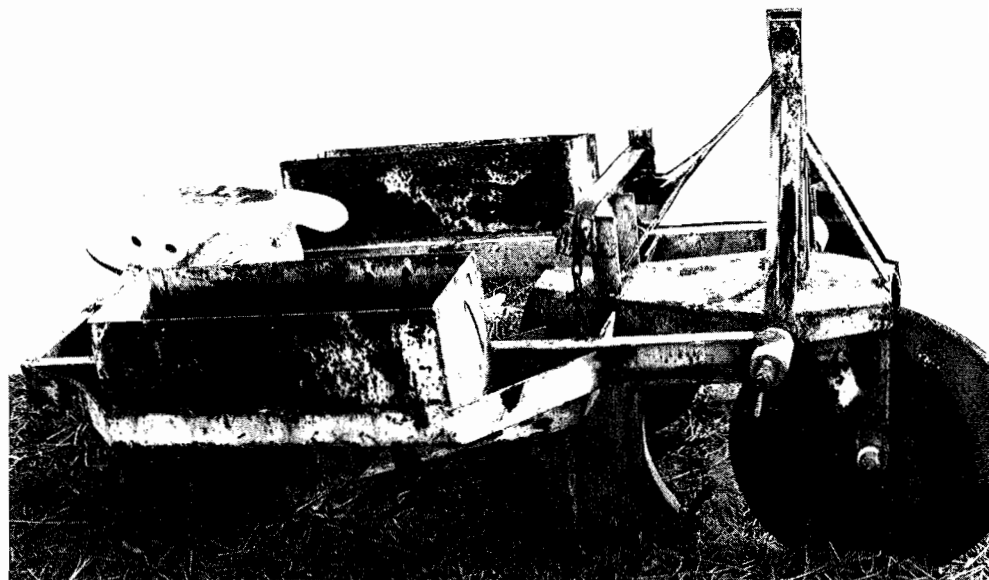
by BILL MCKEE, Forest Economist, Alabama Cooperative Extension Service

According to a recent U.S. Department of Agriculture report, Alabama has 700 thousand acres of cropland and pastures that could produce greater net income if converted to pine timber. The report classifies the crop and pasture land as being marginal because production costs exceed revenues. In the case of soybeans, yields necessary to cover all production costs for various regions in Alabama are presented in **TABLE 1**. Lands that are not capable of producing higher yields should be classified as marginal for soybean production.

Foresters and agriculturists have always contended that farming marginal cropland was not profitable. To confirm this view, let's compare forestry and soybean returns. Net returns to land, labor, and management for recommended soybean management practices are presented in **TABLE 2**.

Investment in forestry is a form of capital accumulation in that an increment of capital is formed during each growing season but cannot be recouped until the timber becomes merchantable. Annual returns from forestry investments can be determined, however, by recognizing the time value of money. Forestry returns for a 25 year growing period are presented in **TABLE 3**. Returns are very sensitive to stumpage prices and land quality. Stumpage prices used for this analysis are based on Timber Mart—South zones I, II, and III (**FIGURE 1**). Actual prices are presented in the footnote of **TABLE 3**.

After studying the potential rewards of planting marginal cropland to loblolly pine (**TABLE 2** vs. **TABLE 3**), many landowners may choose to grow trees. A potential problem exists, however. The demand for tree planting contractors exceeds the current supply of contractors in many counties. Recognizing this problem, the Russell County Forestry Planning Committee has developed a set of blue prints for a marginal



cropland tree planter (see attached figures and pictures). The planter can be pulled behind a tractor equipped with a three-point hitch. Estimated cost of the planter is \$300-\$500. When compared to commercial planters that usually sell for \$1500 to \$5000, the marginal cropland planter represents a substantial savings.

Committee members who worked on the project included Don Bice (Ala-

bama Cooperative Extension Service), Melvin Phelps (Alabama Forestry Commission), John Rudd (Russell county landowner), Perry Woodruff (ASCS), Jack Kennedy (Conservation Department), Monte Simpson (Georgia Kraft Company), and Betty Touchton (SCS). Extension service personnel who assisted with the project were Bill McKee, Chuck Ogburn, and Sally McCann.

TABLE 1. Soybean yields needed to cover all production costs by region, 1984.

Region	Yield (Bu/Acre)	Region	Yield (Bu/Acre)
Gulf Coast	22	Limestone Valley	21
Wire Grass	25	Piedmont	20
Lower Coastal Plain	22	Sand Mountain	19
Black Belt	23	Upper Coastal Plain	22

Source: Alabama Cooperative Extension Service Agricultural Economics Department

So You Want A PINE Forest

by LOU HYMAN, Chief, Productivity

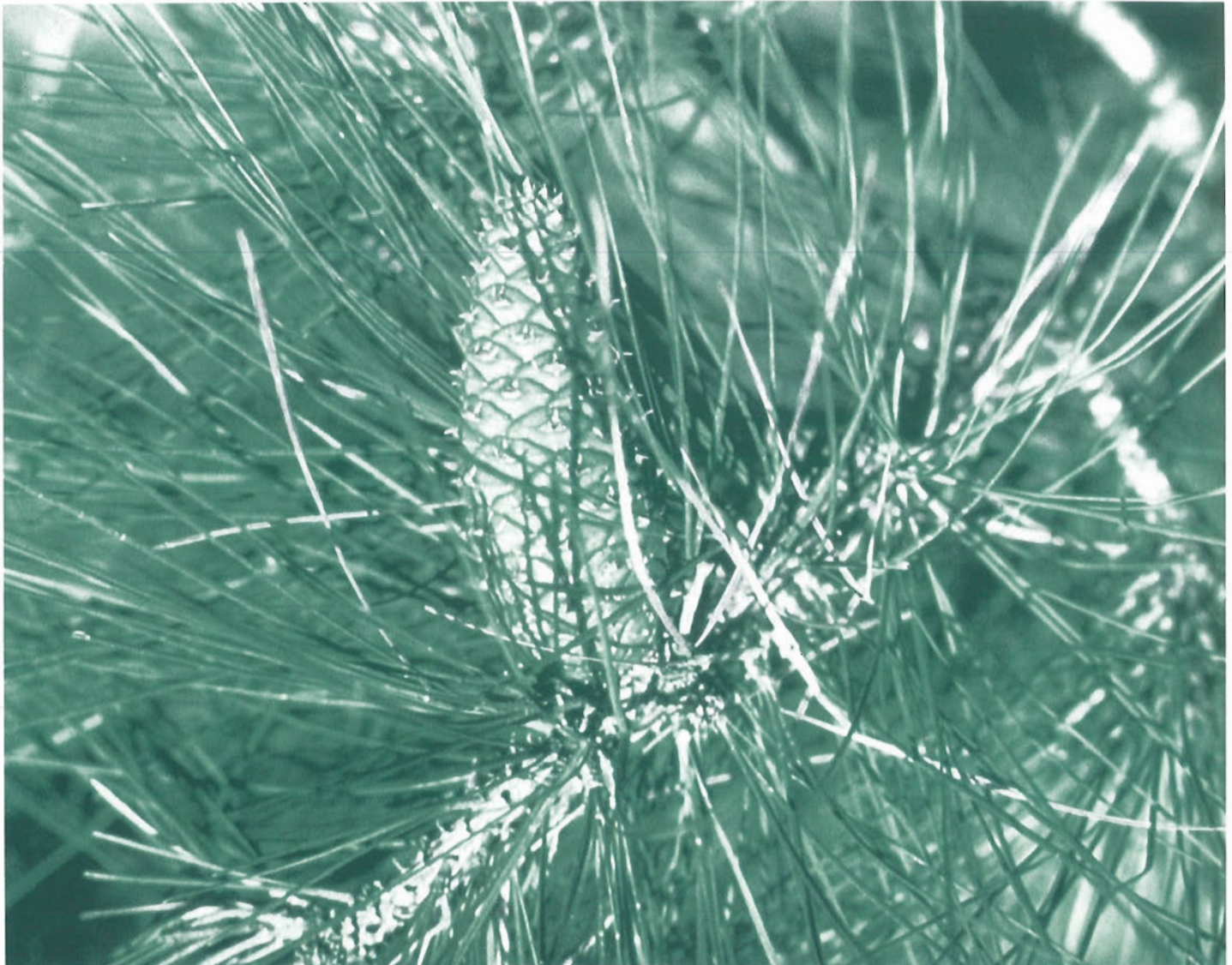
One of the major decisions facing a TREASURE Forest landowner is how to start a forest stand either on open land or on a cutover site. The purpose of this article is to discuss some general guidelines for establishing pine regeneration.

As a group, the southern yellow pines are usually grown as even-aged

stands. They may be regenerated artificially by planting or direct seeding, or naturally by selection, shelterwood, or seed tree cutting methods. They may be planted and grown for erosion control, strip mine reclamation, pulpwood, sawtimber, or veneer; and some species are suitable for Christmas tree production.

This group of trees, the southern yel-

low pines, includes seven species: *loblolly pine*, *longleaf pine*, *spruce pine*, *sand pine*, *shortleaf pine*, *slash pine*, and *Virginia pine*. Of these, loblolly, longleaf and slash are considered major species and account for more than 90 percent of the existing pine volume in the South. Although the others may be



of importance locally, they are of small impact regionwide. Slash pine and longleaf are the main species planted in the Coastal Plains and sandhills. In the Piedmont and other inland areas, loblolly, shortleaf and Virginia pines make up the vast majority of the plantings.

Although these species differ somewhat in their characteristics, techniques and requirements for plantation establishment are quite similar. The following guidelines, if followed with reasonable care, will help in assuring the successful establishment of pine plantations throughout Alabama.

Species Selection

Your choice of species will depend largely upon two factors: the site you choose and the product you plan to produce. In Alabama, the most commonly planted pine is loblolly. It can grow on most sites and will out-produce most other species over long periods. On good sites, loblolly plantations will contain sawlogs by age 30. In fact, some of the genetically improved seedlings now available will produce sawlogs in about twenty-years.

The other pine species have attributes which make them more suitable for certain sites. Deep sandy soils are prime longleaf pine sites. On these drought-prone areas, longleaf will outperform loblolly.

Conversely wetter sites are better suited for slash pine. Also, if your main product goal is pulpwood, slash is the best bet. Its growth is very rapid in early years, but peaks at age 20, when the trees are pulpwood size. Slash has several problems, though, which limits its best growth to south Alabama, below an imaginary line from Henry County to Washington County.

In the Piedmont and Mountain areas, shortleaf pine is a good candidate for drier upland sites. Shortleaf should not be planted though on heavy clay soils as it is susceptible to littleleaf disease on such sites.

Virginia pine, which is usually considered just for Christmas tree plantations, is the best choice for very dry, thin, rocky soils, such as ridgetops. However, Virginia pines are very limby and are only usable for pulpwood.

While the main thrust of this discussion is about growing southern pines, there are some sites that are better suited for growing hardwoods. North-facing coves and well-drained stream bottoms are prime sites for quality hardwoods such as black walnut, yellow poplar, white and red oaks. High quali-

ty sawlogs of these species will match or exceed pine values and should be considered as part of your management plan. All TREASURE Forest plans should contain provisions for maintaining streamside management zones along all waterways. These buffer areas are usually pine hardwood sites and will also improve wildlife habitat.

Site Preparation

On many cutover sites, some work must be done to clean up the logging residue and remove the "junk" trees that are left. These trees and any hardwood sprouts will compete with the young pines and might suppress and kill many seedlings. Site preparation intensities and costs can vary greatly based on the site, topography and amount of residual vegetation. A professional forester can advise you on the best method for your land. A partial listing of some common site preparation methods follows:

1. *Disking* may be successfully used where heavy sod is present.
2. *Chopping* is an effective method of reducing woody competition with little soil disturbance. The larger the chopper the better, and double chopping is more effective than single.
3. *Shearing* or *K-G blading* can be the best method for removing large numbers of stems too large for disking or chopping.
4. *Root raking* and *bulldozing* can be used for the removal of trees and shrubs, but results in excessive soil disturbance and creates a high potential for erosion.
5. *Bedding* is an intensive site preparation method for wet sites. A special harrow is used to pile the top soil into raised beds about 12-18 inches above initial ground level. This keeps the seedling above a high water table and helps the trees get established on the site.
6. *Chemicals* can be used for individual stem treatment or applied to extensive areas. Soil and litter are not disturbed, but unless the existing hardwoods are very small, chemical treatment needs to be combined with other treatments to be most effective.
7. *Prescribed burning* can be a valuable supplement to some forms of mechanical or chemical control of competing vegetation. Drum chopping followed by fire provides one of the most effective and least destructive methods of

site preparation. Fire, however, should be used with extreme caution.

One word of caution — when conducting any practice that disturbs the soil, always leave undisturbed strips, at least 50 feet wide, on both sides of any stream course to filter out sediment.

Spacing

The spacing at which seedlings are planted depends upon the objectives of the planting and determines the number of seedlings needed. Although no specific spacing can be recommended that will be applicable to all sites, for most situations in the south spacings of 7'x9', 7'x10', 8'x8', and 8'x10', utilizing 600 to 700 trees per acre, are generally recommended. Only where erosion control is the prime purpose of the planting should spacings 6x6 feet or less be used.

Planting

Planting, depending upon terrain, tract size, and finances, may be done either by hand or by mechanical methods and should be completed during the dormant season. Avoid planting when the ground is hard — either frozen or dry — or excessively wet and/or sticky. When conditions are right, adherence to a few simple rules should assure the successful establishment of your plantation.

1. *Avoid excessive root exposure, both during storage and while planting.*
2. *Set seedlings at the same depth or slightly deeper than they were grown in the nursery.*
3. *Be sure the roots are straight in the planting hole or furrow.*
4. *Pack soil firmly around the roots, eliminating air pockets and close the top of the slit or furrow tightly.*

By following these brief guides and consulting with a professional forester when questions outside the scope of these instructions arise, most landowners should be able to initiate successful plantations of southern pine with a minimum of difficulty. Take care with this work, though, the future is in your hands. ♣

References

Establishment and Management Suggestions for Yellow Pines, Tennessee Valley Authority, Division of Land and Forest Resources, WRAP Support Material.

Getting Your Property Boundaries Surveyed

by HAROLD D. BRADFORD, Alabama Registered Land Surveyor #12488

If you do not have an existing survey by a registered Alabama land surveyor, the results of which are marked on the ground, then you are a candidate for a property boundary survey. There are several reasons you may need this survey.

Buying Land

The title to rural land in Alabama is usually transferred either by reference to a survey or by reference to its proportionate part of a section (for a perfect section one square mile, or 640 acres). While the reference to a proportionate part of a section is a legitimate descrip-

tion for conveyance, it does not contribute toward getting property lines established on the ground. Since the size of a section and its proportionate parts can vary widely, you don't know how much land you are buying without a survey. For example, the eastern one-half of the southeast quarter of Section 13, Township 21 North, Range 8 East, St. Stephens Meridian contains 41 acres instead of the 80 acres it would contain if it were a perfect section.

While the acreage of most sections does not vary this radically in size from the perfect section, the occurrence of a perfect section is very rare. In many cases, a lender will require a property

boundary survey before lending money on land.

A survey, by establishing the property boundaries on the ground, will also identify any improvements, easements, or encroachments on the property.

Making Improvements on Your Land

How can you manage land if you don't know where it is? On the surface, this may appear to be a facetious statement, but a more critical consideration will make it more meaningful. Even though you may have fixed in your mind the extent and boundaries of your property, are these the legal boundaries? The job of the surveyor is to establish deed descriptions on the ground. If your understanding of the location of your property boundaries is based solely on the previous owner's word as to location, then you may, indeed, not know the location and extent of your property.

Where uncertainties exist as to the exact location of property boundaries, a common practice is to not intensively manage the land in question. This practice requires that the landowner forego the use of sometimes valuable land. The reverse alternative is, in case of doubt, manage the land as if it is your own. This, too, can be expensive in terms of lawsuits and ill-will with one's neighbors, if it is discovered that you are intensively managing land that is not rightfully yours.

The survey will also allow you to confidently fence or mark your property boundaries. If you intend to make improvements on your property, such as erecting buildings, you want to be absolutely sure that these developments are within your property boundaries and clear of any easement or building line restrictions.

Avoiding Loss By Adverse Possession

In Alabama, as in most other states, if a person openly, continuously, adversely, notoriously, and hostilely occupies and claims land as his own for a period of 20 years, he can then petition the courts for the right of ownership of the land. The existence of this law



Surveyor recording field information.

makes it important to know your true property boundaries and to manage your property all the way to the boundaries.

Avoiding Disputes

The knowledge, recognition, and acceptance of property boundary lines by adjoining landowners is worth the cost of the survey. On-the-ground establishment of a common property line by an accepted authority can produce an invaluable amount of peace of mind and goodwill between adjoining property owners. Most land line disputes occur where an adequate survey by a registered professional land surveyor has not been done.

Who Should Do Your Survey?

You should hire a professional licensed by the Alabama State Board of Registration for Professional Engineers and Land Surveyors to survey your land. An incorrect survey, performed by an unqualified individual, is not only worthless but costly far beyond the cost of the survey. For example, locating improvements on your neighbor's property, based on an incorrect survey, can be financially damaging to both you and the surveyor. A surveyor's claim of registration can be verified by contacting the Board in Montgomery; and a listing of all current registrants, as of that date, is published biennially.

In addition to insisting that your surveyor be registered, you should seek a surveyor who is knowledgeable and experienced in Government Land Office and Rural Land Surveys. The Alabama Society of Professional Land Surveyors, County Surveyors, or Title Attorneys can furnish the names of competent individuals in your area.

What to Require in a Survey

Once you decide to have your property surveyed, it is important to clearly and concisely specify what you are requiring of the surveyor.

1. You should require that the surveyor perform the research necessary to determine beyond any reasonable doubt the location of an accurate starting point for your survey.
2. Insist that your surveyor survey your land as described in your deed and not as you or he would prefer your property boundaries be located. When locating exist-

ing property boundaries their true location is determined by the deed description and field evidence and not by the opinion of the property owner financing the survey.

3. Your survey results should meet the Minimum Technical Standards of the Alabama Society of Professional Land Surveyors.
4. You should require that, upon completion of his work, the surveyor deliver to you both a legal description and an official certified plat of his work.
5. All your property boundary lines should be intervisibly marked and all corners marked and referenced.

What to Supply the Surveyor

You should provide your surveyor the following:

1. A copy of the deed of the land and a copy of any recent title examinations that have been done on the property.
2. A brief history of past ownerships of the land.
3. The name of all adjacent landowners and where they can be contacted.
4. Any pertinent information on existing corners and lines and their origins.

Once your survey is completed, you will have a valuable tool for future management practices. ♣

They're Our Volunteers!

by WESLEY CAIN

Alabamians should be proud of the volunteer fire departments and volunteer firefighters who serve this state. Last year more than 600 Rural Community Fire Protection (RCFP) units which cooperate with the Alabama Forestry Commission answered 3907 reported calls on grass and wildland fires. These fires encompassed 19,918 acres in our state. Without the dedicated service of over 28,000 volunteers, this loss would have been much, much greater.

The wildland fires which are suppressed by volunteers are only part of the services offered by these men and women who serve without pay and in all too many cases without a "thank you." Structural fires are certainly a priority to these volunteers. However, as the memorandum of understanding states, they send men and equipment to suppress wildfire when available.

During a severe fire season it is not uncommon for one department to have several crews on separate fires at any one time. Life threatening situations get the utmost attention and a great many volunteer fire departments now have licensed emergency medical technicians (EMT's) who respond to all types of emergencies where life may be threatened. These EMT's respond on fire calls in support of the fire personnel. Since firefighting is rated as the most hazard-

ous occupation in the U. S. today, the EMT's perform a vital function in the event of injury or fatigue of a firefighter.

The volunteers of Alabama are very aware of the importance of the forest industry input to the economy of the state. However, they do not help suppress wildfire because of any expected monetary benefit to them, but rather a deep seeded desire to assist their neighbors in time of trouble. The many man-hours spent in suppression activities by volunteers would cost the state untold millions through a compensated source.

The hours which must be spent in training, practice and business meetings cannot be added up. The out-of-pocket expenses which all volunteers incur for uniforms, training manuals, protective clothing, and other items would amount to a staggering sum. The times when they have to leave families at the table and swallow that last bite while heading for the door, or get out of a warm bed at 2:00 a.m. in 20 degree weather, or the Sunday afternoon nap that suddenly ends with a pager beep or a phone call, or those very long hot Saturday afternoons in August when the temperature is already up to 90 and someone lets a fire get out of hand and the working temperature on the fire ground tops at 120 degrees — all of this plus many more physical and mental hardships make up the life of a volunteer firefighter. ♣



Sarracenia Minor

- Making A Comeback - The Green Pitcher Plant

by PAUL P. MCCABE & DENNIS B. JORDAN

Scattered in extremely small colonies mostly in the mountainous areas of northeast Alabama one of this nation's rarest and most interesting plants can be found. Much is yet unknown and very little fully understood about this carnivorous (insect-eating) plant known as the Green Pitcher Plant, *Sarracenia oreophila*.

Besides the plant's unique habit of consuming insects, it is also part of other plant and animal systems. A number of insects are associated exclusively with it, not as prey, but in other biological relationships. Some insects use the plant for shelter while others are predators upon the plant. It has been emphasized that these organisms have co-evolved with pitcher plants and thus constitute a unique ecosystem. This assemblage of organisms, although they have fascinated naturalists for centuries, still remains somewhere unknown.

The future of this insect-eating plant was in question when the U.S. Fish and Wildlife Service (USFWS) took action which placed it on the federal list of endangered and threatened species in 1979. With this designation came opportunities offering new hope for the continued existence of this endangered plant and prospects of a brighter future ahead.

The Green Pitcher Plant previously occurred in Coastal Plain and Piedmont areas in Alabama and Georgia and also in central Tennessee. However, because of changes in land usage since World War II, very little remains of its former habitat. Past reduction in the range of the plant and degradations to its populations and habitats have been created by increased rural residential and agricultural development and other habitat altering actions. Associated land use changes have resulted in reductions in natural fires and controlled burning, allowing succession and competition to lead to the decline of some colonies and reduced vigor of others.

Presently, known populations are restricted to areas of the Cumberland Plateau and the Ridge and Valley Province in northeast Alabama stretching to

the Blue Ridge of Georgia. Records suggest that perhaps the plant was once fairly common in some areas of its range. It has been estimated that the species has shown population declines or has vanished from 72% of the known historical colonies. Presently, there are 26 known colonies, of which 25 are in Cherokee, DeKalb, Etowah, Jackson and Marshall counties in northeast Alabama. The other colony is located in the northeast Georgia county of Towns. All known colonies are extremely small with the largest being less than an acre in size and the majority being less than one-quarter acre. Thirteen of these colonies are located on corporate lands, eleven on private lands and two on State property.

The habitats of the known populations vary significantly, and include mixed hardwood/pine flatwoods, seepage bogs, and streambank sites. A common ingredient of all sites is their wetland nature.

Initially, after the plant was placed on the endangered species list, a recovery team comprised of individuals with knowledge, expertise, or a special interest in the plant was appointed by the USFWS. This team of seven members and a consultant was made up of representatives from federal and state agencies (Alabama Forestry Commission being represented), academia, and the private sector. Their task was to develop a recovery plan which would not only provide biological information on the known needs and requirements of the plant, but would also address suspected reasons and problems which resulted in its endangered status and identify actions which, if implemented, would improve the present condition and ultimately lead to its recovery. The Green Pitcher Plant Recovery Plan was approved by the Director, USFWS, on May 11, 1983.

The major thrust of the recovery plan is directed toward the protection and management of specific colonies which are presently known and are considered essential to recover the plant. Also included was the re-establishment

of certain colonies which had previously disappeared.

The principal means of accomplishing this is through the development of conservation agreements (CA's) between the USFWS and the landowners where the plants are located. The assistance and cooperation of the landowners are a must if the efforts are to be successful. To date, nine of the known colonies have been secured with CA's which ensure that the landowner, who is paid by the USFWS to execute the CA, will protect the colonies and allow the USFWS to carry out needed management actions in an effort to improve the present conditions.

The Alabama Forestry Commission will play a key role in efforts to recover this plant and has committed full support and assistance by entering into a formal cooperative agreement with the USFWS for the development and implementation of specific management plans for each colony site. Actual management actions have already been initiated with the prescribed burning of seven colony sites during the plant's dormant period last winter. Prescribed burning is a means used to help reduce and control competition from other plant species, one of the major threats to the Green Pitcher Plant. Also, competing vegetation was pruned back within three streambank colonies during the winter. Additional management needs will be identified and implemented over the next few years. Some of these actions which are called for in the recovery plan include baseline studies and monitoring of existing colonies; re-establishment actions, management and monitoring of previously destroyed sites; and transplantation experiments.

The coordination and cooperation exhibited to date concerning the Green Pitcher Plant involving both federal and state agencies and the corporate and private sectors have been outstanding. This interest and commitment from all concerned will have to continue if this remarkable species which deserves our concentrated efforts is to be preserved and protected. ♣

Hire A Forester

Forest landowners are often reminded to use the services of professional foresters in managing their natural resources. But does it really pay? According to a recent study by Dr. Fred Cubbage, University of Georgia, the answer is yes. Dr. Cubbage examined 40 harvested tracts in the Georgia Piedmont area over a three year period. Some of

the tracts had received professional forestry assistance from the State Forestry Commission while similar tracts had not.

Where forestry assistance was provided, the tracts had less pine timber removed, more residual softwood and more pine regeneration after natural stands were harvested.

Perhaps the most dramatic result was that landowners receiving professional forestry assistance received an average price of \$108 per thousand board feet of timber. Those landowners not receiving assistance received an average of \$66 per thousand board feet.

If you're thinking about harvesting some of your timber, then use a professional forester! Chances are you'll get better returns while at the same time leaving your forest in full productivity!

Information taken from a Natural Resources Bulletin published by Dr. Bill McKee, Alabama Cooperative Extension Service, July, 1984.

Chainsaw Safety, It's No Accident!

by GARY FAULKNER, Chief, Industrial Relations & Utilization

It's that time of year again when most people think of replenishing that stock pile of firewood at the house, and the sounds of revving chain saws at work fill the forests. Before you dust off and oil your chain saw, a few words of caution are in order. Why? Because what you will be operating is one of the most dangerous types of cutting machinery on the market today. Chain saw accidents *can* and *should* be avoided.

Why do chain saw accidents happen? In a study completed by the U.S. Consumer Product Safety Commission of chain saw injuries treated in emergency rooms across the nation, it was learned that the greatest number of accidents occur as a result of contact with the moving saw chain. About one-fourth of the injuries were associated with non-kickback situations including skating and bouncing, follow through after the cut, loss of balance, loss of control, and a variety of miscellaneous hazard patterns. In terms of injuries, the majority were lacerations and avulsions to the fingers, hands and legs. Four percent of emergency room treated injuries required hospitalization; the remainder were treated and released.

Selecting a Chain Saw

It is important to match the saw size to the type of job you expect to do most often. Select a saw no larger nor smaller than you need.

The guide bar is also important. If the guide bar is substantially longer

than the thickness of the wood to be cut, the tip of the guide bar could accidentally contact a nearby branch, the ground, or another nearby object and result in a serious kickback injury. On the other hand, if the guide bar is too short, it will be necessary to bury the tip of the guide bar in the cut. While most saws can cut a

tree or log almost twice as thick as the guide bar length, this practice is not recommended for non-professionals. Burying the tip of the guide bar in the wood could result in a serious kickback injury.

Pick up the saw the way you will operate it. Does the saw feel balanced

IMPORTANT SAFETY TIPS

Read Before Using Chain Saw

- Review owner's manual frequently.
- Avoid fatigue • it can lead to accidents • rest before you feel tired.
- Start all cuts at top speed (full throttle) and continue to cut at top speed (full throttle).
- Avoid kickback. Keep work area clear of other branches and objects.
- For safety, don't work alone. Use the buddy system.
- Stand on the uphill side of the log when cutting because the log may roll downhill.
- If you are required to cut a limb that is under tension, refer to the owner's manual for the proper technique. Bent limbs are under tension and may spring out as the cut is completed.
- Carry your chain saw safely • engine motor stopped • guide bar pointed behind you • use guide bar sheath • keep muffler away from the body.
- Be sure your body is clear of the natural path the saw will follow after the completion of the cut.
- Turn off saw and make sure the chain has stopped before making any adjustments or repairs.
- Keep the chain sharpened and under proper tension.
- If saw chain continues to move while the engine idles, adjust the speed. If it still moves, don't use the saw until it has been repaired.
- Do not store a gasoline powered saw near an open flame or near other possible ignition sources.
- Clean dirt, spilled fuel and sawdust from your saw.
- Never rest or attempt to start your saw on your leg or knee.
- Always hold a running saw with two hands.

and comfortable? Avoid saws that tip to either side or rock back with the guide bar tilting toward you. Some saw handles put your hands too close together for sure control.

Check for features such as these when you shop to find a saw that's easy and safe to use:

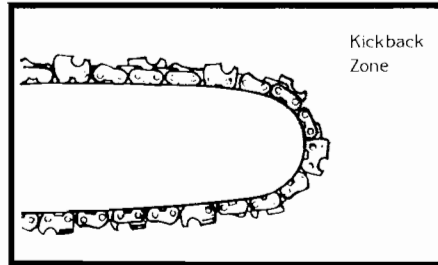
- Hand Guard
- Special Saw Chains and Guide Bars
- Safety Tip
- Chain Brake
- Vibration Reduction Systems
- Spark Arrester
- Trigger or Throttle Lockout
- Chain Catcher
- Electrical Safety
- Bumper Spikes

Important Safety Considerations

Be sure to thoroughly study your owner's manual. Ask your dealer or rental agent to show you how to operate your chain saw properly. Be sure you fully understand these instructions before you attempt to operate the chain saw. Review the owner's manual frequently, especially if you don't use your saw often, or if you are using the saw to do something you haven't done before.

Consider safety *before* you start. Clear the work area so the chain will not touch anything except the wood to be cut. Check for loose bolts and screws and tighten them. Also check chain condition and sharpness, damage to the guide bar, cleanliness and dryness of handle, and proper chain tension. Wear protective clothing such as a hard hat, safety visor or goggles, sure-grip gloves, hearing protectors, safety shoes, leg chaps, and trim-fitting clothes. Make sure to place the saw on clear ground to start it. Don't start a saw on your leg or knee. After starting, check that the chain does not rotate when the controls are in the idle position.

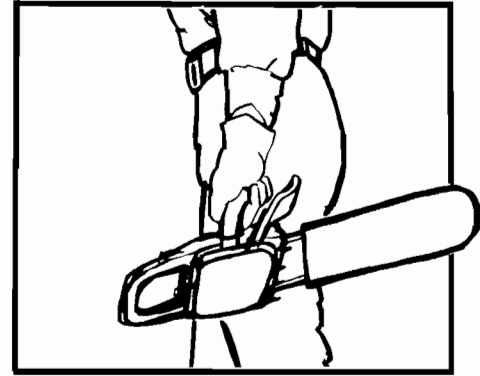
Chain saw kickback can result in death or severe injury. The reaction to the saw chain striking an object can throw the saw violently back toward the operator, sometimes with disastrous results. Kickback can occur when the saw chain around the tip of the guide bar touches any object, such as a nearby log or branch. Kickback can also occur when the wood being cut closes in and pinches the saw chain in the cut, or when the chain hits an unusually hard portion or other obstruction in the wood being cut.



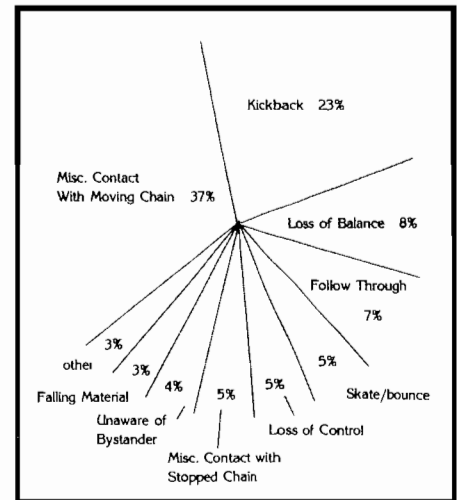
To avoid kickback, don't touch the tip of the bar to any object while the chain saw is running. Also, always hold the chain saw firmly with both hands and use a proper grip. Leave boring to the professional. Boring cuts require burying the nose or tip area of the guide bar in the wood being cut. This could cause kickback. Use wedges to avoid pinching the bar when cutting larger pieces. Maintain a well balanced stand. Also, be sure to avoid cutting limbs above your chest height.

Always be in control of your chain saw. Hold the chain saw firmly with two hands. Use a proper grip and stand. Don't lean forward or sideways to cut. Let the chain saw do the work. Don't try to force the saw through the cut. Be aware of the downward or outward path the saw will take after the wood is cut. Watch the spring-back of the limb being cut or a second branch held by the limb being cut. Take your hand off the trigger between cuts and avoid sawing from a ladder or from a stance in a tree.

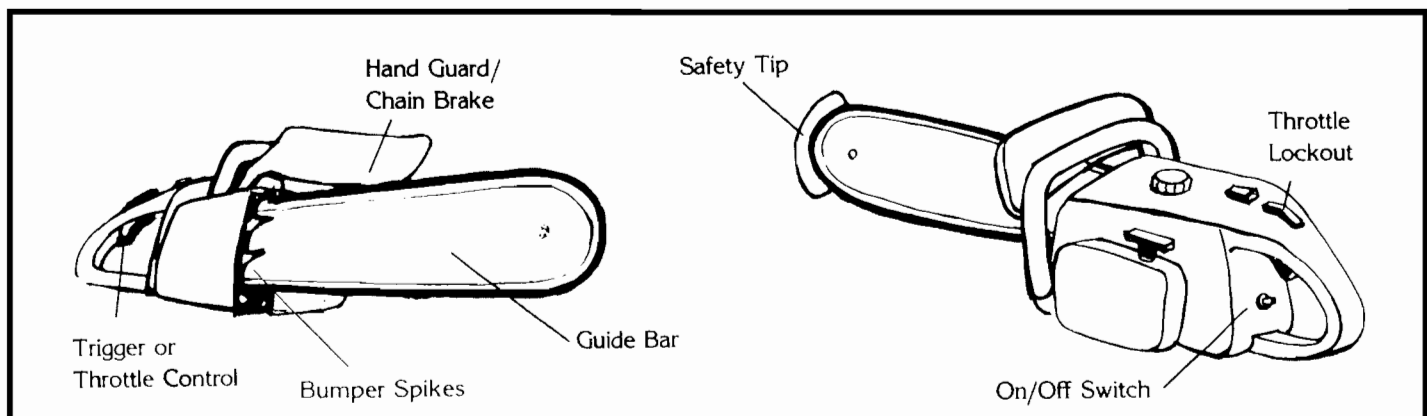
It is important to avoid fatigue — rest before you feel tired! Start all cuts at top speed (full throttle) and continue to cut at top speed. For safety don't work alone. Use the buddy system. Stand on the uphill side of the log when cutting as the log may roll down hill. Carry your chain saw safely — engine stopped, guide bar pointed behind you, guide bar sheath attached, and the muffler away from the body. Turn off the saw and make sure the chain has



Carrying the saw properly is a good safety habit. Note the protective sheath is in place and is carried away from the body.



Source: U.S. Consumer Product Safety Commission/HIEA NEISS Emergency Room Based Special study, November 1977 — January 1978, HIEA.



stopped before making any adjustments or repairs. Do not store a gasoline powered saw near an open flame or near other possible ignition sources.

Avoid electric shock with electric saws. Don't use them in wet or damp locations. Determine whether your saw is the grounded type or double insulated type. Use only a listed extension cord compatible with the saw, and make certain the cord is approved for outdoor use. Check the condition of the supply cord and extension cord before use and be sure it is clear of the cutting area at all times. Use a grounded outlet or properly installed adapter with a grounded type saw (3 prong type). Never use a saw or extension cord which has had the grounding prong removed.

Burns and fires can be avoided by turning off the saw before adding fuel and allowing the saw to cool before refueling. Be sure to clear the area of flammable debris before placing a hot saw down to cool. Try to avoid spilling fuel and wipe spilled fuel from the saw. Replace the fuel cap on the chain saw tightly and move away from the fueling area and the fuel container before starting the saw. Do not make contact with the hot muffler, spark arrester or other hot parts of the saw. Also, don't operate a saw without a good muffler or spark arrester.

There are a few jobs which are not for you and your chain saw. For instance, never allow someone else to hold the wood as you cut it. Small flexible branches should be cut with pruning shears, an axe or a hand saw. Don't try to cut them with a chain saw. Their flexibility may cause a chain saw to bounce toward you. Brush or shubbery should be cut with brush cutters, hedge trimmers or a hand saw, not your chain saw. Cutting closely spaced branches with a chain saw is risking kickback. Felling medium and large trees is a complicated job. Occasional users should leave it to the professional. Also save ladder work, climbing a tree with a saw, and boring cuts to the professional.

Chain saw safety is no accident! Proper maintenance and use of a chain saw will result in safety for the operator and to the chain saw itself. For further information concerning chain saw safety, please contact your local Alabama Forestry Commission office. ♣

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Often Neglected As An Energy Source . . . **WOOD**

by T. J. LYNCH, Alabama Forestry Commission

While enjoying the first few cool evenings of autumn and being thankful that another hot summer is over, you find yourself remembering last winter and how cold it was. The high cost of heating your home may cause you to ponder over an alternative heating system.

Much of the world depends to a large extent on wood for heating and cooking. Nine-tenths of the people in the developing nations depend on firewood as their chief fuel. Worldwide there is more timber harvested for firewood than any other use. This country is one of the few in the world that is not dependent on wood as a source of heat and cooking fuel. In the mid-nineteenth century wood met ninety percent of the fuel needs of the United States and as late as 1953 ten percent of the timber harvested in Alabama was for firewood. The use of wood for heating and cooking declined drastically until the oil shortage of 1973. Since then escalating fuel prices have forced more and more Americans to rediscover wood as a heating fuel.

Not only is wood a renewable resource in plentiful supply, it is also relatively cheap. Recent Bureau of Census data shows that over one million occupied housing units in the United States used wood as their principal heating fuel and almost one-third of them were located in the South Atlantic states. As heating costs continue to rise and wood becomes a more economical fuel, the use of woodburning stoves will continue to increase.

Why Use Wood?

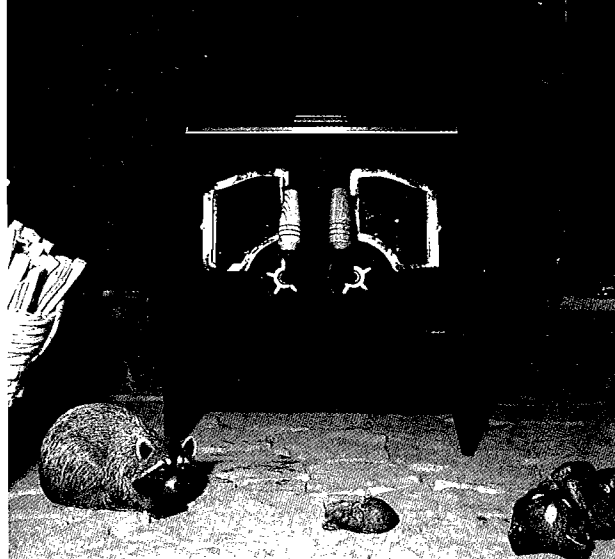
While wood is fitting the needs of

more Americans every year, is it really what you want? Before switching to wood heat, consider the lifestyle changes you will have to make. Are you willing to put in some hard but enjoyable effort gathering the wood? Is a high, medium, or low temperature setting sufficient for you rather than the precise temperature control of your present fuel-guzzling system? Do you really want the cheery warmth of a wood stove if it means intermittent stoking, cleaning the flue, and emptying the ashes?

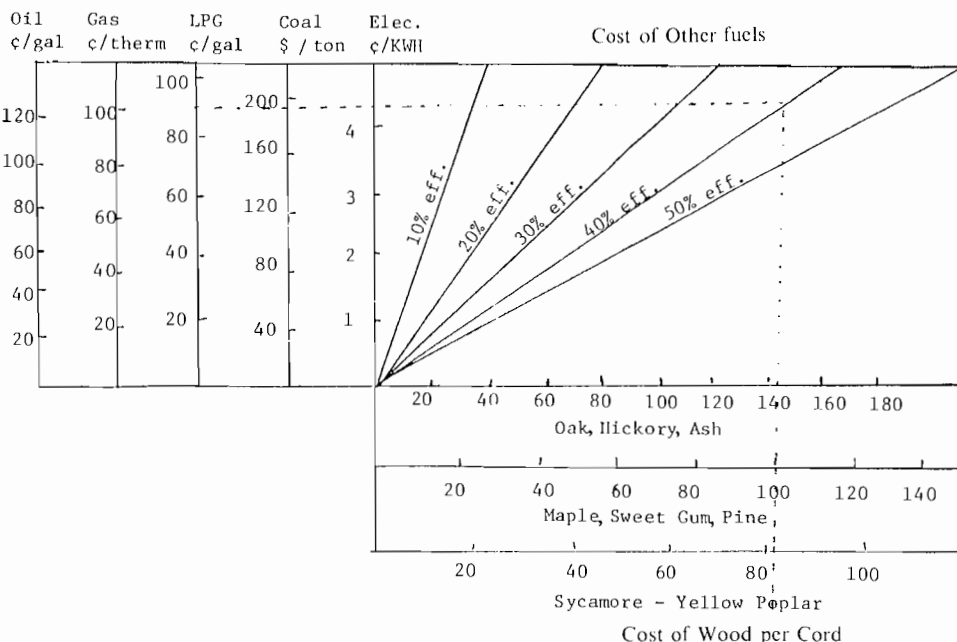
Wood heat can save you money, especially if you cut your own wood. It will provide a warm conversation center for your family and friends to gather around and is an excellent backup during midwinter power outages. But there is definitely labor involved with woodstoves and a fire-safe lifestyle is a must.

Wood is an economical alternative to your present expensive fuel, but has the following disadvantages also:

- *Cutting, hauling, and stacking your own supply is hard work and can be dangerous.*
- *Wood must be dried or seasoned for best performance.*
- *The fire must be periodically tended and ashes must be removed.*
- *Stove pipes and chimneys need periodic cleaning to remove soot and creosote.*
- *Wood is relatively bulky for the amount of heat produced compared to coal and oil, so a large storage area is needed.* ♣



COMPARISON OF WOOD HEATING COST TO OTHER FUELS



Obtaining Wood

Assuming that you are willing to put up with the disadvantages of wood, you must decide where you will obtain your wood and what you can afford to pay for it. There are usually two sources of firewood in your area. Often there are several local firewood dealers that will deliver it to your home, for a price. You can also cut it yourself if you have the free time and access to a supply of wood. After determining the best method of obtaining your firewood you should calculate the cost of the wood.

When the wood is delivered to your door you know how much it costs, but how about wood you cut yourself? Many people who have access to firewood of their own consider this free wood but there are still costs involved in getting it to your home. Let's look at the following chart.

The total cost per cord for this "free wood" is \$25.00 and the labor costs

could add another \$18 to \$20 per cord. If you have to pay stumpage for the wood, this would also add to the cost.

For example:

The dotted line on the graph represents LP Gas at 90 cents per gallon. In a controlled damper wood stove burning at 40% efficiency you could pay over \$140/cord for oak, hickory, or ash and "break even" with your present wood heating system.

This chart compares alternative fuel costs only with the cost of well seasoned wood. The costs do not include installation or maintenance.

Playing It Safe

Safety is not an exciting subject, but it deserves as much attention as if your life depended upon it, for it well may. Thousands of homeowners nationwide are installing wood stoves. Unfortunately, many of these stoves are improperly installed with wood stove fires becoming more and more common. Most types of woodburning equipment can be safely installed in a conventional house by a reasonable handy person if they follow directions. You may, of course, prefer to have your unit professionally installed. Before doing any work you should check your local building codes and discuss the installation with your insurance agent, since your fire insurance coverage or rates may change.

References

- "Burning Wood," NRAES, Riley-Robb, Cornell University, Ithica, NY 14853.
- "Safe and Warm Wood Heat," Ga. Institute of Technology, Atlanta, GA.
- "MONTANA Forest Products Marketing Bulletin," Division of Forestry, Missoula, Montana.
- "Heating With Wood," U.S. Department of Energy, Washington, D.C.

Comparing Methods

How does this compare with fossil fuel heating or electric heating? Before we can answer that question the efficiency of the wood burning system must be considered. Other things being equal, more efficient stoves use less wood to do the same heating job.

Average Heating Efficiency

- Conventional fireplace 10%
- Modified fireplace 20%
- Conventional woodstoves 30%
- Controlled damper woodstoves 40%
- "Airtight" stoves with controlled air inlets and primary and secondary combustion areas 50%

Knowing the cost of the wood and the burning efficiency of the stove we can use the accompanying graph developed by Henry Waelti of Washington State University to determine what we can pay for a cord of wood.

To use the graph:

1. Locate the price you presently pay for fuel or electricity on one of the left hand scales.
2. Draw a horizontal line from your price point to the efficiency line of your wood burning equipment.
3. Draw a vertical line downward from that point to the \$ cord scale.

$$\frac{\text{Annual saw Operation cost}}{\text{Cords cut per year}} = \text{Cost per cord}$$

$$\text{Miles per load} \times \text{loads per cord} \times \text{cost per load} = \text{Cost per cord}$$

$$\frac{\text{Labor per hour} \times \text{hours per cord}}{\text{Total cost per cord}} = \text{Cost per cord}$$

Assume: Annual saw costs at \$35. Mileage cost for average pickup 15 cents per mile. Labor costs at a figure that suits the situation — if a "recreation activity," there could be no charge. A standard pickup can handle approximately one-half cord without side boards.

If you cut five cords per year and drove sixty miles round trip for each load, your actual cost per cord would be:

Saw costs: \$35.00
5 Cords = \$7.00

Mileage: 60 miles × 2 loads × 15 cents = \$18.00

Labor — 0 ("recreational activity")

WILDFIRE!

Cooperation Makes A Difference

by ROBERT DISMUKES, Alabama Forestry Commission

July at Alabama's Gulf State Park is one of the busiest months at the popular beach resort. Thousands of heat-crazed tourists flock to the white sand and cool Gulf waters to escape the sweltering summer temperatures. With them comes the increased danger of wildfire as campers and picnickers crowd into the recreational areas of the park.

Such was the case in July, 1977, when Baldwin County fire crews responded to a wildfire inside the park's boundaries. After four days and three nights, heavy rain drenched the area and weary crews were released to go home. This one incident produced valuable working relationships and prompted discussions of ways to improve the effectiveness of team efforts in the future.

Seven years later, June 11, 1984, these talks paid off! The events are outlined below:

June 11

11:00 a.m. — A flare was shot into a wooded area just north of the Gulf State Park campgrounds. Forest Ranger II Ralph "Bud" Price was dispatched with a new 450 C front-end plow unit.

12:30 p.m. — The unit arrived at the scene after being delayed by heavy beach traffic on Highway 59. The fire was contained within five acres after three lines had been plowed around the fire.

2:00 p.m. — The unexpected happened! Onshore breezes began to increase and a spark was blown across the firebreak. As the unit went in to secure the breakout, the fire began spreading much faster. With the unit in front of the breakout, soil conditions were boggy and the unit was stuck. As the fire rapidly advanced, the unit was able to winch out. Again another path was selected by which to circle the fire. Once more, the unit got stuck.

Additional help had to be requested. Orange Beach Fire Department responded with two pumps and enough men to help keep the fire away from campers and campsites. Help was also requested from other Baldwin County plow units of the Alabama Forestry Commission. However, they had responded to another fire in the Spanish Fort area.

3:30 p.m. — The smoke column could be seen from Summerdale, some twenty-five miles north of the fire.

4:00 p.m. — Gulf State Park personnel were working with Orange Beach firemen to evacuate and protect campers and campsites. State Park personnel also provided food, water, and soft drinks to weary fire fighters.

The forestry crews had moved to high ground around one-fourth to one-third of a mile north of the fire and began plowing a break approximately two miles long. This break ran from the golf course at Gulf State Park on the west to the Old Romar Beach Road on the east.

7:00 p.m. — An additional plow unit had arrived and was put to work plowing the two-mile break.

10:00 p.m. — A decision was made to burn out the area. This required that backfires be set from the north campsites one mile east to the Old Romar Beach Road, then north three-fourths of a mile to the east-west plowed boundary, then two miles west back to the golf course.

Backfiring was a slow process. Additional fire would compound the problem as the fire was creating its own wind and sparks were blowing back into a populated campground. State park employees, along with firemen from Orange Beach and Gulf Shores, were putting out spot fires south of the main fire, and pumping units were cooling down the bath houses and other park equipment.

By this time several fire departments had called District 8 dispatch offering men and equipment.

June 12

2:00 a.m. — Backfires were set and the campground and the east side of the fire were secure. Attempts were being made to backfire the north line. By this time the humidity had risen to the point that backfires would not keep burning. Some crews were released to go home and get some sleep, while other crews were staggered for assignment the next day.

3:00 p.m. — Onshore winds increased in velocity. The fire crossed the north line and was headed for the Canal Highway. Again fire departments responded with men and equipment. Scott Paper Company called and offered a D-4 tractor and operator. A lady who worked for Lillian Fire Department sent food and drinks for the men.

4:20 p.m. — The head fire had burned through a three-year-old slash pine plantation. Had it not been for the efforts of volunteer firemen from Orange Beach and Gulf Shores, the fire would have jumped Highway 180 (Canal Road) into another wooded area.

5:30 p.m. — Alabama Forestry Commission pilot, Walter Dixon, observed a spot-over just south of the Intercoastal Canal about one mile northeast of the head fire. Again AFC personnel

and volunteers responded keeping the loss at one acre.

The fear now was spot-overs. If the fire could send hot sparks that far, fires might be started north of the canal. If this occurred, the west side of Wolf Bay was in jeopardy.

Montgomery had been monitoring traffic, and a message was received that the State Forester and Protection Division Director would be on the scene Wednesday morning.

Two crews were called in from District 7 with front-end plows, and two more District 8 crews were requested from Washington County and Choctaw County. These crews were brought in for three reasons: 1. To mop up approximately 8 miles of fireline; 2. To give Baldwin County crews a chance to wash and service equipment; 3. To handle further spot-overs which could start another major fire in the area.

7:00 p.m. — The head fire moved into another swampy area. Again, a tractor went down jamming the winch and it was unable to get out of the bog. Another tractor had to be moved from its area of operation to pull the tractor out.

Crews were getting tired, but spirits were high. Gulf State Park employees were bringing refreshments almost every hour. The State Park Director now had made housing arrangements for those who needed to stay that night and also for the anticipated out-of-county crews that would be coming in the next day.

8:30 p.m. — The humidity was getting higher and the onshore winds had once more diminished. A decision was made to do some backfiring. This time, the backfire would be set from where the fire had burned to Highway 180, west along the highway to the golf course. Hopes were to minimize timber damage in the area and keep the fire from developing another head Wednesday.

However, the fires created their own wind and the area was burned hotter than anticipated. There were no spot-overs.

10:30 p.m. — One of the county crews was released as the situation appeared better, at least for the night.

11:30 p.m. — Patrol areas were set up for the state park personnel. The remaining tractor crews were released with instructions to service equipment and return to the fire as soon as possible the next morning.

June 13

8:30 a.m. — State Forester C. W. Moody and Protection Division Director Richard Cumbie arrived at Jack Ed-

wards Airport. Both were briefed as to the fire situation and what had occurred the two days before. A decision was made to bring the sky-crane down with the 2,000 gallon water bucket. Montgomery mechanics would bring the shop truck and the mobile command post in from Montgomery.

Meanwhile, crews from outside the district were arriving and were being assigned sectors of the fire line to start a 100-yard mop-up. The crews were to push down burning snags, cover burning stumps from the fire line into the burned area, 100 yards. This would reduce the chances of spot-over.

Lynn Booth, District 8 fire specialist, had been put in charge of the mop-up.

12:00 p.m. — Mop-up had been completed and crews were patrolling their sectors. Again State Park crews were involved with mopping up, patrolling certain areas, and food and refreshments were being sent to fire crews.

3:45 p.m. — Again a flare-up occurred and a spot-over happened north of Highway 180. Crews responded and only a half acre was lost.

4:00 p.m. — The National Guard arrived with the helicopter and water bucket. The helicopter was refueled and the crew was briefed as to what the situation was and where they needed to start their water drops. It was decided that the helicopter would try to wet an area down north of County Road 2 and south of the park golf course. This area had been plowed, but due to the depth of the humus layer (peat) the tractors were unable to reach mineral soil and the fire was still smoldering. The water drop only slowed the fire.

The helicopter moved on to other hot spots and flew water drops until dark. Lake Shelby was used as the pick-up point for water, and from Wednesday afternoon until Thursday afternoon the helicopter dropped about 200,000 gallons of water on the fire.

Wednesday night park crews and AFC employees patrolled the fire lines all night long.

June 14

11:00 a.m. — A problem arose on the plowed area just south of the park golf course. The smoldering peat was starting surface fires again. The only way to put this out was to irrigate the area. There was a fire plug nearby, but there was not enough one-and-a-half hose on hand at the park.

Robertsdale fire base was called and asked to contact some Baldwin County fire departments with a request for ten to twelve sections of the hose. Within 30

minutes the call came back from Robertsdale that twelve sections of hose and a hose washer were awaiting pickup. The call for help was responded to by Robertsdale, Silverhill, and Loxley Fire Departments. The hose was picked up at noon and by 12:30 the irrigation was in process.

2:30 p.m. — The first of several thunderstorms came in, and by 4:00 p.m. about an inch and a quarter of rain had drenched the burned area.

The duff fire was still not out but the fire hazard for the area was reduced.

5:00 p.m. — A decision was made to release the out-of-county crews. The helicopter crew would remain until Friday morning until an aerial check could be made of the burned area.

June 15

7:00 a.m. — A flight was made over the burned area. Only one problem, a dead burning snag about 60 feet high, was detected. A tractor crew was sent to the area with a chain saw to fell the snag.

The command post and the mechanics were sent back to Montgomery and the helicopter crew was released to return to Birmingham.

It was decided that a Baldwin County tractor crew would stay at the park from 8:00 a.m. to 5:00 p.m. for the next few days.

June 17

8:00 a.m. — Borrowed equipment was cleaned and returned to fire departments.

June 18

5:00 p.m. — The last AFC crew completed their last patrol of the area.

From 11:00 a.m., June 11, 1984, until 5:00 p.m., June 18, 1984, Baldwin County fire crews alone had put in over 300 man-hours on this fire. The state park had lost \$15,000 in revenues, and the total cost of suppressing this fire was in excess of \$20,000.

The timber is a loss on the state park grounds. The root systems have been destroyed, and a salvage operation is being arranged. The money from the timber sale will be used to site prepare and reforest the area, and purchase fire suppression equipment for the Gulf State Park. Without the cooperation of everyone involved, losses could have been greater.

On August 23, an 18-year old juvenile from Louisiana was convicted of a misdemeanor for having fired the flare which started the fire. He has been sentenced to work at the State Park for 120 days planting trees and various other duties. He also received two years of unsupervised probation. ♣

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