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FAMILY PROVIDES IDEAL SITE FOR DEMONSTRATIONS



Everyone in town and around the county knows James Morgan. He was the Ford Dealer in Swainsboro for 50 years. He writes a weekly column in *The Blade* and he used his architectural talents to design the First Baptist Church down on West Main Street.

But townspeople were a bit puzzled when he loaned about 1,200 acres of the family farm and forestland last year to the Georgia Forestry Commission and several other agencies and organizations for some kind of a massive field day to be attended by landowners from across South Georgia. Many locals didn't bother to attend because they didn't know what it was all about.

Now they know; they will attend this year.

When the Commission was searching for a site for the field day, Ranger Donnie Price immediately suggested the Morgan Farm about 12 miles north of town. Other Commission personnel were called to look over the property and they deemed it an ideal site for the event. When Morgan was approached on lending the land for a day in May, he graciously consented.

Morgan admits he didn't exactly know what to expect, but he knew it would be beneficial to other landowners to spend a day viewing demonstrations and hearing professionals discuss profitable management techniques.

After the field day was held last year, Morgan said the main comment he heard around the county was: "I wish I had gone...I heard about it and I'll go this year." Preparations are well underway for the second Land Use and Forest Management Field Day to be held May 1 on the Morgan farm and planners also feel that "word of mouth" about last year's successful day will help increase attendance this time.

The scenic farm, known as the old Scarboro Place when Morgan bought the property in 1956, was largely planted in pine under the Soil Bank Program years ago. Ownership includes Morgan and his wife Jean, sons John and Harry, both of Atlanta, and a daughter, Gay, who lives with her husband near Seattle. John, a financial counselor, and Harry, an attorney, visit the farm often and their father said they have taken a keen interest in the field day activities. The family has given the Commission permission to hold the event on the farm for ten years. After this year, the day will be held every other year, alternating with a similar field day near Griffin, principally for North Georgia landowners.

Morgan, a native of Mississippi, graduated from Georgia Tech in 1934 with a degree in architecture. He was affiliated for a while with Georgia Power Company, managed his Ford dealership for a half century and owned half interest in the local newspaper for several years. He is active in local Rotary Club, the organization that sponsors the annual Emanuel County Pine Tree Festival.

The 47th annual festival will be in full swing while the field day is being held and Morgan said he feels the events complement each other and place a renewed emphasis on the importance of the forests here in the midst of the state's great pine belt.

ON THE COVER - Commission photographer Billy Godfrey captured this first hint of an early spring in Georgia when he came across this dogwood.

SECOND SOUTH GEORGIA FIELD DAY SCHEDULED MAY 1 NEAR SWAINSBORO

Plans have been completed for the second Land Use and Forest Management Field Day on a large Emanuel County farm and the sponsors are expecting attendance to exceed that of last year now that many additional landowners have heard of the benefits of the special event.

Sponsored by the Georgia Forestry Commission and several other agencies and organizations, the field day to be held May 1 at the James Morgan Farm 12 miles north of Swainsboro, will feature 17 demonstration stations where professional foresters and other natural resource specialists will explain how landowners can better profit from their land and become involved in a meaningful stewardship program.

Although established mainly for South Georgians, landowners from across the state are welcome to attend the one-day event, according to Forester Chip Bates of the Forestry Commission's Statesboro District, coordinator for the field day. A similar event is held near Griffin for the northern tier of counties.

Some of the demonstrations will concern forest management, estate and tax planning, urban forestry, longleaf pine, naval stores, prescribed burning, pine straw production, wildlife management, pine renovation, herbicides in the woods, soil conservation practices and natural regeneration.

Trams will transport visitors from the main parking area to the various demonstration sites; many valuable door prizes donated by industries and businesses will be given throughout the day.

Admission to the field day, which includes a luncheon, is \$8.00 if registration is made on or before April 24 and \$10.00 if made after that date. For registration or additional information, contact Forester Bates or District Forester Dan Gary at the Commission's Statesboro District office in Statesboro. Phone (912) 764-2311.



Scenes of Land Use and Forest Management Field Day held last year on scenic Morgan Farm near Swainsboro.



FOREST GUARDIAN MANS TOWER IN THE SKY

By Howard Bennett

Forest Ranger Ricky Hood can look out the window at his work place on a clear day and see North Carolina, South Carolina, Tennessee and the towers of distant Atlanta. He can look down on formations of wild geese winging south in the fall and often watch military bombers droning through the clouds far below.

He has known the thermometer to dip to 14 degrees below zero and howling winds to rip apart wind speed instruments. He has seen rain driven horizontally for a great distance and snow storms develop so suddenly under summer skies that astonished tourists are caught shivering in their shirt sleeves.

The Forestry Commission employee, who quips that he has "the highest position in the state," operates the forest tower atop Brasstown Bald Mountain, Georgia's highest peak at 4,784 feet above sea level. Although he has surveyed the vast landscape from his tower in the sky for 13 years, he said he never ceases to marvel at the beauty of nature's seasonal changes in the surrounding mountain slopes and valleys.

4/Georgia Forestry/Spring 1992

"You see that first hint of spring far down in the valleys," Hood explained, "and then other trees begin to leaf out on slightly higher elevations and spring gradually creeps all the way up to the

Above: A great expanse of mountain terrain as seen from the tower on a wintry day. Scene below details wooden shingles and stone base of rustic observation post.



mountain peaks." In the fall, the progression is reversed. "Leaves turn early on the peaks and you can see a daily change as autumn colors slowly move down and take over the valleys," said the tower operator.

The tower is built above the U. S. Forest Service's Visitor Information Center, a uniquely designed facility that provides an observation plaza and a museum with exhibits that trace the history of the entire Southern Appalachian region.

Hood, who operated an early warning radar station on a Korean mountain top during a hitch in the Army, worked in a shoe factory in his native Union County and labored for a time as a carpenter's helper before coming with the Commission in 1978 to man the Brass town Bald Tower under an agreement between the Commission and the U. S. Forest Service. He is in radio and telephone contact with other towers in the area, several county forestry units and U. S. Forest Service personnel when forest smoke or fire is sighted from his lofty vantage point.

Many of the fires in the remote and uninhabited areas of the mountains are caused by lightning and Hood has the

“You could say it’s like leaving Georgia and arriving in New Hampshire.”

advantage of seeing bolts as they flash down and start forest blazes; he can, of course, alert firefighting crews the instant a fire begins.

When Hood leaves Jack’s Gap at the base of Brasstown Bald and drives three miles up the steep, winding road to the tower, he said “You could say it’s like leaving Georgia and arriving in New Hampshire!” He explained that the weather at the high altitude is the same as that of New Hampshire and the seasonal changes on the mountain peak coincide with those of that state. “It’s similar in other ways, too,” he said. “There are several plant species on the mountain that are uncommon to Georgia, but are native to New Hampshire and other New England states, as well as some Great Lake states and Canada.”

Hood operates the tower from October through May and works with unit personnel during the remaining months when vegetation is green and wildfire is not a serious threat. When he returns to the tower in the fall, he said he is always prepared for some harsh winter weather.

SUB ZERO WEATHER

The tower operator said “the coldest, the very coldest day spent on that mountain was when the temperature hit 14 below zero and the heating system in the tower struggled all day to finally bring the temperature up to 39 degrees!” During his career as watchman over the forests, he said there has been “only two days when I didn’t look out and see visitors, and, believe it or not, even on that cold day I saw a visitor wandering around.”

He said it is not unusual for hikers on the Appalachian Trail to make a five-mile side journey to stand at Georgia’s loftiest peak.

The attractive Visitor Center beneath Hood’s tower was built in 1966 and has attracted sightseers from every state and at least 50 foreign countries. Popular attractions in the center’s

museum includes a talking model of a forest ranger relating his experiences on the Chatahoochee National Forest back in the 1920’s and 1930’s and a four seasons slide presentation.

Hood said the slides depict the extreme weather changes that occur and that is what is so unpredictable. “I have seen families picnicing in April at the tables provided by the center when snow seemed to suddenly come out of nowhere, catching girls in summer shorts and halters.”

Dan Kincaid, an assistant Forest Ser-

Forest Ranger Hood checks his alidade, an instrument that helps pinpoint the location of a forest fire. After quickly determining the site, he immediately alerts firefighters.

vice Ranger formerly assigned to the area, once wrote that the lowest temperature ever recorded on the mountain was 27 degrees below zero and snow has fallen every month except July and August. He said winds on the summit have been clocked in excess of 80 miles per hour.

LIKE ROCKING BOAT

Hood is well acquainted with the behavior of the vicious winds that buffet his tower. “Wind is something you have to get used to,” he said. “Sometime I spend the night in the tower and if a strong wind is up, trying to sleep in the bunk is like riding in a constantly rocking boat.” He said the wooden tower “sways and groans and you have to put a pillow over your head to block out the noise so you





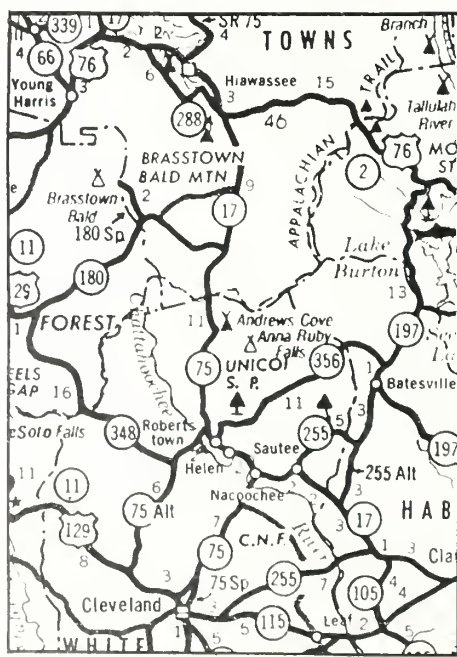
The ranger had a lot of time to think about a new home while standing guard over the mountain forests and by enlisting the help of family members and others in the past two years, he was able to complete this fine log home, mainly from materials cut from his own woodlands.

can sleep.” Friends often ask the tower operator if his work has turned out to be a lonely vigil, a solitary confinement far removed from the companionship of fellow employees. “It’s not that way at all,” he said. “There is always something going on. If it’s not a rash of wildfires or the weather putting on a show, it’s a steady stream of visitors milling around the museum and observation deck.”

KEEN OBSERVER

Some of his observations also concern the wide range of wild animals that have their habitat above the clouds. “I see deer, racoons, wild turkeys, wild dogs and sometime bears will be looking for food around the picnic tables.” He said so many bears come around in the fall to eat acorns that the Fish and Game Department has to remove them to protect visitors. Hood said buzzards, ravens and crows are seen in the rarified air and it’s not uncommon to see an eagle soar across the sky. When the tower operator is not checking smokes, watching tourists or enjoying the antics of the animals, he often turns to cross stitching and

admits he is good at it by proclaiming that “I’m probably the envy of half the women of Union and Towns Counties.” The ranger does admit, however, that he prefers summer to winter months. “In the spring and summer, especially when the weather is really beautiful,” he said, “I begin to imagine all those people down below planting in their gardens, doing yard work, taking care of things around the house or enjoying rec-



reational pursuits while I’m confined to this tower,” but he points out that his slight envy always begins to wane once the winter winds drive the population of North Georgia indoors for another harsh season.

WAITING FOR SUMMER

When the long winter ends and the fire season subsides, Hood comes down from the mountain for a few brief weeks of routine duty in the Union County Forestry Unit headquarters near Blairsville. That’s when he utilized his weekends, annual leave and other free time during the past couple of years to build a handsome family home on a secluded ridge in his native Appalachians.

The rustic styled dwelling has wide floor planks secured with old-fashioned cut nails, exposed log ceiling beams and a fireplace and chimney made of flat stones gathered from nearby creek beds. The ranger cut trees from his land for the logs, lumber and roof shingles that went into the construction of the spacious home with four bedrooms and three baths and he said much of the tremendous amount of planning and labor involved “was shared by my wife Hilda, son Damon, and daughters Dana and Danette, and anybody else who happened to stop by and wanted to pitch in.”

The dream home Ranger Ricky Hood envisioned during his many weeks and months and years of isolation at his post in the mountain tower is at last a reality.

Visitors reach Brasstown Bald by traveling State Route 75 north from Helen for ten miles or State Route 17 south from Hiwassee and turning onto State Route 180, with the final three miles on Spur 180. The first stop is a large parking lot with restroom accommodations, a visitor information center and gift shop. From that point, visitors are in for a steep climb for the remaining 200 feet to the summit. A shuttle bus runs daily from May 30 to early November and weekends from mid-April to May. The shuttle round trip is \$2.00 and there is a \$1.00 parking fee.

NAME THAT TREE

By Kim Coder

A tree can have several common names, but only one scientific name for worldwide identification

Trees, like people, have unique and interesting names. Every tree has at least two sets of names. One is the scientific name and one is the common name. Most trees are called by their common name. The large variety of common names and the beautiful scientific names can tell you a lot about a tree.

Everyone, from 7 to 70-years-old, uses common names for trees. Most trees have different common names in different parts of the country. Many common names describe colors, uses or growth habits of trees. Black, white, red, yellow, shingle, spindle, basket, swamp or water are all used to name

monly called ironwood or cottonwood. There are many different common names for any tree species.

But there is only one scientific name for any tree. Scientific names prevent people from confusing different trees. Whether you live in Georgia, Alaska, or France, only one tree species in the world is named *Quercus alba*. Using these scientific names helps all tree specialists communicate with each other.

Scientific names can tell a lot about a tree. Longleaf pine's scientific name is *Pinus palustris*. The scientific name means "pine of the marshes." Longleaf pine has many common names like longleaf yellow pine, southern yellow pine, longstraw pine, hill pine, pitch pine, hard pine and heart pine.

Shingle oak used to be cut into wooden shingles for buildings. The scientific name for shingle oak is *Quercus imbricaria*. *Quercus* means "fine tree." The word *imbricaria* means "overlapping" like shingles. Here the scientific name and the common name are similar and related.

Sometimes the common name and scientific name can be confused. *Quercus nigra* means "black oak" but is commonly called water oak. Black oak is usually considered to be *Quercus velutina* which means "velvety leaves."

Painted buckeye's scientific name is *Aesculus sylvatica*. The two parts of this name mean "fruit bearing tree" and "of the woods." Sugar and silver maple

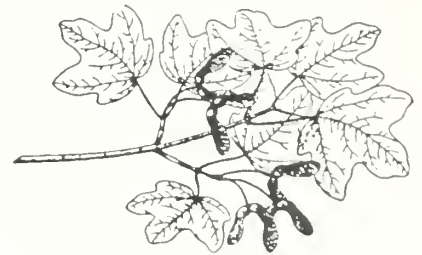
have similar scientific names: *Acer saccharum* and *Acer saccharinum*. The first means "sugar maple" and the second means "sugary maple," *Acer barbatum* means a bearded maple but is commonly called Florida maple. *Acer leucoderme* means the white-skinned maple.

Poison sumac has several common names including thunderwood, poison dogwood, poison elder and varnish tree. Its scientific name *Toxicodendron vernix* means "the poison varnish tree." Poison sumac was mistaken in early years for the Japanese tree from which we get wood varnish.

PITCH PINE
(*Pinus rigida* Mill.)



FLORIDA MAPLE (Southern Sugar Maple)
(*Acer barbatum* Michx.)



many different trees.

Just among pines, four different trees across the nation are called white pine. There are also three black pines and three yellow pines. Four different pines are called pitch pine and nut pine.

It's the same for oaks. There are four tree species called red oak, four called white oak, five called water oak, six called shin oak, and eight tree species commonly called scrub oak. What one person may call a water oak could mean any of five types of trees.

Your neighbor may call the same species of tree by a completely different name than you. Six trees have the name pignut hickory or yellow-wood. Four tree species are all called sandbar willow. Five trees are com-

BLACK OAK
(*Quercus velutina* Lamb.)



Common names that everyone can understand are those trees named after Georgia oak, Georgia buckeye, Georgia hackberry, Georgia holly and Georgia-bark tree. For other common names, their origin isn't as apparent. Common names of trees include cat spruce, lemonade tree, whiplash willow, torchwood, shewood punk tree, nakedwood, crucifixion thorn and flamboyant tree.

You should know the names, both scientific and common, of those trees in your yard or on your land. These names tell something about the tree and its life. Get to know your trees on a first name basis!

(Kim Coder is a forester with the University of Georgia Extension Service)

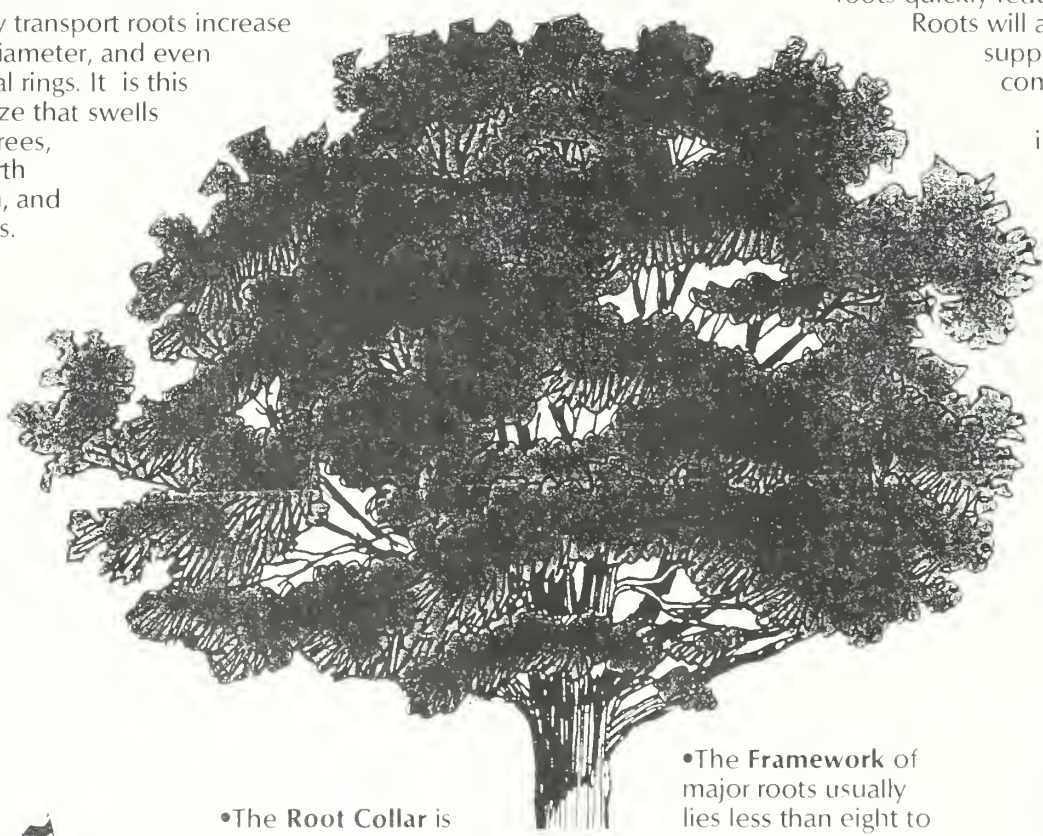
- HOW ROOTS REALLY GROW! -

Roots are active opportunistic extensions of the tree that provide support and supply water, oxygen, and nutrients needed to feed the tree and sustain its life. The anatomy of a tree consists of approximately 5 percent leaves, 15 percent branches, 60 percent trunk, 15 percent large transport roots, and 5 percent fine feeder roots. Roots can range in size from over a foot in diameter to less than .008 inch.

The woody transport roots increase regularly in diameter, and even display annual rings. It is this increase in size that swells the base of trees, raises the earth around them, and lifts sidewalks.

Roots can be damaged in a number of ways. Extremes of heat and cold, drying, and frost heaving in the upper layers of soil can kill many of the delicate, non-woody feeder roots. Foraging by nematodes and other soil creatures, as well as digging by humans, take their toll on roots. New roots form rapidly after injuries, but there is a limit to how much root mortality a tree can withstand. The severing of even a few major transport roots quickly reduces the total system.

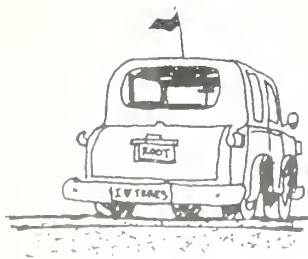
Roots will also die when oxygen supplies are cut off by soil compaction, flooding, or construction of large impervious pavement areas on the ground surface.



•The **Root Collar** is usually at or near the groundline and is identifiable as a marked swelling of the tree trunk.

•The **Framework** of major roots usually lies less than eight to twelve inches below the surface and often grows outward to a diameter one to two times the height of the tree.

•A complex network of smaller non-woody **Feeder Root** grow outward and upward from the framework roots. These smaller roots branch four or more times to form fans or mats of thousands of fine, short, non-woody roots. These slender roots, with their tiny root hairs, provide the major portion of the absorption surface of a tree's root system. They compete directly with the roots of grass and other groundcovers.



•Because **Roots Need Oxygen** in order to grow, they don't normally grow in the compacted, oxygen-poor soils under paved streets. **Note:** A few species have a Taproot that grows straight down three to seven feet or more until they encounter impenetrable soil or rock layers, or reach layers with insufficient supplies of oxygen.

•Between four and eleven **Major Woody Roots** originate from the root collar and grow horizontally through the soil. These major roots branch and taper over a distance of three to fifteen feet from the trunk to form an extensive framework of long, rope-like roots which are ¼ to one inch in diameter. These are important structural roots, supporting the tree against wind, etc.

(Courtesy of National Arbor Day Foundation).

ROOTS ARE ENGINEERING MARVELS

Few people ever appreciate how trees make a living and survive. Tree roots are especially hidden from our eyes and our understanding.

Tree roots are very active and must colonize large amounts of soil. Like the early pioneers, they move into an area working their way into the landscape. Tree roots continuously push out and then decline and are sealed off. How do tree roots colonize so much soil? How can roots push their way through the soil?

Tree roots are engineering marvels. Try to push your finger into the soil. Drive a stake into the soil. It takes a lot of energy to move the soil aside. How do roots grow so effectively?

To help the root move through the soil, tree root tips generate four essential items: pressure, lubrication, disposable root caps and spiral growth.

Roots push through the soil by dividing off new cells and then pumping them up with water. As each cell is expanded, the fibers in the cell walls are reoriented and shifted. These fibers are eventually cemented into place and expansion stops in the older cells. Then new cells split off and they take their turn expanding.

Roots can exert as much as 15 to 20 atmospheres of pressure. That is equivalent to water pressure 500 feet under the ocean. Hydraulic expansion of the cells pushes the root tip past soil particles. The root follows cracks in the soil or it moves soil out of the way.

It takes great control to keep a root growing relatively straight and horizontal when the fibers in the cell walls keep the root tip veering off to one side. The root tip has a

self-regulating guidance system, like a missile, that keeps the root on track once it is set.

The tree does not use all the pressure it is capable of producing. Roots use just enough hydraulic pressure to squeeze by. The more pressure they need to grow, the more food they require. Trees are always trying to conserve food.

To ease growth through the soil, tree root tips exude a slick, slimy substance called mucigel. This material helps lubricate root elongation and is a great food source for soil organisms. Beneficial or pathogenic fung infection can be initiated by fungi sensing mucigel.

Another aid to roots in moving through the soil is a disposable root cap. This cap protects the tender parts of the root tip. The root cap slowly erodes or wears away as the root moves through the soil.

What happens when the root hits something hard? The root first tries to grow around the blocking object. This isn't planned, it's just part of normal growth. Root tips do not grow in a straight line. The resulting root may be straight as an arrow but the root tip spirals - not twisting or spinning, but spiraling to turn past a blocking object.

A new tree root moves through the soil lubricated by mucigel, protected by a disposable root cap, spiraling, using just enough pressure to get by. Tree roots colonize large amounts of soil using these age-old techniques. In caring for trees, people need to understand how a tree makes a living.

(By Kim Coder, a forester with the University of Georgia Extension Service).



The recession slowed some sales during the Christmas season, but Georgia's Christmas tree growers aren't looking back; springtime is planning time for the next one ... and there's hope for a bright economic future.

CHRISTMAS IS ALWAYS COMING

Now that Georgia's hundreds of Christmas tree growers have had time to fully analyze their annual December sales in a recession year and begin planning for the next season, what is the economic outlook for this industry that has grown steadily in recent years?

Bob Williams of Kennesaw, president of the Georgia Christmas Tree Growers Association, said an attempt will be made to find an answer to the question when members gather in Valdosta March 28 for their annual meeting.

Williams, who owns a tree farm in Cherokee County, said volume and price held up well for him on tree sales despite the recession, but wreaths and other hand made decorations, which represent about half of his business, were off about five percent.

Williams said he realizes many growers experienced sluggish tree sales and believes practically everybody in the business is cutting expenses in an attempt to ride out the recession.



Bill Parker of Parker Brothers Farm near Baxley reported a 20 percent dip in sales over the previous season. Parker and his brother Lewis are major pecan growers and shippers and they said an excellent nut crop during the recent season offset the loss in Christmas tree sales. Although trees shipped in from the Northern states continue to cut local sales, Bill Parker said Georgia growers who produce and sell an inferior tree are seriously damaging the industry's reputation.

"When trees are sheared too late and needles shed in peoples' homes, it makes everybody in the industry look bad," Parker said.

The Parker brothers, sons of the late State Senator Bill Parker, Sr. of Appling County, are relatively new in the business but have already established a farm of approximately 10,000 trees. They attribute much of their success to the association and its informative seminars.



Meanwhile, Don Watson of the Sandy Creek Christmas Tree Farm near Macon, now one of the state's largest, said the past season "showed that the Georgia market is shifting away from the out-of-state and Canadian cold storage trees to those that are grown locally". He said, "We are seeing more and more buyers having the family experience of coming out to the farm to choose and cut a tree that is much fresher and better priced than those harvested several weeks before Christmas and shipped into the state."

Watson and his brother Doyle, his business partner, reported that their wholesale tree sales were down and retail sales lots showed a definite decline over the previous season, but they experienced a good increase in their choose-and-cut operation.

A survey conducted by researchers at the University of Georgia revealed that Georgians bought more than 250,000 real Christmas trees in 1990 and 1991. The study, conducted over the past two years, asked buyers at choose-and-cut tree farms in the

metro Atlanta what factors they consider when choosing a tree.

It was found that the typical consumer buys a natural tree because it is traditional and makes Christmas special. The study showed that the pine scent of a real tree was very influential and price is important, as real trees are less expensive than artificial trees, at least in the short run.

The researchers, Orville Lindstrom and Wojciech Florkowski found that age and gender deter some potential buyers, however, from choosing a real Christmas tree. Older buyers and females are more likely to feel that natural trees are more difficult to handle and transport than artificial trees.

The UGA researchers also found that persons with less than a post-graduate education, especially those who strongly agree that the natural trees are more traditional, prefer the real tree to the artificial one. Buyers, however, who have the belief that natural trees should be allowed to grow to protect the environment are more likely to buy an artificial tree.



Tree grower Watson said the belief that the harvesting of commercially grown Christmas trees somehow harms the environment is "just another little hindrance in our industry." He said one visit to his farm would convince anyone that the trees are grown as a renewable crop, and there are always trees in various stages of growth regardless of the annual harvest.

Cooper's Christmas Trees, a 2,000 -
(continued on page 17)

Annie Scarbrough was a flight attendant for Eastern Air Lines for almost 20 years, flying into most major American cities and several world capitals. Today she is content to grow and sell Christmas trees on a small farm down in Grady County.

Scarbrough said she had no trouble in adjusting from flying the skies of the world to the down-to-earth business of growing Christmas trees, although the less glamorous occupation requires hard work around the year.

Last Christmas was her third season of selling Virginia pine and red cedar on the farm north of Whigham and she said "it was my best year, I sold 660 trees." Although Scarbrough described her location as "remote," she said families flocked out to Annie's Christmas Trees to choose-and-cut their trees and pay the regular price. The grower said she is not yet in the wholesale end of the business, a sales area in which many farms experienced a decline last season.

FRIEND'S SUGGESTION

Scarbrough and her husband Marvin, who is retired from the military and now a rural mail carrier, moved to the farm in 1974, but they were on the place for ten years before she came up with the Christmas tree idea. "Actually," she said, "a friend first suggested it when she came to visit me from Atlanta and told how expensive the trees were in the city." That's when she said she decided a field across the street from her home that was "just growing up in weeds" should be growing Christmas trees.

Her first planting was 500 trees. They all died. She joined the Georgia Christmas Tree Growers Association, attended its seminars and meetings, and said she was better prepared the second year when she again planted 500 trees that survived. She now plants about 1,000 trees each year and said "people tell me I have the prettiest trees they have ever seen."

Scarbrough does practically all the work involved in the venture and it is not unusual for neighbors driving by to see her in the field with a motorized trimmer strapped to her shoulder as she works along the rows of trees.

PREFERS HER WORK

The tree grower said she got "a little help" from her daughter Susie, who was recently married, but "Susie would rather help sell the trees than help trim the trees." She said she once rode with her husband on his 127-mile mail route, but even with all the necessary trimming, spraying, fertilizing and other endless tasks associated with tree growing, she prefers her work to his.

Scarbrough said she is grateful to Chief Forest Ranger Elaine Insley of the Forestry Commission's Grady County Unit for all the assistance given her in controlling insects, improving survivability and in other areas. "I can always depend on Elaine and

FORMER AIRLINE HOSTESS CONVERTS FIELD "GROWING UP IN WEEDS" INTO PICTURESQUE CHRISTMAS TREE FARM

her personnel," she said, "They help me in many ways."

Scarbrough admits that she has known periods of discouragement in her labor-intensive enterprise, but always manages to snap out of those moods and get back out in the field of trees. She considers her ten acres of trees a hobby and said "there's not much money in this business," but after only three years of marketing her trees, she said she has paid off all the bills on her tractor, trimmer, sprayer, shaker and bagger.

Not bad for a former airline hostess who started only with a field of weeds.



MISS GEORGIA FORESTRY



sion facilities and several industries this spring to better understand forestry's important role in the state and then represent forestry interests in fairs, festivals, conventions, parades and other events during her reign.

First runner-up in the 52nd annual pageant was Kristie Lynn Harmon, 17, of Conyers, representing Newton and Rockdale Counties. She is the daughter of Mr. and Mrs. Thomas Harmon.

Second runner-up honors went to Julie Lynn Slaton, 18, of Dawsonville daughter of Mr. and Mrs. Roger Slaton. She represented Dawson County. Alana Eunice, 18, of Statesboro daughter of Mr. and Mrs. Charles Eunice, was third runner-up and represented Bulloch County.

The new Miss Georgia Forestry daughter of Mr. and Mrs. Donald Parker, is a junior at Augusta College and her ambition is to be a broadcast journalist. She will begin serving as an intern this summer at TV Channel 12 in her hometown and has had previous television experience as a member of a fashion board.

The student listens to classical music and reads Shakespeare, but said she also likes pop music and jazz and some modern novels. "I also enjoy cooking, but it's hard to find the time," said Melinda, who is a full time college student with a parttime job selling cos-

Melinda Denise Parker, representing Richmond County, and her mother left their Augusta home to attend the annual Miss Georgia Forestry Pageant in Macon "with the idea of just having a good time and not even thinking about winning anything," according to the contestant.

She did win, however, and the 21-year-old Augusta College student now wears the Miss Georgia Forestry crown.

Her first official function was to ride the Forestry Commission's float down

Macon's downtown streets the next day in the city's annual Cherry Blossom Festival Parade. She will tour Commis-



Pageant winner shows one of her many crowded scrapbooks to Chief Ranger W. J. Townsend of the Commission's Richmond County Forestry Unit

metics at a local department store.

Keeping scrapbooks is one of her hobbies and she has a cedar chest filled with several large books containing photographs, newspaper clippings, programs and other material collected over the years. She is a staff writer for the Bellinger, the college newspaper, and a member of the school's Spanish Club.

Melinda is a volunteer at a local convalescent center where her 100-year-old grandmother and other elderly persons reside and she enjoys working with children. She is currently learning sign language.

The new Miss Georgia Forestry, who was crowned by Kecia Strickland of Waycross, the retiring queen, is a golf enthusiast and attends the annual Masters Tournament that has made Augusta world famous.

The pageant, held this year in Macon for the first time, originated 52 years ago in Ware County and the winner in that initial contest, Mrs. Robert Hicks of Cordele (Miss Judy Wester of Abbeville when crowned in 1940) was a special guest.



Melinda leaves home for another day of college classes. She combines school work with parttime sales work.



Jim Gillis of Soperton, president of the American Turpentine Farmers Association, congratulates the new Miss Gum Spirits, Sophie Hiers of Valdosta, left. At right is Joni Dwozen of Milan, the retiring queen.

VALDOSTA COLLEGE STUDENT NAMED MISS GUM SPIRITS OF TURPENTINE

Sophie Hiers, 21-year-old daughter of Gerald and Martha Hiers of Valdosta, won the title of Miss Gum Spirits of Turpentine at the annual Miss Georgia Forestry Pageant held in Macon. She was selected from contestants representing Georgia's naval stores producing counties.

As Miss Gum Spirits of Turpentine, she will represent the state's turpentine industry for one year. Promotional activities will include having her photograph featured on the American Turpentine Farmers calendar.

"I am very excited about winning the title and being representative," Sophie said. "Since my family owns a thousand acres of pine timber, I am especially interested in learning all I can about the turpentine industry."

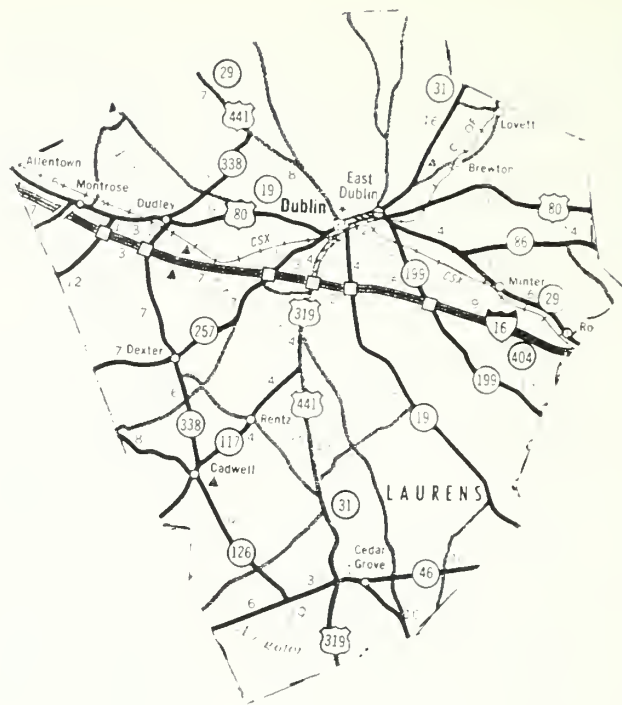
A senior at Valdosta State College with a premedical major, she plans to transfer to medical school and specialize in cardiology. She said her interest in becoming a medical doctor goes back to childhood.

A graduate of Lowndes County High School, Sophie has participated in numerous school activities. Her college honors include second runner-up in the Miss Valdosta State contest and winner of the interview segment of that competition. She is a member of the Blazin' Brigade Danceline, Batgirl for Blazers, and Kappa Delta.

Sophie's special interests and hobbies include dancing, swimming, singing, writing poetry, participating in pageants, and spending time with her family and dogs.

She was crowned by Joni Dwozen of Milan, the outgoing Miss Gum Spirits.

LAURENS COUNTY FORESTRY UNIT



ANOTHER IN A SERIES OF STORIES ON OUTSTANDING COUNTY FORESTRY UNITS

Chief Forest Ranger Senior Joe Dixon of the Laurens County Forestry Unit has the responsibility of guarding 385,000 acres of forests against fire, insects and disease, but he said he has "a lot of very good help" in carrying out his duties.

The help he refers to includes four rangers and a tower operator, as well as the volunteers who operate the 13 Rural Fire Defense units and the many citizens across the county who are cautious with fire and alert Dixon's firefighters whenever wildfire is spotted.

Dixon is a native of Wheeler County, but his family moved during his youth to Montgomery County, where he graduated from high school. He came with the Forestry Commission as a patrolman in the Wheeler County Unit in 1973 and was later transferred to Laurens County. He was named ranger of that county in 1985 - a position that was recently reclassified as chief ranger senior.

BETWEEN FIRES

Although four crawler tractor-transport units are ready to roll out of the shed at the unit headquarters in Dublin whenever fire strikes in the county, the chief ranger said "fires are

our main reason for existing as a forestry unit, but we have plenty to do between fires. We work with landowners who buy and plant seedlings in the fall and winter, gather cones and seed for our nurseries, present forestry-related educational programs in the public schools of our county, promote Arbor Day and Earth Day activities and engage in many other projects."

The St. Patrick's Day celebration in Dublin has grown into a major annual event in Georgia and Dixon said his unit's float in the parade every year gives us a "good opportunity to spotlight the value of forestry before thousands of viewers." He also said the unit's promotion of programs and tree planting ceremonies at schools on Arbor Day instills "a greater appreciation of trees in children who will grow up to know the true value of our forests."

The chief ranger is a member of the Laurens County Young Farmers Association, Dublin Clean Committee and

the Soil Stewardship Committee. He works closely with Future Farmers of America projects in the Laurens County schools. The schools have an active FFA forestry program.

The Laurens Unit and units in Dodge and Bleckley Counties sponsor the Tri-County Forestry Field Day each year, with each unit playing host on a rotating basis. The Laurens Unit also participates in the annual Recycling Fair in Dublin and the Georgia Farm Bureau Farm Day.

Chief Ranger Dixon and his wife Donna have two young children, Ted and Katie. The family lives in rural Laurens County and they are members of Alamo United Methodist Church.

RANGER LORI MERTZ

Ranger Lori Mertz grew up in an Air Force family and lived in several places before moving to Georgia, where she attended Fort Valley State College and earned a degree in animal health.

Mertz, who was born in Kansas and lived in Illinois and other states before her father was transferred to Robins Air Force Base, worked for more than two years with a Dublin veterinarian before deciding that she wanted to work outdoors. She came with the Commission in 1985 and quickly learned to operate

the crawler tractor used in plowing firebreaks to subdue wildfires.

She has flown out west to help fight the big fires on three occasions and is believed to have been the first Georgia female firefighter to participate in those emergencies. "The men treated me just the same as they did others on the fire line," she said, "and that's the way I wanted it." She served as crew chief during her third tour out west.

Ranger Mertz lives just outside Dublin city limit and enjoys gardening and cross stitching; although she has switched careers, she still has a love for animals. Three dogs and a cat have found a good home with her.

RANGER MONTE GARRETT

Ranger Monte Garrett worked for 17 years in a textile mill, with a lot of that time on the "graveyard shift." He said he grew pretty tired of going to work at midnight and when he finally decided to leave that employment he learned that there was an opening at the Laurens County Forestry Unit.

Garrett knew something about farm tractors and other machinery, but he had never operated a crawler tractor. The unit's newcomer (he came with the Commission in 1990) soon learned, however, to handle heavy equipment and is now an experienced firefighter.

The ranger is a native of Washington County, but his family moved to Laurens County during his early years. He is a graduate of East Laurens High School.

Garrett said he enjoys "working out in the open" and is glad he left his former job, which was very confining. He said he soon learned that work with the unit was "much more than fighting forest fires." He referred to seedling sales, special educational events, school programs and other projects that involve the unit.

The ranger and his wife Beverly have four young children. They are members of Central Drive Baptist Church.

RANGER FRANKLIN STINSON

Ranger Franklin Stinson wasn't a welder, carpenter, painter, plumber and electrician when he came with the Laurens unit eleven years ago, but he is now!

The ranger said he soon learned that he had to work in all those building



From top to bottom: Chief Forest Ranger Senior Joe Dixon, Ranger Lori Mertz and Ranger Monte Garrett are engaged in routine tasks that are necessary to keep the Laurens Unit operating efficiently.



Forest Ranger Franklin Stinson

“We have some good, hard working people in our district and it has been a very tough decision in deciding which county unit best deserves the Outstanding Unit honor, but I feel the crew in Laurens County has earned this recognition. They are dedicated men and women who keep equipment and other property in top shape, work well with forest landowners and others throughout the county and are top performers in all the tasks they are called upon to do.”

Grady Williams, McRae District Forester



Forest Ranger Clayton Willis

trades to be a part of the unit's crew and he is grateful for the experience. When Stinson and his co-workers are not out on the fire line or plowing pre-suppression breaks, there is usually construction or maintenance work going on around the unit headquarters.

The ranger said he grew up on a farm and has been around machinery all his life and had no trouble adjusting to Commission equipment. He operated a heavy forklift for four years at the J. P. Stevens Company in Dublin before coming with the Laurens Unit.

Stinson, a native of Laurens County and a graduate of the local high school, fought fires in Oregon, Idaho, Montana and Colorado during his three trips out West, and said it was an excellent learning experience but he is glad “we fight fires here in Georgia with plows instead of working with hand tools as they have to do on those steep mountain ranges.”

Ranger Stinson and his wife Teresa have two children. They live on a small farm 12 miles from Dublin.

RANGER CLAYTON WILLIS

Ranger Clayton Willis grew up on a Laurens County farm and his experience in maintaining and operating agricultural machinery was an asset when he came with the county unit in the winter of 1990. He readily adjusted to operating the heavy equipment used in forest fire fighting.

After graduating from West Laurens County High School, Willis worked for eight years with a Dublin electronics company, but when a position came open in the unit he decided a job in the outdoors and an opportunity to work with forest landowners throughout the area would be more desirable.

Ranger Willis said he considers the programs the unit presents in the school system a very important function, as the youth of today will be tomorrow's landowners. Early training in the true value of Laurens County's forests will greatly influence the next generation, he said.

Willis said he enjoys working with landowners and appreciates their cooperation in helping the unit maintain a good fire detection and suppression record.

The ranger and his wife Karen have two young children, Jon David and Rachael. The family attends Rock Springs Baptist Church.



TOWER OPERATOR VEAL

Melba Veal, a grandmother who keeps a sharp eye on the forests of Laurens County from a 100-foot fire tower, said she doesn't mind climbing the 132 steps to her observation post. "I have always been kind of a tomboy," she said, "and climbing seems to fit my lifestyle."

Veal, a native of Wilkinson County, said she thoroughly enjoys her work as tower operator and has been frightened only one time since coming with the Commission full time in 1980. "It was on a day when we were having high winds that were kicking up a dust storm," she said. "Visibility was so poor I couldn't see a quarter of a mile and the tower was rocking and clattering like it was having a chill."

Most of her days in the tower that blooms above the unit headquarters are pleasant, she said, "and the view is spectacular when the weather is fair." On a very clear day, Veal said she can see across northern Laurens County.

Veal has two married daughters and her hobbies include yard work and entertaining her five grandchildren. She is a member of the Ladies Auxillary, AFW, and Pinehill United Methodist Church.



CHRISTMAS IS ALWAYS COMING

(continued from page 10)

acre farm tended by John S. Cooper and his wife, experienced about a 20 percent decline in sales during the past season, but they sold wreaths for the first time and turned some profit from those items. Mrs. Cooper said their operation is on a choose-and-cut basis at their Flowery Branch farm in Hall County and they have not ventured into the wholesale end of the business.

Ben Purcell of Purcell Tree Farm two miles north of Clarkesville in Habersham County said his tree sales "were off 20 percent or better during the past Christmas season." The grower went into the business in 1976 just as another tree farm was being phased out, leaving him as the only Christmas tree producer in the county for a while, but now there are four others.

Purcell said he doesn't feel there is too much competition at the present time. He said some chain stores in the area have been selling trees that are shipped in during the past two seasons and "that cuts into our sales, but that's a part of the free enterprise system."

Purcell is currently growing about 15,000 trees and said he offers many

11 and 12 foot trees, sizes not commonly found at most farms but in demand by homeowners who have vaulted ceilings and others.

The grower said he doesn't do any advertising, but depends on many loyal customers who return year after year. "One man bought a tree from me 13 years in a row," Purcell said. "I told him the next year his tree would be free and he came back the next year with four new customers for me. That's how I do business."

Bud Huggins of Route 1, Calhoun, one of the three growers in Floyd County, said he cut his price to \$2.50 per foot during the Christmas season in order to move his trees during the hard economic times and wound up giving away about 25 trees to families that couldn't afford to buy. He said he tried to sell some of his Virginia pine to wholesalers but couldn't find a taker.

Huggins, who has about 7,000 trees in the ground and will have at least 1,000 ready for sale next Christmas, said his main competition continues to be stores in the area that buy out-of-state trees by the truckloads.

All growers who were interviewed by GEORGIA FORESTRY were optimistic about the future and most believe the economy will improve in time to bring about better sales for the 1992 Christmas season. □



The 13th Annual Earth Day Savannah will be observed April 18 with emphasis on organizing citizen action groups for neighborhood clean-ups and increasing public concern on meeting solid waste challenges. The above photo is a scene from the celebration last year. Sponsored by KSB (Keep Savannah Beautiful), the traditional event will be held in Forsyth Park in the Historic District. The festival-like activities will include entertainment, speakers, booths and displays. A parade will feature "Clean Bean and Clean Gene" costumed mascots of KSB and "All Species Parade" will include children dressed as various plant species.

"The objective is to establish natural looking wooded areas rather than an artificial, manicured forest appearance."

REFORESTATION ENHANCES FACTORY SHOALS

Confronted with the urban sprawl of Atlanta and surrounding population growth, Newton County's heavily forested Factory Shoals Recreation Park seems destined to become a wooded oasis and historical treasure of sorts for future generations.

Since the land was donated to Newton County by Georgia Power Company in 1882, almost as much effort has been devoted to reforestation as cultivating a recreational area at this historical site. Park Director Michael Beyer, who assumed his duties in 1983, attended the University of Georgia School of Forestry and worked with the U. S. Forest Service for six years as a compliance officer. Typical of Beyer's reforestation was the planting of 1,500 pines and 2,000 hardwoods five years ago. Similar plantings are done annually using a variety of tree species including pine, dogwood, oak, red maple, silver maple and green ash.

"Trees compatible with the environment are planted," Beyer said. "We get all our trees from Ranger Beryll Budd's Commission office in Covington."

The park, located on low lying hollows of the Alcovy River, is naturally receptive to oak and hickory, which Beyer believes would be the dominant species if a climax forest evolved over the next hundred years.

"That's one reason we're planting a lot of hardwoods," Beyer said. "The objective is to establish natural looking wooded areas rather than an artificial, manicured forest appearance. In some cases, Beyer said he has tried to skip a step in old field succession and attempt to cultivate an area completely in hardwoods - "instead of going from bare to pine to hardwood."

Recreational activities in this scenic forest include fishing, camping, horseback riding, bicycling and plenty of room for people who just want to get away from it all and wander around in the woods. The Alcovy River, which runs over a half mile of shoals and into Lake Jackson at one end of the park,



Park Director Michael Beyer

offers good fishing at certain times of the year. Popular species include crappie, hybrid bream and hybrid bass.

Factory Shoals Park is a prime example of cultivating a forest back to its natural state. Until 1940, most of the Flat Shoals area was cotton fields. As cotton farming began to diminish, trees returned by old field succession. Beyer points out that many of the old field succession areas have not done as well as planted tracts because natural thinning was not concentrated enough. Planted areas, however, are developing into impressive stands.

Beyer said some large tracts of pine were planted after beetle damage forced the areas to be clearcut. He said one 80 acre area clearcut in 1984 was replanted with 55,000 loblolly pines. "This is turning into a beautiful stand," Beyer said. "These pines are 20 to 25 feet tall."

Most plantings, however, have averaged 25 percent pine and 75 per-

cent hardwoods. He said these stands are doing well - "especially when compared with some old field succession growth having 38 year old trees only six inches in diameter."

Prior to clearing the land for cotton farming, trees were abundant. This was Indian country. For centuries, various tribes hunted along the hardwood river banks. "This is the environment we're trying to bring back," Beyer said. "the same tree species that were abundant here when the Creek Indians hunted these woods in the 1700s."

The Creeks were the last native Americans to hunt these hardwood forests. White settlers and exploitation of the fur trade pushed the Creeks out in search of better hunting grounds. By 1835, they had relinquished all claims to Georgia soil. It is unknown how many tribes hunted these river banks through the centuries, but one archeological dig revealed that a village of Paleo Indians occupied the area in 10,000 B. C.

Further archaeological investigations have discovered nine significant sites, including the remains of five mills that operated before the Civil War as part of antebellum Georgia's first attempt to industrialize. There was a grist mill and two cotton mills in a community called Newton Factory. One of the mills eventually manufactured wool for Confederate uniforms.

"Factory Shoals is proving to be a very valuable historical site as well as a popular recreation area. Beyer said "From 1914 to 1982, this was an unsupervised area; a place to come and camp out, drink your beer, and shoot your gun. So it's not hard to imagine the trash strowing and abuse it suffered."

Today, Beyer points out, visitors respect the park as their personal recreational area and generally take very good care of it. Many visitors are protective of the area as Beyer. The result is very little trash and a much appreciated historic and recreational area that is being returned to its natural state.

(continued on page 2)

TIMBER TAX WORKSHOP SCHEDULED APRIL 22 AT CALLOWAY GARDENS

A pre-conference timber tax workshop will be held April 22 at Calloway Gardens in Pine Mountain, Georgia, in conjunction with Forest Farmers Association's Annual Meeting.

Dr. Harry L. Haney, Jr., forest economist and professor of forestry at Virginia Polytechnic Institute and State University, will conduct the session for those desiring an in-depth study of how to develop a timber tax strategy plan. Following are topics to be covered:

Review of basic provisions of the Federal Income Tax Code that affect timberland owners and their income; recent changes in the tax code, court rulings, new regulations and administrative rulings; how income tax affects your timber management and investment decisions - the bottom line; interaction of income and estate laws; and how to mold the above into a consistent strategy for meeting your timber management goal.

FORESTERS PARTICIPATE IN HIGHWAY 60 PROJECT

The U. S. Forest Service station at Blue Ridge recently became the 2,000th group to join the Adopt-A-Highway program, according to the Georgia Department of Transportation.

A DOT spokesman said Forest Service personnel adopted a section of State Route 60 in Fannin County and began picking up litter along the roadside in March.

"We are excited about the opportunity to work toward a litter-free environment in Georgia," said Stephen Easley, district ranger, "This activity is part of the Forest Service's effort to be a good neighbor and a cooperative part of the community."

FOREST SCHOOL PLANS REUNION AT STARKSVILLE

A reunion of all alumni of the School of Forest Resources at Mississippi State University, including departments of forestry, wildlife and fisheries and forest products, is scheduled for May 1-2 on campus at Starksville.

For additional information, contact Shirley Thompson at the School of Forest Resources (601) 325-2952.

For information on registration for the tax workshop or Forest Farmers Association's Annual Meeting, contact Forest Farmers Association's office at Box 95385, Atlanta, Georgia 30347 or phone 404/325-2954.

HARDWOOD RESEARCH ANNUAL MEET PLANNED

The Future of Multiple Use in Eastern Hardwood Forests is the theme of the 20th Annual Symposium of the Hardwood Research Council to be held June 1-3 at High Hampton Inn near Cashiers, North Carolina.

For the past 19 years, the council, now an activity of the National Hardwood Lumber Association, has sponsored the meetings. They provide a forum for discussion of current research findings concerning the condition and use of the hardwood forest resource.

Registration fee for the symposium is \$95 for members, \$130 for non-members.

For further information, call the Hardwood Research Council at (901) 377-1824.

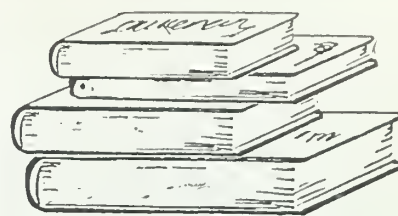
FIRE EQUIPMENT SHOW PLANNED AT COLISEUM

The Commission-sponsored 8th Biennial Fire Equipment Show is scheduled for May 13 from 9:00 a.m. to 3:30 p.m. at the Macon Coliseum.

Some 25 vendors from throughout the Southeastern United States will display the latest firefighting equipment that may be purchased or ordered on site. Demonstrations of firefighting techniques and equipment are scheduled throughout the show and door prizes will be given.

The all-day event traditionally attracts large numbers of firefighters from all sections of Georgia, as well as numerous state and county officials.

Commission records show that previous Fire Equipment Shows also attracted many spectators from the general public. Commission officials said ticket prices are \$5.50 in advance and \$6.50 at the door. Advanced tickets may be purchased at any Commission office.



THE BOOK CORNER

TREES OF GEORGIA AND ADJACENT STATES, BY Claud L. Brown and L. Katherine Kirkman. Timber Press, Inc., 9999 SW Wilshire, Portland, Oregon 97225. \$34.95.

Georgia's diverse climate and topography has spawned a similar richness in tree species. Authors Claud Brown and Katherine Kirkman have taken advantage of this diversity to create an exceptionally comprehensive 292-page book detailing 205 species. Dr. Brown is Alumni Foundation Professor of Forest Resources, Emeritus at the University of Georgia, and author of 125 scientific publications. Kirkman is a plant ecologist and taxonomist with 10 years experience as a consultant.

No ivory tower academic product, this volume is the result of the authors having roamed the woodlands of Georgia for three years to photograph all species in their native habitats. Assisted by Bill Lott, manager of the Georgia State Arboretum, their excursion ranged from the North Georgia mountains to snake-infested coastal swamps. 435 color photos include bark, leaves, flowers and fruit with botanical keys for summer and winter.

Patterned editorially after dendrology texts, this excellent account of tree life offers coded maps referring to each species. Trees included represent nearly one-third of all species native to the United States.

For generations to come, **TREES OF GEORGIA AND ADJACENT STATES** should be a welcome addition to the nature section of any library.



At left: Jim Rozelle concentrates during initial stages of working with wood that will be completed when object is shaped into an art form. Below, the artist steadies a heavy drill to make the first bore to hollow out the wood. When Rozelle first began this rare form of woodturning 20 years ago, none of the specialized tools were available in the U. S. He ordered his first set of chisels from England and custom made others as he progressed. Sandra Davis, below, president of the Arts Connections Gallery in Atlanta, displays two of Rozelle's finished works. Rozelle's prices currently range from \$100 to \$1,600.



Woodturner's appreciation of wood harks back to the days when apple crates in his parents' country store were made of wood, the days when rural folk identified wood with motives. Oak, hickory and ash for firewood, white pine for lumber, locust and cedar for fencing.

WOODCRAFT EMERGING AS ART FORM

By Bill Edwards

Gallery Pieces Bringing Thousands Of Dollars

When Jim Rozelle settles into the cultivated isolation of his Marietta workshop and braces a big steel-tipped chisel against a spinning log, he relies on 20 years of apprenticeship to shape an art form only recently recognized as art - but already bringing thousands of dollars each in art galleries.

Rozelle, an associate professor of computer information systems at Georgia State University, said this type of woodturning should not be confused with ordinary turning on a lathe, where wood is connected on both ends. Rozelle's art involves connecting wood on only one end and turning bowl-like vessels and other hollow objects that vary in size and design according to the conception of the artist. Prices reportedly range from a few dollars to \$10,000, depending on whether the piece is purchased at a yard sale or from a prestigious art gallery.

NEW ART FORM

"I wouldn't be surprised if a good piece brought \$10,000, even though this is a relatively new art form," Rozelle said. "Actually, bowl turning goes back 5,000 years, but the very idea of turning wood as a non-functional pure work of art is probably only about 40 years old at the most." Born in rural Alabama, the 50-year-old Rozelle grew up in a country store where he developed an early appreci-

ation for wood. "I remember liking the old apple crates," he said. "I even liked the smell of the wood." He also remembers that rural people in the area identified wood with motives. Oak, hickory and ash were for burning in the fireplace, while pine was favored for lumber. Locust, cedar and heart pine were for fencing because they resisted rot. Growing up in this environment, identifying trees and their qualities became second nature to Rozelle.

Working with his current woodturning art, he shuns exotic species and still prefers local wood such as maple, apple, magnolia, dogwood and crab-apple. He sometimes spends as much as 40 hours on one piece. His general price range is \$100 to \$500, but some go as high as \$1600. It would not be surprising for Rozelle's price range to increase dramatically as his reputation and the art becomes more publicized.

Rozelle was first attracted to woodturning in 1954 when he was an Air Force jet pilot. Stationed in Texas, he wandered into a woodworking shop where mesquite bowls were being turned. He never forgot it. Years later, when he saw a three-foot tall bowl at a public exhibit, he had a flashback to the Texas workshop and thought - "if somebody else can do this, so can I."

Rozelle has been at it ever since. His works are now sold by art galleries in a number of cities including: Atlanta, Malibu, San Francisco, Roanoke, and

Seattle. He said woodturning being recognized as an art form can probably be credited to the influence of artistic circles in New York and California.

"It's definitely an evolving art," Rozelle said, "but I know of a number of artists who are already making a living at it." He has also noticed that more and more aspiring artists are being attracted to the woodturning ranks. They come from varied backgrounds and occupations, but all share an appreciation of wood. "And virtually all who do it are people who enjoy being absorbed in creating something in solitude," he said.

VARIED BACKGROUND

Rozelle is no different. Although his background and interests are varied, what he really wants to do now is "turn wood." He has a B. S. degree in aeronautical engineering from Auburn University and an M.B.A. and Ph. D. in Finance from Georgia State University. He also has a vast knowledge of computers - his area of teaching.

Now on a one year leave from Georgia State University, Rozelle said he took the time off to "catch up" on computer technology. "Anybody who tells you that he can teach full time and keep up with changes in computer technology is misguided," Rozelle said. "Computers change every day." But he admits the idea of having more time for woodturning was also appealing.

(continued on next page)

LOOKING BACK



1933

A "Code of Fair Competition" has been established for lumber and timber industries with the avowed purpose of reducing unemployment and improving standards of labor. Wages are to be paid at the starting minimum rate of 22½ cents per hour...Radio is now being used in preventing, detecting and fighting forest fires. Superior Pine Products Company of Fargo is the first company to receive a license for the use of radio for this purpose...

1935

This year is bringing several changes that are to have lasting effects on Georgia Forestry. One important development is the work that has begun by the Union Bag and Paper Corporation at Savannah on what is expected to become the largest pulp mill in the world within two years...The Georgia Forestry Association held a meeting in Macon to intensify a campaign to rid Georgia of forest arsonists. A resolution was passed urging superior court judges to charge grand juries with regard to forest fires set by arsonists...

1943

Timber in Georgia has become a critical war material and many landowners are becoming aware, perhaps for the first time, that their forest holdings have a significant value.

1974

The Board of Commissioners of the Georgia Forestry Commission has renamed the Waycross State Forest in honor of the late Hugh M. Dixon of Vidalia, former board member. It will now be known as the Dixon Memorial State Forest.

He approaches woodturning with the same confidence that he approaches other interests. He works to satisfy his personal sense of technical and artistic satisfaction, which makes it difficult to determine a completed object.

The basic simplicity of art form is deceptive. Rozelle remembers initial problems with artistic interpretations and abstractions. "When I first started woodturning, I'm afraid my works were not very artistic," Rozelle said. "I was an engineer - which meant my right brain was not very well developed."

He discovered the most challenging aspect of his initial efforts was trying to teach himself to imagine shapes and relationships between depths and heights. "But the real art is in looking at a piece of wood and trying to decide on an orientation that will best show the beauty of the wood," Rozelle said. "Some pieces may have large holes or rotted places, but this is just more grist for the artistic mill - the beauty that results with the right approach is incredible."

INSTRUCTIONS UNAVAILABLE

It was this process of conceptualizing which gave Rozelle problems in the beginning. To make things more difficult, the mechanics of the process were hard to come by too. When he started turning wood, there was no one in the United States who taught bowl turning, no tools for doing it, and no books on the subject.

"Finally, I ordered an instructional book from England - that later became somewhat of a classic in the United States - and a British catalog for specialized tools," Rozelle said. "I had to teach myself how to do it and built my own lathe. Now it's much simpler here. Tools and lathes are available and there are people who teach the art."

Rozelle also teaches woodturning on a limited basis, although it is not something he seeks out. He says his approach to teaching concentrates on technique. Once a student has learned techniques, he or she must rely on individual creative instincts and principles of choice for the emerging art form.

BUILT OWN LATHE

As an instructor, Rozelle also offers some valuable mechanical knowledge. Lathes are now available that will turn anything from small pieces to logs weighing half a ton. "There are some custom made lathes that will turn a piece of wood 48 inches in diameter, but these may cost up to \$15,000," he

said. "However, good sized lathes that can be built for several hundred dollars," Rozelle built his own lathe - which will turn large pieces - for less than \$300.

As for getting wood to work with, Rozelle said this is not a big problem. He does not go in for exotic woods and gets everything he turns from scrap wood or discarded trees. "I saw one estimate that said in the Atlanta area there are a thousand trees a week cut and hauled to the landfill," Rozelle said. "It's just a matter of training your eye to recognize a tree or piece of wood that suits your artistic purpose and asking the right person; they'll usually give it to you."

ASSOCIATION FORMED

Rozelle pointed out that there are now several publications and organizations for woodturners. One such organization is the American Association of Woodturners, an international group with a membership that has reached 5,000. Rozelle was a founding member of the organization. He was also a founding member of the Georgia Association of WoodTurners which holds monthly meetings in the Atlanta area.

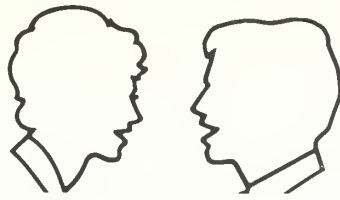
"It's still not a well known thing," says Rozelle as he lifts a 30-pound log to mount on the face plate of the lathe. "There are millions and millions of people who have never heard of woodturning as an art form, it's not like selling an oil painting. Not yet anyway."

Rozelle fastens the log into place, pulls his goggles down and braces a big steel-tipped chisel against the bark. There is silence for a moment as he adjusts the chisel to just the right angle and imbeds it in the log. There is a sanctuaries quality to the cavernous workshop. Oil cans, pulleys, ragged manuals, and a maze of tools cover the walls. Embryonic bowl-like shapes of works in progress surround ripsaw and lathes flanked by a stalwart blacksmith's anvil.

"What we need now - if more people are going to turn wood and sell it as an art form - is more exposure," Rozelle said. "The market is now in the formative stages." He adjusts his goggles, braces the chisel and turns on the power. With the whine of the lathe, a shower of wood curls fill the air as Rozelle intently watches the changing shape. As the market forms, he is forming another shape, just as he has been doing for the past 20 years.

PEOPLE

IN THE NEWS



BETTY WALTERS was honored January 31 with a surprise luncheon given by Commission employees as she completed her last day of work as administrative secretary of the Information and Education Department. Her husband and several other family members were special guests at the retirement function. The secretary, who was transferred to the state headquarters last fall after serving as principal secretary in the Tifton District since 1976, said the surprise party was "the best kept secret since Pearl Harbor." The couple plans to do extensive traveling in their new motor home now that both are retired.

FRIENDS HONOR BRANT AT RETIREMENT PARTY

A large group of Commission employees, other friends and relatives gathered in Milledgeville shortly after the beginning of the new year to honor veteran Forester Bennie Brant.

The occasion was a retirement dinner celebrating Brant's more than 33 years of distinguished service to the Commission. He was district forester at the time of his retirement.

Brant, a native Statesboro, attended high school in that city and earned a de-



Bennie Brant

gree in forestry at the University of Georgia. He came with the Commission in 1958 and his first assignment was crest technician in Valdosta. He was named to head that unit six months later and was transferred to Milledgeville the following year as assistant district forester. He became district forester following the retirement of Bill Williams in 1986.

The retired forester and his wife Lois have a son, Ray, a Macon chiropractor, and one grandson, Chris.

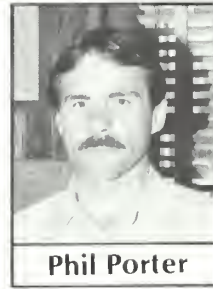
The couple plans to continue to live in Milledgeville, where they are active

in the First United Methodist Church and several community affairs. Brant is a member of the Masonic Lodge and Rotary Club.

PHIL PORTER IS NAMED NEW DISTRICT FORESTER

Phil Porter, who came with the Commission in 1974, has been named Americus District Forester to succeed Rowe Wall, who recently retired.

Porter, a native of Macon, attended Abraham Baldwin Agricultural college two years and went on to the University of Georgia to earn a degree in forestry. He was assigned to the Americus District as forester and has served in that office during his 18 years with the Commission.



Phil Porter

The new district forester manages the Commission's largest district, with 17 county units and a cooperative arrangement with 64 stations under the Rural Fire Defense Program. He said bark beetle infestation is the major problem facing his personnel, especially in the western sector of the district.

Porter, who said he became intrigued with forestry as an FFA member in high school, is also fond of horses and has four on his small farm three miles east of Americus. He is active in the Sumter County Saddle Club.

The district forester and his wife Maureen have a daughter, Casey, 7. The family attends Lee Street United Methodist Church in Americus.

TRAINING OFFICER BURNS ENDS LONG GFC SERVICE

Bob Burns, staff forester of the Protection Department and training officer for the Commission, ended 34 years of service at the end of February

and was honored with a retirement dinner attended by a large group of friends and relatives.

Burns, a native of Savannah, attended Benedictine Military School in that city and upon graduation, enrolled in the School of Forest Resources, University of Georgia, where he earned a BS degree in forestry.



Bob Burns

He came with the Commission in 1959 and was assigned to the Dougherty County Unit, transferring to Macon the following year to conduct the River Basin Survey for the state. Burns served as management forester in the Milledgeville District for a short time and was then assigned to Griffin, where he served for eight years in management as an assistant district forester, attached to the Newnan District. His next assignment was McDonough, where he worked as area forester.

The forester was transferred to Commission headquarters in Macon 18 years ago to become the agency's training officer.

Burns and his wife, who make their home in Macon, have two children, Robbie, and Debbie. The couple attends Vineville Baptist Church, where he has taught Sunday School for many years.

FACTORY SHOALS

(continued from page 18)

state by planting adaptable tree species. Beyer's current schedule is to plant approximately 1,000 trees annually, using the 75/25 hardwood to pine ratio.

Beyer has done an extensive tree survey and found more than 50 species growing in the park.

The forester has an ongoing project of making nature trails that wind through the woods with little disturbance to the environment.

Having roamed woodlands throughout the United States, Beyer has come to the conclusion that parks such as Factory Shoals will be greatly valued by future generations. "I'd like to see more parks like this simply because they preserve some of the past - and it takes you back to a time when you could ride along a dirt road overlooking a river and just pull over and camp out."



WOOD

It was superior then and it's superior now. The early settlers had to depend on it, but many of today's architects, engineers and builders select it over other building materials because of its beauty, strength, versatility and durability. There is no substitute for wood, a fact well known and appreciated in Georgia, one of the nation's leaders in the production of quality wood.



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OUTSTANDING AWARDS IN ACHIEVEMENT PRESENTED AT ANNUAL GFA CONVENTION

The Rome District of the Georgia Forestry Commission and two of the state agency's county units were awarded for outstanding achievements by the Georgia Forestry Association at the organization's recent annual convention on Jekyll Island.

The Rome District is one of the larger districts and requires more personnel and equipment to protect the forested acreage in its 15 counties than is needed in smaller districts. In presenting the plaque, the Association cited the Rome District Personnel for their skill in working on fires in difficult terrain in mountainous Northwest Georgia.

In addition to maintaining a superior forest protection program, the district was commended for keeping all buildings, grounds and equipment in very good condition at all times in every county.

Region 1 (North Georgia) county unit honors went to Habersham Rabun-White. The Region 2 (South Georgia) plaque was presented to the Dodge County Unit.

The attitude of the personnel at the Habersham-Rabun-White County Unit is "accomplishment oriented" and they have a wide variety of skills they are willing to use, according to the Association.

Personnel are called on repeatedly to help with various construction projects and they have assisted in several special projects, including hosting their district's Top Gun competition, assisting with the Field and Brush Day for the RFD Departments and the training of Correction Department fire crews.

During the recent Gypsy Moth spraying project in the Gainesville District, the unit repaired vehicles, cleaned aircraft staging area, and attended to other duties during the operation.

The Association pointed out that the Dodge County Unit maintains grounds and buildings in a manner that reflects the pride they take in their unit.

Employees are dedicated to pro-

moting services and programs of the Forestry Commission and at every opportunity they are providing information to owners and others interested in forestry in Dodge County.

These employees also enjoy a close working relationship with local citizens and county officials.

In addition to their numerous duties at the unit, they have become involved in several local events such as an amateur lumberjack contest and forestry displays, including the construction of a log cabin, timber equipment displays, and woodworking art and crafts.

The plaques were presented during an awards breakfast during the GFA 90th annual convention.

The Logger of the Year Award at the annual convention was actually Loggers of the Year honor, as it was presented to brothers Frank and Bill Shepherd of Irwinton. The brothers are major transporters of wood chips from the forests to the pulp and paper mill and they are also well experienced in hauling whole tree timber. They maintain a fleet of modern trucks and timber harvesting equipment. The brothers were featured in this magazine several years ago.

Lowery (Whitey) Hunt, Morgan County landowner who lives in Madison, was honored as Georgia Tree Farmer of the Year. Hunt, who was nominated for the honor by Forest James K. Johnson of the Morgan Walton County Unit, was featured in the summer issue of Georgia Forestry.

Forester Cathy Black of the Commission's Washington District received the Outstanding Facilitator of the Year Award for leading the greatest number of PLT workshops during the calendar year. She has made the training available to educators in her Richmond County area, as well as other areas throughout the state through the Environmental Education Program at the National Science Center at Fort Gordon each summer. She also won the Commission's PLT Award for conducting more PLT workshops than any other Commission employee.

ON THE COVER - Autumn came early to scenic Tallulah Gorge in mountainous Northeast Georgia and Commission Photographer Billy Godfrey was there to greet it. The scene depicts the Tagaloo River as it flows downstream over an ancient rock bed.



It has been 500 years this fall since Christopher Columbus landed on our shores and although historians doubt he visited the land now known as Georgia, a forester looks back over the centuries and notes that his expedition opened the way for many tree species to be established in this state.

COLUMBUS LEAVES GEORGIA LEGACY OF TREES

By Kim Coder

Although Columbus never set foot in Georgia, as far as we know, he and his countrymen did leave us a legacy of trees. In this anniversary year of Columbus's explorations, Georgians look back to what the early colonists of this hemisphere left behind.

The Spanish and the English always took the fruit trees they were familiar with and planted them everywhere they went. Most of these gardens were hastily put into the ground and often forgotten. Some gardens struggled and died out quickly. At other locations the trees lived and some even reproduced. Some of these plantings were used as places to restock meager ship stores or as a day of fruit gathering by colonial settlers.

The Spanish planted a number of garden areas along the Georgia Coast to test whether some of their favorite fruit trees would grow. The English colonists sought the aid of botanists to select and plant fruit trees to acclimate and cultivate them. As early as 1736 we have records of a test garden in Savannah.

In mid-February 1740, there are

records of an ambush of British soldiers by Spanish forces near an orange grove along the banks of the Altamaha River. The English scouting party was tempted by the fruit filled trees. When they landed they were fired upon. In the struggle to escape, the English boat commander was killed. The English revenge came when they discovered the Spanish company's boat and destroyed it. All for the sake of oranges.

Among the trees planted in the area that was to become Georgia were oranges, figs, peaches or nectarines, mulberries and pears. Many other trees were tried but failed to grow. Noticeable failures were olives, limes and lemons.

The oranges planted and maintained were two cultivated oranges, *Citrus aurantium*, Seville orange; *Citrus sinensis*, sweet orange and *Poncirus trifolia*, the native bitter orange. The fig tree planted was *Ficus carica*, the traditional fig or higuera, as the Spanish called it. The peach, nectarine, or durazno (Spanish), was *Prunus persica*.

The mulberries cultivated were the

native red mulberry *Morus rubra* and the imported *Morus alba*, the white mulberry used in growing the silkworm. The Spanish names for the mulberries were moral and moral blanco. The pear planted and then escaped from cultivation was *Pyrus communis*, called pera in Spanish.

We know of most of these species because the remnants of the plantings survived long enough so someone could record their existence or because the species escaped into their new environment and thrived. The heritage of early Georgia includes the many plants that were moved from many parts of the world to see if they would grow here.

Some of the new plants grew well, but many failed. The ones that survived represent a botanical link to the times of Columbus when the New World was being colonized. Trees have been and continue to be part of people's lives that they cannot bear to leave behind.

(Kim Coder is a forester with the University of Georgia Extension Service)

Why Leaves Change Color

Scientists don't yet fully understand all of the complicated actions and interactions that produce the spectacular displays of autumn leaf colors that are a highlight of the fall months. Organic pigments in the leaf cells, sunlight intensity, moisture, temperature, length of day, tree genetic traits, site characteristics, latitude, altitude — all these and other factors affect when and how leaves change colors, and the hues they produce.

What Produces the Change?

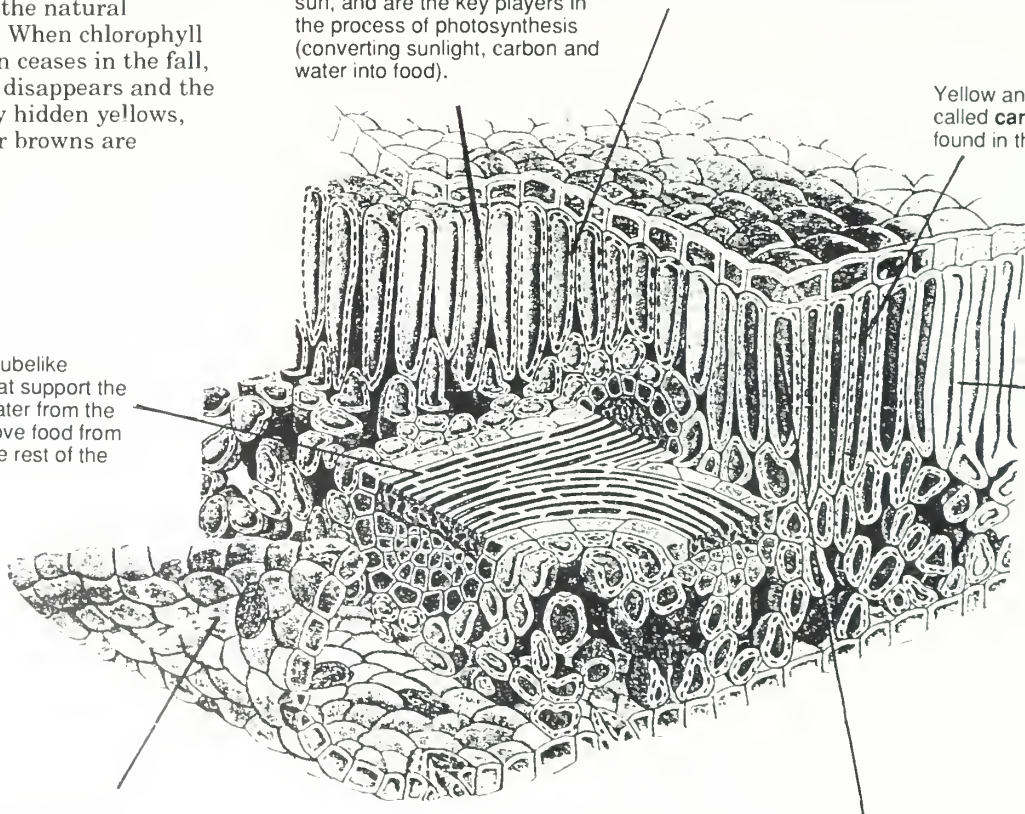
Actually, leaves don't really change colors—they reveal their true colors. During the summer, green pigments called chlorophylls dominate and mask out the natural pigments. When chlorophyll production ceases in the fall, the green disappears and the previously hidden yellows, oranges or browns are revealed.

The elongated **palisade cells** receive the direct rays from the sun, and are the key players in the process of photosynthesis (converting sunlight, carbon and water into food).

Green **chlorophyll**, important in the food-producing process of photosynthesis, is found in tiny cell structures called **plastids**.

Yellow and orange pigments called **carotenoids** are also found in the cells' plastids.

Veins have tubelike structures that support the leaf, bring water from the roots and move food from the leaf to the rest of the tree.

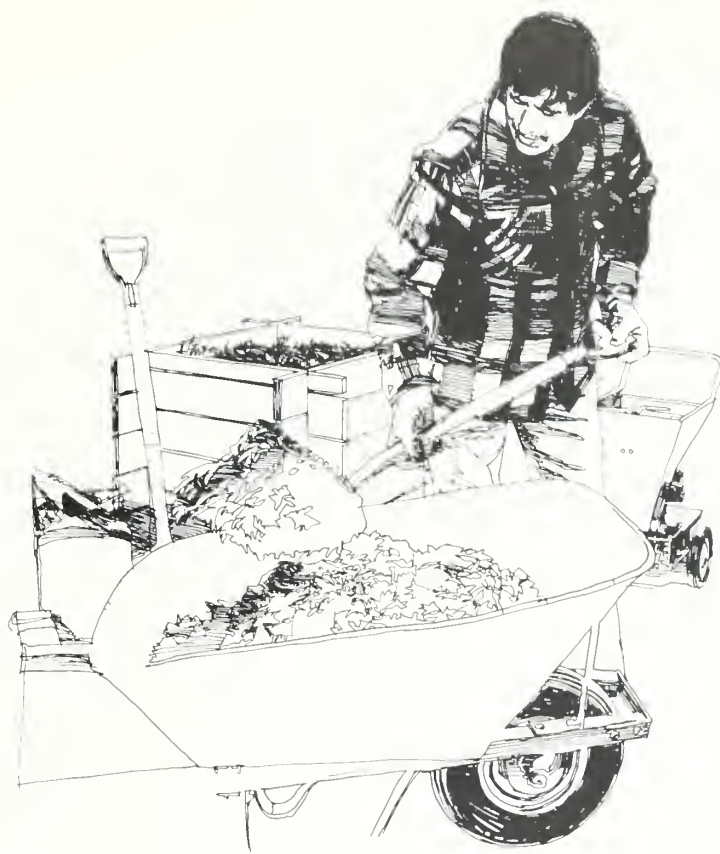


In some species, **anthocyanin** pigments are produced in the sap of the leaf's cells when photosynthesis ceases in the fall. These pigments provide the brilliant reds and purples common in the autumn colors of some trees.

Stomas are pores that allow movement of air into the leaf, providing carbon dioxide needed for photosynthesis and releasing oxygen produced by the process.

Loosely packed cells of the **spongy layer** permit air containing carbon dioxide to move inside the leaf to the food-producing cells.

Courtesy National Arbor Day Foundation.



AUTUMN LEAVES CONVENIENT COMPOST SOURCE

NATURE'S ANNUAL GIFT TO GARDENERS

Fall is primetime for composting - with urban and rural forests producing massive amounts of dead organic matter. Nature, however, does not treat this dead material as waste; instead it is incorporated as a vital and necessary part of the ecological cycle as a whole.

Leaves decompose to form a rich layer that returns important elements to the soil. Carbon, nitrogen and phosphorus are returned in the right proportions to renew the ecological cycle for new growth. The cycle is catalyzed by waste and sunlight. Nature does it all.

The good news is that homeowners can readily take full advantage of this process by using leaves to return a more natural balance to the urban forest and immediate surroundings. Gently helping nature to take its course is all that is required. Human intervention often short circuits the urban forest's life cycle; this need not be the case.

Composting allows cut organic material - ranging from grass clippings to leaves - to decompose in the same manner that has been taking place in the woods since the beginning of forests. Many cities are now refusing to collect all yard clippings, including

leaves, branches and bushes. In turn, homeowners have taken advantage of this by composting yard wastes.

There are many blends for composting, but the basics are the same. Four critical elements include: oxygen, moisture, and a proper ratio of nitrogen and carbon.

Composting might be defined by some as an art, but nature offers the science. Properly executed, the process can prove very rewarding and (surprising to some practitioners) odor free. Enthusiastic novices are usually pleased to learn that they can create a large supply of rich humus that can be used on flower beds and vegetable gardens. The mixture can also be used as potting soil or just a good-old-plain soil additive.

There are many possible ingredients for a compost pile, ranging from leaves to kitchen scraps; just about anything organic can be composted. There are

probably as many ways to compost as there are ingredients.

The easiest way, however, may be to simply make a backyard pile of leaves, grass clippings, tree and shrub clippings, and kitchen scraps (no meat or fatty foods included). If the pile is dry, it should be wet down and turned over once a week. The pile can also be contained in a wooden, boxed frame or an enclosure made of wire mesh.

The compost should be ready within five weeks (depending on ingredients). A cardinal rule is not to use the compost before it is ready. The organic mixture is ready when it turns the brown color of a forest floor. To prevent odor, keep the compost well ventilated.

The entire process is easy, simple and rewarding. Composting is a highly beneficial way for Americans to deal with more than 30 million tons of cut, organic material that has been previously dumped into landfills. The recycling of such materials offers harmonious rapport with nature in an urban setting. Responsible use of the homeowner's cuttings is not only personally beneficial, it also prevents the ecosystem from being damaged in an urban setting.



LIST OF WOOD ENERGY USERS CONTINUES TO GROW

Add Sutton Lumber Company of Tennega, a tiny hamlet near the Tennessee state line, to the growing number of Georgia industries and institutions now relying on wood as a dependable and economical source of energy.

Advances in engineering, the prohibitive costs of alternate fuels and the immediate need to dispose of mill residue are principal reasons for the return to the basic fuel of an earlier age. More than 120 plants, mills, schools, prisons, hospitals and other facilities from Tennega to deep South Georgia have installed modern wood-fired systems to take advantage of Georgia's abundant forest resource.

"The installation of a wood-fired kiln at Sutton Lumber Company is the most recent example of how wood is coming to the forefront in our state as the most feasible fuel," said Fred Allen, Chief of the Commission's Forest Products, Utilization, Marketing and Development Department. "It is an installation that has reduced lumber drying time from about 45 days to only 20 hours, thus greatly increasing production, reducing labor costs and conserving storage space."

Prior to the installation of the kiln, all lumber at the mill was slowly air-dried and when kiln-dried was requested or a rush order was received, it had to be transported to a competitor who had a kiln and then returned to Tennega for shipment. The mill is now saving \$27.00 per thousand board feet by having its own dry kiln, according to the owners.

Sutton Lumber Company had access to electricity and propane gas, but elected to use wood as a fuel for obvious reasons; sawdust and shavings were readily available from the manufacturing

process, it provided a means of utilizing the whole log and solved the problem of disposing of the mill waste in an environmentally acceptable manner.

"The installation of the kiln is not on



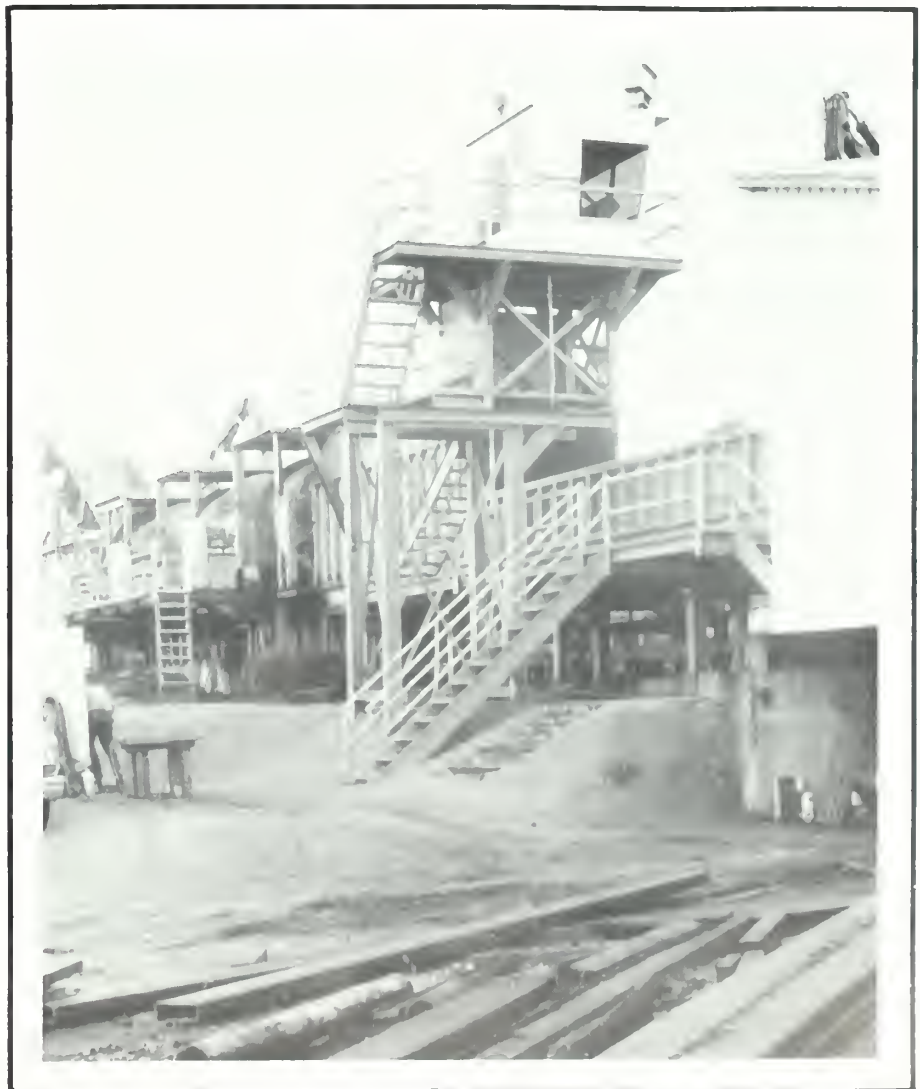
beneficial to Sutton Lumber Company, a family owned business established in 1964, but makes a contribution to the local community and the surrounding countryside," Allen said. "Unlike traditional fossil fuels, wood is locally grown and generally remains within 100 miles of its origin." He pointed out that the increased utilization of wood at the mill benefits area forest landowners, loggers, truckers and others.

Allen said the mill took advantage of an "Interest Buy-Down Program," a federally-funded incentive supported and administered by the Commission, Georgia's Office of Energy Resource and the Southeastern Regional Biomass Energy Program.

The program provides funds to be applied to the interest on a construction loan to purchase and install a wood-fired heating system of a cogeneration system using wood as the feedstock.

In order to adapt to different markets, the mill added two operations. One was a total tree drum debarker and chipper installed to allow complete utilization of an entire tract of timber. Smaller stems are separated and chipped for the pulp and paper industry, while bark is run through a hog and then sold as mulch material or as an industrial boiler fuel. The second addition was the dry kiln. The high temperature kiln has the capacity to dry 50,000 board feet of pine lumber in about 20 hours. It is controlled by a computer system that monitors all aspects of the drying process.

A wood gas generator combined with a 100 hp boiler was selected for the system, which uses approximately 1,200 pounds of fuel per hour. The wood gas produced by the fuel is passed by a con-



Opposite page: Fred Allen, left, and Harold Sutton of Sutton Lumber Company check a charge of lumber to be rolled into the mill's new dry kiln. Above: Part of a group of visitors attending a demonstration of the kiln and other new installations. Below: The debarker and chipper that supplies fuel for the kiln.

nector to the boiler, where it is burned in a swirling motion to produce 240-degree steam needed for drying.

One of the points stressed by the manufacturer of the kiln, Converta Kiln Inc. of Tennessee, was that the fuel needs to be uniform, a condition Allen said the Commission realized soon after the first wood-fired system went into operation in Georgia in the mid 70's. All material at the Sutton mill is hogged and screened before going into the storage building and screened a second time before entering the silo that holds enough fuel to operate the kiln for 72 hours.

The overall cost of the energy system was approximately \$249,000 and based on current operational procedures and savings on fuel, simple payback time on the investment should be less than two years, excluding the cost of the kiln, according to Allen, the manufacturer and others involved in the program.

Allen said other industries interested in the Interest Buy-Down Program should contact his office at the Commission's state headquarters in Macon (Phone toll free 800-GA TREES for additional information. □

CONSULTANTS PRAISED

The House of Representatives of the Georgia General Assembly recently offered a resolution commending several professional foresters and others who served as consultants in the drafting of House Bill 283, legislation dealing mainly with forest conservation and taxation.

The resolution named David Westmoreland and Dennis Martin, Georgia Forestry Commission; John Gunter, Jr. and Coleman Dangerfield, Cooperative Extension Service; Harold Reheis and Earl Shipiro, Department of Natural Resources; Larry Snipes, agricultural Statistical Services; and James Bridges Department of Agriculture.

They are members of the Conservation Use Valuation Advisory Group and were consultants to the Department of Revenue. They were credited with making "many significant contributions to a more equitable system of real property taxation in Georgia."

The bill was signed into law last year by Governor Zell Miller and "stands as a monument of relief to taxpayer concerns that land in Georgia be conserved for the future, that timber be taxed fairly, and that taxpayers be given a voice in the local taxation process..." according to the resolution.



The University of Georgia

Georgia Center for Continuing Education

A short course, Fundamentals of Wood Products Marketing, will be held November 6 at the School of Continuing Education, The University of Georgia.

Marketing involves many aspects of the product: its promotion, development, pricing, distribution, planning, etc. and the course overviews the basics of marketing and then blends them into market strategy development. Extensive "real world" examples of forest products firms are used as illustrations.

The instructor, **Dr. Steven A. Sinclair**, is a recognized leader in forest products marketing in the U.S. He is Professor of Forest Products Marketing at Virginia Tech and has authored a new book on the subject.

The one-day workshop is designed for all senior sales people, sales managers, product planners and strategists in the forest products industry. The registration fee is \$125.00 and includes lunch, refreshment breaks and instructional materials.

A second short course, Faster Point Sample, will follow at the center on November 9-10.

Point sampling is the most cost-

effective means of obtaining volume estimates for forested areas and the course provides participants with the knowledge to better design, conduct, and analyze point samples for estimating pulpwood and sawlog volumes.

The course is designed for professional foresters who conduct forest inventories or interpret forest inventory results. A working knowledge of basic point sampling is a prerequisite for this course. The instructor is **Dr. Richard G. Oderwald** from Virginia Tech, who has over 15 years experience in the research, use and teaching this technique.

Registration fee for the one and one-half day course is \$165.00 and includes one luncheon, refreshment breaks, and instructional materials. The course provides 10 hours of Category 1 Continuing Forestry Education (CFE) as recognized by the Society of American Foresters.

For more information on the courses write: Forestry Programs, Georgia Center for Continuing Education, The University of Georgia, Athens, GA 30602-2603, or call (706)542-3063.

GEORGIA WILDLIFE PHOTO CONTEST UNDERWAY

Now is the time to take a few wild shots for the 1992 Georgia Wildlife Photo Contest sponsored by the Georgia Department of Natural Resources' Nongame-Endangered Wildlife Program, Game and Fish Division, Georgia Wildlife Federation and Eastman Kodak Company.

Photo entries will be accepted from Aug. 1-Dec. 1, 1992. Categories include game and nongame species, wild plants, outdoor recreation, backyard wildlife and a junior division for ages 17

and under.

The overall and first place photos will be published in Georgia Wildlife magazine, courtesy of the Georgia Wildlife Federation. Additional prizes will be offered for first, second and third place, including a weekend for two at Amicalola Falls State Park for the overall winner.

For more information and an entry form, write to Wildlife Photo Contest, Route 5, Box 180, Forsyth, GA 31028 or call (912) 994-1438.

THE IDENTICAL FOREST



UGA Cloning Research Seeks Quantum Leap

The search for the perfect forest - populated with trees of identical desired traits - is an elusive pursuit. This purest of monocultures inspires visions of utopian forestry with vast benefits and complications unknown.

Speculating on the mind-boggling potentials of what is generally perceived as cloning trees, Dr. Arnett Mace, dean of the University of Georgia School of Forest Resources, looks out his office window at manicured campus trees and reflects an indispensable quality of this research: Patience.

"The advanced science of molecular genetics offers great potential," Mace emphasized. "On the other hand, it is a long-term, high risk type of research that is not an easy task. But if we don't initiate certain things now and sustain the momentum of our current progress, we could be here five years from now saying the same type of thing."

Dean Mace is dedicated to enhancing

By Bill Edwards

molecular genetics aspects of forest resources because it offers quantum leaps across almost every conceivable factor of increased yields, wood traits, disease and insect resistance, chemical yields, biomass production, etc. Future uses of methanol, lignin and cellulose are also interwoven in the research. And now, considering such recent findings as those concerning the Yew tree (taxol), even the possibility of a super-strain cancer cure taps on the door of possibility.

"Collectively, we (UGA Forestry School) probably have as much expertise in this field as any institution in the country," Mace said. "Our researchers

have not only been pioneers in this field, some have been recognized internationally for their work."

In essence, molecular genetics has the potential of accentuating the positive through genetic manipulation to create clones with identical desired characteristics. Agriculture is already reaping many benefits from this advanced science because crop cycles provide an annual base for research determinations. Forestry, however, does not have this luxury; trees require years to mature. Nevertheless, highly significant advances and shortcuts have been established in the UGA Forestry School's research program. An entire floor of the school is set apart for such research.

Mace, and other UGA Forestry School researchers, point out that molecular genetics offers an alternative for decades of tedious breeding, long years of progeny testing, reselection, and long-term forest tree breeding programs. Emerging

techniques can theoretically narrow these practices down to a few years; but the mirror image of paradox stares back - successful research in this area can take a long time. And time is of the essence in a world so much in need to answers that such research can provide - a world of frightening population growth and needs for renewable energy sources.

NO QUICK FIX

This research does not lend itself to movie-script-cure-all-sudden-break-throughs. It is an accumulation of many fragments from different sources that finally form another stepping stone to knowledge. And Dr. Mace points out, it is expensive. It could also be considered a thankless effort by anybody on an ego trip.

The UGA School of Forestry, however, recognized the potential of molecular genetics more than 30 years ago. In 1960, Dr. Claud L. Brown (now retired but still active in the field) started the first forest tree tissue culture laboratory in North America at the UGA Forestry School.

Within five years, Brown's lab was the first in the world to grow numerous conifers on chemically defined media. Five years later, after Dr. Harry Sommer joined the lab as a post doctoral fellow, the lab became the first in the world to produce pine plantlets (longleaf, slash and loblolly) on chemically defined media. This was significant because whole plantlets were produced using tissue culture techniques.

This opened the door to techniques permitting forest researchers to manipulate cells of trees in the laboratory in much the same manner microbiologists had done for years with bacteria and other microorganisms. Little imagination was required to envision 100 prime trees of a species, then mass cloning the selection for reforestation on the most receptive sites.

Despite the importance of this accomplishment - in the sense of being a vital link in the research chain - the Sommer breakthrough was greeted for the most part with bland acceptance. "Even in the 1970's," Dr. Brown recalls, "most forest geneticists thought we had gone into outer space with this sort of thing. In fact, I did send some pine callus cultures to NASA for testing lunar soils, and as with most new technology, we were on the receiving end of many jokes concerning growing trees on the moon, etc."

In 1984, Dr. Scott Merkle joined the UGA Forestry School faculty. He went immediately into the research program.



Dr. Scott Merkle examines research samples at University of Georgia School of Forest Resources - an institutional pioneer in the field of forestry related molecular genetics. Merkle's research specialty is gene transfers.

Although he teaches dendrology and other forestry courses, 75 percent of his time is now spent in research working closely with Dr. Harry Sommer. Merkle was the last doctoral fellow to join Brown's lab before his retirement.

THE MERKLE RULE

Merkle says the most essential characteristic of this research is "to maintain incredible patience in the atmosphere of an open mind-because you never know when the most unexpected thing might work."

The focus of Merkle's research concentrates on gene transfers. He empha-

sizes that this is only one aspect of molecular genetics, but like other aspects, it is essential to the functioning of the whole. Gene transfer is made possible by the availability of a tissue culture cloning system.

"Some of what we're doing here involves adding positive traits that could not be crossed to a tree by sexual means," Merkle said. "Negative traits are not removed, but positive traits are added to obtain an objective." He added that there are already a few economically important genes available that are good for trees in general. One is a gene that induces herbicide resistance; another is a set of genes that confer insect resistance.



*Dr. Arnett Mace
Dean*



*Dr. Claud Brown
Professor Emeritus*

"These are actually bacterial genes," Merkle explained. "They don't come from trees. So the idea is to grow the bacteria, then incorporate the substance into a plant or tree and have it make the toxin. This gene implantation process is already used on populus trees and research is underway to use it on conifers."

The amazing part of this research is that two different, sexually incompatible kingdoms are having genetic qualities merged for breeding purposes.

A basic analogy to Merkle's work is that it is like taking cuttings from a tree. Theoretically, each of the cuttings come from the same tree without sexual reproduction. All of the cuttings are of one clone - genetically identical.

"All we're doing is kind of scaling that down into culture under sterile conditions," Merkle said. "So we can multiply that tree thousands, even millions of times, in that culture. Rootings would not permit this."

MONOCULTUREPHOBIA

So assuming Merkle and others in the chain reaction research succeed in developing a tree resistant to a specific insect or disease, there are those who fear an adapted immunity would develop in turn and a super-bug or super-disease might develop.

"This is a realistic danger that forestry related companies are concerned with," Merkle said. "Monocultures of a so-called normal variety create enough controversy, but this sort of thing stirs up even more negative feelings."

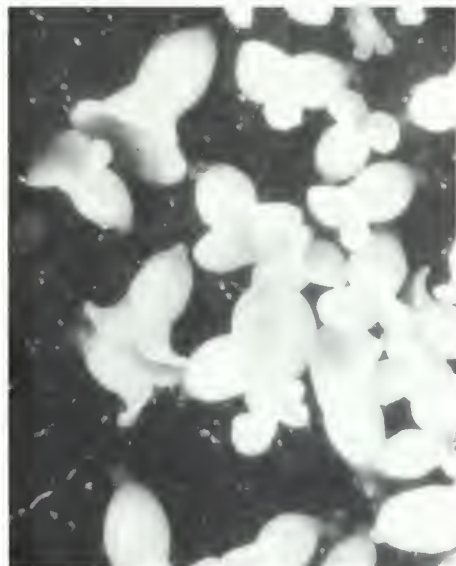
Merkle explains, however, that there are a number of possibilities to counteract the monoculture problems of potential immunity development; one of the prime considerations is mixing non-transformed trees with transformed trees to offer resistance.

Merkle also points out instances in which a monoculture could be highly desirable while having nothing to do with the resistance issue. "If a tree was cloned that was an optimum fuel or medicinal source - and it did not open the door for disease or fungal attack - would that be bad?" he said. "Uniformity could be very valuable in such an instance, and the same could prove true for the timber industry. If you have a clonal source, you know the same thing is being made every time. So the result could be good or bad depending on the results and differing perspectives."

Merkle believes the future is bright for the cloning research, but he echoes the views of others in this field when he says

the time factor is a major consideration. Trees are lagging behind other plant research simply because of this aspect.

Big companies are already testing some genetically engineered crops, but there is nothing like that happening with trees, except for limited work with populus and herbicide resistance. For instance, in the case of Merkle's work with yellow poplar, 10 to 12 years is required just to get starting material for research



Mature yellow poplar somatic embryos ready for germination.



Frazer magnolia plantlet grown from somatic embryo.

Nevertheless, in spite of time constraints and expense, research is expanding. When Dr. Brown started his lab at UGA in 1960, similar programs were virtually nonexistent. Now there are more than 50 such tissue culture facilities in North America that are working with forest trees.

So the research goes on with one non-cloned virtue dominant above all others: Patience.



Sweetbay magnolia plantlets derived from somatic embryos.



Two plates germinating yellow poplar somatic embryos.

ANIMAL INN PROGRAM PROMOTES DEAD TREES PRESERVATION

“People are becoming more and more environmentally conscious and Animal Inn fits in perfectly with good stewardship of the land.”

North Georgia's Chattahoochee National Forest is a major participant in a nationwide wildlife habitat program expected to include 100 million acres of National Forest and Bureau of Land Management public lands within the next year. More than 40 states will be involved.

The program, titled ANIMAL INN, is an educational program promoting preservation of dead trees (snags) as homes for various types of wildlife. Currently, one-third of the National Forests in 15 states are using the program's materials; this encompasses 50 million acres.

Laurie Fenwood, a U. S. Forest Service interpretive services and marketing specialist for the Chattahoochee National Forest area, said that only in the last 20 years have scientist discovered just how crucial “snags” are to the ecosystem of a healthy forest.

“Nearly a third of all forest creatures depend on standing or fallen dead trees for survival,” Fenwood said. “Even fish, plants, and microorganisms make use of decaying trees. The beauty of this program is that there is not a lot to do to maintain it—just leave the snags as nature causes them to evolve.”

Leaving snags, Fenwood said, is

beneficial not only to wildlife, but also to human beings who fare better when the balance of nature is preserved; one small factor builds on another to harmonize with the



whole. For example, woodpeckers are primary excavators of dead trees. Approximately 75 percent of the woodpecker's diet consists of insects pecked out of the decayed bark. Many destructive insects are consumed by this process.

Woodpeckers also drill out nests in dead trees. A number of creatures take up residence when the woodpeckers have abandoned these nests. New occupants include wood ducks, sparrow hawks, screech owls and bluebirds. Mice and flying squirrels also den in dead trees, while bats, also voracious consumers of insects, hide under the loose bark.

When the tree decays to the point of falling, another cycle of use begins. Insects and plants contribute to further decomposition and provide burrowing space for small mammals. When the log is hollow, skunks, opossums and rabbits may use it for shelter.

The final breakdown yields rich woodland soil which nourishes the

Dead trees (snags) like this one at left have generally been considered good only for firewood. Now a new program encourages preservation of snags as an important part of the ecosystem.

entire system so the cycle of life can be perpetuated.

Woodlands and rangelands on 147 million acres of National Forests and Grasslands, plus nearly 90 million acres of public land administered by the Bureau of Land Management, provide habitat for more than 1,000 species of wildlife. Dead trees (standing and fallen) on these lands provide vital food and shelter for wildlife. Such trees also sustain fungal growth, nutrient recycling, and sediment entrapment; tree species involved included evergreens and hardwoods throughout the 50 states.

Animal Inn was initiated by the U. S. Forest Service on Oregon's Deschutes National Forest in 1986. The purpose was to alleviate the dilemma resulting from woodcutters and animals competing for dead trees. Animals were getting the short end of the stick.

Initial educational efforts of the program ranged from classrooms to billboards. Success of the program resulted in expansion to a national cooperative effort involved included evergreens and hardwoods throughout the 50 states.

PARTNERSHIPS FORM

Fenwood said. "Partnerships are developing into one of the most important characteristics." Fenwood is referring to collaboration between government, educators, conservationists, forestland owners, and managers to protect and conserve standing and fallen dead trees.

"Private landowners are becoming increasingly interested in the program," Fenwood said. "One reason is because it's easy to do - just leave what is already there. Another reason is that leaving snags when timber is harvested serves a useful purpose for regeneration. Dead trees are perches for hawks and owls that eat the rats that eat sprouting trees of the next generation."

In addition to offering educational programs for school systems, Animal Inn will assist agencies and landowners in maintaining wildlife habitat. This is considered especially important because of the increasing public demand for forest products. "The key to continued success of the program is education," Fenwood emphasized. "We've had quite a bit of success in the Chattahoochee

Laurie Fenwood, a U. S. Forest Services interpretive services and marketing specialist for the Chattahoochee Forest area, coordinates numerous activities of the Animal Inn program. The preservation efforts benefit humans and wildlife by promoting a balance in nature.



area with programs ranging from grammar school through high

school," Fenwood said.

Essential to the program's structural success are six "Area" teams working with local organizations and private industry partners. These teams develop materials and techniques in relation to social and forest conditions of the locale. Protection of key habitats are emphasized.

In essence, the program provides the following basics: builds awareness that dead and dying trees provide valuable wildlife and fish habitat for healthy forests motivates woodcutters, recreationists, and landowners to save trees with broken tops, trunk holes, visible nests, or special markings provides a tool for forest managers to meet state and federal wildlife objectives.

Organizations involved with the growing Animal Inn program include: American Forest Council, American Forestry Association, Defenders of Wildlife, International Association of State Foresters, National Audubon Society, National Fish and Wildlife Foundation, National Forest Products Association, National Wildlife Federation, North American Bluebird Society, Portable Equipment Manufacturers Association, Trout Unlimited and Wildlife Management Institute. Promotional materials range from posters to bookmarks T-shirts and lapel pins are also available.

TIME IS RIGHT

"The program is growing because the time is right, Fenwood said. "People are becoming more and more environmentally conscious and Animal Inn fits in perfectly with good stewardship of the land."

Inquiries regarding the program and materials should be directed to: Animal Inn, Forest Service - Bureau of Land Management, P. O. Box 7469, Bend, OR 97708-7469 (Phone: 503-388-8561 or 503-388-8567).



ANIMAL INN

Please Protect Trees With:



Trunk holes or visible nests



Broken tops



Wildlife tree or ANIMAL INN signs

Thanks For Your Help!

Augusta's CCA-preservative wooden bridge - the first of its kind in Georgia - represents another first: the experimental model is the first in the Commission's statewide bridge building program to be constructed by Commission employees.

"Forest firefighters with no previous bridge building experience constructed this one from the ground up," said Steve Abbott, Commission Ranger I with the Columbia County Unit. Abbott, who was selected as foreman of the crew on the basis of record and tenure, supervised three other Ranger I employees during the one-year project. Crew members included: Eddie Jackson of Burke County, Randy Walden of Jefferson County, and John Crawford of McDuffie County. Bridge construction was combined with the crew's regular duties.

Abbott described the crew's performance as "excellent." He also commended the Richmond County (Augusta) Unit for their assistance in storing materials and providing support.

"We (the crew) got frustrated from time to time because much of what we did was by trial and error - and we had to get it right in the end," Abbott said. "But we were always encouraged by Macon headquarters' support.

Safety and quality of the finished bridge were primary objectives of the project. Abbott is particularly proud of the fact that no injuries occurred in spite of working under some potentially dangerous conditions. Abbott pointed out that one of the most dangerous potentials of this site was a large snake population. Densely wooded bogs fringing Spirit Creek provides a haven for water moccasins that would slide under the bridge timbers to hide.

"This is an experimental bridge, but the experiment turned out real well," Abbott said. "The structure is providing some valuable research, and if this crew has to build another one - we'll know exactly how to do it."



Group examines new bridge following dedication

PRESERVATIVE TESTED ON WOODEN EXPERIMENTAL BRIDGE NEAR AUGUSTA

A wood preservative widely used in treating lumber for home decking could be the key to the construction of many long-lasting rural bridges across the state.

The Commission, in cooperation with the Southern Pine Marketing Council, Georgia Southern University and the U.S. Forest Service, recently built a 66-foot bridge from timbers treated with the preservative called CCA as a research/demonstration project.

"CCA is the most commonly used, and probably the most environmentally accepted of wood preservatives," said Fred Allen, the Commission's Chief of Forest Products, Marketing and Development. "This bridge will provide research data necessary to determine the effectiveness of CCA and it could lead to an acceleration of construction of similar bridges."

Allen pointed out that the bridge, which spans Spirit Creek on the grounds of Gracewood State Hospital in Augusta, is not the first wooden bridge constructed under modern engineering methods with the Commission as sponsor, but it is the first of its type. He said there are 11 other wooden vehicular bridges either built or in various stages of planning and construction across the state.

Allen said the Augusta Bridge is one of a series of planned under a cooperative program with the U.S. Forest and various county governments.

The experimental bridge is 16 feet

wide and constructed in three 22-foot sections. Two sections of the wood floor decking are covered in asphalt, with the third left bare for data-collection purposes. All lumber in the project is Southern yellow pine.

Georgia's Department of Transportation estimates that of the state's more than 15,500 bridges and crossings, approximately 4,400 are structurally deficient or functionally obsolete. Allen said many of the faulty bridges are in rural areas and county governments are being shown the advantages of wood construction in replacing the spans; he said recent studies indicate timber bridges ranging from 20 to 60 feet in length can be cost competitive with reinforced concrete and steel structures.

He said such bridges have an expected life of 50 years or longer and they are lighter in weight, have excellent reserve strength, less difficult to construct, have a strong shock resistance and require low maintenance.

"Wood, of course, is produced locally and bridge construction opens yet another market for Georgia's forest landowners and lumber manufacturers," Allen said. "Timber bridges also provide a pleasing appearance and aesthetic qualities in a rural setting."

Allen said all construction on the experimental bridge was by Commission personnel and 18 forest-related industries and organizations donated the material for the project.

Commission forester, ranger consultants
in establishment of project.

HARDWOOD GROVE BECOMES OUTDOOR CLASSROOM FOR SCHOOLS IN HOUSTON

It was a small stand of hardwoods in an area choked with briars and weeds when school ended for the summer, but returning students this fall found it transformed into an attractive outdoor classroom and nature trail.

The newly developed facility on the grounds of Morningside Elementary school in Perry consists of a picturesque entranceway built of cypress and cedar, a foot bridge spanning a small creek, an amphitheater in a small clearing, and a wide path lined with wood chips as it meanders the length of the shady grove.

Although it is located at the school on the eastern border of Perry, school officials said it will provide an outdoor learning environment for all elementary, middle and high school students of Houston County, with an opportunity for the study of forestry and tree identification, natural resource management, ecosystems, outdoor art and biology.

"The project was financed by a \$3,390 matching grant from the America the Beautiful Program," said forester Harry Graham of the Commission's Eleventh District. "It illustrates how an unsightly plot can be made into an inviting place for nature study and for a better understanding of the many benefits of our forests when school and community leaders work together."

Graham and Chief Ranger Joe Batchelor of the Houston County Forestry Unit were consultants in planning the project and the county school system's maintenance department provided expertise and labor in clearing the site and handling the construction. Proctor and

Gamble Cellulose Company donated pine bark for the quarter-mile long nature trail.

America the Beautiful is a federally-funded "challenge grant program" administered by the Forestry Commission. The school system matched the grant through machine use, labor and other services.

Cliff Wood of Proctor and Gamble, coordinator of Project Learning Tree (PLT), another program administered by the Commission, approached Houston schools sometime ago with the idea of developing such a project. Teachers enrolled in PLT workshops which provide an environmental curriculum for students, also will use the outdoor facility.

In a recent dedication ceremony, Dr. Harold Chapman, superintendent of Houston County Schools, said "we are pleased to open this learning facility for the students of our system and for the residents of the community. It will provide an opportunity for our students to have a variety of relevant hands-on experiences in learning about the environment and will give the community a place to enjoy a walk in a natural setting."

Graham said the Commission is "proud to have had a role in the development of the project and I commend the school maintenance people and others who planned and worked to bring it about." He said the outdoor teaching facility "will stand as a monument to what a community can do to enhance its environment."

Top: Forester Harry Graham discusses tree aging process with elementary school students. Middle photos: Students check out creek bridge while others use small amphitheater. At right, Chief Ranger Joe Batchelor and students at entrance to the nature trail.



SOLID WOOD AND FINE CRAFTSMANSHIP WITHSTAND TWO CENTURIES

By Howard Bennett

Many motorists speeding along U.S. Highway 17 in Liberty County pay scant attention to the imposing landmark; they see it as just another country church, but to the men renovating the old two-story building at Midway, it's steeped in the history of Colonial Georgia.

Built 200 years ago, Midway Church tells a story of the durability of wood and the fine craftsmanship of the 18th century builders as pieces of siding, wainscoting and floor boards are pulled off to reveal massive structural timbers expertly joined by mortise and tenon, while smaller dimension lumber is fastened with wooden pegs and hand-forged nails.

The cedar shingles on the roof were replaced with Southern pine shakes and a section of the lofty steeple and spire had to be rebuilt, but workmen found most of the building in sound condition and only certain timbers in the foundation and internal walls had to be replaced. The replacement lumber had to be specially milled to conform to the dimension and pattern used in the original construction.

PINE REPLACES CEDAR

Otis A. Amason of Midway, an official of the Midway Society, an organization that maintains the historic church, said the taper sawn pine shingles purchased from a Savannah company are guaranteed to last 50 years. "We were about to use ordinary shingle nails on the roof," Amason said, "when someone from the company asked why we would use them good for only about

recommendation and used stainless steel nails."

The roof was not the only section given careful attention as the renovation progressed. Replacing lumber where ever needed was a painstaking task, as carpenters tried to make new timbers resemble the old members as closely as possible; they used wooden pegs instead of nails in many instances. Although the replaced studs and headers are again covered, Amason said that if carpenters in 75 or 100 years need to re-

CHURCH RESTORATION REVEALS INTERESTING CONSTRUCTION METHODS OF COLONIAL GEORGIA

10 years on a 50-year roof and that's when we took the supplier's



place the walls, they will find the framing virtually unchanged from the original construction.

The renovation revealed several interesting objects, including a wooden mallet, apparently accidentally dropped between the walls by one of the 18th century carpenters while driving in wooden pegs. A museum in a replica of the type plantation homes that were once found throughout the area is near the church and it displays documents, photographs, artifacts and other materials pertaining to the church and its long history.

PRIDE IN LANDMARK

Amason, obviously a history buff who was fascinated with the way the building was constructed during the administration of John Adams, the nation's second president, takes great pride in the Midway Society and its stewardship in preserving the landmark church. His interest is also personal; his father, the late Otis A. Fred) Amason, who served for many years as ranger of the Comission's Liberty County Forestry Unit, was married in the church and his funeral was held there.

Amason said one of the amazing features of the church is two massive 2 by 12-inch wooden beams that extend the length of the 60-foot building, with one on each side. Carpenters working on the restoration with their electric saws, drills and other power tools and equipment were impressed with the smoothness of the huge timbers that were so laboriously shaped from virgin pine with hand tools two centuries ago.

Each major beam and joist is identified by Roman numerals neatly incised into the wood. Heavy iron door hinges, locks, spikes and nails used in the church were believed to have been made by a blacksmith on the construction site.

Replacing the plaster on walls of the church was one of the last

Chief Forest Ranger Jeffery Stone examines massive timbers used in the walls of the old church and some of the mortised floor joists that had to be replaced.



THE BRITISH BURNED THE ORIGINAL BUILDING DURING THE REVOLUTIONARY WAR AND UNION TROOPS USED THE REBUILT CHURCH AS A SLAUGHTERHOUSE DURING THE CIVIL WAR. THE LANDMARK CHURCH HAS ENDURED OTHER WARS, DEPRESSIONS, HURRICANES.

phases of the renovation and someone else suggested to Amason that sheetrock should be substituted for plaster, as it would be less expensive and much easier to install, but the builder, bent on keeping with the original structure as much as possible, refused to compromise. A team of skilled plasterers was employed.

Amason said the renovation cost approximately \$200,000 and some donations have come from society members and others "but we still have a long way to go in raising that amount."

The Midway region of Georgia was settled in 1752 by Puritans and French Huguenots who crossed the Savannah River from South Carolina to seek out new lands. The first permanent church was completed in 1756, but was burned 22 years later by the British during the Revolutionary War. The congregation rebuilt the church in 1792.

War came to the region again in 1864, but General Judson Kilpatrick's troops, a part of General William Sherman's army in its March to the Sea, didn't burn Midway Church; they used the building as a slaughterhouse and hung carcasses from the balcony. Amason said livestock was confiscated from plantations in the area and the building's convenience as a place for slaughtering animals probably saved it from the torch. When a carpenter found the hoof of a mule concealed in a wall this summer, Amason said he likes to think that "a mule was butchered and passed off to Union troops as roast beef."

The Midway Church, originally a Congregationalist church but now an inter-denominational church that does not have regular worship services, has produced an astonishing number of prominent men, including governors, U. S. senators, congressmen and cabinet members. Among ministers were the Rev. Abiel Holmes, grandfather of Supreme Court Justice Oliver Wendell Holmes and the Rev. Jedidiah Morse, geographer and father of S. F. B. Morse, inventor of the telegraph. General Daniel Stewart, a member of the congregation was the great-grandfather of President Theodore Roosevelt. Georgia counties named for Midway men in-



Otis Amason, who was in charge of the restoration project, stands at the corner of the historic church. Regular worship services are no longer held in the church, but it is used for weddings, funerals, Easter services and other special events.

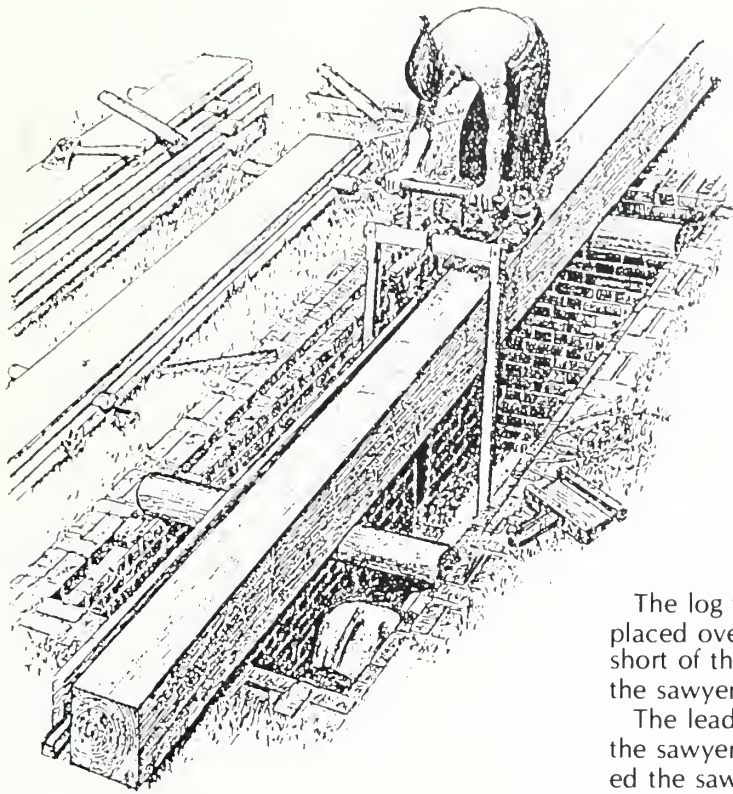
clude Baker, Gwinnett, Hall, Screven and Stewart.

Many members of Midway are buried in a walled cemetery across the highway from the church.

The sturdy building that survived the Civil War is only 35 miles from the Atlantic coast and has not been damaged by numerous hurricanes and other storms; local historians said the well built church withstood an earth-

quake that jolted the area sometime in the 18th century.

When local members and former members from California, Wisconsin, New York and other distant points arrive next year on the last Sunday in April for the annual reunion, they will find their historic church completely renovated and gleaming white, ready to stand for the generations to come.



Drawing of a 17th century saw pit where each plank had to be laboriously cut by hand (Note second man in bottom of the pit).

Where did the carpenters and joiners of the 18th century get the lumber to build the Midway Church 200 years ago?

It's obvious they didn't have the convenience of the local lumber yard or building supply house where there is always a selection of smooth studs, joists, planks, moulding and wood in other standard dimensions.

Their lumber did come, however, from something that slightly resembled a sawmill, just as all lumber today originates at a sawmill, but the manufacturing source the colonial Georgians relied upon probably was a "pit mill."

The pit mill depended solely on manpower; water-powered mills were in existence at that time, but they were mainly in the New England states.

There were several types of pit arrangements for sawing lumber, but the permanent pit consisted of a hole in the ground that was lined with brick or stone. It had a level sill at about ground level on which rested rollers to move the log, or cant, forward as it was sawn.

The log was squared with a broadaxe before it was placed over the pit; the sawing was stopped just short of the end of the timber to reserve a place for the sawyer to stand until the last plank was cut.

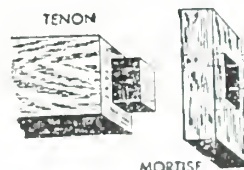
The leader of the hard working two-man team was the sawyer; he stood on top of the timber and guided the saw along a straight line drawn on the wood. The sawyer pulled the saw upward and the pitman, who worked in the hole, pulled the saw down again for the cutting stroke. The pitman also occasionally swabbed the saw with linseed oil to make it cut more easily.

The huge foundation timbers that support Midway Church were not produced at the pit. Slash marks show that they were hand hewn with an axe.

Another important craftsman in Georgia's early history was the joiner, a construction worker who took the rough-sawn lumber from the pit crew and dressed the showing side of the planks with his hand plane. He had a wide variety of razor-sharp planes to use in forming beads and other designs in lumber and in making moulding. The joiner (also spelled jointer) had the responsibility of cutting mortises and tenons that connected the main structural timbers in a building.

A few rough planks represented a long day of hard labor for two men sawing in the pit two centuries ago, whereas gang saws in today's modern mills slice a stack of lumber in mere seconds. The crew renovating old Midway Church was appreciative of that fact.

Builders in early Georgia cut mortises, or holes, in main support timbers to receive projecting parts called tenons. Wooden pegs were often driven through the joint to help secure the connection.





NATIONAL FORESTS IN GEORGIA NOW APPLYING SEVERAL NEW STRATEGIES

Georgia's Chattahoochee National Forest and Oconee National Forest will have new strategies applied in future years as part of a new program being implemented in the Southern Region. The Chattahoochee consists of 749,444 acres in North Georgia, while the Oconee includes 109,268 acres in the central Piedmont section.

New management strategies include the following concerns: Ecosystem Management, Rural Urban Interface, Water Quality and Quantity, Recreation/Wildlife/Fisheries, Special Areas, commodities, Silvicultural Practices, and Transportation Systems.

John E. Alcock, Regional Forester for the U. S. Forest Service, said the new

strategies of management reflect changing emphasis and new perspectives on Southern Region National Forests.

"Development of these strategies have been underway for more than a year," Alcock said. "They represent changing public attitudes toward National Forests in the South." He added that the strategies are expected to undergo revisions as needed during the next two years.

Alcock said two of the new program areas, ecosystem and silviculture, are key elements in the recently announced national policy of Ecosystem Management and reduced clearcutting. "This means our policy is in line with the national direction for National Forests," Alcock pointed out.

In relation to Commodities Management, timber and minerals are the most prevalent types produced by Southern Region National Forests. The value of National Forest commodities has increased over the years. In 1930, the total gross revenues for commodities in the Southern Region was approximately \$132,000. Last year, total gross revenues exceeded \$93,300,000.

Lands of National Forests are not part of the local tax base. Instead, 25 percent of the gross revenues from timber sales is returned to the states and local governments where the National Forest is located. The money is used in these areas to support local schools and roads. During fiscal year 91, \$23,300,000 was returned,

Projecting future situations in relation to new commodity management strategies, the U. S. Forest Service publication "Management Strategies for the Southern Region" states: "The actual amount of commodities produced on each National Forest is determined through the land management planning process as required by the National Forest Management Act. However, it seems clear that the amount of commodities produced from Southern National Forests will actually be reduced by some amount to meet the needs of threatened and endangered species, protect special areas, reduce clearcutting, phase out timber sales negative aspects, and, in general, practice more ecologically sensitive management."

RURAL/URBAN INTERFACE

A significance of the new U. S. Forest Service strategies concerning Georgia is the Rural/Urban Interface program related to Atlanta's proximity to the Chattahoochee National Forest. Forest managers are designing strategies to cope with increased demand for all resources while protecting them for the future. The interface situation has also created problems of increased demand for road and utility rights-of-way, fire protection, and over-use of recreation facilities.

The Chattahoochee, like other National Forests with Rural/Urban Interface problems, is experiencing an interest in the number of houses being built near the Forest. Such developments may make it difficult for local governments to provide services. Traditional approaches are not offering solutions to this new syndrome of rapid change. Development of new approaches and partnerships with local governments are expected to be an ongoing factor in the Rural/Urban Interface strategy - so that all landowners may be considered in plans and policies.

The new strategies are not intended to cover all Forest Service activities and programs; they communicate a shift in eight program areas that will be reflected in Forest Land and Resource Management Plans.





Harry Rossoll, right, famous Smokey Bear illustrator, shows painting he did for the Georgia Forestry Museum. Louie Deaton, left, retired urban forester, modeled for one of the figures in the painting.

ARTIST CONTRIBUTES PAINTING TO MUSEUM

Harry Rossoll, whose talents as an artist spread Smokey Bear's fire prevention message to millions of people, has donated an urban forestry painting to the Georgia Forestry Museum in Macon.

The 5 x 3½ foot acrylic painting depicts an urban forestry scene with the Atlanta skyline in the background. Rossoll, an illustrator with the U.S. Forest Service for 34 years, is credited with fostering the idea of Smokey Bear into one of the most recognized images in the world. Now retired from the U.S. Forest Service and working out of his Atlanta studio, he concentrates on a variety of murals and specialities - such as painting hunting dogs. A typical example of his recent works is a series of forestry murals displayed in the Forest Heritage Education Center in Ever Bend State Park near Broken Bow, Oklahoma; Rossoll spent 12 years completing 14 large murals for the display.

Rossoll's quarter-of-a-century

journey with Smokey Bear has won him numerous state and national awards. He was named Conservationist of the Year by the Georgia Sportsman Federation in 1971. He received a Merit Award from the Soil Conservation Society of America and Superior Service Award from the U.S. Department of Agriculture (Forest Service). He also appropriate-

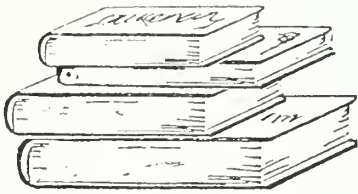


ly received the Smokey Bear Award for outstanding public service in forest fire prevention.

Rossoll's association with Smokey Bear since its inception in 1944 was a major influence in the fire prevention program which has resulted in national savings of billions of dollars. As art supervisor, Rossoll was responsible for layout of all publications of Region Eight, including conservation brochures, maps of camping areas, annual reports and special projects.

Rossoll has been described as a one man forest fire prevention force. His dynamic personality and talent blend to make him one of the nation's top conservation spokesmen.

So what does Rossoll do to keep himself busy in retirement at the age of 82? All things considered, he's probably busier than when he was officially employed. He serves as art director of the Forest Farmer Magazine and has numerous freelance projects.



THE BOOK CORNER

REAL GOODS SOURCEBOOK, edited by John Schaeffer. Real Goods Trading Corp., 966 Mazzone Street, Ukiah, CA 95482. \$16.00.

Real Goods, a California mail order firm that has been selling products for energy independence since 1978, has now published the 7th edition of its Alternative Energy Sourcebook. With more than 500 pages of articles, photos, charts, and product information, this is an indispensable reference for anyone serious about freeing themselves from the power grid or simply living a more independent lifestyle.

The Sourcebook is edited by John Schaeffer, President of Real Goods, from the collective output of the company's technical staff who boast more than 100 years of combined experience in living "off the grid." Detailed information is provided on all energy-saving equipment including high-efficiency lighting, photovoltaic panels, instant hot water heaters, and composting toilets. The hard information is balanced with equal parts philosophy and even humor. "At Real Goods we take our mission seriously," says Schaeffer, "but we try to keep ourselves in perspective."

A unique feature of the Sourcebook is that the full purchase price (\$16) is refundable to anyone placing a \$100 order with Real Goods. Additionally, the company will make available future editions for a small shipping and handling charge, plus proof that the old copy was "recycled" by passing it along to a friend.

"The Sourcebook does the best job of any of us in explaining the rationale for energy independence," says Schaeffer.



Chief Forest Ranger Charles Mask addresses television audience for last time

ACE COMMUNICATOR MASK RETIRES

One of the Commission's most prolific communicators has retired after 36 years of service.

Charles (Bill) Mask's job title was Chief Forest Ranger, but to a large television audience and readers of a half dozen newspapers in Southwest Georgia, he was known as a respected telecaster and writer who provided expert news and views of forestry every month for 20 years.

"Well, I did miss one month," Mask admitted. "That was when my father died and I sent a patrolman to the TV station that month to fill in for me." His telecasts each week consisted of a commentary, an appearance on a popular noon time farm show and the taping of messages on urban forestry.

Mask, who served his entire career at the Calhoun-Clay County Unit at Edison, took over the monthly television obligation after Forester Preston Fulmer, who initiated the project, was transferred from the area. The station, a CBS affiliate, is a short distance across the state line in Dothan, Alabama, but it enjoys a wide viewing audience in Georgia.

Actually, the ranger's weekly newspaper contributions spanned 30 years. He began writing forestry news for his hometown paper, The Southwest Georgia News, and expanded the coverage to several other area newspapers. He also had a radio program for about three decades.

And then there is another record attributed to the public relations minded ranger: an Emphasis Sunday is observed each year during the National Soil and Water Stewardship

Week and Mask delivered the message in his Edison Baptist Church on that particular Sunday for 36 consecutive years! He has served as secretary of the Edison Lions Club for 32 years.

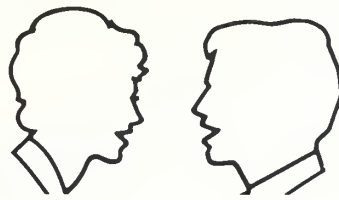
Mask, who was born in Honolulu, Hawaii, where his father served in the U. S. Navy, lived for some time in Virginia. He attended Virginia Tech for three years, with studies concentrated on forestry. Although he never received a degree in forestry, colleagues contend he is well versed in the profession, as reflected in his thousands of news articles, radio programs and televised discussions through the years.

As his retirement date neared, the ranger said he had to "haul off a pickup truckload of magazines, newspapers, bulletins, scientific papers, farm and forestry reports, annual reports, trade papers and other accumulated publications" from which he had studied and gleaned information for his program and writings.

Mask, who came with the Commission in 1956, was feted by a large group of Commission employees and other friends at a retirement dinner in Edison. The retired ranger and his wife Mary have two married daughters, Deborah and Nancy, and two grandchildren.

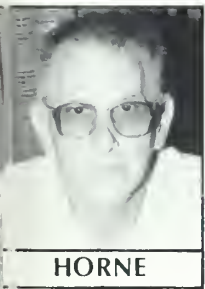
What will Mask do in retirement? Loaf for a while, he said, and then settle down to some serious gardening, fishing and hunting...and hope someone else will take over and keep the forestry story before the people of Southwest Georgia.

PEOPLE



IN THE NEWS

CHIEF RANGER JAMES HORNE said he will miss the personnel in his unit and others in the Commission as he prepared to retire after almost 33 years of service in Ben Hill County. The feeling was mutual as long-time fellow employees and other friends honored the veteran ranger at a retirement dinner in Fitzgerald. Horne, a native of Wilcox County, came with the Commission in 1959 as a patrolman and was promoted to ranger in 1976. The retired ranger and his wife Linda are active in Abba Baptist Church and he plans to build a pond, put up fences and attend to his two-acre garden now



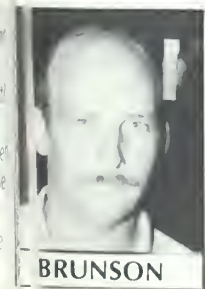
HORNE



BURNS

that he has some free time. The couple, who has a son, Greg, also plans to travel to the west coast and other points during the retirement years...

CHIEF RANGER J. HOLLIS BURNS, of Gordon County Unit was honored with a party in Calhoun in May in appreciation for his more than 30 years of service to the Forestry Commission. A native of Gordon County and a graduate of Oostanaula High School, the ranger came with the commission as a patrolman in 1962 and was named ranger in 1975. He was promoted to senior ranger in 1988. Burns and his wife Charlcie have two married children, Penny and Jim, and two grandchildren. The retired ranger, who



BRUNSON

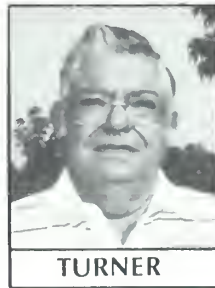


WHITE

served overseas in the Army during the Korean War, received a handsomely framed resolution from the Board of County Commissioners for his long years of service to the citizens of Gordon County. The veteran ranger said he intends to enjoy being with his grandchildren and do some gardening during his retirement years...MIKE BRUNSON, who came with the Commission as a patrolman in the Gordon County Unit in 1984, was recently named chief ranger of the unit to succeed the retired Chief Ranger Hollis Burns. Brunson, a native of Douglasville, attended Armuchee High School and the Coosa Valley Technical School. He had some courses at Floyd County Junior College and Shorter College. The ranger has volunteered on three occasions to help fight the great western states fires in recent years. Brunson and his wife have two young daughters, Rebecca and Hannah, and the family is active in the East Calhoun Church of God....GARY WHITE, former ranger of the Johnson county Unit, is now Forester/Chief Ranger of the Hart-Franklin County Unit. A native of Delaware, he came



GOGGINS



TURNER

with the Commission in 1988. White earned a degree in forestry at West Virginia University and served two years in the Peace Corps in West Africa. The forester and his wife Katrina have one young son. They attend the United Methodist Church...MICHAEL P. GOGGIN is the new director of the U.S. Forest Service's Southern Region Soil, Water and Air Unit. Goggin comes to the region after serving as Forest Service national liaison to EPA for forestry and water quality issues and he replaces KEITH GREST, who recently retired. Goggin will be responsible for management of the Soil, Water and Air and

cooperative watershed programs for the region's 35 national forests. The unit also manages the Center for Forest Environmental Studies in Macon...Friends and relatives of LOTT W. TURNER gave a retirement dinner in Folkston in late August for the retiring Chief Ranger of the Charlton County Unit. Turner came with the Commission as a patrolman in 1959, and with the exception of four years when he left for other employment, his entire career was spent in Charlton County. He was promoted to ranger in 1970. Turner and his wife Iris are active in the Freewill Baptist Church, where he serves as deacon. The couple have four married daughters, Iris, Donna, Sheryl and Pamela, and seven grandchildren...

FIRST LADY COMMENDS COLUMBIA RANGER'S SON

The last time Russell (Rusty) Meadows really got serious about conveying a message with his paint brush, news of his effort reached from Augusta to the White House and prompted a letter of commendation from First Lady Barbara Bush.

Rusty, son of Commission Chief Senior Ranger Wayne Meadows (Harlem Unit), said considering the unstable Middle East situation, that he may have to dust off his paint brushes again.

Now 18 and recently graduated from Harlem High School, Rusty and classmate Josh Maddox decorated the traditional school rock (known as "The Rock" or "Spirit Rock") with a painting of an eagle over a map of Iraq with the phrase "The Eagle Has Landed."

"We painted it the morning after the U.S. invasion of Kuwait," Rusty said. He explained that the huge Rock on the Harlem High campus serves to display various paintings and announcements concerning school activities.

"We are proud of it for a number of reasons - it stayed there longer than any other painting had stayed on The Rock," Rusty said. "But we never expected what happened after we finished it."

Harlem High School bus driver, Jean Lytle, wrote a letter to Barbara Bush describing the painting and the First Lady replied: "Thank you for your message and letting me know about your patriotic symbol painting on the 'Spirit Rock'. I am heartened by the number of Americans such as you who are demonstrating their support for members of our Armed Forces...The President joins me in sending our thanks and best wishes."

TAKE ANOTHER LOOK

The Georgia Forestry Commission urges landowners to plant profitable trees on vacant or marginally unproductive acreage. Many have taken that advice, but thousands of acres remain vacant across the state. If you own land, take a closer look at your property and if you have acreage that should be in fast growing trees, contact a forestry consultant or a Commission forester for professional advice on reforestation. Quality seedlings are now available at state nurseries.



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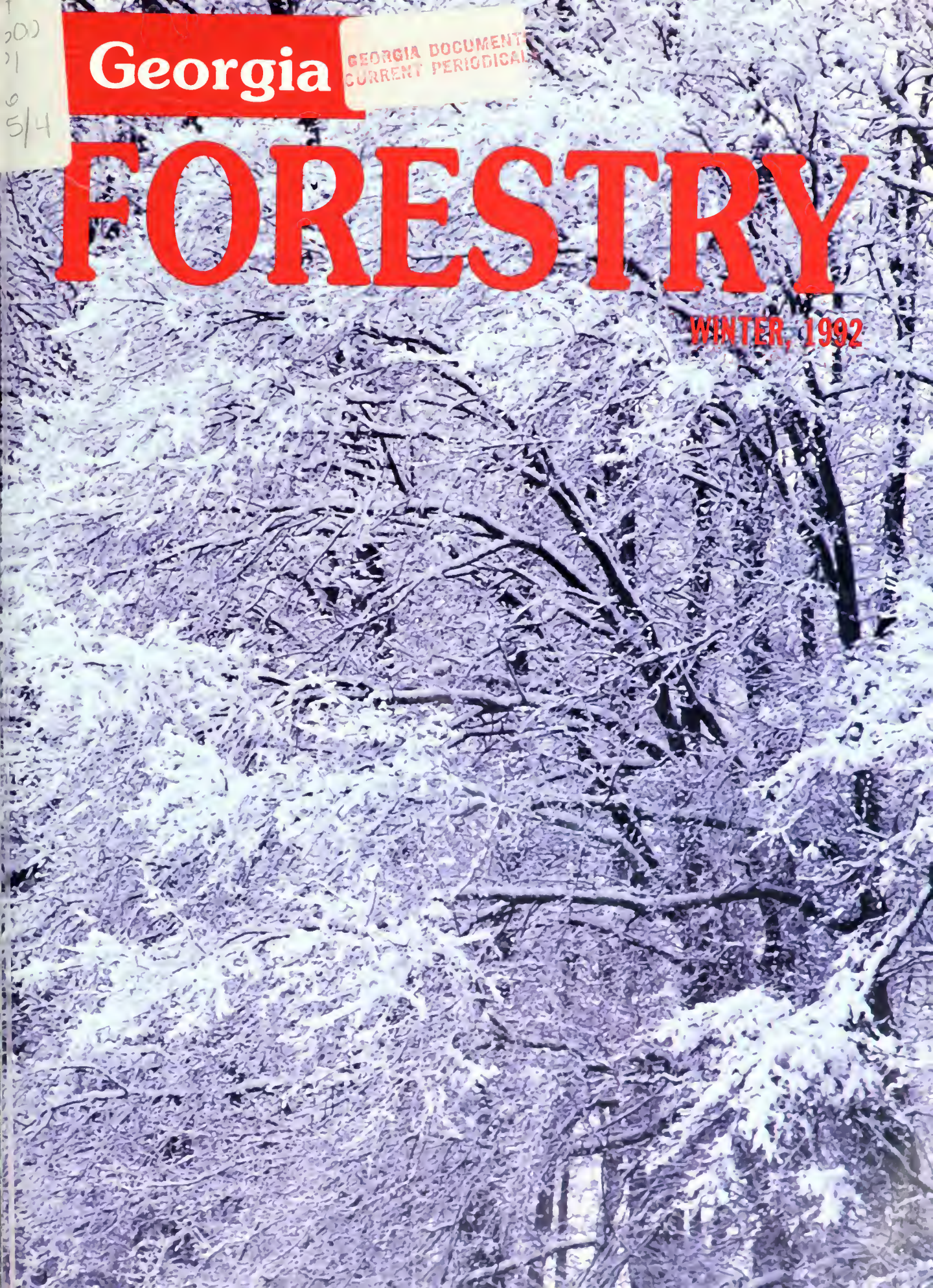
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The terrible force of the band of tornados that swept through Georgia in November is demonstrated in the twisted tower at the Commission's Baldwin-Putnam County Forestry Unit. Mammoth concrete foundation blocks that were mainly underground offered no resistance to the funnel that twisted the 110-foot steel tower from the footings and slammed it into the roof of a nearby shop. The late afternoon storm also destroyed several homes and uprooted many trees in the vicinity. Other information and aerial photographs on page 21.



ON THE COVER - Ice had generously glazed the forests of North Georgia when Forester/Photographer Jim Goebel of Mansfield went out hunting with his camera and came upon this wintery scene.



FUNGUS IS DEATH TO DOGWOODS

The dogwood tree is unsurpassed in Georgia in lending beauty to both the urban landscape and the broad countryside; it presents a fine show of deep red foliage in the autumn and performs its magic again in the early spring with a burst of white flowers.

The native dogwood, *Cornus Florida*, is a bushy tree with a short trunk that features several spreading branches forming a dense rounded crown.

The tree usually thrives best in the shade of other hardwoods and reaches a height of 15 to 30 feet. The tree usually must grow from three to five years before the first flowers appear in the spring. Once flowering begins, the homeowner can usually expect yearly blooming, with a heavy crop about every other year.

Unfortunately, the anthracnose fungus, *Discula destructiva*, has ravaged sections of North Georgia in recent months and there is no known resistance to the killer. The one recommended defense, however, is to plant only healthy dogwoods and never transplant trees from the forests, where the disease is most often found.

Johnny Branan, chief of the Commission's Reforestation Department, reported earlier this year that the Georgia Crop Improvement Association inspected and certified dogwood seedlings in the state nurseries to be free of the dreaded fungus.



Foresters and nurserymen also point out that selection of a planting site, the method of planting, and continued maintenance often determines the health and survival of a dogwood. They advise that the tree should never be planted in poorly drained sites and the shallow-rooted plant should not be planted deeper than it grew in the nursery. The tree should be watered during dry seasons, and lawnmowers and string trimmers should not come in contact with the trunk.

The tree in its natural state usually does not require fertilization, but those in lawns and other restricted growing sites often benefit from fer-

tilizer applied in late spring or early summer, after leaves complete their expansion. The fertilizer should be broadcast on top of the ground and the plant should be thoroughly watered. Watering dogwoods with a sprinkler is not recommended as it wets the foliage, creating conditions that could lead to diseases.

Dogwoods also need to be mulched to protect the root system from extreme cold and heat; a four to six inch layer of pine straw or bark should be placed around the plant. Mulching also discourages weed growth and bark injury caused by mowing and trimming equipment.

Quality dogwood seedlings produced by the Commission's nurseries are sold in packages of 50, 500 and 1,000 and are delivered to county forestry units after dormancy. Height of the trees range from 12 to 24 inches.

Some of the information contained here is adapted from the pamphlet, *Growing and Maintaining Dogwoods*, by Ken Bailey, Athens District Forester, Georgia Forestry Commission; and Edward A. Brown, II, plant pathologist, Cooperative Extension Service, University of Georgia. The illustrated pamphlet, which describes other dogwood diseases and additional planting and maintenance information, is available free at all Commission offices.



Forester Gary White directs a crew of forest rangers in clearing fallen trees in the wake of the recent tornado, a task he would have never faced during his service in an almost treeless area of Africa.

FORESTER FOUND PEACE CORPS SERVICE CHALLENGING AND REWARDING

By Howard Bennett

Forester Gary White rode a donkey along an ancient caravan route to Timbuktu and spent some time astride a camel to explore a strange and primitive land, but most of his time in the Peace Corps in Africa was devoted to the operation of a tree nursery on the rim of the great Sahara Desert.

White, now forester and ranger of the Commission's Franklin-Hart County Forestry Unit, was on the continent to help reforest Upper Volta, a former French colony that was renamed Burkina Faso in recent years.

After studying French and local culture for two months and receiving technical instructions in Ouagadougou, the little country's capital city, civilization as the young man from Delaware had known it abruptly ended as he and his gear were loaded into a truck that headed across a sun-baked and almost treeless landscape to a village where he was to live and work for the next two years.

When he reported to the little hamlet of Didyr, a cluster of round adobe huts with thatched roofs, he found a desolate land plagued by drought, over-population, deforestation, over-grazing, woefully depleted soil and the

His mission was in a little African republic plagued by many problems. It is a land where life expectancy is only 44 years.

slow, but relentless encroachment of the desert.

The forester, a graduate of West Virginia University, said his principal goals were to help grow fast growing exotics (species from Australia and India) in the nursery for firewood production; produce local species important for fruits, nuts and other products; provide seedlings for agri-forestry projects; and keep trees growing as a barrier in a zone where the desert attempts to move into farmland.

While the villagers lived in huts, White said he was fortunate to rent "the best house in town" a small con-

crete block building with a tin roof, but without electricity and running water. It was built for Peace Corps personnel who had previously served in the area.

The forester used a kerosene lamp for lighting and built a bed from scrap wood. "On many hot nights," he said, "I would carry my bed, mattress and mosquito net outside and sleep under the stars."

White said he ate mostly with his neighbors, with goat meat often being the main course, but did his own cooking when he could find something at a little market that opened a couple of times a week.

The Peace Corps volunteer had contact with the outside world twice each month when he made an 80-mile round trip to the capitol on his dirt bike to pick up his mail. He also was aware of world events by tuning in to the BBC in London and broadcasts in French from Paris. Incidentally, the French language is what landed him in the African republic in the first place.

"When I was studying in West Virginia," he explained, "my intentions were to work in tropical forestry in the rain forests of South America, but t

Peace Corps saw it differently. When they learned I had taken French back in high school, I was assigned to the little country in Africa where French is the official language." He admitted the two-month crash course in the language was essential to bolster what he had previously learned in high school.

The seedlings grown in the nursery are the joint effort of the Peace Corps, the little country's government forestry agency, schools and local farmers. The seedlings are used mainly to supplement the few remaining forests in the areas, which are merely scattered patches of trees. White said reforestation is an effort to correct a practice that started many generations ago when land was cleared of trees for row crops, farmed season after season until the soil was depleted and then abandoned as whole villages moved to another wooded site to clear and farm new ground and then repeat the process.

TRIBAL TRADITIONS

The former French administrative district includes the territory of several indigenous tribes and most of the inhabitants continue to farm in the tradition of a tribal society. The farming system has helped destroy much of the forests, but the sole dependence on wood as a cooking and heating fuel has further depleted the fragile timberland.

Another major hindrance to the little country, which is about the size of Colorado, is the vast Sahara Desert on its southern border. The hostile wasteland is a little larger than the United States and is ever expanding into populated grasslands and forests, often uprooting people. The Sahara, the largest desert in the world, expanded by 27,000 square miles in the last 50 years.

An anti-erosion project that inspired White was the construction of terracettes similar to those in Israel. Terraces are made of field stone to trap water on a hillside and then directed to planted areas on a lower level. The forester also is credited with improving the way in which the villagers cooked their food. Generations have balanced their cooking pots on three rocks, but White built an outdoor stove with adobe brick that burns wood and crop residue more efficiently and many of the women were pleased with the innovation.

The forester said he had learned to make adobe brick by watching, and some-



White's mission was to grow seedlings that would help reforest one of the poorest and most unstable countries in Africa. It is a land of poor soil, frequent droughts and the invading sands of the Sahara Desert.



White Claims Service Abroad Helped Him Become A Better Forester In Dealing With Conservation Here In Georgia

White said he sees wood rotting in the forests of Georgia today and remembers riding his motorcycle to town for his mail back in Africa and taking along a piece of firewood to trade for a fish. "That little piece of wood was worth a quarter over there," he said, "that was a lot of money in that town."

The forester said, "you can't compliment Africans on the conservation of their forests in the past," but he pointed out that good forest management is now being taught on the continent and there is hope reforestation will eventually become widespread. "They don't have the climate, soil and experience we have here in Georgia," he emphasized, "and any accomplishment over there, of course, is much harder to come by."

White said contrary to the widely held belief that people of the third world are lazy, he found people in the village of Didyr "willing to work hard under difficult circumstances." He told of entire families arising at 4:30 a.m. to cook, pack a lunch and take off on foot to work in their field three to 15 miles from their home.

Now that he is back in his native land and pursuing his career as a professional forester, White said he often reflects on his experience in the foreign land as he goes about his daily assistance to Georgia forest land owners. "I think I learned something about diplomacy over there," he said "I had to convince people to change the way some things had been done

times helping the local men mix clay, straw, manure and water together to be placed in molds and baked in the sun. All native huts are made of adobe brick and then plastered over with a thin mixture of mud and tree bark extract.

White said seedlings grew rapidly in the nursery, but when he first arrived some of the plots were favorite grazing areas for roaming goats and other farm animals. "We were finally able to get some fencing material," he said, "and that immediately solved the problem." Farmers grow millet, cowpeas and some rice and they have a similar problem as livestock have an open range.

After White had been on the project for about a year, a group of newly recruited Peace Corps volunteers came through the village on a day that was to be a highlight in his life. The visitors included Katrina Greenway of Norcross, Georgia, who was to become his wife. She had an associate degree in forestry from Abraham Baldwin College and also had been required by the Corps to learn French prior to her African assignment.

After they returned to the states, she attended the University of Georgia to earn a degree in agronomy. They were married in 1988 and now have a three-year-old son.

Not unlike the experiences of most dedicated teachers and instructors, the forester said he learned as much from the Africans as they learned from

him. While he provided the technical training in nursery operations and emphasized the need for forest management and its long term benefits, he said, "through their lifestyle, they taught me a lesson in conservation and how to survive in a very harsh environment. They know how to improvise and they showed how practically everything can be recycled."

"SHAMEFUL WASTE"

The forester said the experience opened his eyes to the "shameful waste we tolerate in this country." When he returned to the United States he said he soon realized how much his service in the Corps had helped him become a better forester in dealing with the conservation effort in Georgia. "Those people in West Africa have so little and we have so much," he said, "and the contrast is particularly startling when you finally have time to stand away from the scene and look back."



Above: The village of Dydor, home to Forester White for two years. At right, a portion of the tree nursery managed by the Peace Corps volunteer.

centuries and in this country some of our landowners are just as reluctant to end old traditions when confronted with new technology in forestry."

CHALLENGE OFFERED

White said he considers the Peace Corps, a Federal Government organization initiated in 1961 during the administration of President John F. Kennedy "a challenge and a sound investment for foresters and others who want to learn something of the third world nations and attempt to make life better for the people of those regions." The aim of the organization is to train and send Americans abroad to work with people in developing countries on projects for technological, agricultural and educational improvement.

The forester said he has heard that the annual cost of maintaining the Peace Corps is less than the cost of just one military jet fighter plane. "If that's true," said White, "the taxpayers are getting a real bargain in our effort to promote peace and understanding and a better way of life for people in many countries around the world."

How long that it has been some time since it was necessary to use their foreign language skills, do the Whites continue to converse in French once in a while? "Hardly," said the forester. "We're a little rusty from non-use, but we do communicate in French when it is necessary for our son William not to understand what we're discussing." The young William will undoubtedly one day understand the significance of the Peace Corps and be proud of a parent who served to help make a difference in the world.



Tree planters in Burkina Faso



The Christmas tree recycling movement is gaining momentum each year as more Georgians decide to dispose of their tree for useful purposes.

AFTER CHRISTMAS REMINDER

Georgians are being urged again this season to take their Christmas trees to a local recycling center site Saturday, January 2, to have them chipped into useful mulch or used in other ways.

More than 70 cities and counties are cooperating in the project by establishing 250 recycling sites across the state. The collection points will be open from 9:00 a.m. to 4:00 p.m. and persons bringing trees will be given red maple or dogwood tree seedlings while available.

The effort, coordinated by the Georgia Department of Community Affairs, is expected to divert approximately 300,000 Christmas trees from landfills to useful products. The Georgia Forestry Commission cooperates in the annual project. Most of the trees will be run through chipping machines to convert the wood, bark and needles into mulch, a material that can be used by communities as a protective cover around plantings in parks and other public grounds. The mulch helps reduce evaporation, maintain soil temperature, prevent erosion, control weeds and enrich the soil.

The sponsors also point out that the program will prevent about 3,000 tons of waste from being dumped into landfills across the state.

In Richmond, Monroe and Hart Counties, the Christmas trees will be placed in area lakes to enhance fish habitat. In Dougherty County, the trees will end up as an alternate fuel for Proctor and Gamble Paper Products plant. The tree mulch will be added to nature trails in a state park in Barrow County and recreational areas and parks will benefit from the mulch in Bibb County.

Georgia Power's sponsorship includes printing and distributing 650,000 promotional flyers and 1,000 directional signs, purchasing 130,000 tree seedlings, placing promotional inserts in 1.5 million utility bills and offering assistance in the cities and counties from local company offices.

WSB-TV of Atlanta, through its Family 2 Family Program, will produce and distribute public service announcements to promote the recycling program. A caricature of a beaver dressed as Santa Claus and the slogan, "Bring One for the Chipper", will be symbols of the effort.

For additional information on this year's Christmas Tree Recycling Program and collection sites, residents should check for advertisements in their local paper on December 30th and 31st or call the county unit of The Georgia Forestry Commission.



Scenic hardwood stands fringing Chattahoochee River compose part of SSI 100-acre tract of urban forestry development carefully planned 20 years ago.

MODEL URBAN FORESTRY DEVELOPMENT PRESERVED BY ATLANTA CORPORATION

By Bill Edwards

Stockholder Systems, Inc. (SSI) may be the best kept urban forestry secret in the Atlanta area. The secrecy is not deliberate - just an inherent characteristic of the office complex originator who wanted to be an anonymous inhabitant of the environment 20 years ago.

Located on the Chattahoochee River in the Peachtree Corners area, the site could serve as an urban forestry and environmental model. From an aerial view of the 100 acre SSI terrain, the office complex looks as if it has been slipped compactly into the hardwood forest sloping down to the river.

SSI, a highly successful company that has specialized in computer software solutions for financial services and corporate needs for more than 20 years, moved its corporate headquarters into the progressive environmen-

tal complex in 1984. Then known as the Jones Bridge Corporate Campus, the building nestles on 50 heavily wooded acres 20 miles north of

It is a common sight to see employees strolling or jogging along the hardwood fringed lanes during breaks and lunch periods.

Atlanta in the Norcross suburbs.

Rick Camp, SSI executive vice president of business practices, remembers the initial enthusiasm over locating the site. "When Larry (Larry Dean/SSI president) saw this site, he knew that was exactly what he wanted. A basic concept of SSI has always been that people are comfortable in nice, environmentally natural surroundings with plenty of trees - they will have good attitudes, be more productive and actually look forward to coming to work. That has certainly been the case here."

ENHANCEMENTS

Camp pointed out, however, that SSI has made some additions since the 1984 purchase. Fifty more acres of woodlands were purchased. Several new buildings were added to blend with the original environmental c-

Thousands of flowers were planted. And now, all flowers, vegetation and trees are cared for by three full-time horticulturists. The company now employs some 300 people who enthusiastically support the casual dress code, flex time work hours, and two meals a day. The company also has a swimming pool and physical fitness equipment.

It is a common sight to see employees strolling or jogging along the hardwood fringed lanes at all hours of the day during various breaks and lunch periods. Vice President Camp is apparently right when he says the scenic forest environment creates good attitudes and a pleasant work place. One long-term employee emphasized this factor even more when he pointed out that "if a job opens up on Monday, it's usually taken by Wednesday - with word of mouth being the primary form of advertisement."

The environmental haven of forests on the Chattahoochee has apparently become a haven of sorts for employees. For clarification, however, it should be noted that the highly progressive SSI has sustained healthy profits even during the most dismal economic slumps. President Larry Dean attributes the success simply to the scriptural concept of Matthew 23:26 - "You that would be greatest, let me be servant to all."

ORIGIN

But what about the origin of this remarkable urban forestry development? Although SSI moved in almost ten years ago, development of this area goes back much further - to a time when urban forestry was little more than a footnote among more established forestry pursuits.

In the early 1970s, the Atlanta architectural firm of Thompson, Hancock, Witte & Associates, Inc. was contacted by a "Mr. X" from a New York corporation. The contact said the pace of the Manhattan business day was debilitating and the company wanted to relocate its executive headquarters to a large wooded site on the Chattahoochee River. At first, the request was not taken completely seriously because of the intricate nature of environmental concerns detailed in the plan. Later, when the identity of Mr. X and the company was revealed, the offer was taken seriously.

The individual proposing the development was Grant G. Simmons, Jr.,

chairman of the Board of Simmons Company, famous for its bedding products but also a diversified international company and major manufacturer of home furnishings.

Grant Simmons had analyzed the project thoroughly. He wanted an efficient working building constructed with a minimum of environmental impact on the heavily forested grade that sloped down to the Chattahoochee banks. Trees were a top priority with Simmons (later, when the parking lot

was being paved, his contract with the paving company demanded that fines be imposed if so much as a nick of damage was suffered by a tree).

The usual construction would have been a two story building perched on top of the hill. The area would be bulldozed and dirt would be piled up; the building would be set on the dirt. In such a case, of course, the dirt would cover the root systems of trees and many hardwoods in the area would die.



SSI corporate offices, on Chattahoochee River near Atlanta, remains urban forestry role model 20 years after construction. Possibly having evolved before it's time, the complex remained vacant from 1875 to 1984. Grant Simmons, Jr. (Simmons Company) established the headquarters with intentions of being an anonymous inhabitant of the environment.

Simmons would have none of this. As acceptable plans developed, he reviewed possibilities down to the smallest detail. What finally evolved was a wooden building that seemed to have grown up with the trees. Simmons' desire to be an anonymous inhabitant of the environmentally preserved landscape is reflected by the location of the building 300 feet from the river - well below hardwood stands on top of the hill.

To minimize solar loading, an analysis of the sun's azimuth and altitude was made for every day of the year. The solution was radical, but simple.

INNOVATIONS

What would have normally been a vertical wall of glass was sloped at the appropriate angle to deny direct entry of the sun's rays. Consequently, air conditioning costs are reduced - and occupants have a year-round view of the scenic hardwood forest without the uncomfortable glare of direct sunlight.

The building is elevated on steel trusses so the sliding glass doors of each office opens onto terraces extended out at treetop level. The view from the individual office terraces looks down on the tree fringed banks of the Chattahoochee. Aside from the steel elevation trusses, the building is framed entirely with heavy wood members. Designed for low maintenance, the exterior siding is red cedar and cedar shakes cover the roof. The interior has similar wooden designs.

The opposite side of the building is a secretarial deck that also offers an elevated view of trees. Elevated trusses supporting the building do not interfere with the natural drainage through the forest below and down into the river.

On the opposite end of the building, an elevated wooden walkway threads through the tree tops to the dining module. Not only do SSI employees get free meals, they are also provided with a dramatic 270 degree overview of the river below. The dining module offers a representative view of the many hardwood species growing along the Chattahoochee, which compose approximately 85 percent of trees on SSI property. The remaining percentage is predominantly Virginia and loblolly pines.

Within easy walking distance down the slope from the dining module, the following hardwood species can be seen: American beech, magnolia, river birch, sweetgum, basswood, yellow



(Above) Glass wall of SSI secretarial deck is slanted to minimize solar loading and offer view of outside forest without direct glare of sunlight. (Below) Granite rock with corporate logo identifies narrow road winding through forest to SSI corporate headquarters.

poplar, black cherry, redbud, hornbeam, sourwood, willow oak, sassafras, pignut hickory, water oak - and in the spring a myriad of dogwoods create a visual explosion of white blossoms.

There is little indication of develop-

ment when passing the entrance to on East Jones Bridge Road that connects the company with the outside urban world. Only a large granite rock with the company letters mounted on it is noticeable at the SSI entrance.

Roads leading in and out of the

ted development are one-way and only 14 feet wide to minimize space taken by such necessities. Like deer trails, the roads wind through the woods like paths taking the course of least resistance. Trees overhang these naturally designed paved paths leading to parking lots fringing the office complex.

Viewing the parking area from uphill, vehicles seem to be parked haphazardly among the trees; but a closer look reveals that paved areas are slipped among the trees - just as the buildings were designed.

As with the SSI addition of buildings, additional parking areas designed by the company blend with the original design - leaving the environment intact while enhancing a model urban forestry development that may in time become even more appreciated for its factor along. In the meantime, SSI continues to prosper.

AFTERMATH

When Grant Simmons established the Jones Bridge Corporate Campus in the early 70s, he believed the building and method of development would be a much needed trend of the 21st century; but when another company acquired the Simmons organization, the corporate headquarters was abandoned. Possibly having evolved before its time, the complex remained empty from 1975 to 1984.

When SSI purchased the site in 1984, Corporate President Larry Dean also believed this sort of urban forestry complex was a forerunner of 21st century good things to come. He still believes this and has no intentions of abandoning his corporate headquarters in the Chattahoochee River forest.



Larry Bell, SSI executive vice president of business practices



Commission patrolman turned teacher Larry Bell, left, welcomes Chief Ranger Micah Hamerick and Smokey to his fifth grade class

SCHOOL BELLS CALL PATROLMAN BELL

Forest Patrolman Larry Bell enjoyed his work with the Forestry Commission, especially when his duties called for the presentation of fire prevention programs for fourth grade students throughout the Paulding County school system. Although he felt a sense of satisfaction in plowing firebreaks and helping forest landowners in other ways, there was a very special appeal in instructing young boys and girls.

After 11 years with the Commission and hundreds of hours of college classes-mostly attended at night - Bell traded his title of forest patrolman for fifth grade teacher at the County's Union Elementary School at Temple.

"Working with the Commission was a wonderful experience," Bell said, "and I will always cherish the friends I now have in forestry, but teaching and working with children is something I have always wanted to do and I felt I eventually had to make that decision."

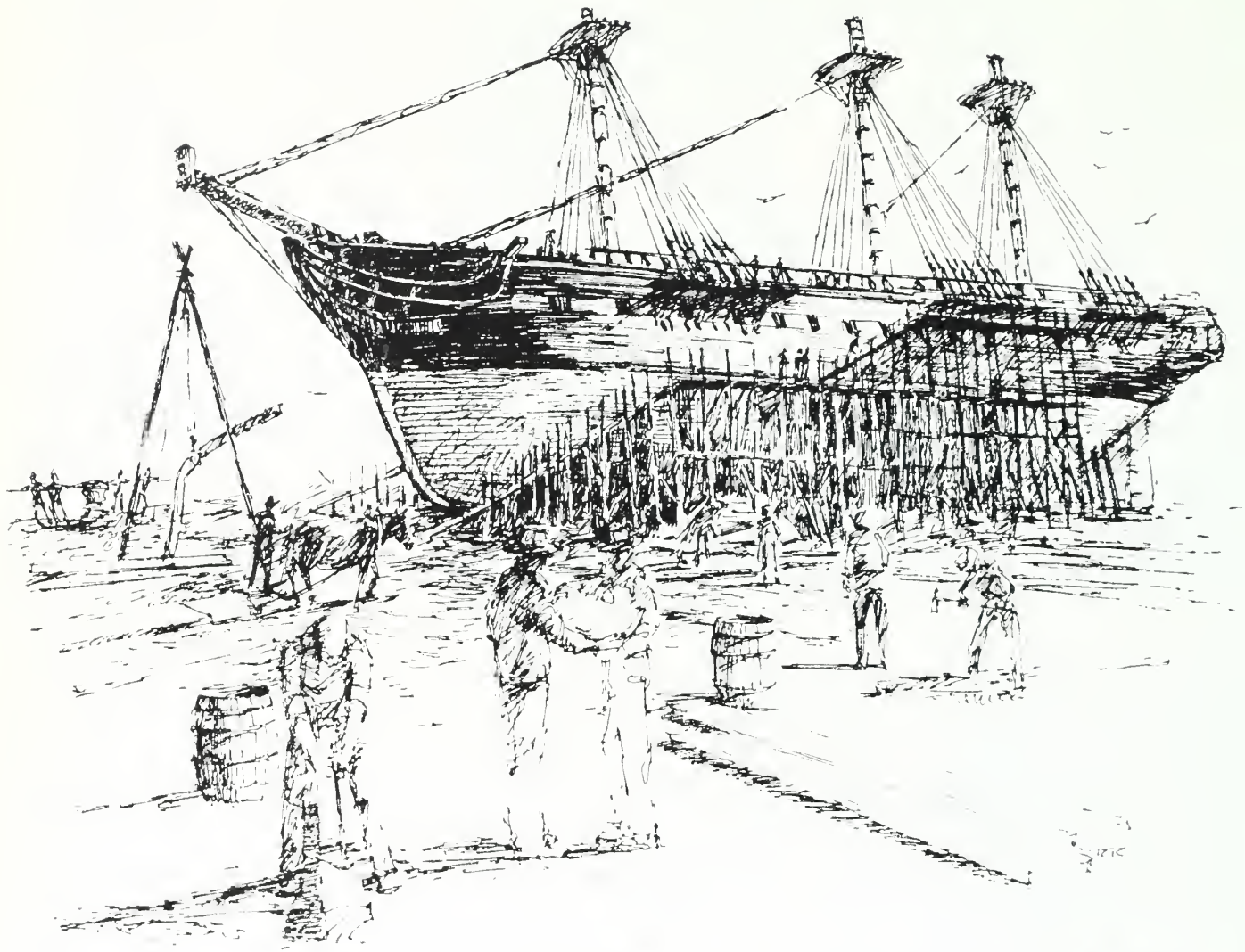
Bell came with the Paulding County Forestry in 1978 and began taking night courses at Floyd College in 1987, resigning two years later to take education courses at Kennesaw College to prepare himself for a teaching career.

The former patrolman said he is pleased that his first assignment as a teacher is at the school he attended as a child. His wife Debbie is a guidance counselor at the school and he credits her for giving him the support and encouragement he needed when he began his college studies at age 30.

How does teaching compare with Forestry Commission work? They're both challenging, according to Bell. He said driving a crawler tractor in a battle against a raging forest wildfire is a real challenge, but "so is facing a classroom full of bright, young faces looking up at you for guidance." He contended that it is overwhelming at times, "but very rewarding when you see a child's eyes light up when he or she suddenly grasps something important."

One thing is certain: when Bell's fifth graders complete the school term, they will be well versed in the importance of forestry and the need for woodland protection. The teacher is sometimes joined by the local forest ranger and Smokey Bear in getting the forestry message across.

Chief Ranger Micah Hamrick said Bell scored high as a valued employee of his unit; that can also be said of his college record. Although he held down a fulltime job while attending college, he achieved a 4.0 average.



GEORGIA'S BARRIER ISLANDS OAKS SPAWNED U.S. NAVY FLEET

By Randy Lescault

Our modern Navy is perhaps the mightiest fleet the world has ever known. In the post-Cold War era, our sleek fleet of cruisers, destroyers, nuclear-powered aircraft carriers and submarines ply the seven seas virtually unopposed.

But, unknown to most folks, our mighty fleet had its humble origins in the swamps and lowlands of Georgia's barrier islands.

In the years following the Revolutionary War, the United States had no

12/Georgia Forestry/Winter 1992

navy. The merchant ships that were hastily converted for wartime use had been sold by a deficit-ridden government; their officers and crews disbanded. Many citizens questioned the need for a naval force; they were of the opinion that if the United States possessed one, it would be too apt to use it, and be needlessly drawn into conflicts outside its borders. In general, a strong spirit of isolationism gripped the country.

But in the face of events unfolding in

other areas of the world, the isolationism could not stand.

American merchant ships were obviously no longer under the protection of the mighty British fleet after the war, and the United States possessed no warships of its own. So it was not surprising that American ships soon became a victim to the pirate ships of the Barbary Coast of North Africa. The piracy was a business officially sanctioned by the various "Deys" or rulers of the area, who received a percent

of each prize taken on the high seas. In addition, they held the crew and passengers of the ships for ransom. Many Americans died in captivity due to the harsh treatment imposed by the "barbarians".

An incensed American public demanded action. On January 2, 1794, the U. S. House of Representatives approved a measure that stated, in part, "...that a naval force adequate to the protection of the commerce of the United States, against the Algerine corsairs, ought to be provided." A Committee recommended the construction of six frigates; four ships of 44 guns and two of 24 guns. The ships were to be constructed at six different locations: New York; Boston; Baltimore; Philadelphia; Gosport, Virginia; and Portsmouth, New Hampshire.

A NEW NAVY

The frigates were to be of a sleek, new American design that would incorporate the finest attributes of British and French warships--a combination of great strength, firepower and speed. And, unlike their European counterparts, these "superfrigates" were to be constructed of timbers native to American soil.

White oak was chosen for the planks (the horizontal planking that stretched the length of the vessel) and the wales (the heavy, thick planking on the ships' sides that served as its armor.) The decks were to be of yellow pine. And live oak was chosen for the masts and other principal structural components of the ship.

Live oak was chosen primarily for its tremendous strength. Its extremely dense, heavy wood could be found growing naturally in the odd angles required to form the various braces, joints and curving members of the ships' hull. And large stands of live oak were available for harvest on the barrier islands off the South Carolina and Georgia coasts.

GEORGIA LIVE OAK

And so it was that a Mr. John T. Morgan, a Boston shipwright, found himself posted by the government to seek out and harvest the finest live oak he could find in June of 1794. It is doubtful that Morgan comprehended the daunting task that lay ahead, or the great sacrifice he and others would make to extract the live oak from the coastal lowlands.

Morgan traveled by ship to the barrier islands off Georgia and South Carolina to personally examine and

With the help of woodcutters and shipwrights imported from the north, the trees were felled and formed into desired shapes.

assess the live oak stands. The live oak of Georgia was his choice, due to its quality and cheaper price.

After Morgan located suitable stands, he contracted with the local landowner for the timber through government agents in Savannah or Charleston. The chosen sites were as close as possible to navigable waters to facilitate timber removal by ship.

Morgan had to visualize the various ship parts that needed to be cut as he examined each tree. Then, with the help of woodcutters and shipwrights imported from the north, the trees were felled and formed into the required shapes according to patterns sent from the shipyard. The live oak was difficult to cut, and even harder to work and form. Often, after the intensive labor had been nearly completed, dry rot or other structural flaws were discovered deep in the wood and the timber had to be discarded.

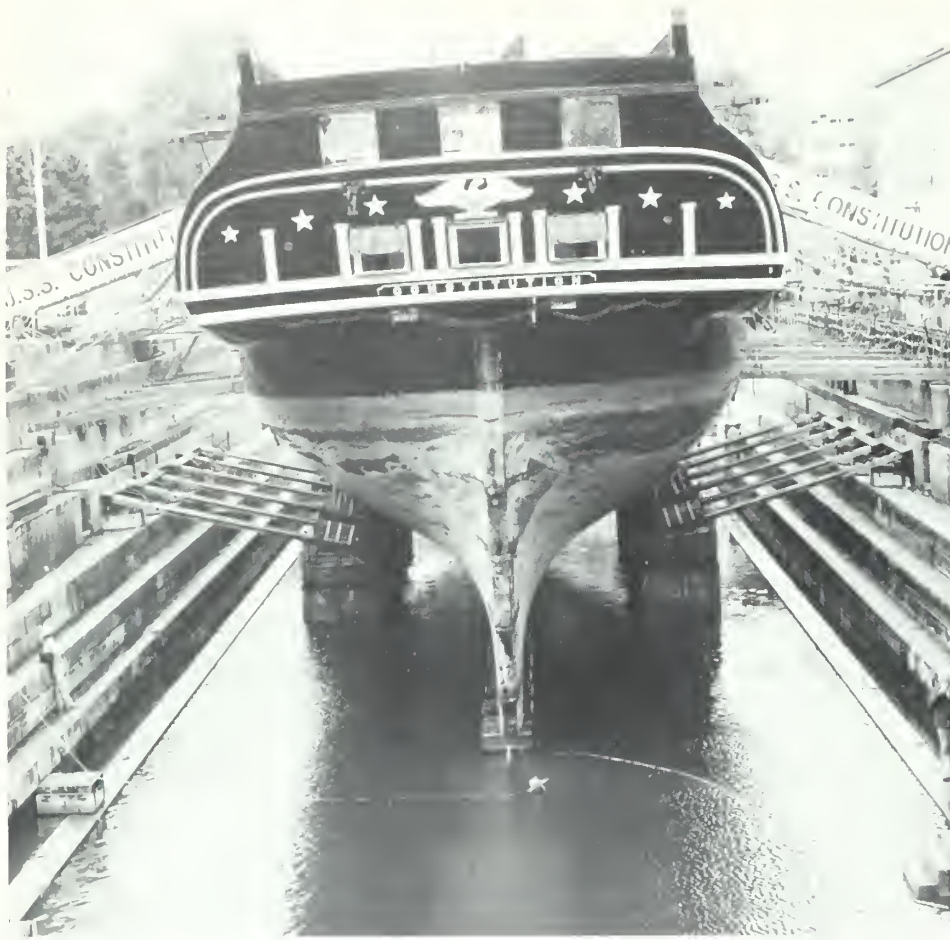
There were other difficulties to overcome. There were no roads over which to transport the timber with oxen to the loading areas. Roads had to be cut by hand, a laborious process that consumed a lot of energy in the year-round operation, especially during the hot, humid summers to which the northerners were not well acclimated. But Morgan's problems were not limited to technical difficulties.

DIFFICULTIES ENCOUNTERED

The woodcutters and other northern imports found the working conditions arduous. In addition to the hot and humid climate in the summer, they faced torrential rains and flooding during some of the winter months. The swamps and marshes where most of the timber was located was full of venomous snakes, alligators, bears and panthers. Mosquitoes and redbugs were unrelenting in their attacks upon their person. The lack of sufficient drinking water led to bouts of yellow fever or "yellow jack", an often fatal disease characterized by fever, jaundice and black vomit. Oxen sent to transport the timber often succumbed to disease as well. An extract from one of Morgan's letters to his superiors in Philadelphia gives us an idea of his sometimes disheartening situation:

"I have had no hands but Negroes and have been all but dead since the 4th of September. I lost a fine lad, an apprentice last Saturday with fever. I





have it now, everybody is sick...".

But Morgan overcame the obstacles. He contracted to hire local slaves to replace the northern woodcutters (most of whom had died of the fever, or fled to the safety of New England), and trained them in the selection and forming of live oak timber. And, after a slow start, the work proceeded apace.

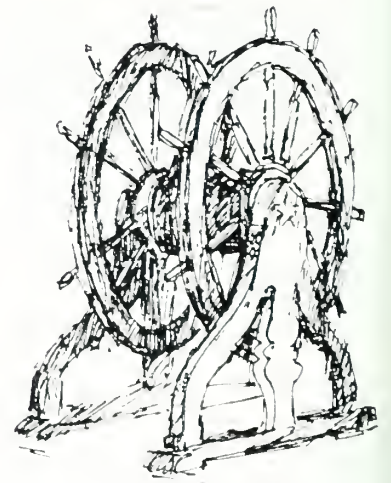
MISSION ACCOMPLISHED

Finally, after nearly three years of harvesting, forming and shipping timber to the northern shipyards, the first three superfrigates were launched in 1797: the UNITED STATES in May from Philadelphia; the CONSTELLATION in September from Baltimore; and the CONSTITUTION in October from Boston.

Morgan and company had accomplished their mission. The United States now possessed a fledgling naval power--the power to protect its right to freedom on the high seas.

The strength of the Navy's ships and crews were to be severely tested in the years that followed. But their strength, like the Georgia live oak of the hulls, would prove legendary, and would earn the worlds' admiration during the quasi-war with France and the War of 1812.

But that's another story...



At left, the Constitution in drydock in Charleston, Massachusetts for possible repairs.

NAVY SEEKING OAK FOR SHIP REPAIR

Surprisingly, one of the original six ships of our Navy is still in commission. The USS Constitution, which is berthed in Boston Harbor, is the oldest warship in commission in the world. The Constitution served with great distinction during its active life, and won numerous naval engagements. In action against the Gueiere during the War of 1812, a seaman observing the British shot bounding off the ship's sides was said to have exclaimed, "Huzza! Her sides are made of

iron!" From this she earned her nickname "Old Ironsides".

The USS Constitution is currently in drydock in Charlestown, Massachusetts, and is being assessed for possible repairs. Navy officials have expressed the need for live oak and white oak timbers for repair work. Timber should be from trees removed or scheduled to be removed due to construction work, etc. Live oak in 90, 98 and 100 degree angles is highly desired, as is white oak in 20-45 foot lengths.

The Navy Department is willing to pay transportation costs for raw or finished timber that is selected. Interested parties should contact Mr. Don Turner, USS Constitution Maintenance and Repair Facility, Bldg. #224 B.N.H.P., Charlestown Navy Yard, Charlestown, Mass. 02129-4543, phone (617) 242-0752, or contact the author via the Georgia Forestry Commission, (912) 751-3326.



THE USS CONSTITUTION IN BOSTON HARBOR

Kim Coder, University of Georgia associate professor of forest resources and frequent contributor to *Georgia Forestry Magazine*, has been profiled by the UGA faculty/staff newspaper *Columns*. Coder was selected from approximately 1900 faculty members to be featured in the article.

Coder, whose articles have also appeared in the Commission's urban forestry newsletter *Tree Talks*, has been with UGA for the past seven years. He also shares the Commission's interest and activities in Project Learning Tree - an awarding education program designed for students ranging from kindergarten through high school.

Interested in forestry since he was 13 years old, Coder is quoted in the UGA article as saying: "I figured if I could get a job in a fire tower, read all day long and get paid for it. You go to the top of a tower every half hour and look for fires, then sit down and start reading again."

At that early age, Coder did not know how to become a firewatcher, so he decided on the future goal of becoming what he then thought was the closest thing to it - a forester.

Coder achieved this in dramatic scope with the following degrees from Iowa State University: Bachelor of Science in Forest Management, - 1979, - Master of Science in Tree Physiology, - 1981, - and Doctor of Forest Ecology, - 1985.

Coder remembers very well, however, his disappointment when he discovered upon entering forestry school that foresters did not spend all their time outdoors. Nevertheless, he recovered from his initial disillusionment and three degrees followed.

Since joining the UGA staff, Coder has become well known as a fall forecaster of when the leaves will be at their peak of color change. Consequently, he spends much of his time



UNIVERSITY PROFILES FOREST RESOURCES PROFESSOR

on the phone in the fall with reporters, park officials, and radio-tv personnel who want to know when the leaves will peak in a given area. Coder points out that Georgia experiences a three-color leaf change for fall - yellow, orange, and then red. He focuses on picking the peak of the orange change so it encompasses all three colors. His predictions have been on target with deadly accuracy - he only missed one

year when an early frost cut the season short. This record becomes even more impressive when it is considered that Coder is color blind.

Coder emphasizes that the interest concerning fall color changes offers an excellent opportunity to educate the public about forests and their environmental roles and influences. He said there are two times a year when most people are interested in trees. The first is when they are planting trees or sniffing from inhaling spring pollen; the second is when leaves change color in the fall.

Coder takes advantage of these interests by spending much of his time on the road; he offers the latest in research findings to builders, homeowners, various forestland owners.

One of his favorite subjects - as his work with the Commission reflects - is urban forestry and its expanding role in the forestry community. He also speaks on a wide variety of topics ranging from species preservation to wetland protection.

One of his most significant courses involves teaching urban tree management. The course concentrates on where to plant urban trees and how to diagnose problems. Coder considers this very rewarding because "more people are discovering the value of trees around them."

During the past year, Coder was also busy with duties that did not require being on the road. He chaired the UGA Council's Faculty Affairs and worked with the organization on new *Guidelines for Appointment, Promotion and Tenure*. Coder said this was the organization's primary project for the year and concentrated on fair and objective processes for determining the processes.

Coder is currently serving on the President's Advisory Council as the College of Agricultural and Environmental Sciences representative.

"I figured if I could get a job in a fire tower, I could read all day long and get paid for it."

Increasing conflicting reports concerning effects of acid rain on Southern forests has resulted in a wide range of opinions within the forestry community. The basic question is whether or not acid rain is damaging trees in the South.

Much of the concern came in a response to a 1984 U.S. Forest Service report describing a growth decline of pines in Georgia - and the death of numerous spruce trees on Mount Mitchell, North Carolina. The report (Resource Bulletin #SE-7 titled Georgia's Forests) also stated: "the drop in radial diameter increment was most severe in the Piedmont and Mountain provinces. Reasons for the decline are not known, but drought and other meteorological factors are suspected."

National media picked up the story with numerous assumptions that "other meteorological factors" meant acid rain. The result was rumor feeding on rumor to form invalid conclusions. The immediate aftermath of the story - especially in the South - was a wash of negative reactions from landowners, foresters, investors, and the public in general.

Since then there have been many varying accounts of the effects of acid rain on the South, confusion has created more confusion. The fact, however, is that there is currently no conclusive evidence that Southern forestry investments are being threatened by acid rain.

One generally ignored fact is that rain is naturally acid to some extent. Also, it would be extremely difficult to establish scientific proof that a declining forest growth has been caused by acid rain. For instance, such research would require that large areas of forest be separated so only one area would be exposed to acid rain. This is not possible because rainfall occurs where nature precipitates it.

IS ACID RAIN DAMAGING FORESTS IN THE SOUTH?

Although laboratory experiments are valuable, such research cannot duplicate the "other meteorological factors" suspected of causing damage; these factors may have occurred in stages of varying intensity for many years. There is also the possibility that other influencing negative factors have not yet been identified.

The issue is complicated with some interesting fringe facts that introduce ever more contradictions. It is surprising to some to learn that tree growth is sometimes even increased by acid rain. The reason for this increase is that nitrogen can limit forest growth, so when NOx is dissolved in rainwater, diluted nitric acid is added to the ecosystem. Acid rain also has hydrogen particles that can disrupt the flow of some soil nutrients - but it can also make other nutrients more subject to tree root absorption.

The bottom line is that the evidence is inconclusive. There may not be an acid rain problem causing adverse effects on Southern forests. This is not to suggest that a complacent attitude be adopted. It indicates that federal, state, and industrial researchers should continue research efforts.

In view of the lack of conclusive evidence, however, the current situation also suggests that forest farmers in the South should sustain previously validated management practices so their investments will continue to produce profitable returns as they have in the past; this has been validated.

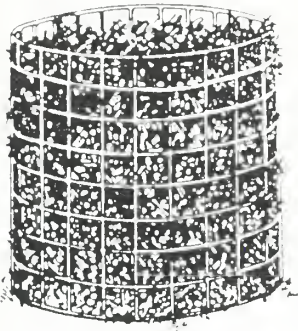


The Center for Environmental Studies, A U.S. Forest Service facility on the grounds of the Georgia Forestry Center in Macon, measures and evaluates acid rain and other pollutants.

The Commission has joined Georgia's official environmental promotion of composting by providing detailed instructions on the process and developing compost sites at the organization's 102 statewide units.

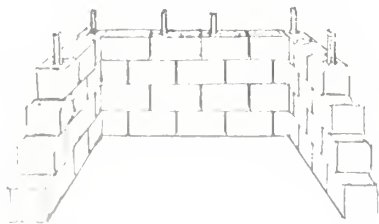
Georgia is the first state in the nation to adopt an official composting program. Governor Zell Miller is a staunch supporter of the program and has his personal compost bin at the governor's mansion to emphasize it.

As society in general runs out of garbage dumps, there is an increasing environmental movement to divert the overwhelming avalanche of trash to useful and beneficial channels. Georgia is leading the way with the first official program.



With a U.S. EPA grant providing seed money, the Georgia Department of Community Affairs is promoting the statewide home composting program with the theme: "Why let your leaves leave home?" Workshops and environmental education programs are key phases of the effort. As a result of the educational process, it is expected that eventually most Georgia homes and schools will have compost bins of one type or another.

Local governments and businesses will participate by providing used wooden shipping pallets; schools and residents can take advantage by receiving five free pallets and making their own compost. Making the bin is simple. One pallet is laid flat on the



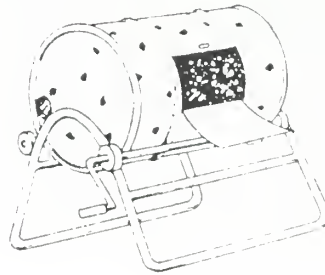
ground with the elevated side up to provide aeration - the other four pallets are used as sides by tying the corners with copper wire.

There are, however, many methods

COMPOST SITES TO BE ESTABLISHED AT FORESTRY UNITS

of composting and various types of containers including: barrels, concrete bins, plastic bins, wire bins, and such wooden bins as previously described.

Composting is the earth's natural process of recycling. A multitude of tiny creatures - ranging from microscopic bacteria to earthworms - digest organic matter and transform it into rich humus. The transformation can be used to enhance soil or spread around as mulch. The best part is that the ingredients are free and would usually be thrown away to clog some overflowing landfill - if it was not used for this highly beneficial environmental purpose.



Many people ask: "What can I personally do to help the environment?" This is it - home composting. Many promoters of composting - especially home composting - consider it to be a vital missing link in the environmental effort. In the past, composting has been a sort of orphan in the environmental movement, having many friends but few serious promoters. That is rapidly changing.

Composting is basically a simple process. Dry leaves are mixed with green material (like grass) and kitchen scraps (no meat or dairy scraps). The mixture should be dampened with water. Mixing and turning pile accelerates the decomposition process to eventually form a crumbly organic

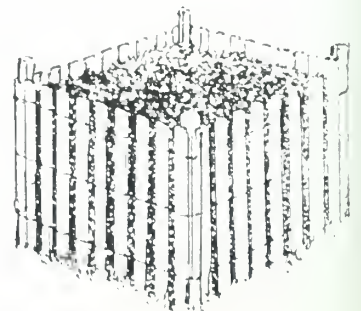
matter. A compost pile turned once a week or once a month - will form the desired decomposed matter in four to eight months.

Although biologically and chemically complex, composting is easy to initiate; it is nature's way of recycling. Considering the fact that 17 states have already banned continued land-filling with leaves and yard trimmings, the value of re-channeling these natural earth rejuvenators becomes obvious.

It has been determined that between 18 and 25 percent of what is now generally thought of as garbage could be recycled for the earth's needs in the form of compost. It is also estimated that the average household could actually compost as much as half of what it now throws away.

The following is a partial list of acceptable and non-acceptable food scraps for composting with the huge volume of leaves provided by Georgia's trees. Acceptable: apples, apple seeds, cabbage, carrots, celery grounds, egg shells, fruit, lettuce, onion peels, potatoes, squash, tea leaves, tomatoes, turnips, leaves, vegetable trimmings. Unacceptable: butter, bones, cheese, chicken, fish scraps, large mayonnaise, meat scraps, milk, peanut butter, salad dressing, vegetable oil, and yogurt.

Free brochures on composting are available at all Commission offices.





Elly Roland, Commission Ranger for the Miller County Unit, is dwarfed by 23-foot wood sculpture crafted in 1973 by an itinerant artist who left such Native American monuments across the United States.

COLQUITT WOODEN INDIAN MONUMENT ONLY ONE OF ITS KIND IN GEORGIA

Modern wooden monuments can seem strange - and their originators may seem even stranger.

During the winter of 1973, an itinerant wood sculptor drifted in and out of Colquitt to leave a 23-foot carved head of an Indian brave as a reminder of his presence. Peter Toth, a Hungarian-born sculptor, disappeared from Colquitt as mysteriously as he made his entrance. But almost 20 years later, the towering face - hewn from red oak - still stares solemnly out at State Highway 27 going South toward the Florida line.

At the time, few Colquitt residents realized how special their town was to be chosen as the site for Toth's oversized wooden sculptures; the unusual carving

is the only one of its kind in Georgia.

It was later learned that Toth was devoting his life to traveling across America, leaving such monuments as a tribute to the noble heritage of the American Indian. Like a modern Johnny Appleseed, he was wandering across the continent, leaving a trail of towering wooden faces in his wake.

ARTISTIC PROTEST

Toth's arrival in Colquitt created a similar reaction to that he encountered in other towns. Many local residents did not know what to make of him. After all, he wanted no money or payment of any kind for his wooden monuments - he just wanted to leave an artistic "protest"

against what he described as the betrayal of Native Americans.

Local confusion concerning his purpose was compounded by rumors circulating around Colquitt that he was a secret agent of some sort and was doing the carvings as a cover up. Then, to make things even bizarre, it snowed while Toth was in Colquitt. Snow is very rare so close to the Florida line; local residents still recall Toth chipping away at the top of his 23-foot carving with snow swirling around him - wearing no shirt.

Toth, however, saw nothing unusual about any of his behavior. As he pointed out later in a national news story, after his pilgrimage became publicized: "My protest is constructive - one of giving."

As more giant carvings were left throughout the nation, Toth's activities became even more publicized. It was hard not to notice powerful wooden images. Some said they were reminiscent of the haunting, arrogant expressions that reflected from the ancient stone heads on Easter Island.

By the early 1980's, Toth's sculptures had attracted enough attention to be featured on the national television show *Real People*. At the time, the show reported 34 such heads around the country. Some people liked them. Some did not. But everybody noticed them.

There is still not a great deal known about Toth. Some say the wandering wood sculptor began studying the American Indian at age 11 when he moved with his family from Europe to Ohio. This early and continued interest in Native American culture is also said to have led to his national wood carving crusade.

The story follows Toth that he married during his pilgrimage and supported himself and his wife mainly through the sale of smaller wood carvings, but steadfastly refused any payment for the giant wooden heads that he left as monuments. These stories coincide with those derived from his stay in Colquitt.

Toth appears to have faded from the national attention and nobody seems to know exactly what has become of the wandering wood sculptor these many years later. But there are those who are certain that Toth is the stuff from which legends are made, and that he is still spending his days in remote sections of America, chipping away at his towering wooden sculptures.

Regardless of Toth's current whereabouts, the Indian head on Highway 27 departing Colquitt continues to stare solemnly through the years at passers-by.



Plant manager Helen Horton shows some of the items fashioned from forest materials. Below, employees bag moss, the company's major product.

THERE'S MONEY IN MOSS!

When it comes to utilizing the greatest variety of raw materials from the forests of Georgia, the International Manufacturing and Importing Company of Lumpkin probably tops all other forest-related industries in the state.

The company, the largest industry in Stewart County, specializes in buying, processing, packaging and selling Spanish moss wholesale to florists and others across the United States and in Germany and Japan.

Although moss is the company's dominant product, it also manufactures wreaths, bouquets and other dried decorative arrangements from oak leaves, acorns, pine straw and cones, dogwood and cedar boughs, wild grape vines, palmetto, rabbit tobacco, cattails, sweetgum balls, thorns, magnolia pods and other plants and fibers from the wild.

The firm grew out of the long established Mallard Frame Company, which was purchased by Mrs. Martha Arnold in 1983 when the plant was closed and all sales had ceased. The new owner quickly learned that the dried material from the forests was more lucrative than picture frames and the company, with its new name, headed in a new direction. Mrs. Arnold and her newly hired plant manager, Helen Horton, began to build a thriving business.

When Mrs. Horton took on the

management job, June sales were only \$894.71, but by March of the following year, the monthly sales had climbed to \$15,545. By fiscal 1987, total annual sales had hit \$1,132,000!

"We started with three employees," said Mrs. Horton. "That was when we would go out in the woods and gather moss in grocery bags, but now we buy it by the truckloads and sometimes it is hard for our sources to keep up with our demand."

The plant manager said the company cleans, fumigates and dries about 20,000 pounds of moss each week, enough to keep 30 employees busy on the production line. At one time,

the company employed 50 local people, but the work force had to be trimmed when the current economic recession caused a slump in sales.

In setting up a system to heat the moss at 180 degrees, the company bought six steel-bodied "peanut wagons," vehicles used by area peanut farmers to harvest and dry their crops. The wagons are filled with moss and hot air is routed through ducts in the floor of the wagons. Some of the moss is air dried, but that process requires an extra four hours.

Excelsior, the long slim wood shavings once used for packing and stuffing for upholstered furniture, is about the only material that the company doesn't get directly from the woods. The manufactured excelsior is purchased in bulk and dyed at the plant in hues ranging from lilac and yellow to deep green and Williamsburg Blue. The straw-like material is woven into wreaths, bird nests and other items with much of it bagged and shipped to florists for use in Easter baskets and floral arrangements.

Big highway vans loaded with packaged moss, wreaths and other products pull away from the loading platform three times each week to make deliveries to customers across the nation.

The company owner said some people consider Spanish moss a parasite that damages the host tree, but she contends that the plant only endangers the tree by smothering some of its leaves and branches, and botanists agree with her; but as long as the high demand for moss continues, Mrs. Arnold and Mrs. Horton will gladly relieve the host tree of the uninvited guest that hangs so gracefully from its branches.



COMMISSION ASSISTANCE GIVEN TORNADO VICTIMS

The recent rash of tornados in various sections of Georgia prompted the Commission to implement a comprehensive assistance program for landowners experiencing timber damage.

Following the widespread disaster, Commission aerial surveys assisted in determining acreage analysis of damaged timber. Districts suffering the most severe damage included: Gainesville, Rome, Athens, Newnan, Milledgeville, Washington, and Americus.

Following area and damage estimates, the Commission pursued a priority status cost sharing assistance effort through ASCS for landowners with timber damage. A wide range of consultation was coordinated for forest and urban tree damages.

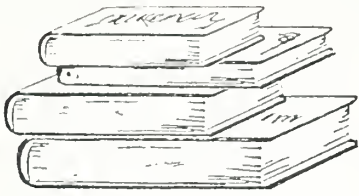
Landowners received Commission lists of timber buyers available for salvaging damaged timber; names of consulting foresters for possible timber sale assistance were also distributed. In addition, Commission foresters provided tax information on timber losses upon request.

Further aerial surveys revealed that some residential areas were threatened by fire due to tree debris left in the wake of tornados. The fire threat, similar to that left by Hurricane Hugo in timber damage, would obviously increase with dry weather. In response, Commission personnel plowed fire breaks to protect homes.

In some instances, Commission personnel and equipment were used to clear debris from roads and driveways upon approval of agencies responsible for such operations.

Throughout the tornado assistance program, the Commission urged Georgia residents to contact their nearest office for assistance and information.





THE BOOK CORNER

HOW TO GROW A GREENER CITY, by Gary Moll and Stanley Young, Living Planet Press, Los Angeles - \$7.95.

Growing Greener Cities, co-authored by Gary Moll and Stanley Young, is an instructional study of cultivated ecology right down to the recycled paper it is printed on - with all royalty proceeds going to the Global Releaf campaign of growing trees and forests across America.

The authors are well versed in their subject matter. Moll is vice president of the American Forestry Association and editor of *Urban Forests* magazine. Young is the author of several books including *The Amazing L.A. Environment: A Handbook for Change*; he has also worked as gourmet chef and hatha yoga teacher.

Promoted on the cover as "A Tree Planting Handbook", the book expands to more profounding horizons by focusing on the critical role trees play in natural earth cycles. Moving across the urban landscape with confident expertise, the authors emphasize why more trees should be planted and why better care should be provided for trees already here - then the reader learns step-by-step how to do it.

Perfect for a textbook or addition to the ecology shelf of any library, the reader finishes the last page with a new - or renewed - appreciation of urban trees that make cities more livable by cooling in summer, cleaning air during all seasons, reducing need for electricity, and offering countless other environmental and social benefits.

Ecology is the study of balance that creates harmony. This book teaches the art of urban forestry perspective.

GEORGIA WELL REPRESENTED IN TREE CITY USA PROGRAM

Georgia's current Tree City USA status is a solid indication of national public concern about trees and the environment. The state's largest Tree City USA is Atlanta with a population of 450,000; the smallest community to acquire the honor is Trenton with a population 1,992. Columbus was the first Georgia city to qualify for the status.

The following is a complete Tree City USA directory listing for Georgia: Acworth, Albany, Alpharetta, Atlanta, Augusta, Avondale Estates, Bainbridge, Ball Ground, Baxley, Brunswick, Canton, Chatsworth, Claxton, Columbus, Conyers, Cornelia, Dalton, Douglas, Eastman, Flovilla, Gainesville, Glynn County, Hagan, Hahira, Hinesville, Jesup, LaGrange, Locust Grove, Macon, Madison, Marietta, McRae, Metter, Millen, Moultrie, Newnan, Quitman, Rome, Roswell, Savannah, Statesboro, Suwanee, Thomaston, Thomasville, Tifton, Trenton, Valdosta, Wamer Robins, Washington, and Waynesboro.

The key to success of urban and community forestry in the United States is a solid basis of local tax supported funding. Volunteer organizations are also an essential factor in community forestry, but they cannot be expected to have the technical expertise necessary to manage valuable tree resources or provide daily care necessary for healthy tree populations.

Fortunately, this is understood by most communities in the Tree City USA network. That is why an important program requirement is that an annual budget of at least \$2 per capita be dedicated to a forestry program - for the community to be eligible for a Tree City USA award; this is the minimum financial commitment for a basic program.

INCREASING APPRECIATION

People are realizing more and more that trees make cities more livable - that life is just better in cities filled with trees. Homes are nestled in green, shady neighborhoods. Commuting through tree-lined streets to work starts the day with a good feeling. Office workers take lunch breaks in parks and plazas filled with trees -

some even skip lunch to jog along tree shrouded lanes.

Weekend recreation can be enjoyed in the same natural atmosphere, and a solitary walk along a timbered creek or river can reveal a thriving and often unsuspected population of wildlife - ranging from songbirds to surprising influx of suburban deer that seem to enjoy proximity with urban dwellers.

In addition to the more aesthetic qualities - an urban cover of trees conserve the soil, purify the water, and clean the air.

SPECIAL CARE

Urban forests require even more intensive care than wildland forests. Trees in an urban setting must be protected from pollution, poor soil, extreme heat, root restriction, road salt, and vandalism. In essence, a good community urban forestry program responds to the need of land stewardship.

Establishing a good urban forestry for small towns and cities is actually a collaborative effort involving individual residents as well as organizations and tree experts. What it boils down to is each mayor, each city council member, each tree board member, each city forester, each civic leader, and each citizen assume responsibility for success.

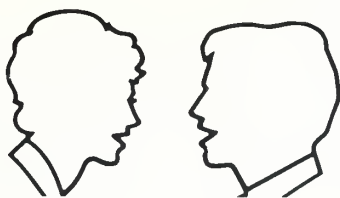
While state urban foresters plan, city foresters both plan and turn those plans into reality. This leadership of tree-care professionals can be a decisive aspect of an urban forestry program.

Tree care professionals can help with numerous facets of urban forestry management including: tree inventory, writing a tree ordinance, selecting species for planting, pruning procedures, and control of insects and diseases.

Anyone can become better informed on how to care for trees - regardless of whether the trees are in your city or your backyard - by staying current on the latest forestry news and innovations.

For further information on this organization and specific details on Georgia's urban forestry activities contact: Sharon Dolliver, Urban Forestry Coordinator, Georgia Forestry Commission 912-751-3527.

PEOPLE



IN THE NEWS

FACEY TOMLINSON, a graduate of Finch High School, was the recipient of the 1992 F&W Young Forester Award presented at the annual state F&W Congress in Atlanta. The award, which includes a \$750 scholarship, is presented each year by F&W Forestry Services, Inc. Stacey plans to attend the University on a four-year academic scholarship JON P. PAULFIELD, who has a master of science degree in forest economics from North Carolina State University and a bachelor's degree in forest management from New York College of Environmental Science and Forestry,

NEWBY, JR., of the Dade County Unit retired in November after 33 years of service with the Commission. More than 100 GFC employees, relatives and other friends attended a dinner in his honor. The retired ranger is a native of Dade County and a graduate of the local high school. Newby and his wife Kathleen are active in Trenton Church of Christ, where he serves as secretary...TOMMY HAWKINS, a native of Floyd County, was named chief ranger of the Dade County Unit to succeed the retired ranger, Andy Newby, Jr. Hawkins is a graduate of Armuchee High School and served three years in the Army. He came with the Commission in 1986. The new ranger and his wife Debbie Renett have two young sons, Nicholas and Trevor. The family attends the Baptist Church...



TOMLINSON



PRATER

joined Wachovia Trust Services as chief analyst of investment strategies and opportunities. The bank currently manages more than 250,000 acres of timberland for its clients ... MARVIN PRATER, a native of Westminster, S.C., a recently named forester and chief ranger of the Johnson County Forestry Unit to succeed GARY WHITE, who was transferred to the Franklin-Hart County Unit. Prater, who earned a degree in forestry at Clemson University, served almost six months in the Saudi Arabian Air Force on active duty in Saudi Arabia during the Gulf War and is now in the Naval Reserve. The forester and his wife Rhonda now make their home in Whitesville where they attend the Baptist Church...Chief Ranger ANDY

29TH ANNUAL EDITION OF MANUAL PRINTED

The 1993 edition of Forest Farmer Manual will be available in February, according to the Forest Farmer Association, publisher of the popular handbook.

Published every other year, the manual is now in its 29th printing. Association officials said it represents the collective efforts of authorities on private property rights, forest management, environmental laws and regulations, forest insects and diseases, government and private cost-share programs and many other areas of interest to those who seek to maximize their forestry investment.

Over the years timberland owners throughout the region have found the manual to be an invaluable addition to their professional library; It is standard reading in the reference section of any of the South's schools and municipal libraries. Forest Farmers Association, founded in 1941, is a Southern regional association of timberland owners who own or manage some 40

million acres of land in 16 southern states.

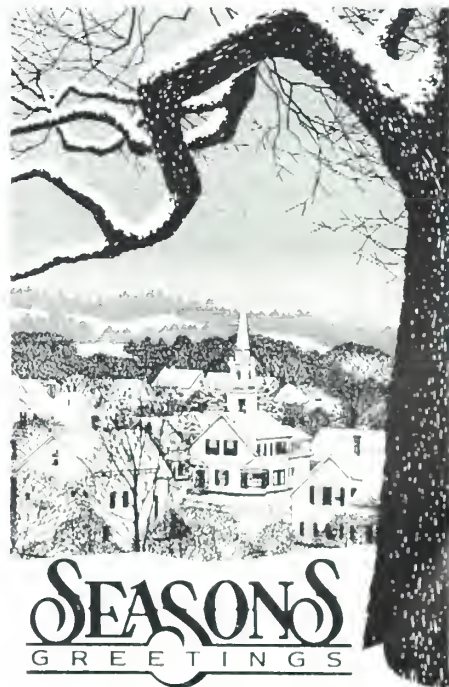
The 1993 edition of Forest Farmer Manual is available to non-members for \$20, plus \$3 for postage and handling. Members receive the manual as one of their membership benefits. Contact Forest Farmers Association, Box 95385, Atlanta, Georgia 30347; telephone 404/325-2954; FAX 404/325-2955.

PROGRAM TO BENEFIT LUMBER INSPECTORS

The National Hardwood Lumber Association has released a computer program designed as a tutorial for training lumber inspectors.

The program, called HALT (Hardwood Lumber Training), is a self-taught training exercise for students, beginning lumber salesmen, beginning lumber inspectors, salesmen and office personnel. The software runs on any IBM PC or compatible computer with MS DOS operating system. The board data files were developed by measuring and cataloging the type, size, and location of various defects on actual hardwood lumber, which were then recreated as data that the program interprets and explains.

Additional information can be obtained by contacting Anne Rowland at NHLA, 1-800-933-0318.



NEWBY



HAWKINS



IT'S NEXT YEAR!

Old 1992 slipped by in a hurry. It was a year in which many Georgians planted profitable forest trees on vacant lands, but it also was a year in which many others had those good intentions but never got around to it. If you don't plant for your own benefit, consider planting as an investment for those who come after you. Many of today's children are tomorrow's landowners and wise parents and grandparents often help guarantee the financial future of children by planting seedlings on land they will eventually inherit.



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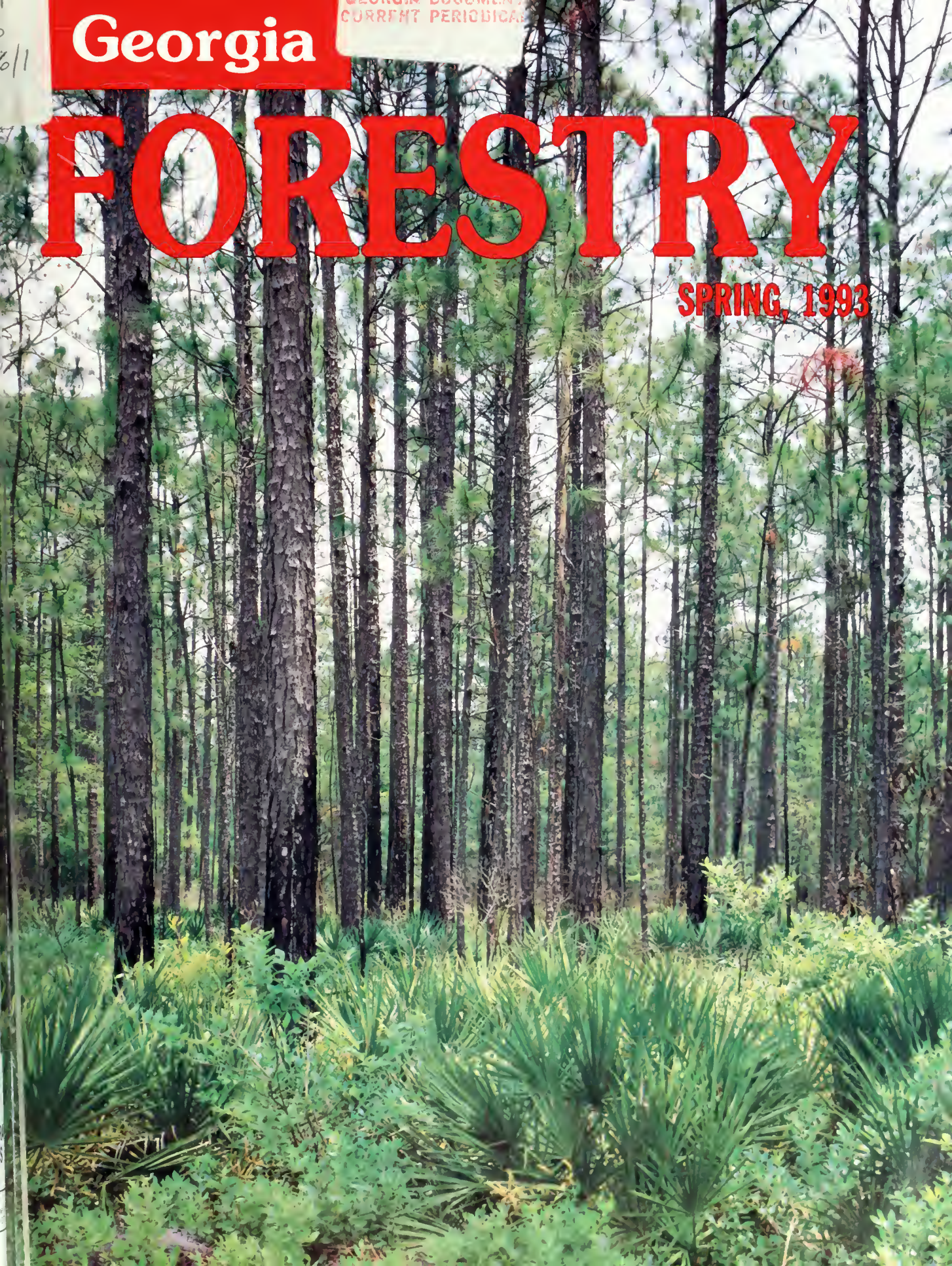
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This young visitor at a Land Use and Forest Management Field Day showed keen interest in a helicopter water drop performed by the Forestry Commission which many adults showed an amused interest in him.

ON THE COVER - Nature's brightest spring colors are now on display, but no color is more pleasing to many Georgia landowners than that of "forest green." Billy Godfrey, the Commission's photographer, focused on this well-managed plot of greenery in the lush pine belt of South Georgia.

GEORGIA'S FORESTS AMONG NATION'S HEALTHIEST



During the past 30 years, 24 tornadoes, a half dozen serious ice and hail storms and the southern pine beetle have destroyed 505 million board feet of softwood in Georgia, but despite these losses the state's forests rate among the nation's best in overall health.

The encouraging diagnosis came from natural resources specialists who have installed by the Georgia Forestry Commission in 1991 in cooperation with the U. S. Forest Service.

The public's concern over the health of our forests began several years ago when a decline in forests was noticed in Europe and in various parts of the

Eastern United States. In Georgia and other southeastern states, damage to conifers became evident during the 1987 timber inventory conducted by the U. S. Forest Service. Analyses of annual growth rings of slash and loblolly pines showed growth reductions since the 1960's, but the extent of forest decline was much less than in Europe.

In order to evaluate the trends in forest health in this country, a permanent network of forest health plots was installed, first in six New England states in 1990 and expanded to Georgia and other states in 1991.

The concern for the health and productivity of forests in the United States resulted in federal legislation (The Forest Ecosystems and Atmospheric

Pollution Research Act of 1988) authorizing federal and state forestry organizations to monitor long term trends in the health of the nation's forests. The legislation authorizes a 10-year program of research and monitoring to better understand the relationships between forest health and air pollutants and recognizes the need for long-term monitoring. Subsequent legislation, (Farm Bill of 1990), encouraged the Forest Service to work in partnership with state agencies to monitor forest health.

CLOSELY MONITORED

Georgia's health plots have been visited four times by experts in entomology, pathology, botany, agronomy, wildlife biology and plant physiology to determine the overall health and diversity of the plants, soil, water and wildfire. Collectively, the health of the plots will give experts some idea about the overall health of each state's forests and will generate a national conditions report for federal and state environmental planners.

After the first two years of monitoring, Georgia's forests received the high rating, although disasters, insects and natural disasters continue to account for some losses.

Along with forest health monitoring, the Commission is responsible for the survey, detection and assessment of timber damage from all natural causes. Currently, a beetle outbreak involves 80 Georgia counties with the likelihood of continuing well into this year and possibly in 1994. Beetle outbreaks appear to be cyclic and predictions made to warn landowners of impending danger are based on historical information compiled by the Commission and can only approximate the timing and severity of such occurrences.

THE GOOD NEWS

The good news, according to Commission officials, is that even though the disasters killed enough trees that if the wood was cut into four foot lengths and stacked four feet high in a rick that would cover a distance of 9,848 miles, it would represent less than two percent of the total merchantable volume of live trees and growing stock for any given year between 1972 and 1992!

More than 4.1 million acres have been planted to trees during the past ten years in Georgia and the Commission expects landowners will continue to give high priority to reforestation.

BEVERAGE BOTTLES TESTED IN NAVAL STORES HARVEST

By Howard Bennett

Will something as commonplace as a used plastic Coke bottle revolutionize the century-old way Georgia turpentine farmers harvest their crop?

Are those sculptured tree trunks with attached cups that have been so familiar to generations of South Georgians - and so novel to tourists passing through - destined to become obsolete?

Researchers are cautiously optimistic that the two-liter soft drink containers affixed to the base of slash pines will replace the longstanding cup-and-gutter system of extracting oleoresin from living trees in the gum-producing belt of South Georgia and adjacent states.

The neck of the recycled bottles, purchased at about three cents each, are fitted tightly into holes drilled from four to seven inches into the base of the tree and sprayed with chemicals to induce gravity flow of gum into the containers.

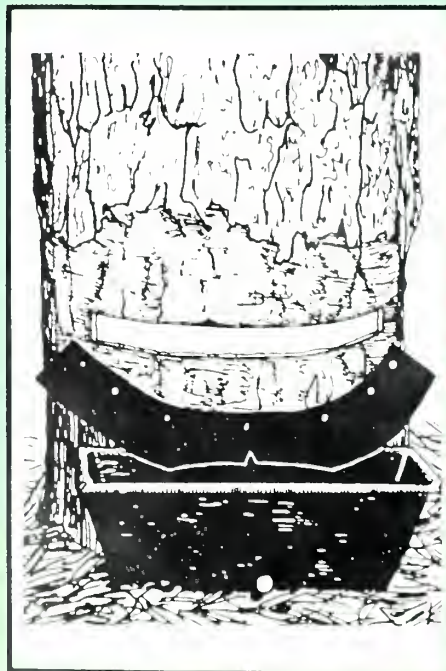
FORESTER CITED

The idea, which naturally drew some skepticism when first introduced, is attributed to District Forester Grady Williams of the Forestry Commission's McRae office. The forester, who also is a naval stores specialist, is cited by Alan W. Hodges, economic analyst of the University of Florida, as 'the inspiration and creative
1/Georgia Forestry/Spring 1993

genius of the entire project."

Hodges, who heads the research program labeled, "A Sealed Collection System for Production of High Purity Pine Oleoresin," gave an encouraging progress report at the recent annual meeting of the American Turpentine Farmers Association.

"Actually, the concept for the plastic bottle technique came from a landowner in Clinch County," said Williams. "Our ranger in that county told us how the farmer had caught pine gum in a bottle attached to a tree and that's when we did some preliminary investigation and decided the



concept warranted some intensive research."

Chief Ranger Foster Smith said he was on the country place of Clifford Bennett near Homerville one day and "just accidentally came across the milk bottle plugged into a hole at the base of a big pine tree. The bottle was filled with some really pretty gum. The ranger said Bennett is quite innovative around his farm and "didn't have anything in particular in mind...I just attached the bottle to the hole I had made and left it."

Research on the alternative collection system began in 1990 under a contract with the University of Florida. It is administered by the turpentine farmers organization in cooperation with the Forestry Commission. Tools were readily developed to carry out the experimentation; a gasoline-power drill was fashioned to bore holes in the tree and an applicator was developed for chemical treatment inside the hole. Various depths and angles were drilled to determine the most advantageous method of extracting gum from several hundred pines in experimental plots in Georgia and Florida.

If eventually proven feasible, the studies that continue in the two states the breakthrough would bring about several money and time saving advantages over the traditional method.

Researchers hope a new method can be perfected to eventually replace the familiar cup-and-gutter system shown at left.

lecting gum. Industry spokesmen point out that it would, of course, eliminate the hardware that now must be attached to the tree, greatly reduce labor costs, lessen the attraction of insects to the tree, and produce a much cleaner, purer product.

Mill owners would welcome the change as it would eliminate metal appliances and nails that sometime become embedded in the tree when it is worked out for gum and sold as a sawlog. Metal objects in wood play havoc on expensive saws in today's computerized lumber mills.

Keeping the gum clean as it is collected in the open cups always has been a problem in the industry, but the transfer of the product directly from the tree into the plastic bottle prevents contamination and the evaporation of some of its properties such as turpentine and pine oils.

EXPERIMENT STAGE

Intense labor is involved in preparing and maintaining the many "faces" of a forest tract before harvesting can begin and when gum collecting does get underway, it requires 18 visits to the individual tree during a season. Williams said the bottle system requires "only two visits each season." The specialist said, however, that "I want to emphasize we're still very much in the experiment stage and the present cup-and-gutter system produces more gum than our bottles."

From two to five bottles can be attached to a single tree and some large pines have actually produced up to 15 pounds, but Williams said the average yield per bottle remains at about two pounds. "If we can get the yield up to three pounds, he said, "it will begin to be profitable."

After the initial holes are worked out, new ones are drilled about three inches adjacent to the abandoned ones for the insertion of new bottles.

It was first feared that the abandoned holes would create insect and disease problems, but research has shown that new bark grows quickly over the holes and no serious damage has been detected.

HOLES KEPT LOW

Williams said "the holes for the bottles are purposely kept low on the tree to avoid defects in the tree when it is eventually sold as a sawlog."

Williams and Hodges, as well as field technicians working on the project, have encountered one disappoint-

ment in their work: the bottle system doesn't work with longleaf pine. "Slash is receptive," said Williams, "but we find longleaf results are unfavorable at this point in the research."

Although the naval stores industry—a term derived from colonial times when tar was processed from gum for use in caulking the seams of ships and preserving ropes—reached its peak in Georgia in 1908, it remains an important component of Georgia forestry. Competition from several foreign countries—many using cheap labor—has helped diminish the industry in Georgia, but the state continues to hold the edge on the global market in the sale of high quality rosin.

Commission Director John Mixon told members at the ATFA meeting that he visited Japan with other state officials on a mission to promote the sale of Georgia forest products to the island nation. "They didn't want to

hear about timber," Mixon said, "All they wanted to discuss was the superior grade of rosin we produce and their intention to continue to buy it."

In the industry's heyday, generally before a marked decline started in 1938, there were hundreds of small on-site turpentine "fire stills" scattered throughout the forests of South Georgia. Today, only one large centralized distillation plant remains; Akzo Coatings of Baxley provides the services that many farmers and other independents used to do in a far less sophisticated and efficient manner.

MOMENTOUS TRANSITION

In essence, the transition from the cup-and-gutter system to a successful bottle method of gum collection could be as far reaching as that accomplished by the renowned Dr. Charles Herty at the turn of the



Grady Williams, district forester and naval stores specialist who initiated the new gum collection study, checks the content of one of the thousands of plastic bottles now being used in the research program.



Before the turn of the century, destructive box-like cavities were cut deep into the trunks of Georgia pines to extract gum. The practice seriously weakened the tree and made it susceptible to insects and diseases.

century.

Dr. Herty, a native Georgian, was traveling and attending lectures in Europe in 1899 when he was engaged in a conversation one day with a Professor Otto Witt of a university near Berlin. When the talk turned to naval stores, the professor allegedly told the American that the United States "has no naval stores industry"...that what passed for one was really a "butchery."

Artist Ken Brauner worked from old photographs to create the painting below which depicts gum gathering in South Georgia in the 1920's.



Georgia Forestry Spring 1993

The German educator's curt remark referred to the method by which gum was then gathered in Georgia and other states. It involved workers cutting a deep boxlike cavity into the trunk of the living tree to catch gum as it flowed from a scarified face, a practice that prevailed since early colonial times.

After returning home, Herty set about trying to replace the severe tree-damaging "boxing" with a less radical system of extracting the valuable gum. Several others tried to come up with a workable alternative, but Herty's extensive research in the pine woods of Bulloch County and elsewhere resulted in the cup-and-gutter device that was ultimately accepted throughout the industry. It was an improvement over a system used at the time in France.

Herty's system included a clay cup that resembled a flower pot, a gum receptacle that was later changed to an iron cup or box. The plastic cup was used a few years ago but now aluminum cups are used extensively.

REVOLUTION NOTED

A bronze table was erected on the campus of Georgia Southern Teachers College (now Georgia Southern University) at Statesboro in 1935 with the inscription "On this tree on July 20, 1901, the first cup and gutter for collecting gum turpentine was placed by Dr. Chas H. Herty and his assistant, Frank Klarpp. Here began a revolution in the naval stores industry."

When the system was placed on the tree, it was in the midst of an experimental forest that later became a part of the college campus. One historian observed that "several turpentine hands stood by laughing" when the

scientist hung that first cup.

Although there probably are skeptics today, none seem to be laughing openly at the experimental use of a plastic pop bottle that represents a departure from a gum gathering procedure that has remained basically unchanged for more than 90 years.

If all goes well and research ultimately proves that the new method is feasible, perhaps a new historical marker will one day proclaim that a plastic container spawned yet another revolution in the naval stores industry!



Dr. Herty perfected a cup-and-gutter system shortly after the turn of the century and producers began to phase out the boxed method of gathering gum.



TURPENTINE FARMER PROUDLY DISPLAYS INDUSTRY'S CALENDARS ON STORE WALLS

J.J. McArthur of Alston said he has "been in the turpentine business for 55 years and a member of the American Turpentine Farmers Association since it started." That's why you'll find the ATFA's big wall calendars, dating back to 1956, lining the walls of his old store in the little Montgomery County town.

A full color photograph of Miss Gum Spirits of Turpentine, chosen each year from entries representing the state's gum producing counties, is featured on the popular calendars.

McArthur's wife, Evelyn, postmaster of the town's little post office in a front corner of the store, said there are a few calendars missing, but almost all have found their way to the store walls during the past 44 years.

The postmaster, who has been sorting mail and selling stamps to Alston's residents for 35 years, said strangers stopping by are quick to "smoke over" the many photographs of pretty calendar girls.

Actually, the old store, once a busy place selling general merchandise, no longer sells anything except cold drinks. Shelves and ornate showcases are empty and the calendars dominate space once devoted to groceries, hardware and feed.

The McArthurs often talk of retiring, but both said it would have to be done reluctantly. The veteran turpentine producer said he is presently "doing a crop" and continues to enjoy his work, while his wife admits she is "not much of a housekeeper" after having served as postmaster for more than three decades and as a school teacher for 14 years before that, and would miss her daily contact with many of the townspeople who stop by the post office.

As long as the couple is around, however, a new calendar will go up on the store walls each January, adding another pretty girl to the gallery of beauties who have served as Miss Gum Spirits of Turpentine.

ASSOCIATION CONTINUES CALENDAR TRADITION

Big wall calendars featuring full color photographs of mountain landscapes, pretty girls or sleek automobiles used to be easy to come by at the beginning of a new year.

Now they are scarce. Few insurance companies, auto manufacturers and other enterprises bother to produce and distribute the big free calendars that once graced the walls of barber shops, repair garages, and offices.



**Mary Newton
1941**

The American Turpentine Farmers Association, however, is an exception. The organization has been handing out its calendar every year since 1941, with a suspension only during some of the World War II years.

It has been an effective way to help promote an important Georgia industry.



**Lucille Patterson
1963**

The photos of young ladies featured on the association's calendars each year is the Miss Gum Spirits of Turpentine chosen from entries across Georgia's naval stores belt.

In the early years of the competition, girls were chosen from Georgia and neighboring states, but since 1965, all girls have been from South Georgia. The first chosen was Mary Newton of Cogdell in 1941 and the current calendar girl is Sophie Hiers of Valdosta.

Miss Gum Spirits of Turpentine is considered a valuable asset in the promotion of the industry, according to the association. She usually attends the organization's annual meeting and makes appearances at several festivals and regional fairs around the state.



**Sophie Hiers
1993**

A new queen will be selected this summer.

ALL GEORGIA COUNTIES HAVE AT LEAST ONE ENDANGERED SPECIES; SOME HAVE AS MANY AS 21



THE IMPORTANCE OF ENDANGERED SPECIES

By Kim Coder

The Endangered Species Act is one of the most important animal and plant conservation laws in the world. The Act establishes a comprehensive program to identify and actively conserve endangered species. We have many of these endangered species in Georgia.

All Georgia counties have at least one endangered species. Some counties have as many as 21 endangered species. Most counties have 3-6 species.

Endangered species are organisms that are in danger of becoming extinct. The reasons species are in danger of extinction vary greatly. Principal reasons include loss of habitat critical for survival and the death of individuals through taking, collection, pests, natural disasters, neglect and ignorance. Other causes of declines are overexploitation, pollution and pesticides.

The reasons for establishing laws and developing regulations to protect endangered plants and animals include:

1. Rare species are a part of our life support system. We depend upon an intricate web of interactions between animals, plants and the environment to survive. All of our domesticated species of plants and animals came from wild stock. Each year new species are harvested, cultivated or raised for human use.

2. New medicines are isolated from plants and animals. In the past 25 years, 24 percent of all

In the past 25 years, 24 percent of all prescription medicines dispensed has active ingredients extracted from higher plants.

prescription medicines dispensed has active ingredients extracted from higher plants. Only 16 percent of the plant species of Earth has been examined for anti-cancer properties.

3. Genetic materials from wild living things are used to revitalize and protect species that have been domesticated for centuries, like cattle and corn.

4. Ethics of land stewardship. Once land ownership had strictly economic objectives. There were privileges associated with land ownership but no obligations. Today an increasing number of citizens and landowners believe that it is a landowner's obligation to be a good steward of the land

and its resources. Both federal and state laws have been enacted to increase the responsibility of landowners to protect endangered species and their habitats.

5. Endangered species act as warnings or indicators of ecological health. Loss of biological diversity through habitat destruction and species extinction is a visible symptom of ecological problems. Accelerating extinction rates for species surrounding us in the same environment is a powerful message that ecosystems are being severely damaged.

Both killing an individual of a protected species or destruction of its critical habitat carry large penalties. Maximum penalties under the Endangered Species Act include civil fines of \$25,000, criminal fines of \$50,000 and/or one year in jail per violation. Protected species cannot be harmed, harassed or taken in any way.

The list of federally protected species classified as endangered or threatened is always changing. This list is maintained by the U. S. Fish and Wildlife Service. State natural resource agencies also maintain lists of state protected species.

For information on the federal endangered species program, contact USDI-Fish and Wildlife Field Office, 801 Gloucester St., Room 334 Federal Bldg., Brunswick, GA, 31520.

(Kim Coder is a forester with the University of Georgia Extension Service)



More than 30,000 school students, teachers and other Georgians heard the crusader speak as he made his way across the state.

TRAIL OF TREES PROMOTER RUNS 440 GEORGIA MILES TO SPREAD MESSAGE

By Randy Lescault

Tim Womick is a man with a passion—a passion for trees. Womick brought that passion to Georgia as he pounded the pavement on his “Trail of Trees” run through the state in February.

Womick started his run on February 1 in the port town of Savannah. Covering as many as 25 miles in a day, he ran from city to city, stopping to trumpet his cause to school children, elected officials and anyone who would listen. Womick ended his run, crossing the Tennessee state line near Fort Oglethorpe, on February 28. He trekked over 440 miles through the state, making personal appearances to over 30,000 school children and teachers, and hundreds of decision makers, including mayors, county commissioners, tree board members and media representatives. His interaction with the community leaders gave him the greatest sense of accomplishment.

HIGH INTENSITY

“I was really impressed by the level of interest in tree issues by mayors and city officials in Georgia,” Womick said. “On one occasion I made a presentation to local officials, and the mayor of the town came up to me afterward and wanted to talk about

trees over lunch. It was a fantastic opportunity to educate a decision maker about the importance of trees,

tree care and replanting efforts.”

GREATER DIRECTION

Womick’s personal odyssey on behalf of trees and environmental issues started in Atlanta a number of years ago. He was a successful club manager and chef at a resort in Cashiers, North Carolina, living life in the fast lane. Oppressed by numerous addictions and a consumptive lifestyle, he began to seek greater direction in his life. Talking to a stranger in a book store in Five Points in 1990, he was complaining about the sad state of the environment when the stranger interrupted him with “So what are you doing about it?”

“I said to myself, ‘well, I am standing here talking to you about it’...but I knew that wasn’t enough. By the time I left that store, I decided to do something about it.”

Womick had already begun to withdraw from the addictions. He began to work out, walking and running in the forests around Cashiers. He got the idea to run across North Carolina, making stops along the way to share his message of preserving trees, the environment, and the

(continued on page 17)



"THE MOMENTUM HAS BEEN BUILDING FOR YEARS AND NOW FOREST LANDOWNERS ARE BEGINNING TO EXPERIENCE THEIR BEST YEARS."

GEORGIA TIMBER BRINGING UNPRECEDENTED PRICES

"Although we have just ended a year in which many landowners received attractive prices for their timber, I believe we are now on the threshold of an era of even greater expansion and unprecedented profit for the private forest landowner in our state."

*John Mixon, Director
Georgia Forestry Commission*

"In all my encounters with forest landowners in 1982, I could see no sign of a recession in the timber business...and the market is starting out this year as high as I have ever known it."

*Druid Preston
Consultant Forester, Macon*

"It is really rosy. It is as strong as it has ever been and I don't see any sign of it weakening any time soon."

*Kerry Thomas
Consultant Forester, Gainesville*

Professional foresters, timber buyers, forest landowners and others involved in the business have never seen anything like it; the demand for

timber in Georgia has never been greater and the prices paid have never been higher.

Mixon and others across the state attribute the soaring market to a shortage of timber brought about by the cutback of logging in the national forests in the Western states due to environmental concerns, as well as a rash of natural disasters that have created an unparalleled demand for building materials.



The Commission Director predicts a continuation of an "excellent market in the years to come, but warned that "we must continue our aggressive reforestation campaign if we are to adequately supply the many lumber manufacturers, paper mills and other industries that depend solely on the forests for their existence."

Mayo Livingston of Thomasville, a forest consultant who works with a number of clients in South Georgia, shares the director's views on the importance of perpetuating the state's highly productive forests. He is encouraging landowners to grow sawtimber for a future market expected to "surpass anything we have ever known."

RISING ALL YEAR

Livingston said prices paid for log owners in his area of the state for sawlogs and plylogs have been rising since January of last year and are now at an all-time high.

Preston, a veteran forester who remembers when Georgia's hardwoods had little or no value at the marketplace, said hardwood veneer logs are presently bringing top prices. He stressed that "larger trees in both hardwood and softwood are in great demand and are bringing top dollar."

the landowner."

Preston, who also pointed out that tall, straight trees suitable for utility poles are being sought statewide and bringing high profits for tree growers, listed unfavorable weather conditions as another factor attributed to the current timber shortage. "We have had unusually wet weather during the past two winters that have hampered logging operations," he said, "and now we are seeing a low inventory on many mill yards."

PREMIUM PRICE

Thomas, who reported North Georgia mills are paying a premium price for sawlogs in an effort to alleviate the lumber shortage, said he finds "timber buying very competitive at this time." The consultant added that he is pleased that landowners "are not just cashing in during a robust market without considering the future." He explained that "most of those that I deal with take a long term view of forestry by replanting their harvested tracts or making provisions for natural regeneration on their land."

Georgia surpassed all other states in the nation in the number of acres planted in trees during the past ten years. "But even that enviable record could be broken if all idle acreage in the state were planted in trees," said Director Mixon. "We have come a long way in reforestation since the 1980's, but there remain many, many abandoned pastures and fields in our state that could be growing pines or hardwoods."

Mixon listed several incentives that make timber growing attractive to Georgia landowners: "First, we have the climate and soils that are conducive to the rapid growth of trees, especially pine; the Commission



Environmental issues that curtailed logging in the West have increased the demand for timber grown in Georgia and the South, but recent floods, tornadoes and hurricanes are also attributed to the strong market for lumber and other building supplies. In addition to the need for replacement of storm damaged or destroyed homes, a predicted general recovery in the construction industry is helping maintain a strong market for stumpage.



maintains nurseries that supply quality seedlings to landowners for reforestation at nominal cost, the Commission's Forest Protection Department has set a national record in keeping wildfire losses to a minimum, the many forest-related industries across the state provide a ready market for timber, and the current high prices paid for timber are expected to continue."

The director said personnel of the Forestry Commission, private consultants and other agencies and individuals involved in natural resources are working together to further enhance forestry in Georgia, which annually contributes \$12.8 billion to the state's economy and employs more than 138,000 people.

"The momentum has been building for years," Mixon said, "and now forest landowners are beginning to experience their best years. All signs point to a banner year in 1993 and in the years beyond."



Replanting harvested timber tracts is the key to maintaining a steady supply of the raw forest products for Georgia's forest-related industries. The state currently leads the nation in reforestation.

12/Georgia Forestry/Spring 1993



BEFORE YOU SELL...

The optimum age for harvesting and selling pine in Georgia is 30 to 40 years, but the actual sales transaction can take place in 30 minutes or less! Georgia landowners are reminded that it is often wise to get an offer from more than one buyer and to insist on a properly written contract. There are other important considerations. For professional advice, contact a consultant forester or the Georgia Forestry Commission.



The above message appeared in a prior issue of Georgia Forestry and is now being developed into a poster to be distributed statewide.

Although stumpage prices have soared to an all-time high in some areas, foresters are cautioning landowners planning to sell their timber to enter into a well executed contract that addresses the interests of both the seller and the buyer. There is often the temptation to generally rely on a hastily drawn contract as a means of merely securing payment for timber.

Landowners are advised to seek more than one offer when selling timber and to consider securing the professional services of a consultant forester to handle the many details concerning appraisal, contracts, harvesting procedures, taxes, etc. Such a transaction, of course, involves the landowner, forester and the logger and/or buyer. A good contract would strive to create a harmonious relationship by detailing each party's objectives and restrictions.

As the Forestry Commission plants trees in anticipation of the 1996 Olympics in Georgia, it is remembered by some University of Georgia officials that a student athlete was one of the winners in the 1936 Olympics in Berlin and was presented a tree from Germany's Black Forest by Adolf Hitler. Georgia Forestry dusted off 57-year-old newspaper clippings, letters and magazine articles to reveal the fate of the tree.

IN SEARCH OF THE HITLER TREE

The 1996 Olympics to be held in Atlanta has prompted numerous Commission promoted tree planting activities that span a 60 year interim since the international event brought forestry interests to Georgia.

The last such event occurred following the 1936 Olympics held in Berlin when all gold medal winners were awarded a small oak sapling to replant in their native land - a gesture that has never been repeated. The tree, an English oak (*Quercus pedunculata*) from Germany's Black Forest, was provided by none other than Adolph Hitler, who observed the games from his special box in Berlin's Olympic Stadium.

Among the 24 U. S. athletes, who received trees for individual and team victories, was Forest "Spec" Towns, a University of Georgia junior who won the 100 meter high hurdles race before 110,000 spectators. Towns, and other American winners, put a dent in Hitler's goose stepping sideshow intended to suggest through Olympic triumphs that the "master race" was ready to dominate the world.

LEGEND LIVES ON

Nevertheless, Towns, a native of Fitzgerald, GA, received his gold medal and sapling. He returned to the University of Georgia in Athens to establish himself as legendary athlete and track coach. Spec Towns died in 1991 at the age of 77 - but the Towns legend and spirit of the historic look lives on.

Apparently, most of the U. S. gold

medal winners considered the oak sapling to be an award of little significance. Many of the "Hitler trees" (as they became labeled) were thrown

Some saplings were tossed into the English Channel because they were associated with the infamous dictator.

overboard from the ship transporting American competitors back home. Some trees were thrown away simply because they were associated with Hitler, whose ranting and raving - as well as other activities - had already created image problems.

After returning to UGA, Towns recalled, "I saw several trees floating in the English Channel. If it hadn't been for Mrs. Stegman, mine probably wouldn't have made it back." Towns was referring to Mrs. H. J. Stegman, wife of the Georgia athletic director and coach. The Stegmans returned on the ship with American athletes.

Mrs. Stegman realized the historic value of the young tree and cared for it

like a baby. In fact, the entire Olympics made lasting impressions on Mrs. Stegman. She retained a vivid memory of training binoculars across the Olympic arena to where Hitler sat - only to see Hitler watching the stands they occupied through his binoculars.

Hitler, who was very interested in forestry, had the oak saplings packed in cardboard boxes with holes and rope handles. Although this was a functional means of transportation, most of the U. S. gold medal winners found it awkward and inconvenient.

LIKE A POCKETBOOK

But not Mrs. Stegman. "I just carried it around with me the same as I carried a pocketbook," she said. "It was always my responsibility to keep up with the little tree, water it, and tend to it. That tree went with us to Switzerland, France, and Italy."

The objective was just to get the small oak back to the U. S. alive and plant it on the University of Georgia campus. But trouble lurked on the mainland. When Mrs. Stegman made it back to American shores with the tree still in good health, Customs seized the sapling and placed it in quarantine. Customs officials, however, assured a distraught Mrs. Stegman that the tree would be returned to her as soon as analysis confirmed that the sapling harbored no threatening disease.

After having the tree confiscated, Mrs. Stegman said, "I believed the man when he said I would get the tree back, but it didn't keep me from feeling like a mother whose child had been



UGA coed joggers pause on rainy winter day at English oak and bench commemorating Spec Towns' high hurdles gold medal victory in the 1936 Berlin Olympics. Hitler presided over the Olympics and had saplings from the Black Forest presented to winners.

snatched from her arms."

After two weeks of uncertain waiting, Mrs. Stegman was reunited with the young oak when the U. S. Department of Agriculture gave the tree a clean bill of health and returned it to Athens where it was planted on the UGA campus behind Memorial Hall.

It seemed that providence then offered an appropriate new friend for the aspiring young sapling. The new friend was UGA groundskeeper Oscar Winemiller - devout lover of trees and poetry.

Winemiller's love for trees was equaled only by penchant for order and untrampled grass. In those days, it was a common sight to see Winemiller, dressed in riding britches and boots, patrolling the campus on horseback to prevent grass trampling and tree tampering - special attention was given to the Spec Towns tree.

TREE GUARDIAN

Those students who walked on grass plots or posed a threat to the Spec Towns Olympic oak (or any other campus tree) were driven away by the stern figure on horseback. Students

who dared to park cars on forbidden grass received a memorable reprimand; Winemiller would dismount



Hitler's destructive obsessions to conquer the world were oddly contrasted by constructive interests - such as forestry. The dictator valued Germany's trees and gave souvenir oak seedlings from the Black Forest to gold medal winners in the 1936 Olympics in Munich.

and let the air out of the offenders' tires. None of Winemiller's sentry duties ever prevented him from providing special care for the Olympic oak.

MEMORIAL PLAQUE

In 1937, the UGA Alumni Association placed a bench and plaque next to the tree. In his dedication speech Dr. Frank Boland, of the Alumni Society, said, "All hail to a splendid young athlete, Spec Towns, who not only is the world's greatest hurdler, but is a fine man and a gentleman, and in every respect a noble example and inspiration for future Georgia athletes. It is with great pride and pleasure that we dedicate this marble seat in commemoration of Towns' great feat. We also are grateful to him for bringing to German oak from Berlin to be planted in front of the seat. We also wish to thank Mr. Winemiller for his marvelous care in preserving the tender young oak."

The tree grew sturdy for five years and was finally moved to what was thought believed to be a permanent location behind the stadium. Years passed and the tree continued to grow

GEORGIA FORESTRY HISTORY

EVERY SAWMILL OWNER GIVEN 500 ACRES OF LAND

Build a sawmill and receive 500 acres of free land!

That was the proposition given Georgia's early settlers. The year was 1777 and legislators passed a "Headright" law to encourage settlement of the state's vast tract of vacant and uncultivated lands; the law granted free land to all citizens who desired it.

In addition to the acreage allotted to heads of households, a provision was made to grant an additional 500 acres of land to every person building a sawmill, apparently to encourage rapid land clearing to make way for cultivation.

By 1784, however, no free land remained and nominal charges were being made for tracts ranging from 50,000 to 100,000 acres of land per family. The large grants were available because Georgia's western border had not yet been established, but matter of definition was taken care of some 18 years later, following the notorious "Yazoo Fraud" of 1795, with all "western lands" being surrendered to the United States in 1802 in return for a settlement of \$1,250,000.

The present-day boundary between Georgia and Alabama thus came into being, and the era of large land grants came to a close. With no firmly established primogeniture rights, it was inevitable that the land eventually would become split into small parcels, thus creating problems in forestry.

Adding to the difficulty, no doubt, were the occasional land lotteries held to dispose of properties taken from the Indians under various settlements, and which resulted in a patchwork of holdings, in-between pieces, and conflicting claims.

The number of sawmills established during the seven year duration of the Headright Law is not revealed in the historical accounts of the era.



with the legend of Spec Towns. Then, in 1966, construction began on a new section of Sanford stadium and it was determined that the tree would have to be cut.

When the decision was made to cut the tree, Mrs. Stegman reacted. "I went to everyone at the university to try to have it saved," Mrs. Stegman said.

The university agreed to have a tree moving firm estimate the cost. The result was an expensive bid the university officials felt they could not justify. Mrs. Stegman, however, persisted and the university arranged to have one of its own maintenance crews move the now large oak.

Mrs. Stegman went out every day to watch the crew, but she had reservations about the operation. "So much of the earth fell off from the around the roots that I was afraid it would not make it."

LEAFLESS SPRING

The displaced oak lived at its new site through the first summer, but no leaves came out in the spring. Mrs. Stegman took small limbs from the tree and tried to root them; but it did not work. The tree and all hopes for a surviving progeny died.

Now there were many dredged up memories of those small trees thrown overboard in 1936, left in the English channel to float into oblivion. "For a long time," Coach Towns said later, "we thought that this tree might have been the only one to make it back to this country. But we found there were several others."

Although the original tree died, Mrs. Stegman was determined to establish a permanent tree site to mark Spec Towns dramatic victory in the 1936 Olympics. UGA Dean William Tate sent to Europe for 10 saplings similar to the oak that Towns received. The trees were planted on the university campus.

One of these trees now stands alone with a marble bench near the coliseum. The inscription on the bench states: "This oak tree presented to Forest (Spec) Towns, Olympic 110 meter hurdles champion, Berlin, 1936."



Columbia County Ranger Wayne Meadows is shown with a small portion of his 30-year Smokey Bear memorabilia collection. Meadows considers his 250-piece-plus collection one of the best. Smokey illustrator Harry Rossoll was impressed enough to paint a special portrait of Meadows shaking hands with Smokey - making another piece for the collection.

RANGER DISPLAYS SMOKEY COLLECTION

By Bill Edwards

After 30 years with the Commission, Columbia County Ranger Wayne Meadows has retired and taken his collection of Smokey Bear memorabilia out of storage - the collection would fill an entire room and Meadows intends to set aside room for just that purpose.

"I started collecting Smokey items when I started with the Commission," Meadows said. "So after 30 years, I've got what I consider a good collection. Somebody out there may have a better Smokey collection than mine - but I haven't seen it."

Although he is not sure of the exact number, Meadows estimates his collection totals more than 250 pieces. Over the past three decades, he never seemed to find the time to sort out the collection and put it in any kind of orderly display. He just kept adding to it piece by piece and storing most of the collection away in closets and boxes. Now, even he is surprised to discover how much has been accumulated - and he's still finding items tucked away in secluded spots he had forgotten about.

"I'll find it all before I'm through," Meadows said.

Meadows said. "That's one of the first things on my retirement schedule - to find every item in the collection and set up a display room."

So far, the growing collection has turned up a variety of Smokey toys, posters, movie clips, video tapes, bumper stickers, banks, patches, key chains, pen sets, belt buckles, shirts, dolls, salt and pepper shakers, hat pins, caps, catalogs, jewelry, photographs, and numerous cartoons that Meadows has clipped over the years.

"I don't have any idea what all of this is worth, but it's probably worth more to me than anyone else," Meadows said.

SMOKEY ARTIST IMPRESSED

Harry Rossoll, whose drawings spread Smokey Bear's fire prevention campaign to millions of people, was so impressed with Meadows's collection that he offered to paint a portrait of Meadows shaking hands with Smokey. Meadows accepted and the painting now hangs in the midst of his Smokey collection as one of Meadows's most prized possessions.

Now retired from the U. S. Forest Service after 34 years service, Rossoll was especially impressed with the variety of

Meadows's collection. The well-known illustrator, who still maintains a private studio in Atlanta and specializes in murals, remembered many of the rare collection items that were discontinued long ago.

Meadows also remembers that "some of these were hard to come by." Among the rare items is a 10-inch, battery-operated jeep that has Smokey sitting behind the wheel. The jeep winds up for a series of runs and stops, with a red light and siren also operating until it winds down.

"I did a lot of looking for some of these things - buying and trading in the process," Meadows said, "but some of the best ones just happened to be found by accident."

One of the accidents is a battery-operated Smokey train that a relative happened to see in a country store. There are also some unusual "mistakes" that were recalled after production. "These mistakes are usually valuable in certain types of collections," Meadows said "especially when there's only a few." Among these mistakes are a number of posters with questionable printing and some other hidden pieces that Meadows is now reluctant to identify.

PATIENCE AND HORSE TRADING

Meadows believes that two of the most important personality characteristics for any long term collector is patience to find what you want - and horse trading for what you haven't got. He has certainly revealed patience over a 30-year period and has always been persistent in trading something only when he had duplicated or was sure he got a replacement.

"I've had offers to trade unrelated Smokey items for expensive rifles and that sort of thing," Meadows said, "but I always preferred to stay with the Smokey collectables. Something that would further the collection."

One of Meadows's most prized collection additions is a first edition Smokey Bear stamp that he bought when they were initially issued by the Post Office. Another item he plans to add in the category is a set of five silver commemorative coins that sell for around \$200. He plans to display the coins with the stamps in his new display area.

Meadows said he doesn't know whether he will build, rent, or use a room in his house for the display area - but regardless of what form the space takes it will be a museum of sorts and be christened "The Smokey Bear Room."

"I look forward to retirement," Meadows said. "It will give me time to be serious about this collection."

CONFERENCE SET IN SAN ANTONIO

The annual meeting of the Forest Farmers Association and the 1993 Southern Forestry Conference will be held May 12-14 at La Mansion del Rio Hotel in San Antonio, Texas, a facility located in the heart of the old city and overlooking the historic district.

A welcome reception will be held May 12, followed by discussions the following day by well known experts addressing the conference theme: "Forest Land Ownership: Rights, Privileges and Responsibilities."

Leading off the presentation will be William Perry Pendley, president and chief legal officer for the Mountain States Legal Foundation. He will discuss current legal challenges to private property rights.

David Lucas of Mount Pleasant, South Carolina, set a precedent by taking his property rights case all the way to the U. S. Supreme Court because he was banned for four years by the South Carolina Coastal Council from building houses on two beach front lots near Charleston. He will discuss what it

takes to protect your right to own land.

Invited to speak on how the Endangered Species Act (ESA) affects forest farmers is Rep. Jack Fields (R-TX), who co-authored a bill last year to balance the act.

Encouraging forest farmers to become more politically active, and speaking from experience, will be W. S. Stuckey, Jr. of Georgia, president-elect of Forest Farmers Association.

Three breakout sessions and the speakers will include:

Wildlife and Recreation Opportunities For Landowners, Dr. James C. Kroll, Stephen F. Austin State University, Nacogdoches, TX; Estate Planning, Gordon Caswell, Baylor University, Dallas, TX; and Grassroots Activism 101, Matt Bennett, Emmet Vaughn Lumber Company, Knoxville, TN.

For further information, including special hotel rates and air fare, contact the Forest Farmers Association, 404/325-2954.

GOLDEN ANNIVERSARY PLANNED FOR SMOKEY

Smokey Bear this fall will celebrate his 50th anniversary and the U. S. Forest Service has introduced a new slogan and logo to be used during the observance.

The slogan, "Remember... Smokey has for 50 years," will be used during a year-long golden anniversary of the famous bear, starting in October.

"This anniversary slogan reinforces Smokey's classic wildfire prevention message," said Forest Service Chief F. Dale Robertson, "For the past half century, generations of Americans have grown up with Smokey. Our anniversary celebration will bring back a lot of memories and drive home Smokey's message of fire prevention to a new generation."

The National Association of State Foresters held a nationwide contest last spring to select a slogan for the 50th anniversary. The Ohio Division of Forestry submitted the winning slogan, one of 3,400 entries.

The Advertising Council furnished the design for the anniversary logo.

Both the Advertising Council and NASF have been partners with the Forest Service in delivering Smokey's message for the past 50 years.

From October 1993 to August 1994, foresters and fire officials across the country will participate in local and statewide events celebrating Smokey's golden anniversary. The anniversary will culminate with a celebration in Washington, D. C., on August 9, 1994.

REMEMBER...

5



SMOKEY HAS FOR FIFTY YEARS

PROMOTER BLAZES TRAIL OF TREES

(continued from page 9)

importance of living a healthy lifestyle. Runs through South Carolina, New York, Virginia and Florida followed. The level of official support and recognition has varied as he has travelled across the country with his message, but Womick was in for a pleasant surprise when he came to Georgia.

"The level of support in Georgia was fantastic. From the Governor's office to Director Mixon's (Georgia Forestry Commission) office to the Georgia Urban Forest Council and the Georgia Trees Coalition, the support was there. I was especially impressed by the Georgia Forestry Commission field personnel, the foresters and rangers and other folks out there on the ground who made the arrangements for me, got me where I needed to go, and helped me out on the presentations," Womick said.

Womick's run through Georgia was sponsored by the Georgia Trees Coalition. The Coalition is a partnership of private, public and government organizations formed in 1991 to plan and coordinate the planting of

25,000 trees in Metro Atlanta, Savannah, and other Georgia communities in preparation for the 1996 Summer Olympics. The Georgia Forestry Commission is one of several state agencies that are active members of the Coalition. Womick also received support from several private firms that donated time or materials for logistic support along the way. One of the major contributors was Allan Vigil's Southlake Ford in Jonesboro, which donated the use of a rental van to follow Womick along the route with his supplies, handouts for kids and props used in his presentations.

Womick has big plans for the future, including taking his fever for the future of trees on a run across the United States. According to Womick, Georgia has proven to be a great training run for such a monumental journey--and he hopes to come back to the state again in 1994 to encourage folks to plant and take care of trees.

"I already have February 1994 blocked off," he said. "I wouldn't want to miss it for the world."



This large crowd of Laurens County citizens turned out on a crisp wintry day in 1950 for the dedication of the first fire tower to be erected in the Dublin area. The late Guyton DeLoach, Forestry Commission director, is shown addressing the crowd. After his remarks and tree planting and fire control demonstrations, 650 plates of barbecue were served. The shiny new tower, christened the "Davidson Tower" in honor of the family that donated the land, was 14 miles south of Dublin on the McRae Highway. It was unceremoniously moved to another location 35 years later. (Photo courtesy Marshall Lord)

LANDOWNER RECALLS EARLY DAYS OF COMMISSION

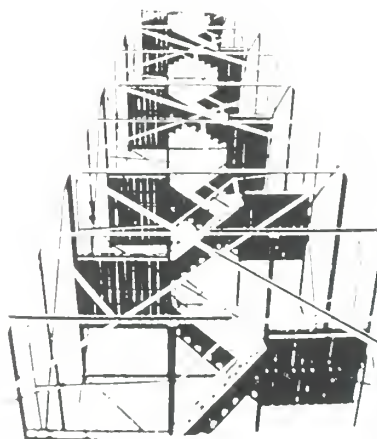
Marshall Lord had returned to his home in Laurens County after serving in World War II and the young ex-sailor knew exactly what he wanted to do with the rest of his life. He wanted to follow in the footsteps of his father; he wanted to be a good farmer.

A banker and friend in nearby Dudley, however, prevailed on Lord to take a detour on the road to his career goal. It was a time when an interest in the true value of Georgia's forests was beginning to sweep the state; several counties started fire prevention programs to counter the widespread abuse of the woodlands.

The banker, chairman of a board responsible for establishing such a program in Laurens County, called on Lord to serve as the county's first forest

ranger, a job that would entail the erection of three lookout towers.

Lord was reluctant at first to take the



job, but finally decided to put his farming ambition on hold and accept the ranger post as a challenge to work at something that would benefit almost every landowner across his home county.

Lord agreed to work for one year in establishing the unit and under the direction of District Forester J. Phillips of Macon and with the help of Assistant Ranger Grable Ricks and Patrolmen James Morris and John Chamblee, the towers soon began to rise above the tree tops.

Lord and his crew had no experience in erecting towers, but after they had set anchor bolts and poured concrete footings, they came across with ten instructions inside the crates.

(continued on page 2)

The familiar fire towers that once dotted the Georgia countryside are being phased out as aircraft pilots take over surveillance responsibilities, but a former ranger who erected towers in his home county 44 years ago remembers how they helped usher in effective forest fire protection for the first time.

SEVERAL SHORT COURSES SCHEDULED AT UNIVERSITY OF GEORGIA CENTER

Several short courses of interest to foresters and those in related fields have been scheduled for April, May and June at the Center for Continuing Education, The University of Georgia. One will be conducted at an airport hotel.

Tree Volume and Weight Tables with Conversion Factors will be taught April 5 - 6. This popular course has been held at several locations in the Southeast. The instructors are Drs. Bruce E. Borders and Barry D. Shiver, Associate Professors in the Daniel B. Varrell School of Forest Resources.

The course reviews the determination of tree/log volume and weight, the appropriate use of volume and weight tables, and conversions from one unit of volume or weight to another. It is designed for foresters, technicians, wood buyers, appraisers, and others.

A seminar, Assessing Timberland Investment Opportunities: Prospects for the 90's and Beyond, will be held at the Hyatt Atlanta Airport Hotel May 4 - 5. This program provides an update on regional, national and world markets for forest products and the investment potential of timberland.

The seminar will begin with a social on the evening of May 4 and continue all day on May 5. Breakfast, lunch, and refreshments on May 5 and reference materials are included in the registration fee of \$125.00.

TIMBER CRUISING WORKSHOP

A timber cruising workshop on point sampling will be held at the Center for Continuing Education May 17 - 18. This course covers the design, conduct, and analysis of point samples for estimating pulpwood and sawlog volumes of forested areas.

A combination of classroom lecture and discussion, plus a field exercise, teaches the principles and practice of this simple but accurate method of cruising timber. The instructor is Dr. Richard G. Oderwald from Virginia Tech.

The registration fee for this two-day course is \$195.00.

A short course, Using INFORM AND YIELDplus, will be held at the center May 19 - 20. INFORM and YIELDplus are personal computer (PC) software

packages used to estimate timber volumes, perform appraisals, project timber stand growth, evaluate investments, and more.

The course will be taught by Todd Hepp, systems analyst and biometrician with the Tennessee Valley Authority.

ESTATE PLANNING

A short course, Estate Planning for Forest Landowners, will be held May 24 - 25. This course helps tree farmers and their advisors find transfer strategies that are more attractive to one's heirs than they are to federal and state tax collectors. The instructors, Dr. Harry L. Haney, Jr. and Dr. William C. Siegel, are nationally recognized experts on timber and forestland taxes.

The registration fee for this two-day course is \$195.00 (spouses may register for an additional fee of \$115.00).

A short course, Environmental Law for Foresters, will be held at the university June 8 - 9.

This course presents the most significant environmental protection laws and regulations and discusses the procedures for compliance.

J. Owens Smith, forester and attorney with The University of Georgia, is the program moderator.

The registration fee for this two-day course is \$150.00.

The registration fees for the courses include lunches, refreshment breaks and instructional material.

For more information on all courses write: Forestry Programs, Georgia Center for Continuing Education, The University of Georgia, Athens GA 30602-3603, or call (706) 542-3063.



Let's Keep Georgia Peachy Clean.™



THE BOOK CORNER

HANDBOOK OF Rocks, Minerals and Gemstones, by Walter Schumann. Houghton and Mifflin Company. Hardback, \$35.00, paperback, \$18.95.

Foresters, surveyors, hikers and others who frequently trod the earth's crust often accidentally kick or stumble upon rocks of unusual form and beauty and if they are not careful such innocent encounters can lead them to become avid rockhounds.

It is not only the outdoors types, however, that are catching the fever. Collecting stones has become one of the country's fastest growing hobbies and it is being enjoyed by people from all walks of life and all ages.

Handbook of Rocks, Minerals and Gemstones, by Dr. Walter Schumann, author of several books on the subject, presents an essential guide for the serious collector, whether a beginner or an expert. The book discusses the basics of mineralogy and provides a list of general features used in the identification of rocks.

The attractive volume provides a comprehensive description of each rock and mineral, including its history, origin and structure, composition, properties, classification, and where it is found.

The book is enhanced by 600 full color photographs, a collection amassed from around the world. The individual specimens are photographed at natural size and the illustrations and text are arranged opposite each other for easy reference.

The layman, as well as the true rockhound, will probably have a hard time putting this fascinating book down long enough to return to the field, but when the search does resume, he or she will have the finest and most complete collectors guide ever published.



CANCER TREATMENT FROM YEW TREE INDICATES NEW ROLE FOR FORESTRY

EDITOR'S NOTE: Recent FDA approval of a cancer treatment, derived from a tree species previously considered unimportant, is a solid reminder that any tree may possess unsuspected benefits waiting to be tapped—and all forestry species should be properly managed. Georgia has more than 250 native tree species.

Taxol, a drug derived from the Pacific yew tree, has been approved by the U.S. Food and Drug Administration for the treatment of ovarian cancer. Some scientists wonder if it possible that other trees could be cultivated for medicinal purposes.

The FDA issued a statement that taxol

slows cancer progression, but does not cure the disease; but the approximate 21,000 U. S. women annually diagnosed with ovarian cancer now have an option to chemotherapy. Some research shows that the drug has also been effective in treating cancers of the breast, prostate and lung.

Taxol has been a source of controversy for several years since research began showing effectiveness of the substance against ovarian cancer. The drug works by disrupting the mechanism that cells use to divide. Clinical research shows the drug caused a positive response in 25 to 30 percent of the women tested. Favorable response lasted five to

seven months before the drug became ineffective. Researchers say that if the question of why taxol becomes ineffective after a period of time could be answered - the answer to curing cancer would be much closer.

In the past, the Pacific yew has been virtually ignored. Now, however, the cancer treatment factor has produced heavy demands for yew bark, from which the taxol is extracted. Each yew tree produces about 100 pounds of bark; approximately 60 pounds of bark are required to make enough taxol to treat one patient.

This new demand for yew tree bark provoked environmentalists, who claimed the trees were being

harvested so rapidly that the species might disappear within a few years.

Pacific yew inventories show concentrations on national forest lands in Oregon and Washington, Idaho, Montana, and California. Other populations of the species occur on federal lands managed by the Bureau of Land Management.

After a competitive process, the National Cancer Institute entered into an agreement with Bristol Myers Squibb Company for development of taxol for clinical testing. Studies now show that the drug can shrink malignant tumors by at least 50 percent in women who have not responded to other treatments. The research showed especially promising results in treating ovarian and breast cancer. Approximately 75,000 women develop breast cancer each year.

CLINICAL TESTING

Dr. Sam Broder, director of the National Cancer Institute, clarified research findings by putting positive implications in perspective. "You have to be careful not to unduly raise expectations," Broder said. "It's not a cure, but it clearly will make a difference in women's lives."

As positive research results increased, intense inventories and increasing concerns of environmentalists attracted more attention to the Pacific yew, and new research emerged.

The University of Florida launched a program to produce more taxol - while minimizing threats to the Pacific yew. Dr. Koppaka Rao, a professor of medicinal chemistry at UF's College of Pharmacy, discovered a process for producing more taxol from yew bark - and related compounds that can be converted into taxol in the laboratory. The U. S. Patent and Trademark Office has allowed Dr. Rao's patent on the synthesis of taxol from these related compounds.

"The isolation methods now in use produce taxol in a yield of about 0.01 percent from yew bark," Rao said. "With our method, the yields of taxol ranged from 0.02 to 0.04 percent. Combining the taxol - directly isolated in greater yields with the taxol we can create from these analogues - can result in

yields five to ten times greater than what is currently being reported." Although these analogues were discovered in France several years ago, Rao is the first to successfully isolate the substances from the bark of the Pacific yew and convert them into taxol in the laboratory. The analogues - identified as the xylosides of taxol and 10-deacetyl taxol - account for 0.1 percent or more of Pacific yew bark.

Other researchers have also been looking for methods to secure taxol without destroying or threatening the natural source. A Florida State University chemist patented an alternative technique for making taxol from analogue 10 deacetyl/baccatin (found in some species of yew leaves). This process could possibly be developed to produce taxol without endangering the Pacific yew tree; this would depend on the assumption that a source of

New treatment for ovarian cancer treatment derived from bark of the Pacific yew tree has Georgia foresters and medical researchers wondering what potential cures and treatment may be waiting to be drawn from the state's extensive population of native and naturalized species.

Realization that even the most non-commercial and insignificant tree species may harbor great benefits could open the door to a new research role for forestry.

the required analogue could be found.

In Mississippi, university researchers started a new program using ornamental yew bushes as a potential new source of taxol - another potential source of taxol which could eliminate the need for harvesting the endangered Pacific Yew.

"Both of these processes hold long range potential," Rao says. "But right now, the bark of the Pacific yew remains the primary source of taxol, and our isolation process will produce five to ten times more taxol from the same amount of bark."

According to Rao, very high quality taxol is produced by this method. He said taxol was analyzed through the national Cancer Institute by an independent agency that rated the samples as "excellent." Confident that the process could be repeated on a larger scale, Dr. Rao expanded the method from a one-gram scale to a 200-gram scale with no significant difference in results.

ANOTHER APPROACH

As new research and development progress, new approaches are formulated. According to a Bristol-Meyers Squibb announcement, the company does not plan to harvest Pacific yew bark from federal lands during 1993; company sources said they have solved their taxol supply situation and consequently have changed plans for this year's bark harvest.

In a meeting with the U. S. Forest Service and Bureau of Land Management, BMS also indicated they will continue to participate in the cooperative agreement involving Pacific yew, including funding for analyses begun in the environmental impact statement project. BMS also indicated they will honor their agreement to remove yew material cut (but left in forested areas) under last year's permits.

U. S. Forest Service sources said the organization is still committed to seeing that yew is made available, and that concept has not changed. BMS, however, has expressed high priority for obtaining alternative sources of taxol that would enable them not to harvest on public lands.

U. S. Forest Service studies are now underway to determine effects of changes on yew-related projects and timber sale programs.

FARM BUREAU SETS 93' FORESTRY POLICY

In a policy statement for 1993 by the Georgia Farm Bureau, the organization recommended or supported 25 conditions pertaining to forestry.

Here are excerpts from the statement approved by the 225,000-member bureau:

"We urge all forest landowners to obtain a forest management plan from the Georgia Forestry Commission or other professional foresters to determine the present condition and management needs of their timber land, enabling sound planning for maximum timber production...

"We support adequate funding for the continued high level of protection offered by the Georgia Forestry Commission to protect our forest resources from fire, insects, and diseases...

"We support work by the Georgia Forestry Commission on utilization of wood energy for on-the-farm use and encourage more research and development of equipment to enable farmers to use wood energy in crop drying, poultry house heating and other farm uses. We further recommend continuation and further support for research in the area of wood energy and methyl alcohol...

"We support stiffer enforcement of penalties for arsonists burning of forest and timber lands...

"We support the Stewardship Forest Incentive (SIF) program and encourage private forest owners to participate in the program...

"We support the use of properly treated wood in repairing or rebuilding bridges 40 feet or less in length...

"We encourage Best Management Practices (BMP's) including timber harvesting to be carried out on all forest lands including areas classified as wetlands."



Mary Phillips, left, State Chairman of the Smokey Bear/Woodsy Owl Poster Contest, Garden Club of Georgia, Inc.; Chief Ranger Randy Kirksey of the Grady County Forestry Unit; and Jamie Culbreth, Executive Director of the Cairo-Grady County Keep Clean and Beautiful Commission, show some of the poster entries from schools around the state. Winners will be awarded at the club's annual convention April 28 in Macon.

LONGLEAF MEETING FIELD TRIP PLANNED

A two-day conference and field trip, devoted to the management of longleaf pine, is planned for April 27-28 in Statesboro.

The conference for foresters, landowners, and others in the scientific community is designed to raise awareness of the importance of longleaf pine and discuss state-of-the-art management techniques.

Sponsoring the conference will be the Georgia Forestry Commission. The Nature Conservancy, the U. S. Forest Service and the Georgia Forestry Association.

Professionals from throughout the southeast will be speaking on a variety of longleaf pine topics, including fire ecology, regeneration, and econom-

ics. A social, Tuesday evening and a day-long field trip on Wednesday are also planned.

The keynote address will be given by John Mixon, Director of the Georgia Forestry Commission, and other speakers will include Dale Wade of the U. S. Forest Service; Lynn Hooven, Forestry Commission; Cecil Frost, North Carolina Department of Agriculture; Greg Seamon, The Nature Conservancy of Georgia; and several others.

Registration information can be obtained from any of the sponsors, or by writing to The Nature Conservancy, 1401 Peachtree Street, Suite 236 Atlanta, GA 30309, (404) 873-6946.

SCIENTIFIC BREAKTHROUGH COULD RESTORE CHESTNUT AND ELM TREES

A breakthrough discovery by scientists at the Roche Institute of Molecular Biology could result in restoring native chestnuts to the American landscape, according to the National Arbor Day Foundation.

Chestnuts have virtually disappeared since a fungal disease was accidentally introduced from Asia in

1904. The new discovery uses a genetically engineered virus that alters the genetic makeup of the chestnut-killing fungus, reducing its virulence.

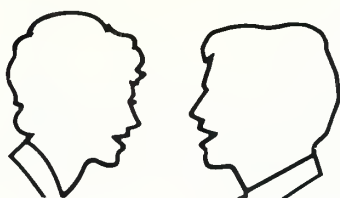
Because of the reproductive abilities of the blight-fighting virus, scientists hope that once introduced, it will spread naturally, enabling the return of American chestnuts.

The discovery also shows promise for use as a natural control of Dutch elm disease, which has plagued foresters and arborists for years.

Permission for greenhouse and field trials is being sought from the USDA with 3 to 5 years predicted for completion of the tests.

PEOPLE

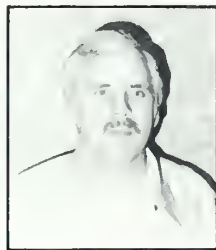
IN THE NEWS



RANDY KIRKSEY is now chief Ranger of the Commission's Grady County Unit, a position he assumed following the resignation of Chief Ranger Elaine Insley. The new ranger, a native of Seminole County, and a graduate of Seminole County High School, came with the Commission in 1981 as a patrolman after having served a short time as temporary tower operator. He had earlier worked in his father's farm equipment business. The ranger and his wife Debra have two young sons, Chuck and Blair...TOMMY HEWELL has been promoted to District



Randy Kirksey



Tommy Hewell

langer for the Athens District. Hewell's previous position was senior forest ranger for the Clarke/Oconee Unit. A native of Marlinton, S. C., he came with the Commission in 1972 as a forest patrolman for the Clarke/Oconee Unit. Hewell is



Scott Bryant

an honor graduate of Oconee County High School with memberships in the FFA, Latin Club and Beta Club. His commendation and activities with the Commission include Outstanding County Unit Award, and ICS Instructor...SCOTT BRYANT has assumed the position of chief ranger of the Clarke/Oconee unit. A graduate of the University of Georgia with a bachelor's degree in education, Bryant was employed by the Commission in '87 as forest patrolman for the Athens District. A native of Albany, he now resides in Watkinsville with his wife, Rita Ann, and two daughters. His hobbies include chess and golf.

LANDOWNER RECALLS EARLY DAYS OF GFC

(continued from pg. 18)

which the steel framing had been shipped. Very few towers had been erected in the state at that time and as the ranger and his men erected the towers piece by piece, they attracted the attention of quite a number of curious Laurens Countians, many of whom would later credit tower operators with helping save their woodlands from wildfire.

It was the beginning of the transition from the old TPO system to statewide protection. Lord's unit, with an annual budget of only \$19,000, was equipped with three Jeeps with mounted plows and water tanks. Although fire control was the primary function of the new unit, the ranger also began to promote reforestation and persuaded ten forest landowners to contribute toward the purchase of the county's first tree planter at a cost of \$250.

TOWER DEDICATION

A large crowd gathered for the dedication upon completion of the first tower, thus launching Laurens County's forest protection program that is now in its 54th year.

Instead of the traditional champagne, a bottle of locally produced gum turpentine was used to christen the new tower. Pretty Grace Warren of the Dexter 4-H Club smashed the bottle against the steel frame and the late Guyton DeLoach, state forester and commission director, delivered the dedicatory address.

Lord stayed on for 18 months before leaving a well established forestry unit to return to farming. Today, he operates a 2,100-acre diversified farm, consisting mainly of pastureland and row crops, with 500 acres in planted trees.

"Farming is my first love and forestry is my second," Lord claims. "My father had one little 30-acre tract of slash pine on the farm when I was growing up and even back then he was conservation

minded...he knew the value of a forest and I think that's when I first learned to appreciate the forest."

Lord, who is proud of the country home he built from lumber cut from trees logged on the farm, said he plans to continue to plant trees on marginal land on his farm and would eventually add another 500 acres in trees.

The landowner said he was "very impressed" with the Commission's Land Use and Forest Management Field Days held near Griffin and Swainsboro on alternate years and told how he strives to follow the good practices demonstrated at these events.

Although most of his forests are in rural areas, Lord practices urban forestry in a unique way: he plants trees in areas that are carefully planned to become urban only after the trees have become mature forests. One example is an attractive residential subdivision near Dudley that was developed in a pine forest Lord planted 40 years ago. In a later planting in a large tract of rolling hills, wide swaths are left unplanted to someday become residential streets.

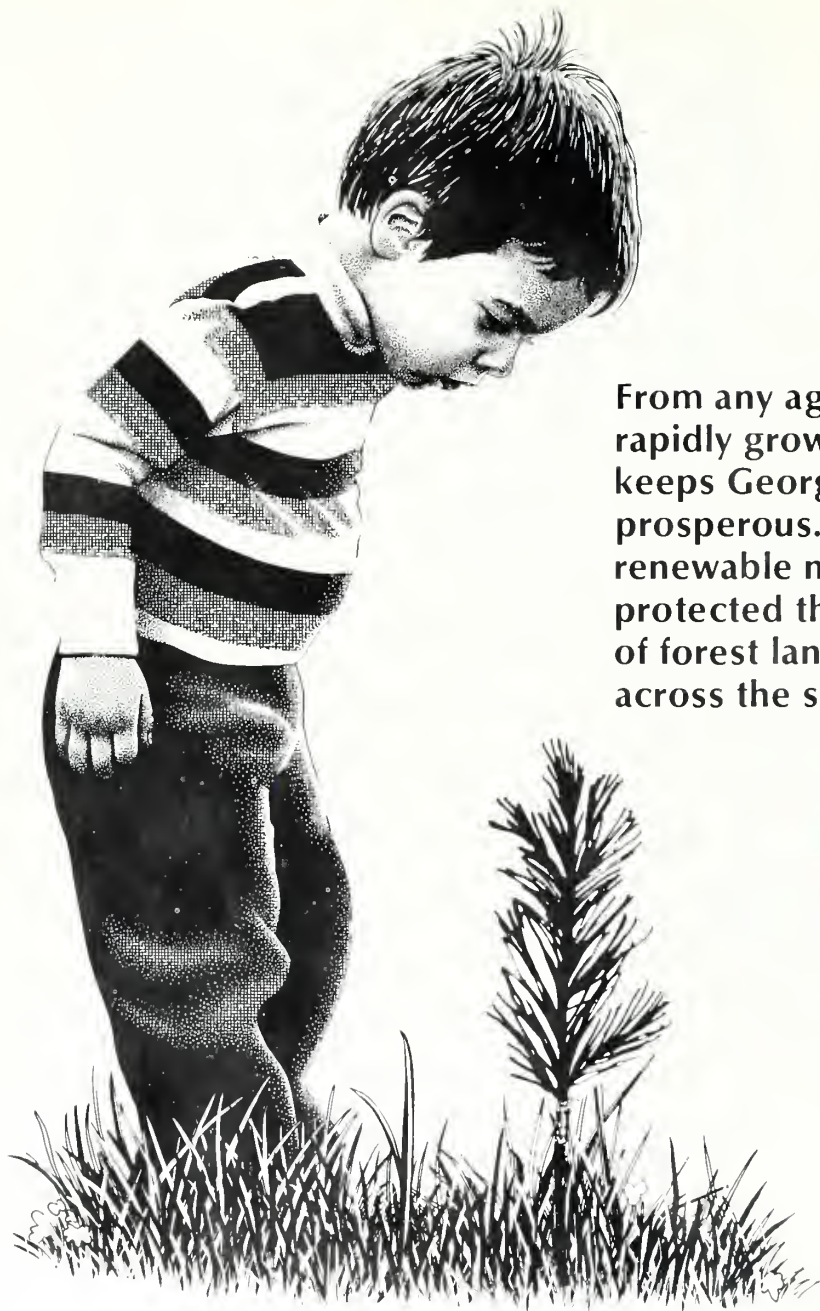
"It has always been a great source of pride to me," said Lord, "that the first two men I hired went on to make a forestry career and retire from the Georgia Forestry Commission...to continue the great tradition of service to the forest landowners that we established together."

NF RECEIPTS SHARE RECEIVED BY STATE

Georgia received \$1,225,869.10 in national forest receipts for fiscal year 1992, according to R. Dale Robertson, Chief of the U. S. Forest Service.

By law, 25 percent of the revenues collected by the Forest Service from the use of national forest system lands and resources are returned to the states where the lands are located. The states are required to use the funds for schools and roads. Robertson said the funds are collected primarily from timber sales, grazing, recreation and minerals extraction on 191 million acres of national forest system lands and resources are returned to the states where the lands are located.

The largest payment, more than \$136,540,500, went to Oregon and the smallest, \$91.53, was paid to North Dakota.



From any age, any perspective, the rapidly growing pine is a wondrous tree. It keeps Georgia green and beautiful...and prosperous. Trees are our most valuable renewable natural resource - a resource protected through the good stewardship of forest landowners across the state.



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Employees of Goodrich Sash, Door and Blind Manufacturing leave from work. This Augusta wood products plant in the late 1800s was typical of numerous other similar businesses across the state that emerged as the foundation for Georgia's current \$12.8 billion forest industry.

THE WHITE HOUSE

WASHINGTON

May 26, 1993

Temple Green
4680 South Main Street
Acworth, Georgia 30101

Dear Temple:

Thank you for sending the brochure on Acworth. I am pleased that my tree was the first to be planted in the "Presidential Tree Grove."

I very much appreciate your city's kind gesture.

Sincerely,

Mrs. Temple Green, a member of the Georgia Urban Forest Council and active in the beautification of her hometown, is proud of this letter she recently received from the White House.

ON THE COVER - Picture yourself relaxing in this peaceful spot beneath the graceful trees of Jekyll Island. Jekyll and the other Golden Isles along Georgia's coast are known for their many beautiful trees, shrubs and flowers.



Lynda and Kirby Beam proudly display two signs near the entrance to their farm that clearly indicate how well they manage their forest.

COUPLE NAMED GEORGIA'S TREE FARMERS OF THE YEAR

The long, winding trail skirts clusters of wildflowers, passes through young stands of longleaf pine reaching for the sun, dips below a ridge and under a vast canopy of hardwood foilage, runs alongside wetlands dominated by tall cypress and finally ends at the bank of the Ogeechee River.

Where are you? You're on Toohollie Farm, a thousand acres of Screven County land so well managed that it has earned owners Lynda and Kirby Beam Georgia's Tree Farmers of the Year award. The farm, about a mile from the little town of Oliver, also had the distinction of becoming the state's Stewardship Forest when that program was inaugurated two years ago.

WILDLIFE ENCOURAGED

Much of the pine species on the place are young stands and with harvest many years away, the couple presently concentrates on the many other benefits the forests offer. Some 20 acres of food plots planted on the borders of fields, in strips along lanes and

in several forest openings, have encouraged a large wildlife population.

"You can't just sit back during a long rotation period and merely watch trees grow," reasoned Beam, "and that's why it is important to realize that a forest has a lot more than tree growth going for it." He told of traveling a crooked trail through the woods and suddenly coming upon wildlife or unexpected beauty brought out by the changing season.

The owners, striving to retain the natural beauty of their property and hold fast to their Stewardship Pledge, have observed and protected 99 tree species on the farm and are anxiously searching for two or three others that have been known to exist in the area. The tracts of longleaf on the farm provided the perfect setting for a recent conference on that species, and those who attended also had a chance to marvel at the towering hardwoods along the river.

Although it is obvious they thoroughly enjoy their farm - the nature study, observance of 57 bird species,

horseback riding along wooded trails - Beam said "the real reason for all we do on this land is to get it in good condition for our children, grandchildren and other generations to come." He and his wife said they are appreciative of the assistance they receive from the Forestry Commission (especially the service of Forester Gene Rogers, who recently retired) in the development of their multiple-use forest concept.

TRUE INSPIRATION

"Lynda is the true inspiration for all of this," said her husband in reference to the Tree Farmers of The Year honor and Stewardship Forest distinction. "Her enthusiasm and dedication makes things happen." Forester Sharon Dolliver, who heads the Commission's Urban Forest Program, agrees. She said "Lynda has a genuine love for the land, for trees" and works hard in her role as a member of the Publicity Committee of the Georgia Urban Forest Council.

Beam, a native of North Carolina, where they own a smaller tree farm, has a lumber and building supply company in Savannah. They maintain their home in Savannah - her hometown - and drive out to the big, two-story house on the farm to spend many weekends and holidays.

Beam grew up on a farm and said he learned to appreciate the forest at an early age, while his wife has always been fascinated with the flowers, shrubs and ancient trees of her native city.

HOST TO YOUTH GROUPS

Toohollie Farm is often host to Boy Scouts, school students and other youths for camping and nature study; more than 100 children visited the farm this spring.

Christmas trees are grown and other holiday greenery is available for family members and the hardwoods provide wood for the eight fireplaces in the farm house and the city residence. Game hunting and horseback riding are enjoyed by the landowners and their guests.

The farm is co-owned by Lynda Beam's brother and sister-in-law, Herb and Janet Guerry.

Guests are often treated to an interesting tour of the farm over miles and miles of trails in an open Jeep-like vehicle. That's the best way to see and appreciate the well-tended woodlands and scurrying wildlife along the way and to know that you're on one of Georgia's finest tree farms.



Four words!

Enthusiastic forestry interests across the state are cooperating with the Georgia Forestry Association in a recently launched public relations and education campaign to "sell" forestry with the four-letter slogan: GEORGIA WE GROW TREES.

Two prestigious forest landowners, United States Senator Sam Nunn and internationally known recording artist Chuck Leavell, added their weight to the ambitious campaign as they addressed some of Georgia's leading legislators, industrialists, businessmen and women and others at a press conference and kick-off rally in Atlanta.

The slogan, depicted in a colorful logo in blue, white, green and yellow, is beginning to blossom on billboards, bumper stickers, tee shirts and caps; newspaper feature stories and magazine articles are aiding the drive with reminders that quality forest trees, instead of fruit trees, dominate the landscape throughout the "Peach State."

TWO GOALS SET

The strategy of the campaign, carefully worked out during months of research to assure the support of association members, the forestry community at large, environmental groups and others,

includes a twofold goal: To achieve voluntary compliance with Best Management Practices (BMPs) on 100 percent of Georgia's commercially forested sites by the year 2000; to promote awareness of the state's leadership in forestry and foster a public pride in that accomplishment.

BMPs are guidelines developed by foresters and other environ-

mentalists. They outline specific site preparation procedures and other steps that ensure soil and water quality is not altered as a result of forestry operations.

THINK LONG-TERM

In commenting on the campaign at the recent news conference, Senator Nunn declared that "one of America's greatest challenges beyond forestry, but including forestry, is to begin to think long-term. To begin to be able to think in economic terms beyond the next quarterly report.

"Who better than the forest industry to lead the way? "Nunn asked." It takes a long time to grow a tree (but) it takes a lot shorter time here in Georgia than it does in many parts of the world, and that's why we have such an advantage!

Leavell, who plays with such well known bands as Rolling Stones and Eric Clapton, unveiled the campaign logo at the conference. The musician and his wife own a 1,200-acre tree farm in Twiggs County and he said he is "very proud to be a part of Georgia's great forestry com-

FOREST AWARENESS CAMPAIGN LAUNCHED

munity." He pointed out that Georgia is "the leader in forestry and I want to sing the praises of our leadership throughout the state, the nation and the entire world."

Leavell said he was dismayed, however, that "Many Georgians are unaware of our leadership in forestry. This concerns me, and it concerns all forest farmers because it implies that we, as a state, may be taking our forest resources for granted."

Better understanding of the precious nature of these resources, showing greater appreciation for our forested acres than we would for a shopping mall, for example, helps us to conserve these valuable resources.

Chuck Leavell

Bob Izlar, executive director of the Georgia Forestry Association, said "even though forestry contributes nearly \$13 billion annually to the state's economy, we have found that most Georgians are unaware that their state leads the nation in forestry ... we feel that by making people more aware of Georgia's leadership and forestry's importance, the general public will become more conscious of the need to conserve this resource for future generations."

BMPs ENDORSED

In reference to the other campaign goal, Izlar said the association has always endorsed BMPs and when the Georgia Forestry Commission conducted a recent site survey to determine how well they were being complied with, it was found that the overall compliance was 86 percent.

"Eighty six percent is terrific," the director said, "but considering the importance of forestry to this state, our national leadership and our desire to lead by example, we know we can do even better."

Izlar said one step taken to pro-

mote BMP compliance concerns license renewal for professional foresters. "Our board unanimously recommended to the Georgia State Board of Registration for Foresters that the ethics course required for license renewal include a component of Best Management Practices," he said, "and I am pleased that the board has adopted the recommendation and is developing an addendum to the ethics class on BMPs."

Izlar said another key part of the campaign is the formation of committees that will tour the state to help private forest landowners to

We do not just inherit our land from our parents, we borrow our land from our children.

Senator Sam Nunn

better understand the importance of BMPs.

The campaign is now in full swing and the association members and all others working in the drive intend to see that the slogan, GEORGIA WE GROW TREES, is given full exposure now and well into the new century.



Senator Nunn and Chuck Leavell unveil campaign slogan.

TREES CONSIDERED A CROP ON MANY CENTENNIAL FARMS

Thirty-one farms honored by the 1993 Georgia Farm Centennial Program included trees as a crop - an inclusion strongly indicating forestry management is not directed to exploiting the environment without consideration for the future.

The Georgia Farm Centennial Program honors farmers for contributions to the state's agricultural heritage and resources for future generations. To qualify, a working farm must have been in the same family for 100 years - or the farm must be at least 100 years old and listed in the National Register of Historic Places.

Considering these regulations for recognition, it is logical to assume that no such establishment is likely to do anything detrimental to its environment through negative and exploitative practices.

BALANCE NEEDED

Increasing accusations by environmentalists imply a blanket condemnation of forestry as environmentally harmful. The 31 out of 60 farms recognized by this year's Centennial Program offer a sound reminder of how distorted and inaccurate the attack on forestry has become; more than half of the farms have tree crops.

A balance of accurate information is needed for authentic representation of forestry management. So far, the forestry community has been on the defensive concerning isolated clearcut instances (another misunderstood issue) as environmental groups

declare open season on forestry in general.

Not all forestry practices are completely beneficial or perfect - but this case could be made for virtually any



human activity. The pros and cons and debates could fill volumes. One basic fact, however, should be kept in mind. In many situations, the only way a healthy forest environment can be sustained is through forestry management. The world and increasing population needs are changing. Objective evaluations and adaptations have to be made.

The Georgia Centennial Farm Program, recognizing farmers through the distinguishing awards, is one of many examples contradicting the inaccurate and negative criticism of forestry. Many more such examples will be brought to public attention in the future.

The prestigious recognition through the centennial organization is given to farmers through one of three distinguishing awards.

The Centennial Farm Heritage Award honors farms, owned by members of the same family for 100 years or more, which are listed on the National Register. The Centennial Farm Award does not require continual family ownership, but the farm must be listed in the National Register of Historic Places. Applications for awards must include completed documentation and a brief description of the farm's history.

ANNUAL AWARDS

The Georgia awards are given in conjunction with National Farm City Week. Thirty-eight years ago, the National Farm City Week Council was

formed to establish better understanding between rural and urban society segments. As new problems developed during past years, the organization expanded its program to assist in solving farm related problems in the U. S. and Canada. The benefits of farm/forestry relationship - especially in connection with the Forest Stewardship Program - could be a beneficial future project.

FARMS LISTED

The Georgia Farm Centennial Program, held in Macon, honored the following farms - that included trees as crops - identified by name and county: V. L. Crowder Place, Coweta; Cottingham Plantation, Evans; Liberty Hill Tree, Troup; Colonsay Farm, Chatham; Caliaferro; Cloverland Farm, Troup; Bluepond Plantation, Brooks; Miles Brothers Farms, Candler; Morris Greene Farm, Clay; Edward Gnan Farm, Effingham; Brinson's Race, Emanuel; Flanders Farms, Emanuel; Montgomery Dairy Farm, Floyd; Singletary Farm, Grady; Jones Crossroads Farm, Harris; Grayfield Farm, Harris; Moss-Clark Farm, Henry; Sarah & Clarence Carson Farm, Jackson; Chehaw Trail Farm, Jones; Weldon Lake Farm, Lamar; McLeod Farms, Lowndes; Wilderlands, Macon; Palmer Farm, Mitchell; Watkins Farm, Monroe; Paschal Plantation, Morgan; Prior Farms, Morgan; Hemphill Farm, Murray; Treadwell/Keith/Bond Farm, Murray; Cyril Odum Farm, Tattnall and Singing Pines Plantation, Wheeler.

GEORGIA-PACIFIC AWARDED

Georgia Pacific was presented a Partners in Excellence Award at the recent annual GaPIE (Georgia Partners in Education) annual conference held in Atlanta.

The prestigious award recognizes Georgia-Pacific Pulp and bleached board Division's outstanding partnership activities with the Glynn County Schools. This year's presentations included only six Excellence Awards among 35 nominated programs. Only six Excellence awards have been presented by GaPIE during the past five years.

The Georgia-Pacific partnership concentrated on strengthening mathematics and science curriculums in Glynn County Schools. Commitments of the program range from kindergarten through the twelfth grade.



Professional foresters give advice to landowners at recent event.

The Georgia public is being reminded that any professional service related to forestry, with the exception of instructional and educational activities, should be provided by a registered forester.

The State Board of Registration for Foresters describes the registered forester as a person who has qualified under standards set forth by the board to practice professional forestry by providing services such as forest investigation, evaluation, protection, silviculture, economics, utilization and other related activities on private and public lands.

Although employees of state and federal governments are exempt from the registration, almost 100 percent of Georgia Forestry Commission's foresters are registered and licensed by the board. Aside from meeting all other requirements, they must complete 12 hours of continuing education every two years as a condition of license renewal.

The board consists of five foresters selected and appointed by the governor and a sixth member, also appointed by the governor, who has no connection whatsoever with the practice of professional forestry. Each member of the board must be a resident of Georgia and the five foresters must each have been engaged in the practice of forestry for at least ten years.

To meet minimum qualifications for registration, the board demands that the applicant be a graduate of a school, college or department of forestry approved by the board, pass a board-approved examination following graduation, and provide a specific record of at least two years in forestry work that would indicate his or her competency to practice forestry. The standard for accreditation in Georgia, the first state to establish a board of registration for professional foresters, is set by the Society of American Foresters.

All forest consultants, both self-employed and those employed by forest services companies, are required by law to be registered by the board. Most professional foresters representing industry are registered, although it is not legally required unless they also provide services for private landowners.

There remains some confusion in the public mind as to the role of professional foresters versus others who work in the forests. Foresters - the men and women who have had formal education in the profession - are experts in the technical aspects of growing and harvesting trees, while loggers, tree planters, trimmers and others engage in a wide range of non-technical tasks.

Georgia's Forest Stewardship Program began in 1990 after the National Association of State Foresters suggested that state agencies aggressively promote multiple-use forestry in the programs of assistance to private landowners and the U. S. Forest Service was convinced of that need. It became a national program, with the involvement of several other organizations dealing with resource management and environmental protection.

The participating landowner, who must sign a Forest Steward's Creed outlining certain commitments, is asked to indicate a primary and a secondary management objective from a list including timber, wildlife, soil and water conservation, recreation and aesthetics.

LANDOWNERS ACCEPT STEWARDSHIP CHALLENGE

By Howard Bennett

What do you do when you're suddenly 82, retired, and looking back over 60 years of public service, including membership on the board of directors of the Department of Transportation, a tenure in the state legislature, and administrative aide or confidant to a half dozen Georgia governors?

If you're the energetic Downing Musgrove, you will accept a new job offer in the private sector and keep on going, but you will also find time to concentrate on growing the finest pine timber and developing the best wildlife habitat in Clinch County as you qualify for membership in Georgia's exclusive Forest Stewardship Program.

WOODLAND RETREAT

Musgrove and his wife Lyneth maintain a home on Jekyll Island, but weekends and holidays often find them at Magnolia Precinct Hunting Club, their retreat deep in the pine forests of his native Clinch County. When he learned of the challenges and rewards of the program from Forester Billy James of the Commission's Waycross District Office, the landowner was quick to begin to meet the requirements of the plan on property comprising the club.

The landowner's enthusiasm for the program was apparent when he chose

to celebrate his acceptance by inviting almost 200 friends to the hunting club one afternoon last month for outdoor dining and music. John Mixon, Commission Director, addressed the gathering and presented a plaque and

TIMBER PRODUCTION

the official stewardship sign to Musgrove. Tommy Irwin, Georgia's Commissioner of Agriculture, also spoke briefly at the presentation ceremony.

Although he owns other lands in the area, the property under the stewardship banner is 190 acres that had been a farm before Musgrove bought it several years ago. The centerpiece of the well-managed forests and intermingling wildlife plots is a quaint old farmhouse painted barn red. The comfortable quarters serve as the lodge for the hunting club and the Musgroves said the building, with its big screened porch for dining and bunk beds with old fashioned quilts, can easily accommodate their three daughters and their families when they all want to get together.

Musgrove named timber production as his primary objective in the plan, but he is devoting considerable

time and resources to the improvement of wildlife habitat in an effort to attract more turkey, deer, dove and quail. He is of the sixth generation to inhabit Clinch County and said he remembers standing on his front porch as a child in Homerville to watch oxen slowly pull a high-wheeled cart loaded with one or two mammoth logs toward a nearby sawmill. The new designated steward doesn't, of course, expect to grow trees that will in any way compare with the size of the virgin timber of his youth, but he intends to follow recommendations of professional foresters and make his trees as productive as possible under practices that are compatible to the best management of other natural resources on his property.

The timber consists of four distinct tracts; three are in planted slash plots and one along streams and adjacent ponds is in a variety of hardwood species, as well as some slash and loblolly. The owner thinned one plot by clear cutting every fifth row and then selectively thinning diseased and other inferior trees remaining in the stand on recommendation of Forester James.

FOOD PLOTS PLANTED

The tract was burned to reduce fire hazard and to improve appearance. Some of the wide fire lanes are being



Commission Director John Mixon presents Stewardship Plaque to Downing Musgrove as the landowner's wife and daughters stand with him.

planted in wildlife food plots.

Other tracts are being improved under the guidance of James Joseph Wall, the Commission's district stewardship forester; Greg Waters, wildlife biologist, Department of Natural Resources; and Ray Hart, water quality specialist, Soil Conservation Service, are also aiding the landowner in implementing the plan.

Musgrove has invited the Future Farmers of America chapter and the H Club of Clinch County High School to use a section of his woodland as a forest plot for educational purposes.

Several large plots of sunflowers, corn and millet that are now maturing on the hunting club prompted one guest at the celebration to remark that Mr. Musgrove is going to have the best fed wildlife in the state." With many friends and eight grandchildren eager to hunt on the property, the owner is hoping the comment is true.

Aesthetics is another management objective in the stewardship plan and Mrs. Musgrove and their daughters have enhanced the country place by planting wildflowers in several areas. Visitors also find rustic beauty in the old farmhouse. One room formerly served as the Magnolia Precinct voting place and was moved from several miles away and attached to the house.

THE EXTRA MILE

Forester James said Musgrove "is eager to participate in the Stewardship Program and has stated several times his intention to carry out our plan now and in the future. He is a person who is a joy to work with and one who will go the extra mile."

Those attending the celebration and taking a tour of his woodlands, streams and fields were readily convinced that Downing Musgrove is indeed going the extra mile in living up to the high ideals of forest stewardship.

enhancing the quail population. Timber production is his secondary management objective on the land that is about 50 percent forests, ranging from four-year-old planted pine to mature stands.

HABITAT DEVELOPED

The Anderson place is appropriately called "Kowike," a word meaning quail in the language of the Creek Indians, a tribe that once inhabited the area. When the landowner bought the acreage about six years ago, he immediately thinned trees and understory in areas where growth was too dense for quail habitat. He planted long strips of corn, wheat and beans as a food source for wild game and also established many quarter-acre and half-acre food plots on the property. An estimated 50 acres in permanent lespedeza food plots are dispersed throughout the forested area.

Although the wildlife management effort is focused on developing and maintaining ideal quail hunting conditions, Anderson's philosophy concerning the sport is best described in a quote he recites from outdoor writer Archibald Rutledge: "There is more to hunting than hunting." He often swaps his shotgun for a camera when he goes out hunting and his prey is seen in his wide and growing collection of excellent photographs.

Anderson said he is appreciative of the stewardship program supervised by foresters and other natural resource specialists as it "reinforces my determination to be a good steward of the land...to keep it in a natural state as much as possible."

SENSITIVE TO VALUES

Chapman said the landowner "already practiced good forest management and was sensitive to environmental values before he was introduced to the Forest Stewardship Program and now he is very receptive to any new ideas we are able to pass along." The forester said, "he is not afraid to accept challenges, to try new things."

Anderson, who was named Peach County Conservationist of the Year for 1993 and was similarly honored in 1989 in Clarendon County, South Carolina, where he also owns forestland, recently constructed a wooden observation tower on a ridge that overlooks a wide area of his land. It is expected to be a favorite vantage point from which the landowner and his family and friends can enjoy the

A prominent Macon insurance executive is one of the latest landowners to qualify for Georgia's Forest Stewardship Program and his dedication to its concept is well reflected in the management of his 1,000-acre Peach County country place.

William Anderson II, president of Northern Trust Insurance Company, assisted by Forester Steve Chapman of the Forestry Com-

mission's Milledgeville District in receiving certification and now proudly displays the stewardship sign on his property near Fort Valley.

WILDLIFE MANAGEMENT

The landowner specified wildlife management as his primary objective under the program, with emphasis on



Landowner William Anderson, right, receives official sign from Forester Steve Chapman.

changing seasons in the forest and glimpse animals scurrying through the woodlands.

Although the quail has priority status on the place, Anderson encourages other birds to inhabit the grounds. Visitors are often amazed to find more than 100 bluebird boxes mounted on posts along woods trails and at the fringes of food plots.

While Anderson, who is only the 19th landowner in the state to qualify for the stewardship program, has concentrated on developing wildlife openings, shelter requirements and food plots, he has not neglected his forest, according to Chapman. "He has well-managed planted pine, as well as mature stands of timber," the forester

said, "and he has a prescribed burning plan that keeps his woodlands healthy and clean."

LOVE OF THE LAND

The landowner said his father, the late Halstead T. Anderson, "always loved the land and he taught me that love and the meaning of stewardship at an early age."

Now that he has three grown sons of his own - Billy, Andy and Sam - who fully understand the privileges and responsibilities of land ownership, Anderson said he is assured Kowike will one day pass on to a generation that will continue to abide by the high standards of Georgia's Forest Stewardship Program.

When the program was launched by a proclamation from the governor's office, Walker Rivers, a staff forester in the Commission's Forest Management Department, was named state coordinator for the project. He said at the time those who qualify for the program "will have membership in an exclusive group of landowners who are the state's top woodland managers."

Motorists driving along Bear Creek Road in Coweta County often come upon a scene that is very unusual in rural Georgia: a flash of red coats on horseback following a pack of hounds moving swiftly across fields and through the trees.

It's a fox hunt in the tradition of Merry Old England - a sport enjoyed by a group of men and women in the Newnan areas. Part of the hunt is on a tract owned by Mrs. Peggy Carspecker of Atlanta, who was recently certified by Georgia's Forest Stewardship Program.

RECREATION MANAGEMENT

As a dedicated forest steward, the landowner selected recreation as her primary management objective, with heavy emphasis on enhancing aesthetics and improving wildlife habitat on her 78-acre tract.

Bob Farris, management forester of the Commission's Newnan District, who prepared the management plan and handled other details in assisting the landowner in qualifying for the program, said recreational use of the property will be greatly enhanced by the establishment of horseback riding trails and although the property will be managed to attract a wide range of wildlife, emphasis will be on the improvement of habitat for fox.

The forester explained that the property is partially surrounded by almost 3,000 acres owned by several neighbors that participate in the wide ranging fox hunts.

Although timber production is a secondary objective on the Carspecker property, the Atlanta resident said she fully intends to carry out all forest management practices detailed in the stewardship plan. She bought the Coweta County land, however, as a country retreat, a place for recreation and relaxation and for its proximity to Bear Creek Farms, where her horses are



boarded.

Although new in the sport, Mrs. Carspecken said she and her husband, a physician, thoroughly enjoy fox hunting as they progress under a strict and ancient code maintained by Ben Hardaway of Midland, a nationally known expert in the sport and consultant to many hunt clubs across the country. Hardaway owns more than 50 specially bred hounds, some valued up to \$10,000.

FOX HUNTING GURU

The landowner termed Hardaway the guru of fox hunting "and a gracious instructor in acquainting novices with the skills, formalities, and rigid discipline of the colorful sport. After learning to ride well and meeting other requirements, the couple was allowed to wear the traditional habit; she now wears the black coat and cap, while he is in the familiar red coat with black cap as they "run to the hounds" with other club members.

The Forest Stewardship participant said she was "very excited" when she received the management recommendations in a written plan submitted by Forester Farris. "It's a good plan," she said, "with certain improvements and innovations listed for each year and I certainly intend to carry them out."

An area cut over before Mrs. Carspecken bought the tract will be planted in loblolly pine and managed on a long rotation. An existing hardwood drain will be maintained and a small lake will be established. Streamside management zones will be maintained to protect water quality and practices will be carefully followed to minimize erosion, according to the stewardship plan.

PLANTINGS SCHEDULED

It is recommended that fields be renovated and planted to a hybrid bermuda grass to benefit a variety of wildlife, including turkey hens and

their broods during spring and summer. Several plots of wildflowers will be planted to attract birds and butterflies, as well as to improve the aesthetic appeal of the site.

The plan calls for several old bush hog trails, now grown up in brush, to be rotary mowed and maintained as bridle paths. Is it recommended that brush removed from the trail be piled out of view to harbor rodents, a favorite food of foxes. Large snags or hollow trees are to be maintained for den trees if they don't present a hazard.

The landowner said she was somewhat reluctant at first to participate in fox hunting, as she is opposed to game hunting in general, but after learning that the thrill of the chase over hedges and streams and across meadows and woodlands is the essence of the hunt and the fox is left unharmed, she became an eager convert to the centuries-old sport.

Farris said "Mrs. Carspecken is just as enthusiastic about her stewardship responsibilities as she is about fox hunting and we are very pleased to have her in our program."



Mrs. Carspecken visits the Newnan District Office to receive her stewardship plaque. Below, fox hunters move out for the chase.

More than 2,000 Georgia landowners are expected to converge on 650 acres of forests and fields near Griffin this fall to view demonstrations on the latest techniques in profitable and environmentally sound management of woodlands, soils, water and wildlife.

The Land Use and Forest Management Field Day, the fourth to be held at the Georgia Experiment Station site since 1987, is scheduled for September 22 and Forester Bob Farris of the Commission's Newnan District and coordinator for the biennial event, is promising "an expanded program of events that will benefit landowners whether they have only a few acres or a few thousand acres of land."

The field day, held on alternate years in Griffin and Swainsboro, has become a popular one-day learning experience in an attractive setting for landowners from every section of Georgia and some from neighboring states.

"The theme will be Stewardship in Action again this year," said Forester Farris. "We will stress the need for private landowners and other land managers to conserve and manage our natural resources through wise stewardship for the benefit of future generations, but at the same time show how greater profits can be made through proper management."

Registration for the field day, which is sponsored by the Forestry Commission and several other allied agencies and organizations, will begin at 8:00 A.M. at the site three miles northwest of Griffin on West Ellis Road, followed by an address of welcome.

A brief talk by a prominent speaker to be announced will be given at noon.

ANOTHER MA

Demonstrations will be held all day at 23 stations and a barbecue lunch will be served at noon. Ample parking will be available and a "hay wagon" shuttle service will transport those attending the event to the various stations.

Some of the demonstration stations and the attendant speakers are as follows:

HARDWOOD MANAGEMENT

Dan Sims, U. S. Forest Service and Kim Coder, Extension Service. This demonstration deals with the growing interest in Georgia's hardwoods and how proper management and full knowledge of the current markets can mean greater profits for the landowner.

FOREST STEWARDSHIP

Walker Rivers and David Hoge, Georgia Forestry Commission, and Karen Johansen, Department of Natural Resources. Forest Stewardship is a relatively new program that is attracting landowners who agree to enhance all the resources on their property through good management as advised by resource specialist with emphasis on conserving better con-

ditions for future generations.

FOREST PESTS

Terry Price, Forestry Commission and Keith Douce, Extension Service.

Next to wildfire, insects represent the worst enemy of the forest landowner. Two experts in entomology identify the most common pests and diseases and provide some effective control measures.

GULLY CONTROL

Valerie Pickard, Soil Conservation Service. There are modern ways to control this age-old land problem and grass seeding, grass waterways construction, sediment ponds and other procedures will be fully demonstrated and discussed.

HOMESITES, WILDFLOWERS, BACKYARD HABITAT

Rachel Schneider, U. S. Forest Service; Will Corley, Extension service; Gledys Mayfield and Fuller Anderson, Forestry Commission; and Ken Reynolds, Extension Service. Visitors making the round will come upon a quaint cabin surrounded by wildflowers and other landscaping innovations appropriate



VE FIELD DAY!

for a wooded setting. Five specialists will be on hand at this demonstration.

MARKETING TIMBER

Russell Falk and William Taylor, ACF Association of Consulting Foresters. Timber is bringing an excellent price on today's market, but landowners must continue to take certain precautions before selling. Contracts, bidding procedures and related topics are thoroughly discussed.

PRESCRIBED BURNING

Lynn Hooven and Larry Thompson, Forestry Commission. Fire is a valuable tool in forest management when it is properly used. Two management foresters demonstrate the correct procedures and the precautions that should be followed to execute a successful burn.

ESTATE PLANNING, TAXES, FINANCIAL INCENTIVES LAND MANAGEMENT

Larry Allen, Soil Conservation Service; Mark Gibbs, Consultant Forester; Bill Gibson, Gibson and Conger Accounting; and Dan Durham

Forestry Commission. Landowners will have an opportunity to hear experts discuss tax problems, estate planning procedures, landowner assistance programs, and investment opportunities.

HUNTING ENTERPRISES

Jeff Jackson, Extension Service. Many landowners are finding a good profit in managing their land for commercial hunting opportunities, visiting this station and visiting this station will learn proper methods of setting up these opportunities for greater returns and protection of the land.

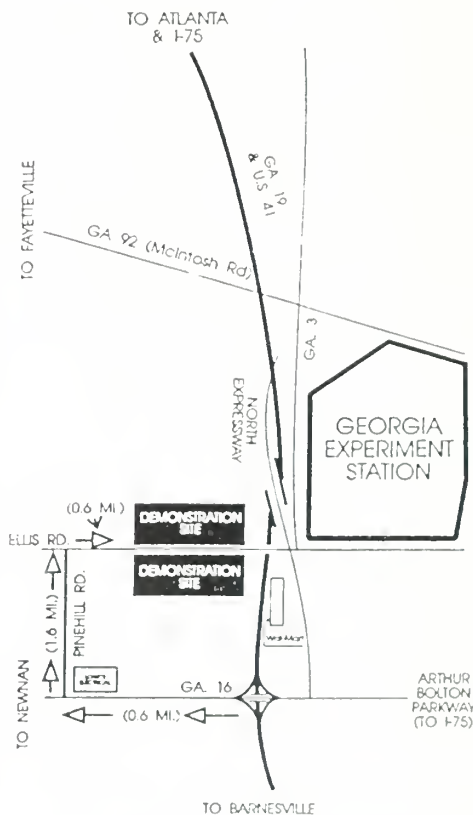
Two new demonstrations this year will be Stream Crossings and Streamside Management Zones and Recycling/Composting.

Other demonstrations include Endangered Non-Game Species, Weed Control, Pond Management, Wildlife Management and Quail Food Plots, Pine Straw Production, Wildlife Damage Control, Forest Roads, Forest Recreation, Thinning Practices and Wetlands and Pine Regeneration.

The pre-registration fee for the field day is \$8.00 and must be made no later than September 16. The fee after that

date will be \$10.00. The price includes a lunch and an opportunity to win one of thousands of dollars worth of prizes. Free soft drinks will be served throughout the day and the first 1,500 persons to register will receive a hat and a detailed guide book that will be useful to the landowner long after he has returned home.

Checks should be made payable to LFMFD and mailed to LFMFD, c/o Albert E. Smith, Georgia Experiment Station, Griffin, GA 30223. Dial 1-800 GA TREES for additional information.



DEKALB TREE PLANTING TO COMMEMORATE OLYMPICS

DeKalb County has a project underway to transform Wade-Walker Park into an international arboretum with the planting of a tree for each of the approximately 200 countries scheduled to participate in the 1996 Olympics.

The DeKalb County Public Works Department, Environmental Section of Land Development, is selecting preferable species native to the individual countries that will thrive in the Atlanta environment. Numerous trees in the project are being obtained through DeKalb County's environmental tree ordinance and the North Carolina Arboretum in Asheville. DeKalb Parks and Recreation is designing the project.

Members of the DCFGS, Inc. Tree Beautification Committee have contributed by researching trees to represent each country. The committee is responsible for contracting international consuls on the tree preferred to represent their country.

The International Tree Project was initially suggested by Jean Chandler, board member of the DeKalb County International Federation of Garden Clubs.

INTERNATIONAL CONTACTS

The project was approved by the federation and Mrs. Chandler was named chairman. International consultants were contacted and identification of appropriate trees began.

When First International Tree Planting launched the project, various species planted included an English Oak (*Quercus robur*) to honor the United Kingdom, the first country to commit to the DeKalb project. The project received positive responses from numerous Consuls stationed in the Atlanta area. Aileen Ray, wife of British Consul Peter Ray, serves on the Garden Club federation as liaison to the international diplomatic community.

Charlie Battle, executive vice president of External Relations, Atlanta Committee for the Olympic Games, described the International Tree Planting Project as "one of the first great projects to bring together public and private partnership to promote the idea of Olympics as a lasting symbol in the community, to promote friendship and peace among people of the world, and putting everybody to work to make the community a better place to live."

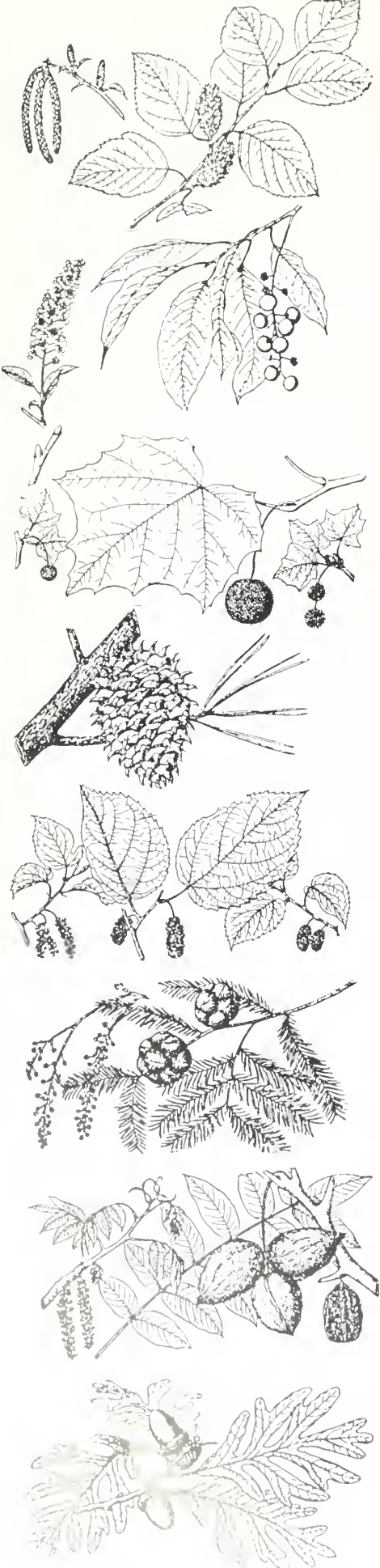
LEARNING EXPERIENCE

Battle summed up the effort by saying, "I can think of nothing better than to plant these trees in this park to provide a learning experience for the children and a pleasant experience for people of the community as they walk through the park."

Trees selected to represent various countries include: Canada, sugar maple; Chile, Washington hawthorn; China, ginkgo; Cypress, sawtooth oak; Denmark, European birch; Fiji, little leaf linden; France, Chinese chestnut; Germany, willow oak; Greece, pin oak; Iceland, heritage birch; Israel, common fig; Japan, golden raintree; Kenya, red cedar; Korea, paulownia; Lithuania, Norway spruce; Morocco, apple tree; Netherlands, willow; Philippines, American sycamore; Poland, weeping willow; St. Lucia, sassafras; Switzerland, river birch.

The DeKalb project is currently identifying suitable species for additional countries including: India, Bangladesh, Norway, Singapore, Jordan, Namibia, Belize, Austria, Colombia, Panama, Australia, Estonia, New Zealand, Lebanon, Malta, Costa Rica and Italy.

Jean Chandler, federation coordinator for project, said, "Besides enhancing the aesthetic beauty of the park and surrounding area, the tree will improve air quality, control ex-



sion, provide a sound and visual buffer, offer wildlife habitat, and reduce pollution."

All trees will be identified with bronze markers including name of the participating country, common name of the tree, genus & species, and identification as a native or non-native species (alternate species are selected when it is determined that preferred trees will not thrive in Atlanta's climate).

Upon completion of the project, Wade-Walker Park could have one of the most impressive arboretums in the Southeast including the international trees with native species currently on site. The 177-acre park is located at 5584 Rockbridge Road, Stone Mountain.

STUCKEY INSTALLED ASSOCIATION HEAD

Bill Stuckey, Jr., a principal in Stuckey Timberland, Inc. of Eastman, was installed as president of Forest Farmers Association at the group's recent 52nd Annual Meeting. Ronald M. Bost, vice president of forestry for Crescent Resources, Inc. in Charlotte, North Carolina, was named president-elect.

Stuckey is a former five-term congressman representing south central Georgia, having retired from public service in 1977. His political experience, along with a working knowledge of the needs of private timberland owners, is considered a valuable asset in representing an association whose mission is to advance the interests of private tree growers, according to FFA officials.

CONSERVATIONIST HONORED

The late Herman Edward Baggenstoss, publisher and editor of the *Grundy County Herald* in middle Tennessee, has been recognized posthumously by Forest Farmers Association with its highest honor, the Forest Farmer Award.

Baggenstoss, who died last December at the age of 88, was a former president of the Atlanta-based association.

Known throughout Tennessee as "Mr. Conservation," Baggenstoss devoted his life to putting trees in the ground and encouraged others to do the same.

During the 1930s, he was a regional superintendent of the Civilian Conservation Corps in Tennessee. Under his leadership millions of seedlings were planted in the area.

NATIVE TREES DEVELOPED IN LOCAL ENVIRONMENT

By Kim Coder

Native trees surround us. The tree species that were here when the first human set foot in Georgia are still here. These native trees have weathered storms and droughts for more than a thousand generations. We humans are the newcomers in Georgia!

What does it mean to be a native tree? Non-native, introduced or exotic trees are brought from somewhere else. These outsiders are usually selected for their aesthetic values, growth patterns, or uniqueness of bark, fruit and flowers. Bright and showy trees that are easy to grow become known far beyond their native homes.

Because of consumer demands, there is a great trade in exotic tree species. Tree producers want tree species and cultivars that will sell. Tree buyers want a great tree that they recognize. Most of these exotic trees are taken from their homelands and planted across similar climatic zones around the world.

Unfortunately, many native trees are not recognized even in their home range. The old adage that "familiarity breeds contempt" is often true for native trees. You may think the common, plain and familiar trees of the local woodlot, park or forest don't deserve your attention.

GEORGIA NATIVES

More than 750 native trees live in the United States; more than 370 trees native to the Southern United States; more than 215 native trees in Georgia; and at least 75 different trees native to every county in Georgia.

Native trees have developed in the local environment. The local climate, soils, competitors and pests have all helped produce a local tree. A native tree becomes a biological composite representing the average environmental conditions in the area balanced against its internal genetics. Native trees can be more drought tolerant,

pest resistant, and easier to grow than exotic trees. In a poor site or a wrong site, native trees can still be killed as quickly as exotic species.

Trees from Asia or Europe are clearly exotic species in our landscape. When you say that a tree is native, you must tell where it is native. A tree native to the United States could be a tropical tree from Hawaii or a tundra tree from Alaska. A tree native to the Southeastern United States could be an alpine species from the mountains or a swamp species from south Florida.

TREE RANGE

Native trees in Georgia can range from mountain ridge-line trees in the far north to tree species on the dunes of a barrier island.

The idea of a native tree depends upon how big an area is considered. The more diversity and variation in the environment across an area, the more problems that may occur when moving trees around.

What is a native tree for your backyard? What tree will have the potential of working best under your specific conditions? Here are several rules to determine whether a tree should be considered a native to your local area.

Did the trees or wild seeds originate within 35 miles north or 35 miles south of your house; within 125 miles east or 125 miles west of your house; within 1,000 feet vertical distance (altitude) of your house; and, within the natural range of the tree species. All four of these rules should be true for a tree to be considered a native tree.

A tree growing outside its natural range is prone to a host of problems. Many problems arise from differences in water availability and freezing weather. The more stressed a tree becomes, the more pest problems

(continued on page 10)

*The 53rd Annual
Miss Georgia Forestry
Pageant*



*Radisson Hotel Macon
June 25 & 26, 1993*

A new Miss Georgia Forestry will be selected and crowned from among young ladies representing 42 counties at the annual pageant June 25 & 26 at the Radisson Hotel Macon.

The contestants seeking the title at the state finals were declared winners in county pageants sponsored by civic clubs, merchant bureaus, garden clubs and other organizations. The state winner will reign for one year and represent forestry activities, forest-related industry and other organizations in the promotion of forestry in Georgia.

Judges will also select a Miss Gum Spirits of Turpentine from among contestants who represent the several gum-producing counties of South Georgia.

The reigning Miss Georgia Forestry is Melinda Denise Parker of Augusta and Miss Gum Spirits of Turpentine is Sophie Hiers of Valdosta.



**Crisp/Dooly Co.s
Heather Rebecca Wynn**



**Atkinson Co.
Emily Salem Moore**



**Berrien County
Micki Cook**



**Butts/Henry Co.s
Melanie Lynn Presley**



**Clinch County
Pamela Heather Tison**



**Dawson County
Lisa Ann Wiley**



**Bacon County
Mandi Jill Johnson**



**Brantley County
Amanda Lea Henderson**



**Charlton County
Heather Lynn Lloyd**



**Cook County
Jill McClain**



**Decatur County
Jessica Diane Rich**



**Hill/Irwin Co.s
Michelle Griffin**



**Burke County
April Leigh McBride**



**Clarke/Oconee Co.s
Shelby Renee Gardner**



**Crawford County
Melinda Jill Horne**



**Dodge County
Mandi Grimes**



Early County
Teresa Thompson



Glynn County
Talaxe Vasquez



Lumpkin County
Julie Ann Carr-Kaletka



Morgan/Walton Co.s
Michelle Lynn Hill



Tift County
Stephanie Jan Turnmire



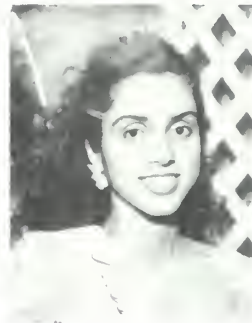
Emanuel County
Mary Beth Campbell



Johnson County
Judy Sumner



Macon County
Davon Lynn Schrader



Newton/Rockdale Co.s
Shazana Dharamsi



Toombs County
Amy Marie Thompson



Evans County
Stacie Denise Todd



Jones County
Brandi Asbell



Madison County
Adrienne Harden



Pierce County
Tasha Paige Ammons



Ware County
Wendy Hughes



Fannin County
Angel Garrett



Lanier/Lowndes Co.s
Lee Bradford



Miller County
Katrice Newberry



Richmond County
Lara Kaye French



Wayne County
Christy Schauenell Surrency



Gilmer County
Blythe Bramlett



Lincoln County
Leigh Drew



Montgomery County
Angela Susan Clark



Taylor County
Donna Renee' Clayton



Worth County
Karmen Shiver

NEW BEAR ARRIVING

By Bill Edwards

Smokey Bear illustrator Harry Rossoll has a new potential star waiting in the wings to assist cousin Smokey Bear with the changing needs of modern forestry. Rossoll said the newly developed cartoon character has been christened "T. Bear" (for Tree Bear) after three years of evolutionary transformations to prepare the new forestry custodian for his job.

Rossoll, now 83 and retired from the U. S. Forest Service after 35 years service, operates his private studio in Atlanta. He remains vitally interested in forestry, which led him to his elusive search for T. Bear. A search that began in 1990, when Rossoll and Quintus Herron, board chairman of the Oklahoma Forest Heritage Center, came up with the idea to establish a media-ready representative for the rights of private forest landowners that would equal Smokey's effectiveness in fire prevention. Herron, a well-known forester and prominent Oklahoma businessman, has promoted numerous forestry projects throughout his long and distinguished career.

CARTOON CHANNEL

"This had been tossed around in a number of circles, so Quintus and I decided to try to get something going," Rossoll said. "The general idea was to establish a cartoon channel of information to support private forest landowners, who are becoming increasingly threatened by pressures being implemented in the name of environmental and other causes."

Rossoll said the reality of this situation is all too often a thinly disguised affair, by special interest groups to regulate the rights of private landowners and prevent them from managing their own timberlands in the most profitable manner. "T. Bear is ready



and waiting to counteract this so-far-one-sided scenario," he said, "but our new friend is also here to do much more in a promotional and educational role."

"Good Things Come From Trees" is T. Bear's motto. Thus he will serve not only to protect forestland owner rights, but to educate the public and offer an accurate account of forestry objectives and concerns. Rossoll stressed that many other concerns are interwoven with tree growers' objectives.

"T. Bear is here to tell you that tree harvesting and wood products are completely compatible with good stewardship of the land." Rossoll said, "Wood use, conservation, water quality, preservation, fish and game management, clean air - it's all a part of the new focus of forestry. Tree growers using good management practices are the good guys in white hats, and it's about time the public knew about it."

So with all the fanfare, can T. Bear handle his new job? Rossoll thinks he can. In fact, after three years of changes involving marketing analysis, psychological profiles, and advertising input, Rossoll considers T. Bear more than ready.

BEAR BEST IMAGE

Rossoll said when the T. Bear project began, it was similar to the Smokey Bear efforts 50 years ago. Other animals were considered, but the bear image was again settled on because it was more conducive to being humanized. Nevertheless, Rossoll said the first version of T. Bear turned out looking more like a possum" than a bear.

"I drew what the various advisors associated with the project thought they wanted," Rossoll said, "but it didn't turn out looking like the T. Bear they had envisioned."

The possum-looking creature Rossoll first created wore overalls, farm hat, and clomped around in brogan-type shoes. The sample cartoons and ads with this version were reminiscent of the 1900s - the atmosphere and character were dated. A long series of modifications ensued.

As Rossoll received feedback from every slight image change, T. Bear gradually became a more humanized and intelligent-appearing stereotype. He finally emerged with glasses, a smile, and a general appearance of relaxed intelligence. He carried a dib-

ble and wore a long-billed baseball-type cap. "Sort of a congenial, clean-cut character that you would trust to roam your woodlands and give you the right advice," Rossoll said. "The sort of character that would appeal to adults as well as children."

NEW APPROACH

Whereas Smokey had been tightly focused on forest protection through fire prevention, T. Bear was groomed through hundreds of sample cartoons and ads toward a more wholistic approach to forestry. "Today's sophisticated attitudes demand such an approach from this character, if he is to be successful," Rossoll said. "T. Bear can be animated in many ways. We can show him with other animals in the forest. We can show him defending the rights of landowners. We can show him advocating good forest management and wise use of wood products. We can show him encouraging conservation - even preservation when the situation calls for it. Just plain good all-around forest stewardship."

As for wood using industries, Rossoll said the door is wide open ranging from homebuilding to pulp and paper. "Opportunities are virtually unlimited for this character to benefit the forestry community, forest industries, and the general public in relation to an accurate picture of what forestry is really about."

If anybody should know about what

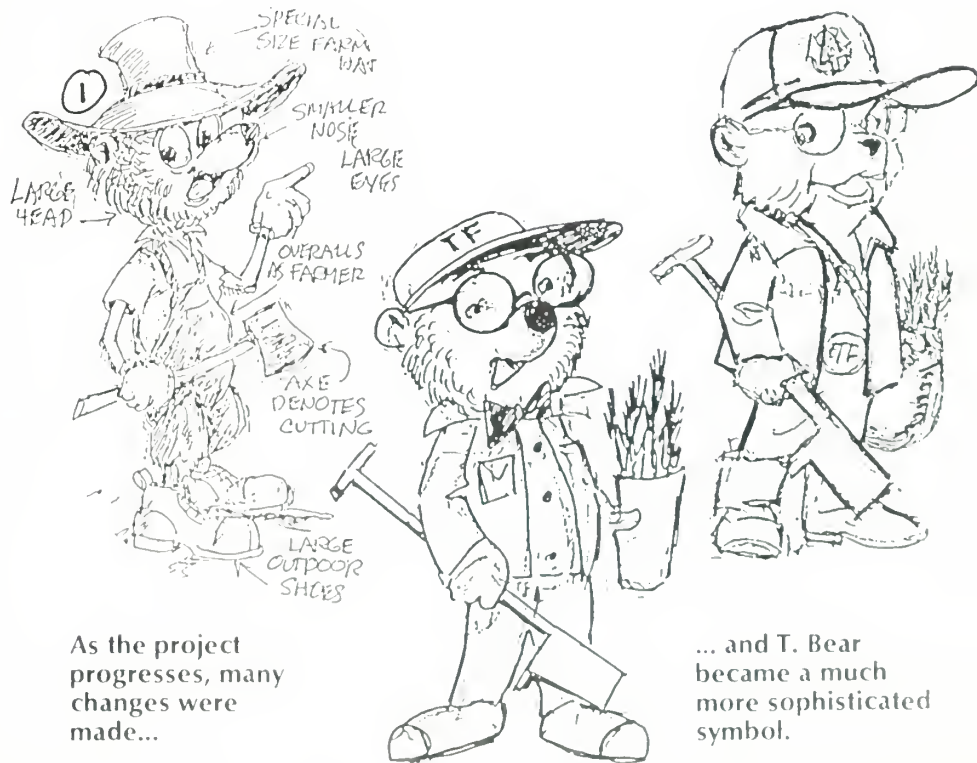
dressing a bear up in the woods can accomplish, Rossoll fits the profile. Associated with the Smokey Bear program since its inception in 1944, Rossoll made Smokey a household word and the second most recognized image in the world - the first was Santa Claus.

Having been described as a one-man forest fire prevention force, Rossoll's dynamic personality and talent have made him one of the nation's top conservation spokesmen. At 83, he has lost none of his enthusiasm or drive in promoting wise forestry management practices as they relate to the ecology as a whole.

READY TO SERVE

"I like to think of myself as sort of like T. Bear," Rossoll said. "Just ready and waiting for the right opportunity so I can do my stuff. T. Bear is waiting now, with dibble in hand. He's served his apprenticeship, had all the training, polished his image, and weathered all the formative feedback his mentors could supply. He's like that accomplished actor, just waiting for the right role to launch his career. Now all he needs is a good agent to sponsor him."

Rossoll said all interested sponsors - ranging from wood-using industries to conservation groups - are welcome to call on the services of T. Bear. Just call his friend, Harry Rossoll, at 404-633-1754.



As the project progresses, many changes were made...

... and T. Bear became a much more sophisticated symbol.

BLECKLEY IS FIRST, JACKSON SECOND AT FFA FIELD DAY

The Forestry Field Day state finals is an event that takes on something of a holiday atmosphere as about 200 Future Farmers of America students and their advisors gather at the Georgia Forestry Center, but the youngsters are very serious as they compete in ten forestry skills at the annual meet.

This year, top honors went to the FFA chapter representing Bleckley County High School, with the Jackson County FFA team capturing second place.

Students representing teams from 19 schools participated in a series of field tests ranging from reforestation and timber stand improvement to tree planting and timber estimation. The Trust Company of Georgia, Union Camp Corporation and Coca-Cola Bottling Company, Atlanta sponsored the state finals and a highlight of the event was an address by Ron Barker of the State Department of Education.

The contest begins each year in early spring with Don Register, Malcolm Dillard and Steve Meeks, consulting foresters of the State Vocational Agricultural Department, conducting regional field days around the state. The two top teams in each region are eligible to compete in the state meet in Macon.

Schools competing in the state finals included Bainbridge, Miller County, Clinch County, Echols County, Perry, Turner County, Pierce County, Effingham, Harlem, Louisville, Bleckley County, Dodge County, Harris County, Fayette County, Jackson County, Putnam County, Oconee County, Pepperell and Adairsville.

First place winners in the various events were William Beverly of Clinch County High School, reforestation; Mac Kenzie Brown of Bleckley County, standing pulpwood estimation; Brian Lucas of Harris County, standing saw-timber estimation; Shawn Collins of Jackson County, dendrology; and Lamar NeSmith of Bleckley County, ocular estimation.

Others included David Cannon of Perry, land measurement; Keith Dykes of Clinch County, compass; Kenny Dean of Clinch County, forest disorders; Neil Royer of Clinch County, forest



Members of the Bleckley County High School FFA Chapter above proudly display their first place plaques. At left, some of the students from 19 schools are shown competing in the state finals and the FFA students below representing Jackson County High School, posing for the photographer after capturing second place honors.



management; Michael Strickland of Clinch County, timber stand improvement.

The Bleckley County FFA Chapter, directed by Cliff Paulk, received an inscribed plaque and \$100.00.

GFC JOINS HABITAT FOR "BLITZ BUILD"

Former President Jimmy Carter and 700 other volunteers, including personnel from the Commission's Seventh District, built and landscaped 20 homes in Americus in a single week during Habitat for Humanity's recent "Blitz Build."

One of the 20 homes constructed by the volunteers from across the United States and several foreign countries represented the 20,000th home built worldwide by Habitat for Humanity. The Commission's role in the project was the planting of trees in the newly created lawns.

TREE PLANTING

Forester Stephen Smith of the Commission's Columbus office was in charge of planting the sugar maples, Maryland Cypresses, Willow Oaks, Crape Myrtles and other species and was assisted by District Forester Phillip Porter, Forester Mark McClure and Chief Ranger Troy Key, Sumter County Unit.

The trees were donated by Louisiana-Pacific Corporation as part of its participation in the nationwide Hometown Trees Program, which is in the process of planting 1 million trees in communities throughout the country. Other sponsors of Hometown Trees are the Independent Grocer's Alliance and Coca Cola USA.

A spokesman for Louisiana-Pacific said the company has allotted 35 different species, including both hardwoods and conifers, to nearly 3,000 tree planting projects across the United States. The species of the donated trees have been selected based on seed availability, the seed's hardiness and requests from state foresters; a conscious effort is made to begin with seeds from the region in which the seedling will eventually be planted.

COMMUNITY PRIDE

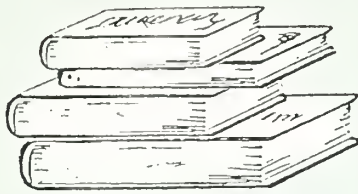
"Involving our Hometown Trees program with a Habitat project gives us a chance to help with Habitat's efforts in providing affordable housing as well as contribute to the feeling of community pride by planting trees around the new homes," said Harry A. Merlo, L-P chairman and president.

Hometown Trees is a ten-year environmental program in which Louisiana-Pacific donates tree seedlings to IGA retailers across the country for planting in their local communities. The program has recently been named a recipient of the National Arbor Day Foundation Projects Award.

Each of the 20 homes built at the Americus project was sponsored by a bank, building supply company or some other enterprise. Much of the materials, including lumber, cement, roofing, paint, home appliances, furniture, and other materials were donated by both local and national companies.



Foresters plant trees while other volunteers are involved in completing housing construction, landscaping and other work.



A FIELD GUIDE TO JEKYLL ISLAND, by H. E. Taylor Schoettle, Paperback, \$10.00.

A FIELD GUIDE TO JEKYLL ISLAND is one of those rare finds like the book describes on the island - you might never find it, if you don't know where to look. The 48-page guide, written by Brunswick College Professor Taylor Schoettle, provide an overview of forces that shape Georgia's barrier islands.

Expertly illustrated by Carol Johnson, the text explores the plant and animal communities on the beaches, salt marshes, sloughs, and forests. In relation to forestry, the segment on "Maritime Forest" is especially interesting in its description of the live oak forest as the predominant climax community forest of the Southern barrier islands. Other hardwoods forming the canopy of the island forests are also illustrated; these species include water oak, sweetgum, red maple, pignut hickory, tupelo, and the introduced sycamore.

The second half of the guide offers detailed descriptions of the various habitats and living communities found in each of Jekyll's 11 divided natural areas. A list of related books and field guides are included in the appendices.

The author, who has BS and MS degrees in physiology and zoology, wrote the guide for anyone interested in the natural history and environments of Georgia islands. The result is a welcome addition to the nature section of any book shelf.

Originally published by The University of Georgia Marine Extension Service, the guide may now be purchased directly from the author by calling:
912-437-6799

MORE TIMBER BRIDGES PLANNED IN SEVERAL GEORGIA COUNTIES

Modern technology has been employed in the construction of six wooden bridges that are now in service in Georgia and similar spans are in varying stages of design for seven additional counties.

The Commission's Utilization, Marketing & Development Department (UM&D) is continuing to work in construction with local Georgia officials, the U. S. Forest Service (USFS) and other agencies to promote the installation of timber bridges.

USFS has again offered the Timber Bridge Initiative Program to local and county governments in the technology. "A number of wooden bridges have already been constructed under the previous programs," said Tommy Loggins, staff forester for the UM&D. "Completed bridges are now in use in Putnam, Richmond, Monroe, Habersham, White and Gwinnett Counties and additional bridges are being planned for Forsyth, Treutlin, Meriwether, Henry, Union, Towns, and Miller Counties."

RESEARCH FOCUS

Loggins pointed out that the Richmond County Bridge, located on state property near Gracewood State Hospital, is the focus of a research project to determine additional low-cost technologies and document changes in wooden bridges that occur over periods of time. "Several agencies, research institutions, and private industries are involved in this project," Loggins said.

According to the Timber Bridge Initiative Program guidelines, development of the bridges and related projects are related mainly to commercializing this special technology.

Loggins said two major types of timber bridges are now being built, although other types are available. The principal design types include stressed deck technology, with steel rods used to stress or compress the pressure treated wood members that are laid up on edge. Typically, 2X12's or similar sized lumber is utilized, depending upon the span of the bridge, and other factors, such as wood species. A covering is placed on the bridge top to act as a wearing surface; the bridge deck becomes the load carrying member

between abutments.

The other type is glu-lam technology utilizing pressure-treated lumber glued together in a factory into particular sized panels depending upon bridge spans, weight carrying capacity etc. They are joined together on site. The panels may be the load carrying component, or laminated wood beams may be added underneath to provide necessary support between abutments. In addition, combination of materials are sometimes used, such as wood abutments, steel I-beams and wood decking. Another example of a combination of materials are concrete abutments with all-wood superstructure. Flexibility of wood components is one of this material's most important attributes.

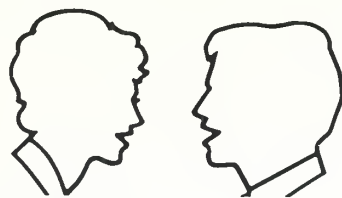
Both major designs are commonly used, and Georgia has examples of both bridge types occurring on various public roads. There has been little, if any, differences in the performance of any of the bridges since they are all designed to the same load carrying capacity and meet other stringer requirements for treating, strength etc. In effect, all the bridges can carry the legal load that is carried on a roadway in Georgia, including the Interstate system.

"The use of native species is encouraged," Loggins said. "In Georgia and other parts of the South the dominant species is southern yellow pine - which is very strong and readily available." Loggins added that southern yellow pine is easily treated with oil borne preservatives (such as penta and creosote) and with water borne preservatives such as CCA. All of these treatments are acceptable for bridge and abutment components on the nation's waterways.

LANDSCAPE BLEND

Loggins said one of the major benefits of timber bridge technology is the aesthetic quality provided by local tree species that blend with the landscape. "This locally grown timber can be processed and installed in the same geographic area of the bridge construction" Loggins said. "Using area labor for these jobs can also increase employment opportunities."

PEOPLE



IN THE NEWS

CHIEF RANGER HERBERT MILLER, Wilcox County Unit, retired in April after having served with the Commission for almost 33 years. The ranger and his wife, Jamie, who retired just a month earlier after 27 years employment at Robins Air Force Base, were honored at a party by many friends and relatives. Miller, a deacon in the Baptist Church, came with the unit in 1959 as a patrolman and was named chief ranger in 1988. The couple has a daughter and



MILLER



BROOKS

two married sons...JOHN R. BROOKS, who recently completed his doctorate in forest biometrics at the University of Georgia, has been named forest biometrician for the Albany-based R&W Forestry Services, Inc. He was employed for five years at UGA as a systems designer with the School of Forest Resources, where he upgraded the Georgia Pine Plantation Simulator and developed EZ-Cruz, an inventory software program...Jim McDonald is now

chief forest ranger of the Washington County Unit. The ranger, a graduate of Warner Robins High School, earned an associate degree in forestry at Abraham Baldwin Agricultural College



MCDONALD

and worked three years for the U. S. Forest Service. The ranger, the son of a retired Air Force colonel, lived in foreign countries and several states before his father was transferred to Warner Robins. McDonald succeeds William Pate Jr. as chief of the post. The new chief ranger, a member of St. Williams Catholic Church, considers fishing his favorite hobby...Two chief rangers exchanged units

recently in a realignment in District 11. Joe Dixon is now chief ranger of the Treutlen-Wheeler County Unit and Jerry Griffin has assumed duties as chief ranger of the Laurens County Unit...

MAGAZINE FEATURE WINS FIRST PLACE

Georgia Forestry Magazine has won the GMA (Georgia Magazine Association) 1992 Best Feature Article Award in the Trade/Industry Category. GMA recognizes and promotes excellence in all phases of magazine production with competition open to all magazines published within the state that are GMA members.

The magazine feature "To Burn Or Not To Burn," written by Associate Editor Bill Edwards, focused on natural benefits of prescribed burning from the perspective of Thomasville tree farmer H. L. Stoddard.

Awards were announced at the April 1993 CRMA/GMA Conference held at Atlanta's Swissotel. CRMA (City and Regional Magazine Association) and GMA attendance totaled 283 representatives.

GMA has more than 100 members. A total of 140 entries were judged to determine 21 winners in the following three magazine categories: General Interest, Special Interest, and Trade/Industrial. Seven awards in each category include: general excellence, best single issue, best feature article, best editorial/commentary, best department or column, best cover, and best illustrated article.

National, regional, state and local magazines competed within each category. All entries were judged by a panel selected by the University of Georgia Henry W. Grady School of Journalism and Mass Communications.

ALCOCK TO RETIRE

John E. (Jack) Alcock is retiring from the USDA Forest Service after serving the last 11 years of his career as Regional Forester of the 13-state

Southern Region of the Forest Service.

Alcock's career of public service spanned 34 years, including 14 years as Forest Supervisor on the Green Mountain National Forest, the Daniel Boone National Forest and the Willamette National Forest.

SHORT COURSES SET FOR JULY AND AUGUST

Three short courses for foresters and related professionals have been scheduled for July and August at the Center for Continuing Education, University of Georgia.

A course entitled Thinning Methods and Operations will be held July 14-15. Participants will learn why and how to thin and what methods and equipment to use, and how to analyze thinning operations.

The course is designed for procurement, service and consulting foresters and others

A course entitled Negotiating Skills for Foresters will be held August 5-6. It will introduce the principals of successful negotiations, discuss the traits of good negotiators and carefully examine the negotiating process.

A short course, Introduction to Image Processing and Geographic Information Systems, will be held at the Center August 24-26.

For more information on the courses: Forestry Programs, Georgia Center for Continuing Education, The University of Georgia, Athens, GA 30602-3603, or call (706) 542-3063.

NATIVE TREES

(continued from page 15)

develop.

Some exotic or introduced trees may become established easily but live a greatly shortened life-span. Other exotic trees may never become truly established and slowly decline and die.

Remember that trees from a neighboring county, state or nation can be exotic species that may or may not grow well in your yard. With so many native trees growing in a wide range of sites, you should be able to find a local tree suited for any planting situation. See your local tree dealer. If you are interested in living among Georgia's heritage of trees, go native!

(Kim Coder is a forester with the University of Georgia Extension Service)

OUR GREAT RENEWABLE NATURAL RESOURCE

Trees. More than 24 million acres of trees are growing on 65 percent of Georgia's land - trees that keep 17 pulp and paper mills operating around the clock and more than 150 sawmills turning out quality lumber. Tree planting and natural regeneration after harvest is assuring these and other related industries that an adequate timber supply is being maintained to keep pace with the demand. Trees are a renewable crop.



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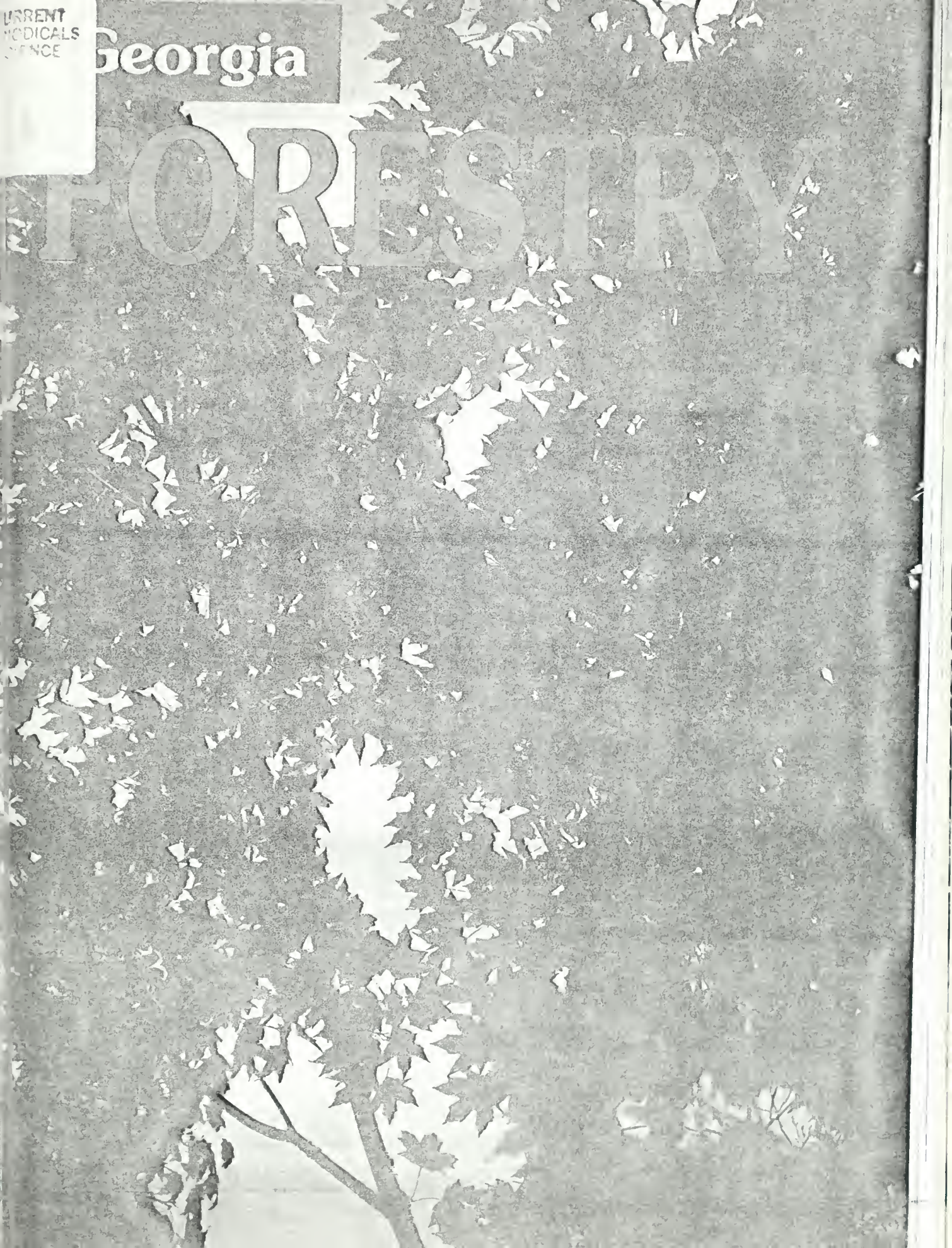
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Denise Griffin, right, Miss Georgia Forestry, and Amy Thompson, Miss Gum Spirit of Turpentine, were winners in the recent 53rd annual pageant.

NEW FORESTRY QUEENS CROWNED

Denise Michelle Griffin of Fitzgerald competed with 41 other entries from around the state to capture the crown of Miss Georgia Forestry of 1993 during the annual pageant in Macon.

The 19-year-old University of Georgia student, who is on the dean's list and is active in student government and the drama club, served as Georgia Sweet Potato Queen in 1992. She is now representing forestry and forest-related industry with appearances in parades and at festivals, fairs, conventions and other events where the importance of forestry can be promoted.

The new Miss Georgia Forestry, who was crowned by Melinda Denise Parker of Augusta, the outgoing queen,

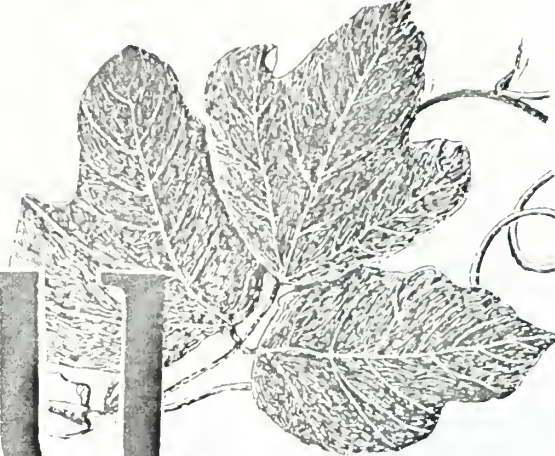
is interested in modeling and water skiing and said her ambition is to be "successful in my chosen career and have a happy outlook on life."

First runner-up in the two-city pageant held at the Radisson Hotel Macon went to Amy Marie Thompson of Lyons, who was also crowned Miss Gum Spirit of Turpentine, a competition involving contestants representing the several South Georgia Counties that produce naval stores. The winner attends the Robert Toombs Christian Academy and plans to study at Florida State University and become a nuclear radiologist.

Second runner up was Lara Ka French of Augusta and Pamela Tison of Clinch County was third runner-up.

ON THE COVER - Commission Photographer Billy Godfrey had many choices shooting colorful autumn foliage in the Georgia woodlands, but wisely selected this flaming sugar maple.

Kudzu



THE MANY KUDZU CLUBS HAVE FADED AND THE FORMER KUDZU QUEENS ARE NOW GRAY WITH AGE, BUT THE LUSH, GREEN VINE THEY CELEBRATED KEEPS GROWING AND GROWING AND GROWING...

By Howard Bennett

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The tourist from New Hampshire said she thoroughly "enjoyed the enchanting landscape" after driving along a stretch of Georgia highway flanked by towering pines completely draped by kudzu. She named the vine "nature's beautiful southern decoration."

A landowner living just beyond the decorated stand of trees, however, finds the prolific vine less than enchanting. He told the service station attendant who passed along the lady's comments that "an evil, stubborn, timber-choking weed" would be a more accurate description of the vine that remained robust, green and growing even while Georgia's long summer drought was destroying its cultural crops across the state.

Although kudzu, a transplant from ancient China by way of Japan, is of no commercial value in the Orient, it continues to be a common foe of thousands of Georgia landowners whose forests and farms are infested with the green creeper that strangles trees, sprawls across fields, climbs utility poles and wraps around buildings and unattended machinery.

The plant that was called "another

agricultural miracle" in an article in the Reader's Digest in the 1930's, when it was considered the long sought solution to the South's soil erosion problem, grows so fast that it prompts many jokes: A man in South Georgia mistakenly planted kudzu seed instead of turnips and he had to immediately run to outdistance the mischievous vine. A telephone repairman, sent out to find out why a continual busy signal was coming from a remote telephone booth, found a playful kudzu vine had snatched the receiver off the hook.

But rural landowners, as well as many urban residents, in Georgia and neighboring states aren't laughing when the relentless vine begins to invade their property, entangling and

**BACK IN THE 1930's,
GEORGIA FARMERS WERE
PAID \$8 AN ACRE TO HELP
PLANT 85 MILLION KUDZU
PLANTS**

smothering everything on the ground with its abundant foliage.

As most foresters, farmers, loggers and others close to the soil know, the battle lines to fight kudzu in Georgia have been drawn for several years, but victory has been somewhat elusive; procedures have been advanced to subdue the plant, but eradication of a vine that shoots a root as deep as 12 feet into the ground is a fighter that defies ordinary ammunition.

The Georgia Forestry Commission set out ten years ago to rid the state of the unwanted vine and Dr. James H. Miller, a research forester with the Southern Experiment Station, Auburn, Alabama, and one of the nation's leading authorities on kudzu, directed the research.

Demonstration plots were established in highly infested areas in 14 counties and several chemical companies were invited to participate in the study. Tordon 10K pellets, the widely used herbicide that had been effective in kudzu control since the mid 1960's, was no longer manufactured and the Commission's project had to rely on other chemicals.

A procedure was worked out,

Georgia Forestry/Fall 1993/3

nevertheless, and when it was operationally tested on the experimental plots, it was found to be 100 percent effective. It is a schedule that has to be carefully followed over a period of years, however, and many landowners tend to end their efforts prematurely. "The key words in kudzu eradication are persistence and total kill," Dr. Miller explained. "Every sprig must be killed or the spread from the surviving crowns would make the effort and investment in prior treatment useless."

Kudzu was first introduced in the United States in 1876 when the Japanese grew it at their pavilion at the Philadelphia Centennial Exposition and it appeared again in 1883 at the New Orleans Exposition.

Homeowners were intrigued with the plant's dense foliage and decorative tropical effect and treated it as a popular ornamental shade plant from the time of the Philadelphia showing to about 1910. Often called the "porch plant," it shaded the courtyards and gardens of many fine southern homes, as well as the humble cottages of the poor. Mail order catalogs at the turn of the century were advertising the "wonder vine" seeds.

WIDESPREAD KUDZU FOR FORAGE MAY BE TRACED TO JUST THREE DISCARDED PLANTS

Dr. A. E. Smith, a professor of agronomy at the University of Georgia College of Agriculture, and another educator who has made major contributions in research pertaining to kudzu, relates an interesting account of the first cultivation of the vine as forage in the South: "It is reported that C. E. Pleas of Chipley, Florida was the first person to discover the value of kudzu as a forage crop in this country. He set three plants around a summer house in 1902 and because they failed to climb over the house, he dug them up and transferred them to a trash pile. The plants began to grow and eventually covered a large area."

Transplants from the area were used to plant many acres on the farm and Dr. Smith said "nearly all kudzu grown for forage in the South may be traced back to the original three plants."

Dr. Miller and other researchers who have traced the history of Kudzu in the United States point out that the second phase of the plant's existence in this country extended from 1910 to 1935 and centered around its use as livestock pasturage, fodder and hay. The woody stems, limited nutritional value and the difficulty in cutting and raking, however, prevented it from becoming a popular means of feeding cattle.

ALARMING GROWTH

The third phase, beginning in the midst of the Great Depression, marked Kudzu's rapid expansion across the Southland and man's ultimate struggle to control its alarming growth. The 10,000 acres of tangled green mass in 1934 became 500,000 acres in just ten years. The acceleration is attributed to the Soil Erosion Service, an agency established by congress in 1933 which became the Soil Conservation Service two years later. The SCS recommended kudzu as a cover crop to control soil

At left, you have to look closely to find Forest Ranger Steve Abbott of the Columbia County Unit in the center of this kudzu wilderness just off a major highway.



erosion and farmers were paid \$8. per acre to plant the vine. The government provided about 85 million kudzu plants and members of the Civil Conservation Corps (CCC), a depression-era work program established young men, joined the farmers in the planting project.

Kudzu clubs were formed across the South. Festivals were held in praise of the benefits of the plant and pageant winners proudly wore the crown of Kudzu Queen.

By 1955, however, disillusionment set in; the wonder vine began to rapidly lose its popularity. It was becoming a menace by not only covering young pines and mature stands, fields and abandoned farm buildings, but by invading the right-of-way of country roads, highways, railroads, powerlines and pipelines. It presented a hazard by concealing abandoned wells, gullies and stream banks. Finally, the plant that had held such great promise for agriculture was listed as "a common weed" by the Department of Agriculture in 1970.

"Presently, kudzu probably grows on 100,000 acres in Georgia," Dr. Smith said, "and very little of it is managed for use as a forage crop. However, we do appreciate its ability to abate soil erosion on ditch banks



...the exception of its limited use as
age and value as erosion abate-
ment, the agronomist, who works from
...university's experiment station in
...ffin, considers the vine a "runaway
...t" on which many thousands of
...ars are being used to develop a
...thod of control.

...ut even today, there are those who
...n't scorn kudzu. What is a nuisance
...a Georgia farmer can be a godsend
...a craftsman who weaves the pliable
...t into handsome baskets, trays and
...er artistic objects to sell at craft fairs
...in gift shops.

...Georgia farmer even found a use
...the plant during a minor emer-
...cy. It seems his truck ran off a road
...into a deep gully thick with
...kudzu. A neighbor happend by in a
...up, but neither had a rope or chain
...they made a Kudzu "vine rope" to
...the vehicle out of the gully.

...ne plant poses no problem to the
...nese and Chinese. It is used in the
...nt to make cloth, paper, wall
...ering, root starch and even
...licine. It is the custom of some in
...e countries to peel back the bark
...he kudzu root and suck on it as
...e Georgians suck on sugar cane.
...apanese use kudzu starch in con-
...ditions and some is exported to this
...ntry and marketed at about a dollar
...ounce. Some Orientals make a
...d from the most tender leaves, but
...won't find it on the menu at the
...u Cafe on Atlanta's Peachtree
...t, a popular eatery decorated with
...tured metal kudzu vines.

117-YEAR HEAD START

...r Miller admits that it is hard to gain
...ontrol of an extremely aggressive vine
...njoys a 117-year head start since
...ing to the U. S. from Japan and has
...the advantage of active cultivation
...a number of years, but he said
...kudzu can be effectively controlled
...persistent application if the
...owner will stay with it."

...proved chemical application,
...grazing, burning, mowing and
...digging up the roots are methods
...ealing with kudzu, but the battle
...endure for ten years.

PRODUCTION OF NATURAL ENEMIES COULD BE NEXT STEP IN CONTROL EFFORT



The Civilian Conservation Corps (CCC) was established under the Franklin Roosevelt Administration to provide employment to more than two million depression-era young men. Called the "Tree Army," many of the \$30.00-a-week corpsmen mainly planted trees, but this photo depicts a crew planting kudzu in the 1930's to retard erosion on a steep grade somewhere in the South.

Is there a faster, more effective, less costly way to control this troublesome plant? Dr. Miller believes research now on the horizon could be the answer. Natural controls have been applied, he said, but very little study has concentrated on natural enemies or biological control. Kudzu was imported without its natural enemies, which gave it free reign to spread.

The velvetbean caterpillar has been found to feed on kudzu in Florida in early spring and an Agromyzidae pod-miner has been reported on the plant in Hiroshima, while several kudzu-damaging diseases have been observed in other sections of Japan.

In discussing the possibilities of the new approach, Dr. Miller said eradication is not the objective of a biocontrol project. He emphasized the goal is to

import safe biocontrol agents, successfully overwinter them and establish natural enemies of kudzu that will allow it to be brought into harmony with the Southern landscape, and retard its spread into the rest of the nation.

A bug that has an appetite for kudzu and a blight that withers the pesky vine, while neither would harm desirable vegetation! That's a couple of imports Georgia landowners would warmly welcome.

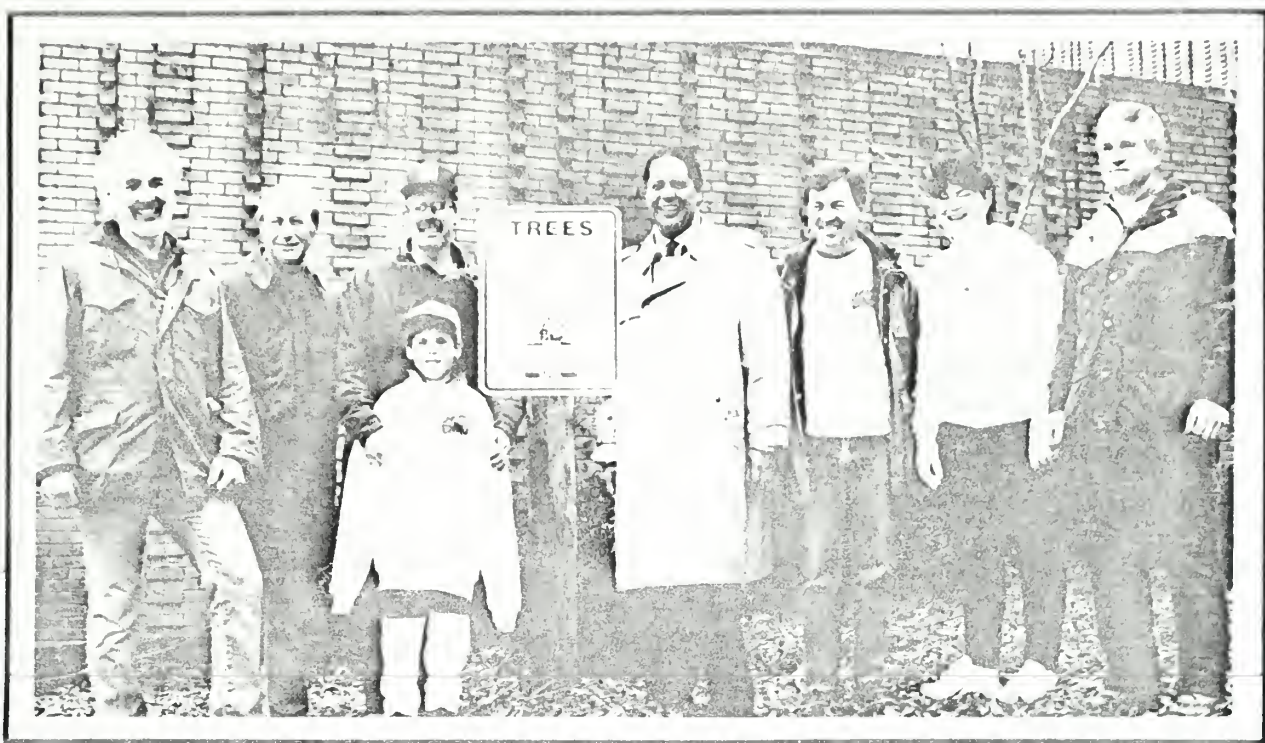
Maybe Dr. James Miller and Dr. A. E. Smith and their associates in research will ultimately make it happen.



The kudzu control method worked out in the Commission's study ten years ago continues to be the recommended practice for today. It calls for a complete spraying of the infected area with Tordon K or Tordon 101 Mixture herbicides as early as June, but no later than September. Activating rainfall should follow within seven days and then a touchup of any skips. The land should be left alone for a year. A burn would be the next phase, followed by a re-treatment

with half the initial rate of Tordon. A spot treatment would be necessary in the fourth year and a cover planting would proceed in the fifth year.

For further information on kudzu eradication procedure, contact any office of The Georgia Forestry Commission, The University of Georgia College of Agriculture, Georgia Station, Griffin 30223, or call USDA Forest Service Laboratory, Auburn, Alabama (205) 826-8700.



Atlanta Mayor Maynard Jackson, center, and other Coalition members participate in a tree planting ceremony. Below, Forestry Commission Director John Mixon and Governor Zell Miller plant a tree and other members, shown on the opposite page, set out one of the thousands of trees being planted in preparation of the Olympic Games.

TREES SET OLYMPIC STAGE

By Randy Lescault

In the high summer of 1996, millions of athletes, officials, news media and spectators will flood into Atlanta, Savannah and other Georgia communities to participate in that granddaddy of all sporting events--the Olympic Games. Millions, perhaps billions more will witness the drama of international competition via television. And a partnership of public and private organizations is quietly working to ensure that both the stage and the background of these world-class events rival the lush, forested hills of the Grecian city Olympia, legendary birthplace of the games in 776 B. C.

The Georgia Trees Coalition is a partnership of government agencies, institutions, businesses and citizen groups formed in 1991 to plan, organize and coordinate volunteer tree planting activities across the state in preparation for the 1996 Summer Games. Chaired by John W. Mixon, Director of the Georgia Forestry Commission, the Coalition has been responsible for organizing numerous

successful tree plantings at Olympic venues and along corridors leading to game sites throughout Georgia.

At the height of "Olympic fever" in 1991, shortly after the International Olympics Committee announced to

the world that Atlanta would play host to the Centennial Olympic Games, John Mixon was approached by state Representative Terry Coleman and U.S. Representative Dan Rostenkowski. Representative Terry Coleman and U.S. Representative Dan Rostenkowski.

"He suggested that I get together a group from local, state and federal agencies and private sector representatives and start getting trees planted to prepare the state for the Games," Mixon said, "So I and my staff called together all the likely partners we could think of, and we organized our first meeting in February of 1991."

BIRTH OF A COALITION

The first meetings of the Coalition were attended by representatives from local, state and federal government agencies, such as the Forestry Commission, Department of Corrections, Department of Community Affairs, Department of Transportation, the U. S. Forest Service, and the Georgia Foresters Association. Foresters from Atlanta and Savannah. Representatives from Trees Atlanta and Park Pride Atlanta also attended the early meetings. But as word ab



work of the Coalition has spread, it evolved into a more diverse organization with more members in the nonprofit sector, such as the Stone Mountain Association and Fernbank Museum Representatives from the state world, including the Georgia-Pacific Corporation and the Georgia Power Company, round out the diverse mix. And this diversity of membership has proven to be the key to the Coalition's success.

DIVERSITY BRINGS SUCCESS

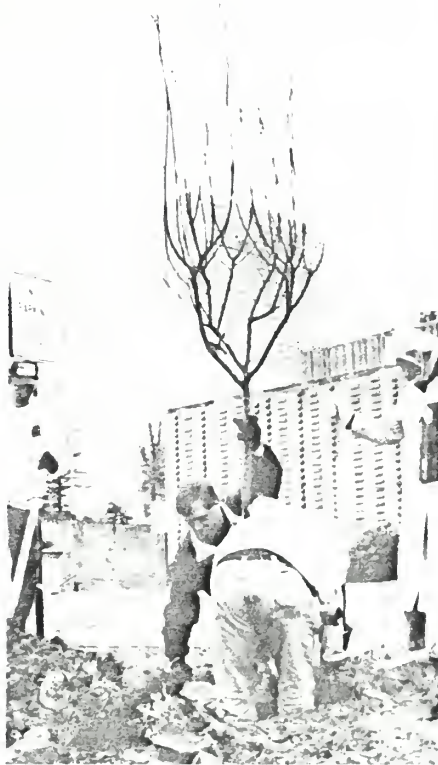
Our varied membership is one of our strengths," said Mixon. "It gives us a great deal of flexibility to plan and implement tree planting projects, because we have such an extensive pool of talent and resources to call upon. If we need raw manpower, we call upon the Department of Corrections or one of the many nonprofits that has a large base of volunteers. If we need professional expertise on specific tree species or techniques in an urban location, we can call on the Forestry Commission, or the municipal arborists. If we need advice on volunteer organization, we can tap into the expertise that organizations like Trees Atlanta and Park Pride Atlanta possess. And our corporate partners have been generously providing matching monies for some of the large grant projects."

There has been no shortage of tree planting projects for the Coalition. Starting with a "kick-off" planting at the Homes Housing Project in Atlanta, in which 1,100 seedlings and 100-inch caliper trees were planted, numerous projects have followed. Projects this spring included two public venues: the Atlanta Civic Center site of the weightlifting competition in 1996; and planting of 150 grape myrtle trees on the campus of Morris Brown College, site of the hockey competition. But tree planting projects by the Coalition are limited to Metro Atlanta.

According to Boyd Leake, coordinator of the Georgia Trees Coalition, numerous projects are planned for the future in other Georgia communities that will host Olympic events and training sites for national teams. Atlanta will be playing host to the USA team, and Macon will host the Russian team. Columbus will be the site of the softball competition, and Savannah will be in the spotlight because of the sailing events," Leake said. Other areas of Georgia will see national attention because of

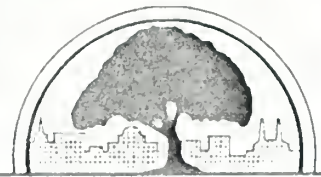
their economic, recreational, cultural or historic significance. There is virtually no area of the state that will not be affected by the Games in some way. And that leaves us with a considerable task ahead to prepare these communities to look good for our 'company'."

A recent award of nearly \$76,000 in federal funds for tree planting from a Small Business Administration matching grant program will help. But there is still a tremendous need for financial contributions to purchase the trees for this Herculean task. "We have been fortunate to receive contributions from both Georgia-Pacific Corporation and Georgia Power Company," Leake said. "But we will need more from other sources if we are to meet all our present and future commitments."



If you or your organization are interested in becoming a member of the Coalition, call or write Boyd Leake, Coordinator, Georgia Trees Coalition, Room 810, Floyd Bldg., West Tower, 200 Piedmont Avenue, Atlanta, GA 30334, (404) 656-3204.

Atlanta, Georgia is a world and a millennium away from Olympia, Greece. But this team of tree volunteers has come a long way to make Georgia every bit as cool and green--and legendary--a setting for the Games as that cradle of Olympian glory.



Georgia Trees COALITION

Cool & Green
In '96

Atlanta Botanical Garden

Atlanta Committee for the
Olympic Games

Atlanta Department of Parks,
Recreation & Cultural Affairs

Fernbank Museum
of Natural History

Fulton County Soil &
Water Conservation District

Georgia Agribusiness
Council

Georgia Department of
Community Affairs

Georgia Department of
Corrections

Georgia Department of
Transportation

Georgia Forestry Commission

Georgia Green
Industry Association

Georgia Institute of
Technology

Georgia-Pacific Corporation

Georgia Power Company

Georgia Urban
Forest Council

MARTA

Park Pride Atlanta

Savannah Park &
Tree Commission

Southern Nurserymen's
Association

Stone Mountain Authority

Trees Atlanta

USDA Forest Service



Senior Forester Steve Smith stands at a beautiful oak that survives because it was protected during construction of the home. Below, a temporary fence was erected around the big tree during construction.

HOMES FOR TREES PROJECT SUCCESSFUL IN COLUMBUS

"Think back to your fondest childhood memories. Chances are they include a special tree under which you read, shared secrets, pitched a tent or hosted backyard picnics. You may have climbed it, swung from it, or watched its leaves mark the passing of a season."

The quote is from an attractive brochure on Homes for Trees, a well organized project aimed at enhancing the residential neighborhoods of the City of Columbus through the preservation of existing trees and the planting of new ones.

Although the campaign encourages homeowners throughout the city to maintain lawn trees, it generally targets new home construction and is fortunate at the outset to have gained the cooperation of the Home Builders Association of Columbus and many of the residents for whom dwellings are being built.

GUIDELINES FOR BUILDERS

Tree protection guidelines supplied by Homes for Trees for building contractors call for the erection of barricades around designated trees at the construction site and the avoidance of vehicular traffic. Materials storage and grading or dumping of trash or chemicals within the protected zone should be avoided. Builders also are asked to take measures to protect tree roots if it is necessary for —
underground utility lines to pass through the

protected areas and they are advised to cut vegetation flush with the ground if any is removed for aesthetic purposes.

Senior Forester Steve Smith of the Georgia Forestry Commission, member of the Technical Support



p for the project, said Homes for Trees is affil- with the Georgia Urban Forest Council and the Columbus Beautiful Commission. Other ers, in addition to the Commission and the e Builders Association, are Georgia Power pany, Columbus College, Mead Corporation, ogee County Schools and many individuals.

INTEREST GROWING

Started this program in Columbus about two ago," Smith said, "and now we're getting ies from other Georgia communities interested ablishing a similar project."

Urban and Community Forestry Grant of 5.00, administered through the U. S. Forest Ser- and matching funds now being contributed on cal level, is financing the project. Smith said the financing is coming from the Urban Tree Com- e of the Keep Columbus Beautiful Commission, ia Power Company and other sources.

forester said the Homes for Trees program pro- the protection of existing trees before and ome construction, encourages the planting of on the construction site, provides technical nce and recognition of builders and devel- e and works to create a "tree conscious" munity.

Smith said contractors and homeowners are d that trees increase property values, reduce g costs, increase curb appeal and help control n.

ough much of the work of the organization is ntered in new residential areas, Smith said, e pleased with the cooperation we find in our c." He pointed out that "today's students are ow's landowners and if we can instill an eiation of trees in these young people, the e of Homes for Trees is secure." He said Mrs. e Lester, a teacher in the county school system, e develop the school outreach function of the ct and outstanding progress has been made in ea.

20 PERCENT COVERAGE

iders who participate in Homes for Trees are ed to leave at least 20 percent of the building ee cover; if an insufficient number of trees es of a minimum height of five feet and um caliper of one inch are to be planted to he standard.

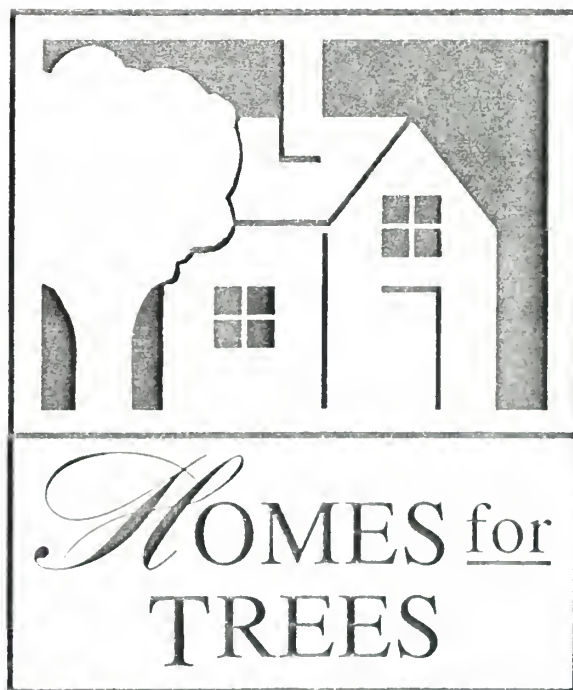
Smith said builders who enter into the agreement ermission to use the official Home for Trees and sign and have access to technical advice e Forestry Commission, Columbus city arbor- and other qualified professionals.

ublic awareness campaign for the project ds seminars for landscape professionals, e s, homeowners, home buyers, real estate pro- s, students and others.

orester said the city is beginning to realize some v- results in the relatively new project and as it nes to gain momentum it will probably become a el for other urban areas around the state.

As neighborhoods grow, more densely populated and residential building lots become smaller, fewer families are experiencing the quiet comfort and pleasure a backyard tree brings. Yet trees have an increasingly important function in the urban landscape. They add beauty, improve air quality, reduce erosion, moderate temperature extremes, and provide a home for wildlife.

— Excerpt from Homes for Trees Brochure





UGA Forestry Professor Tom Harris, Jr. (left) and Dr. Arnett Mace, Jr., dean of the UGA School of Forest Resources (right), present Dr. James A. McNutt with an award of appreciation.

GLOBAL FORESTRY MARKET BECKONS U. S. BUSINESS

An increasing activity in business acquisitions and mergers is forming a globalization of the forest products industry that the United States should vigorously participate in to compete in the new world market, according to Dr. James A. McNutt, executive vice president of Jaako Pooory Group.

In a public address at the University of Georgia's School of Forest Resources, Dr. McNutt told a gathering of forestry leaders that this market of 370 million people has a per capita paper and wood products consumption that will undoubtedly have a vital influence on tomorrow's forestry industry managers.

Dr. McNutt has been affiliated with the paper industry since the early 1970s when he was a professor of Forest Engineering at the University of Washington. Since then, he has held a number of high level corporate posi-

"Globalization is changing the structure of the industry as we know it, but U. S. companies have a position of tremendous strength upon which to build future success...but without pursuit, there will be no success."

tions, including Corporate Forest and Financial Analyst for Potlatch Corporation, and Director of Corporate Planning for Great Northern Nekoosa Corporation. Dr. McNutt's educational background includes a BS degree in Engineering from the Univer-

sity of Wyoming; the MBA program at the College of William and Mary; a Masters and PH.D. in Forest Management Science from Oregon State University.

Dr. McNutt told the UGA audience that the decline of communism, the opening of Eastern Block countries to expanded trade will accelerate forest industry integrations on a global scale.

"Let me give you my definition of globalization," McNutt said. "Simply put, it is a greater level of capital investment, and a greater participation in global markets by a growing number of companies."

McNutt said that although there are several operational ways in which globalization occurs, mergers and acquisitions are the key methods. In many ways, they are the least expensive techniques for gaining produc-

ty and market share," he said. "However, they are not without difficulty, whether the mergers are hostile or friendly." He added that there are various non-operational globalization simulators, such as common product eliminations of tariffs.

INDUSTRY CONCENTRATION

North America, during the 1980s, 17 of the top 51 companies merged or acquired," McNutt said. "The top 10 companies represented 62 percent of the pulp and paper sales in 1990, versus 48 percent in 1980."

McNutt said that in 1980, U.S. companies represented nine of the top 10 companies on a worldwide basis, as measured by pulp and paper sales. However, by 1990, only seven U.S. companies remained in the top 10. "It is even more telling, if we look at the second group of 10 companies," McNutt said. "That is the 11th through 20th companies. In 1980, North American companies occupied eight of the second tier 10 slots - but by 1990, they represented only four."

McNutt went on to show that 1980-1990 European consolidations were more dramatic; just from 1988 to 1990, 17 of the top 60 companies were sold or merged in "an unprecedented level of activity that had a distinct Scandinavian flavor." For comparison, McNutt showed that the top 10 European companies represented 40 percent of European pulp and paper sales. In 1990, this figure increased to 53 percent and approached 60 percent by 1995.

The extent of European consolidation during the 1980s can be determined by the fact that for 23 selected companies out of the top 60 firms, there was a significant consolidation in sales, pulp and paper sales, and total assets," McNutt said.

QUALITY EMPHASIS

McNutt said that until 1990, there had been relatively little effect on management styles in the forest products industry. However, with recent changes to streamline employment, McNutt pointed out that "we have begun to experience accelerated changes across North America." According to McNutt, as U.S. companies have become more global in their operations, they have begun to rationalize management functions and place emphasis on quality and customer satisfaction. Recent statistics indicate a number

of structural changes within the forest products industry (especially pulp and paper). Changes include: increased concentration in certain product lines in the U.S. and Europe; tremendous fostering of growth in mergers and acquisitions; reduction in North American dominance of the industry in terms of company size; increased amounts of cross-border product shipments; and creation of global companies capable of being cost competitive around the world.

"Predicting the future is always risky business," McNutt said. "I am reminded that Thomas Edison once forecast that the electric light bulb had no future. Nevertheless, I will share one view of future globalization trends."

EUROPEAN PRESENCE

According to this view, there will be an increased consolidation among the European pulp and paper industry, with less than half of the current top 25 companies likely to survive the next century. There will also be a greater European manufacturing presence in North America. European demand for paper will increase. However, North America still represents the largest forest products market in the world,

and European companies will be a part of this market as they strive for global significance.

LONG TERM FOCUS

McNutt said changes offer a number of vital implications for U.S. companies that will need to expand their strategic views. "No longer will it be sufficient to think of what strategic advantage you have in North America," he said, "but rather what sort of strategic advantage you can develop on a worldwide basis. A long term focus will be necessary."

In essence, globalization has and will effect how the U.S. forest products industry conducts business in the future. McNutt said the transition "will affect all managers." He concluded by saying companies that adapt and seek out opportunities will not only survive - but prosper.

"Globalization is changing the structure of the industry as we know it," McNutt said, "but U.S. companies have a position of tremendous strength upon which to build future success. The opportunities will be there, but without pursuit, there will be no success."

SHORT COURSES SCHEDULED

Many timberland owners and professionals who have clients who own timber will be interested in two University of Georgia short courses concerning timber tax and estate planning.

One course, Timber and Federal Income Tax, will be held November 16 at Darton College in Albany and November 19 at the Coastal Georgia Center in Savannah. A course entitled Estate Planning for Forest Landowners is scheduled for November 17 at the Comfort Inn in Valdosta.

Instructors for the courses are Drs. Harry L. Haney, Jr. and William C. Siegel, nationally recognized experts in timber and forestland taxes and themselves active tree farmers and foresters. They have conducted numerous courses and written many articles on these subjects.

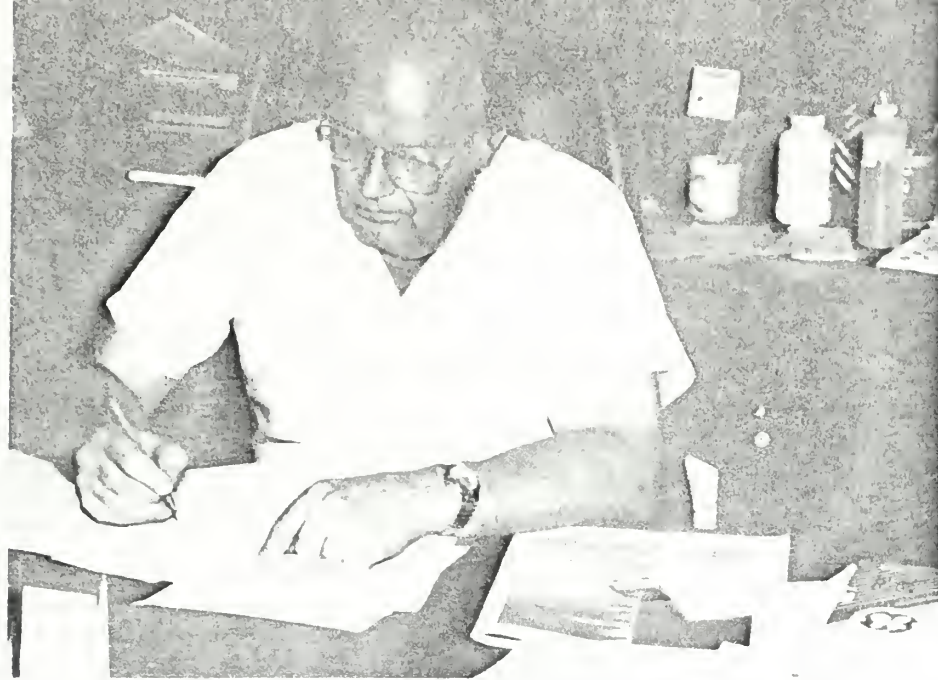
Quotes from participants in their courses: "...practical ideas I could use.", "...very knowledgeable

instructors who answered my questions.", and "...good investment, well worth the money."

The courses are designed for forest landowners, forestry consultants, landowner assistance and extension foresters, accountants, attorneys, estate planners, tax preparers, and insurance specialists. Each course will provide 6.5 hours of Continuing Education credits (8CPE for CPAs).

The registration fee for each course is \$95.00 and includes refreshments, lunch and extensive instructional materials. Discounts are available for spouses and for attending more than one course.

For more information, write: Forestry Programs, Georgia Center for Continuing Education, The University of Georgia, Athens GA 30602-3603, or call (706) 542-3063.



John Foster receives inquiries from around the world now that CNN has televised the news of his superior recycling procedure. Below, he checks tons of boric acid used in the process.

SUPERIOR METHOD DEVELOPED IN RECYCLING PAPER PRODUCTS

When John Foster's product is spread on the floor of one of the many poultry houses that dot the hills and valleys of North Georgia, it looks like a big, smooth wall-to-wall gray carpet.

It's really recycled paper.

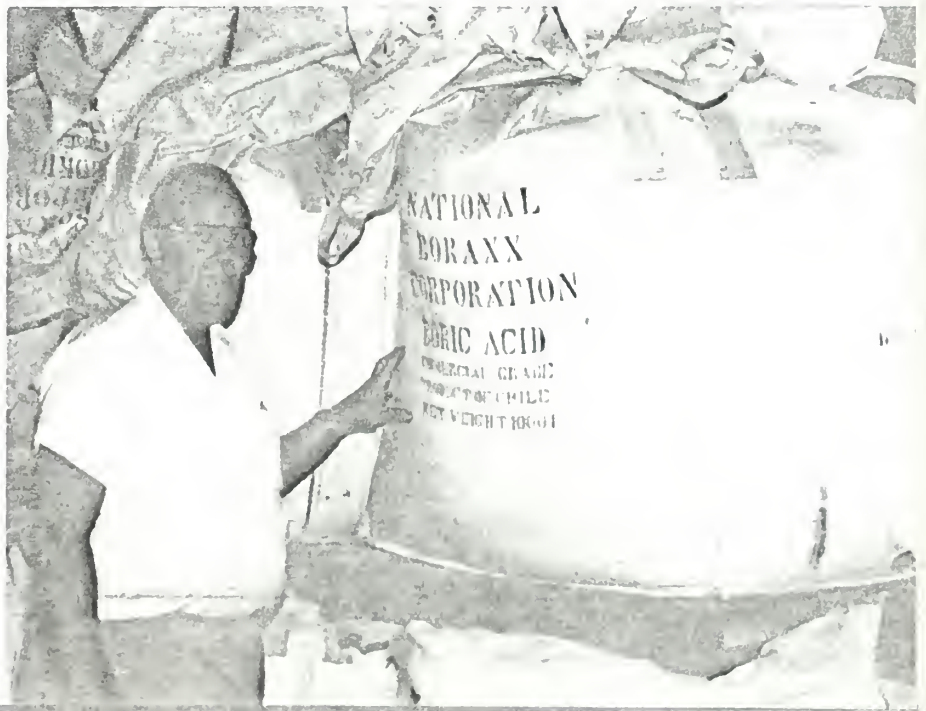
The enterprising Foster of Cornelia, a state legislator for 18 years, owner and operator of a broom factory for 20 years and a veteran radio broadcaster, has hit on an idea that is a boon to poultry producers and is greatly reducing waste that would ordinarily go into already over-burdened landfills.

Foster's Low Density Fiber Bedding, said to be far superior to shredded paper, shaving, wood chips and other materials heretofore used by Georgia poultrymen, recently gained international attention when CNN televised the story of his plant and its unique product. The owner said he is receiving inquiries from around the world as a result of the exposure.

SPECIAL EQUIPMENT

The difference in Foster's recycling process and the conventional method is attributed to the custom designed equipment in his plant - a plant that is

actually the only one of its kind in the world. Grinding equipment in the highly automated operation converts old telephone directories, newspapers, magazines, corrugated boxes, grocery bags and other waste paper into a soft, fibrous and very absorbant material. The fluffy, cotton-like pro-



duct is mixed with boric acid to make fire resistant.

When compared to wood shavin Foster said his material is more sterile has less ammonia buildup, provides better insulating properties and does not present a fire hazard. High absorbency is one of its principal advantages.

DECOMPOSES FASTER

The manufacturer said the material has a faster decomposition rate than other bedding and is, therefore, an excellent vehicle for transferring chicken manure from the poultry houses to agricultural fields for fertilization. The plant has the capacity to produce 8,000 pounds per hour and Foster said that as long as newspaper, magazines, catalogs and telephone books are published and discarded there will always be an abundance of paper to feed his giant shredders and grinders. There also seems to be a shortage of customers for Foster Industries, Inc. The owner said there are thousands of poultry houses within a 50-mile radius of Cornelia and several hundred are currently using the product from his plant that started operations just eight months ago.

Lewis Canup, Habersham County Administrator, said it's too early to gauge the impact the recycler will have on the county, but he pointed out that there has to be a positive effect as the county no longer has to transport newspapers to Atlanta and magazines and other paper waste to other points. He said the new plant is a convenience for many residents who now personally deliver waste to the company.

Most of Foster's product is sold

TREE IMPROVEMENT PROGRAM TRANSLATES INTO MANY BENEFITS

How many acres of trees are required to produce the paper that finds its way through the plant in a single day? It would be hard to determine, but thanks to Foster Industries, most of it is going back to the soil and in a biodegradable form.

bulk to poultry farms. A special spreader evenly distributes the material on the floor of the poultry buildings until it resembles a carpet about one inch in thickness. About ten percent of the production is bagged and shipped to customers around the nation.

Foster said his enterprise started as a joint public/private venture, with Chestatee-Chattahoochee Resource Conservation and The Development Council of Gainesville. The non-profit council did research on recycled paper products for agriculture and had the support of the University of Georgia, Bell South and agencies of the U. S. Department of Agriculture in the studies.

Although the poultry bedding is the company's principal product, the plant is getting into the cellulose insulation business. The recycled paper is blown between wall studs to form a superior insulation for animal barns, homes and other structures. The material is virtually soundproof, fireproof and insect resistant.

Foster, who was included in Georgia Trend magazine's "100 Most Influential Georgians" in 1991, said he was looking for another business after he sold the broom factory and recycling seemed to be the most promising. After considerable research, he found that such a business would be costly to establish, but nevertheless entered into the venture.

The plant was recently closed for a few days for maintenance work and a stockpile of waste paper was building up on the lot; thick, yellow telephone directories topped off great mounds of newspapers, magazines, computer paper and crushed cartons, all ready for the conveyors that would take it to the grinding machines. Foster said

several highway vans load with waste stock also awaited plant start-up.

How many acres of trees are required to produce the paper that finds its way through the plant in a single day? It would be hard to determine, but thanks to Foster Industries, most of it is going back to the soil and in a biodegradable form.



Foster displays fluffy material manufactured from recycled paper under newly developed process.

An independent report determining financial percentage returns on genetic tree improvement programs shows the Commission's annual 10% improvement rate in slash pine volume production translates into a \$750,000-a-year benefit for Georgia's private (non-industrial) landowners, according to Staff Forester Russ Pohl, coordinator of the Commission's tree improvement program.

The independent study, titled "Yearly Economic Benefits From Slash Pine Tree Improvement" was completed by Timothy White, Director of Cooperative Forest Genetics Program for the University of Florida. The report is based on profit returns on annual genetic levels of tree improvement ranging 10 percent to 35 percent. The percentages of yield improvement were applied to regenerated acreage ranging from 1,000 to 50,000 acres.

Pohl pointed out that although this study was done for private industries involved in pine regeneration, the financial benefits also apply to public service projects. "The objective of creating higher and faster volume yield of timber is the same," he said. "Private industry profits in such a program go to the company bank account - but the GFC public service tree improvement program translates into a profit for the private landowner and stimulation for Georgia's \$12 billion forestry economy."

The report shows 10 percent annual genetic improvement in slash pine volume production for reforestation of 30,000 acres and has a current net value of \$750,000 a year using a 6% discount rate.

"All financial statistics in the report are based on current dollar value with no adjustments made for escalating timber costs," Pohl said. "The 6% is very impressive, especially when you consider the average real rate of return - inflation adjusted - on securities and bonds since WW II has been approximately 3.5 percent."

Pohl emphasized the \$750,000 for the Commission's slash pine genetic improvement can be translated as a

(continued on page 22)

Georgia Forestry/Fall 1993/13





COASTAL LIVE OAKS LURE EDUCATOR TO ST. SIMONS

CHILDHOOD VOW FULFILLED AFTER 28 YEARS

By Bill Edwards

Taylor Schoettle was born in Philadelphia, but transplanted in spirit among Georgia's coastal live oaks when he was 12 years old. A relative invited him South for a brief visit and he made a childhood vow to return someday to Georgia's barrier islands and live among the live oaks.

Now 56, Schoettle has been in the islands for 16 years. He is currently editing the final stages of what he believes to be "the most comprehensive research project ever attempted to direct public awareness to the fragile ecosystem of Georgia's barrier islands - with live oaks serving as the foundation of this system." Schoettle's new book on this subject, titled "A Naturalist's Guide to St. Simon's Island", is scheduled for release during winter 94. He has written a number of other educational guides concerning Georgia's barrier islands, but insists that none of these even approach the scope of his new 120-page book on St. Simons Island.

ROOTED WITH LIVE OAKS

"It has been a long, sometimes circuitous route, but now I'm doing exactly what I always wanted to do - the way I want to do it, and where I want to do it," Schoettle said. "I'm as rooted here on these barrier islands as the native live oaks. I have always been interested in trees, but no other species has fascinated me like these live oaks."

Schoettle said he knew "beyond

any doubt" when he was 12 years old that he would come back to live among Georgia's live oaks. He just didn't know how. The "circuitous" journey had begun.

Looking back, Schoettle says the years passed quickly after he returned home from his trip South. He earned a bachelor's degree in zoology from Penn State and a master's in zoology and physiology from the University of Pennsylvania. For the next 12 years, he taught high school biology and acquired an impressive collection of birds and animals that led him to become curator of three zoos: in Puerto Rico, Oklahoma City, and Paso. During all these years, the inde

(continued on page 1)

ible impressions of Georgia live oaks haunted his memory.

FLASHBACK

While curating the El Paso Zoo, Schoettle saw the movie "Conrack", based on Pat Conroy's novel; much of the movie was filmed on St. Simons Island. Scenes of the moss shrouded live oaks catalyzed a series of flashbacks from his childhood visit.

"The compulsion those scenes created was like the urge of a migratory bird to go South," Schoettle remembers. "I went home and told my wife we were moving to the barrier islands."

Schoettle and his family moved South. After some inevitable floundering around he became a marine education specialist for the University of Georgia Marine Extension Service in Brunswick. At the time, nothing could have suited him more. He wandered among the live oaks offering a wide range of coastal education programs. During this time, he feels an apprenticeship of sorts was served by writing three short field guides including sections on maritime forests of the barrier islands.

In 1982, Schoettle initiated a docent program that has reached more than 100,000 people through nature tours that wind through the marshes and live oaks of Jekyll, St. Simons, and Sea Islands.

He finally felt secure in paradise; but trouble lurked in paradise. Two years ago, a budget crunch left Schoettle standing among the live oaks with no job. "I was in a sort of fringe position that was most readily excised from the system," he said.

Schoettle, however, decided that if he could not continue his live oak and other island research in the conventional manner of having a job - that he would do what was necessary to sustain his pursuits without a job.

"So, in a sense, I just dropped out of mainstream society," he said. "It took some adapting, but I now consider it a blessing."

DROPOUT PROCEDURE

The first thing Schoettle did was evaluate his previous research on live oaks and other barrier island subjects. Since he had lived on St. Simons for 13 years, this would be the most appropriate place to focus his expanded study. The problem now was that he had no money to finance further research or publication; but he also no longer had guidelines imposed by a source of financing.

"So I tightened my belt and deter-

mined to make a living as best I could to finance the project," he said. Schoettle moved from his St. Simons house to a home on the Darien River. Now on the mainland, he can look out from his upstairs work desk across the marshes to a distant filament of cars droning along I-95 - a pleasant reminder of the "rat race" he has permanently abandoned.

Eventually, Schoettle worked his way into the comfortable situation of teaching college part-time and conducting freelance nature tours. Luxuries are few, but necessities are provided. For Schoettle, however, the most important factor is the new freedom to research and write from his personal perspective, with no outside influence.

ADAPTED NATIVE

Driving along the oak lined roads of St. Simons in search of trees to illustrate for his book, Schoettle now regards himself as native to the islands as the slave descendants living on heir-deeded property. Looking out of his lorry-type vehicle, Schoettle sees what he considers a mixed bag of good and bad influences on the live oaks.

"These oaks on Frederica Road will go when the road is widened," he said. "But the developers and residents are now becoming more protective of the live oaks. Both realize that if the live oaks go the charm, atmosphere and ecosystem of the island goes with them. There's an old saying about not being able to see

the forest for the trees. Well, here we have a paradoxical version of that situation."

What Schoettle is referring to is the loss of live oak forests to developments, but the preservation of oak clusters and individual trees to sustain the appealing atmosphere and ecosystem. He hopes the development will evolve into an urban forestry program that will ensure enough of the oak canopy remains to sustain the island ecosystem.

Schoettle explained that the live oak canopy shelters and shades forest life, while retaining moisture vital to this type of environment. The canopy cultivates an understory of smaller trees such as red bay and American holly. Flowers, saw palmettos and ferns form ground cover; while a shower of leaves, fruits, nuts and rotting bark feed an abundance of birds and animals on the forest floor.

"These live oak forests are the predominant climax community of St. Simons and other barrier islands," Schoettle said. "This means that under prevailing environmental conditions, the forest continues to propagate itself and remains relatively unchanged over time. But - if the trees are cut down, the thin layer of top soil on the forest floor quickly washes or blows away and the basic life-sustaining nutrients of the system are gone. When this happens, it could be many centuries before the forest even begins to come back. Just take a few moments and really try to imagine St.



Massive canopy of live oaks fringe St. Simons Christ Church. History of church dates back to colonial times. In drawing opposite page, Schoettle feeds pileated woodpecker.

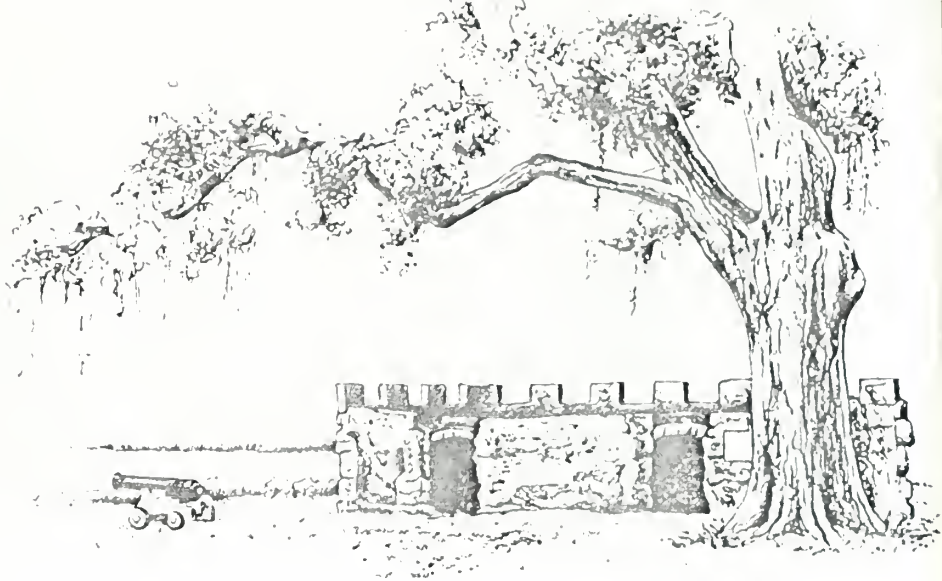
BALANCE

Although Schoettle exhibits a zealot-like enthusiasm for protecting barrier island live oaks, he stresses that he is by no means opposed to harvesting timber when sound management and reforestation measures are practiced. "I am certainly in favor of using timber resources when properly managed - that's just common sense," he said. "There are simply some forest and tree situations that should be preserved. What I am against is the cutting of trees to create jobs when there is no reforestation. In the end, the trees and the jobs will be lost."

Schoettle's forestry interest, however, remains focused on the island live oaks. In the tradition of Will Rogers, he never met a live oak he didn't like. The dwarfed, wind-twisted oaks near the sea evoke a comparable emotional response to the towering specimens growing midway the island's shores.

"They're all "awe-inspiring," proclaims Schoettle. Those wind-tortured trees near the sea lend a mystique to the island; and the towering inland oaks make me feel as if my soul is soaring among the branches."

When talking about live oaks, Schoettle can obviously become carried away to the point of poetic observations. In fact, his upcoming book



Live oaks enhance the historic beauty of St. Simon's Fort Frederica National Monument. During early spring, clusters of saprophytic orchids grow under these oaks.

contains such a poem. The quality of his poetry will have to be left with literary critics, but the authenticity of his knowledge concerning the live oaks and island environment is evident.

Schoettle believes most people over estimate live oak age. He points out that St. Simons was virtually clear-cut of live oaks during the ship building frenzy of the 1800s. The few oaks surviving this onslaught were cut later to

clear land for cotton plantations.

"So most of the live oaks on St. Simons are less than a hundred years old," Schoettle said. "There's a pretty good rule of thumb about live oaks that says the tree takes a hundred years to grow, a hundred years to live, and a hundred years to die. I wish I could live that long. Maybe in that time span, I could gain enough understanding to motivate others to value these wonderful trees as much as I do."

MYSTICAL ATTRACTION

Giant live oaks lining the driveway to the Sea Island Club (on St. Simons) form a huge tunnel-like canopy that holds a mystical attraction for Schoettle. "I come here a lot just to think," he says. "These oaks were planted from 1848 to 1849, making them close to 150 years old."

Schoettle stops his lorry vehicle and looks out over the massive oak canopy, leading into the golf club. Billowing black clouds, rushing in from the mainland, can be seen over the oak
(continued on page 17)



View of mid-island forest as seen from Frederica and Lawrence Roads. Most of these oaks are less than 100 years old.

opy. Rolling waves of distant thun-
 r seem to shake the ground.
 As a pelting rain begins, lightning
 shes over the golf course. Schoettle
 ts out and begins walking toward the
 k canopy. "I like to get out in these
 ings" he says. Schoettle stops, the
 n is coming down harder now. He
 ks around - at the live oaks and
 ized surroundings.
 "It's taken a long time," he says, "but
 ink one really good thing is coming
 t of all this. There's a growing aware-
 ss. We're finally responding to the
 nor of having the live oak as
 orgia's state tree."



Left to right, Chief Ranger Donald Bishop, Baker-Mitchell Unit; Reba Bishop; GFC Director John W. Mixon; Chief Ranger Roger Lane, Banks-Hall Unit; and District Forester James Tidwell, Tifton District.

TOR'S NOTE: St. Simons is one of
 ht clusters of barrier islands
 arated from Georgia's coast by salt
 shes and sounds. Unlike many
 eveloped barrier islands on the East
 ast, Georgia's islands still retain
 ch native wilderness and forest
 as. The live oak (*Quercus virginiana*)
 be found on all of Georgia's
 eveloped and undeveloped barrier
 ands.

Illustrations in this article are by
 nifer Smith.



estic live oak is typical of this
 ces on St. Simons. Live oaks can be
 n l on all Georgia barrier islands.

FORESTRY DISTRICT, UNITS AWARDED

Georgia Forestry Commission's Eighth District, an eleven-county area with headquarters in Tifton, was awarded recently for outstanding service to forestry in Georgia and two county units were cited for superior performances.

Engraved plaques were presented to the outstanding district and county units - the Banks-Hall County Unit in the North Georgia region and Baker-Mitchell County Unit in the South Georgia Region.

The awards were presented by the Georgia Forestry Association at the organization's annual convention on Jekyll Island.

Two awards were also presented to Reba Bishop of the Polk County Unit. She received the Project Learning Tree Outstanding Facilitator Award for conducting the most PLT workshops during the year, and an award recognizing her as the state's outstanding facilitator.

The Tifton District consists of 1,733,500 acres, a varied composite of agricultural land and timberland. A vast amount of agricultural land has been converted to timber.

The district has been one of the leaders in the stewardship program by completing 30 plans for a total of 11,983 woodland acres. Approximately six million seedlings were sold this planting year.

Six of the ten counties have a Miss Georgia Forestry Pageant every year and rangers and foresters have outstanding school programs.

The Banks-Hall Forestry Unit is one of the Forestry Commission's most well-rounded units, according to the dis-

trict forester.

During the past year, the unit participated in the Southern Pine Beetle Survey, was a part of a field crew that did ballooning for the Gypsy Moth spraying, helped with the clean-up of the Oakwood tomado, participated in the disaster drill in North Georgia and was a part of the Incident Command System team during "Snow Blizzard 1993."

A Rural Fire Defense shop was installed at this unit and all personnel have been trained in the building of the fireknockers.

Fire control activities have also been outstanding during this year. The Banks-Hall Forestry Unit protects 315,200 acres while their number of wildfires have been held at 105.

The Baker-Mitchell Forestry Unit has put forth extra effort in many areas over the past year, according to District Forester Greg Findley.

The Unit has over 311,000 acres under fire protection; it normally averages approximately 200 fires annually.

In addition to the forest protection activities, personnel has been extremely busy in both district and state-wide building projects, working with Rural Fire Departments in both counties, plowing 300 plus miles of pre-suppression firebreaks and issuing over 800 burning permits.

The work done by the individuals at the Baker-Mitchell Forestry Unit has gone beyond the borders of Baker and Mitchell Counties; their collective efforts have been felt throughout a wide area of the state.



Homesites, Wildflowers and Backyard Habitat is one of the popular demonstrations at the field day. Five specialists will man this exhibit, just one of 22 interesting demonstration stations dealing with forestry and other natural resources.

DR. MACE FIELD DAY KEYNOTER

Dr. Arnett C. Mace, Jr., dean of the Daniel B. Warnell School of Forest Resources, University of Georgia, will be the keynote speaker at the fourth biennial Land Use and Forest Management Field Day September 22 near Griffin.

Forester Bob Farris of the Commission's Newnan District and coordinator of the event to be held on the grounds of the Georgia Experiment Station, said "we are pleased that Dr. Mace has accepted the invitation to be our principal speaker this year. He will

set the tone for a full day of field demonstrations and other events across 650 acres of forests and fields."

THOUSANDS EXPECTED

Following the address by Dr. Mace, who will be introduced by John Mixon, Commission Director, brief remarks will be made by others and then the more than 2,000 expected to attend will fan out across the grounds to visit exhibits ranging from hardwood management and prescribed burn-

ing to gully control and timber marketing.

Professional foresters and other resource specialists will be on hand at the 23 stations to give demonstrations and answer questions. The theme this year will be "Stewardship in Action" and will emphasize the need for landowners and other land managers to follow wise practices to conserve natural resources for future generations, while at the same time learning better ways of making greater profits through proper management.

Registration for the field day, which is sponsored by the Forestry Commission and several other allied agencies and organizations, will begin at 8:00 A.M. at the site three miles northwest of Griffin on West Ellis Road.

SHUTTLE SERVICE

Ample parking will be available and a "hay wagon" shuttle service will transport those attending to the various demonstration stations and other sites. Free soft drinks will be available throughout the day and the first 1,500 to register will receive a free cap and a detailed guide book that will contain information useful to the landowner long after he or she has returned home.

Pre-registration admission to the field day is \$8.00 if paid no later than September 16; the cost after that date is \$10.00. The admission ticket includes a barbecue lunch to be served at noon and eligibility to win one of thousands of dollars worth of door prizes.

Sponsors of the field day, in addition to the Forestry Commission, include The University of Georgia, Georgia Forestry Association, U. S. Department of Agriculture, Georgia Farm Bureau, Department of Natural Resources, Forest Farmers Association, American Forestry Association, Georgia Urban Forest Council and the State Soil and Water Conservation Commission.

Farris and others involved with the field day planning said many landowners attending the Griffin event in the past have commented on how informative and rewarding they found the exhibits. Visitors to the most recent field day were from 130 Georgia counties and some came from Alabama, Florida, Tennessee and South Carolina.

Checks should be made payable to LFMFD, c/o Albert E. Smith, Georgia Experiment Station, Griffin, GA 30223. Dial 1-800 GA TREES for additional information.

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LAND USE AND FOREST MANAGEMENT FIELD DAY

REGISTRATION September 22, 1993

Name _____ County of Residence _____

County of Land Ownership _____

Address _____

City _____ State _____ Zip _____

Telephone (day) _____ Evening _____

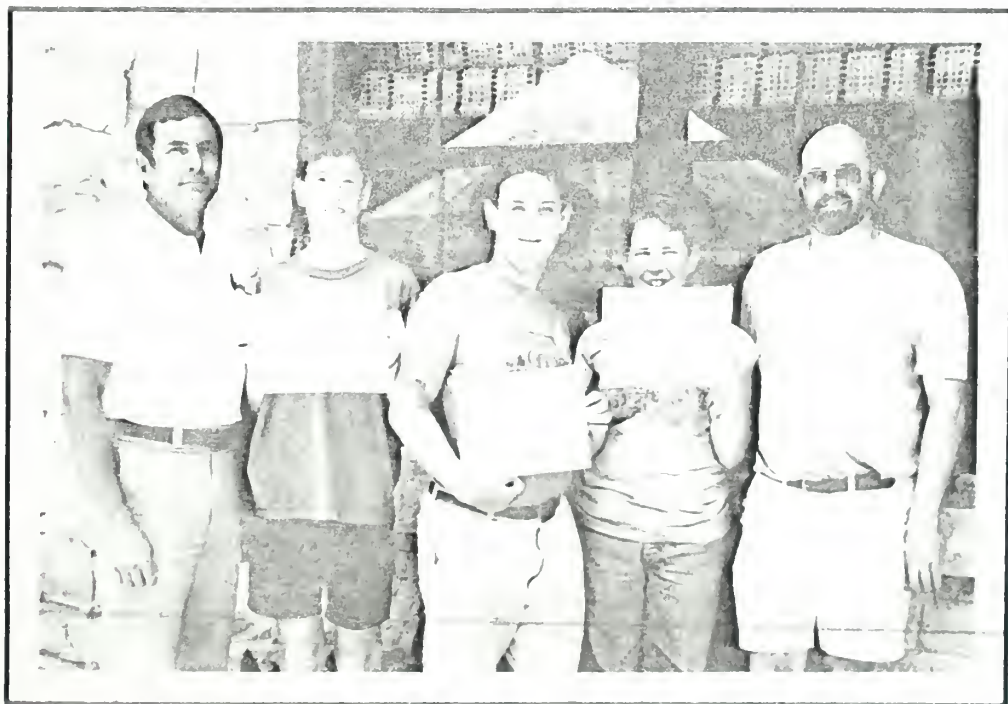
\$8.00 pre-registration fee before 5.00 p.m. September 10. After September 10, registration will be \$10.00. Price includes lunch Program and hats to the first 1500 registrants and a chance to win numerous door prizes.

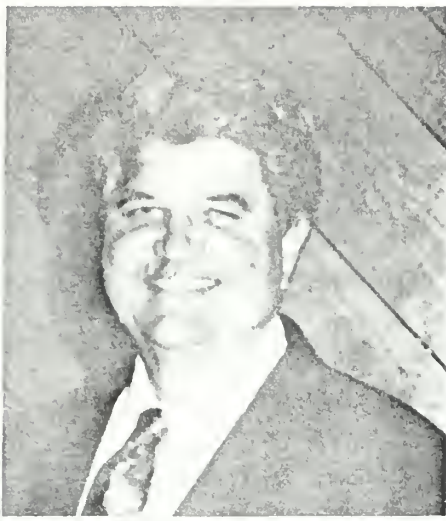
Make check payable to LFMFD. Mail to LFMFD, c/o Albert E. Smith, University of Georgia Experiment Stations, Georgia Station, Griffin, Georgia 30223.

Who notified you of this event? _____



Students and teachers gathered for this group shot at the conclusion of another successful Forestry Youth Camp at the FFA Camp near Covington. Below, top winners of various skills pose with camp officials. The event, consisting of classroom and field instructions concerning forestry and other natural resources, is sponsored by the Society of American Foresters. Left to right are Billy Lancaster, camp coordinator; Joe Matteson of LaFayette, first place; Gene King of Winder, second place; Charlie Akin of Roopville, third place winner; and Bill Consoletti, camp director.





William Oettmeier, Jr.

SUPERIOR PINE GIVES \$100,000 SCHOLARSHIP FOR UNDERGRADUATES

Superior Pine Products of Fargo, has donated \$100,000 to establish a scholarship for undergraduates in the University of Georgia's Daniel B. Warnell School of Forest Resources.

The fund establishing the scholarship recognizes the achievements of the company and its presidents, William M. Oettmeier (who served from 1926-75) and William M. Oettmeier Jr. (1975-present).

The scholarship will reward and assist forestry students who demonstrate excellent potential in the profession.

"This scholarship will greatly enhance our ability to attract outstanding young men and women to the school and the University of Georgia," said Dr. Arnett C. Mace Jr., dean of the Warnell School. "It will help further their education and enhance the management of Georgia's valuable forest resources."

William M. Oettmeier, during his half century as president and general manager of Superior Pine Products, founded the Forest Farmers Association and served as its first president. He later served as president of the Georgia Forestry Association and vice president of the American Forestry Association.

His son has also served as president of Forest Farmers and the Georgia Forestry Association. He has been a spokesman for the wise use of forest resources, a strong supporter of the Warnell School and is president-elect of the school's 20/*Georgia Forestry*/Fall 1993

LOOKING BACK



In the first years of the Great Depression, Georgia's rural population began to drift to the cities in search of employment and the number of abandoned farms began to mount rapidly. The price of lumber had plunged 35 percent and forest-related jobs were hard to come by.

One observer during those hard times noted that the mass exodus in 1930 from country homes to urban life left more than 65,000 farms abandoned, more than in any other state.

Forest landowners naturally called for tax reductions, but in view of rapidly declining state revenues, their pleas fell on deaf

ears at the state capitol. Another problem that hit woodland owners and farmers in 1931 was a prolonged drought that extended into the spring of the following year, the longest recorded in Georgia in more than 20 years.

In some counties, forest losses from fire was as high as 90 percent. Although it meant a loss of federal matching funds which could be used in forest fire control, no increases were made in state appropriation for forestry activities. The state funds provided for forestry in 1931 was \$28,659, or less than one tenth of one percent of state revenues that totaled \$30.7 million.

Alumni Association steering committee.

Recipients of the scholarships must be forestry students who have completed at least 30 credits in the professional forestry program and attained a grade point average of at least 3.0. They must have demonstrated professional involvement and a commitment to the management and use of forest resources.

Preference will be given to Georgia

students, particularly those from South Georgia.

For information on the scholarship, contact Dr. Arnett C. Mace Jr., at the Daniel B. Warnell School of Forest Resources, The University of Georgia, Athens, GA 30602.

Fargo is located in Clinch County near the Georgia-Florida border, about 100 miles southeast of Valdosta. (Photo by Williams, office of Public Information, The University of Georgia.)



Barbara Roland waters redwood foliage as buzzard and deer watch.

REDWOODS IN GEORGIA

Million years ago, sheets of ice advancing over the earth altered the growth region of redwood trees and defined their range to a limited area in northern California. Barbara Roland, innovative grower of trees, hopes this range can now be extended to Grovetown, Georgia. Ten years ago, Roland planted 50 redwood trees and 20 of the trees not survived, but are now thriving in Grovetown climate a few miles from Augusta. The tallest of the 20 survivors is four feet in height, which is impressive when considering California redwoods - in favorable conditions they average 50 feet in height over a 20 year period.

But the impressive thing to me is that I believe they would have all survived and done well, if I had known what I know now," Roland said. Although she had done considerable research, Roland did not know how it is not to disturb the root system of redwoods or even the soil surrounding the root system.

"I knew it was important," she said, "I didn't know how delicate these trees were - especially for such a relatively big tree." Roland explained that its root system is broad and shallow,

with the most sensitive area lying just a few inches below the surface of the ground. This fragile root network supports the world's tallest tree - some reaching more than 350 feet in height.

Roland ordered the 50 redwood seedlings from a California distributor for \$14.95 each. All seedlings arrived in good health. She planted 30 seedlings in 50 gallon drums and 20 in large washtubs. Removing the trees from drums for replanting was difficult. The roots and soil were disturbed - sometimes only slightly disturbed. All redwoods removed from the drums died. The washtubs, however, enabled Roland to remove the contents of soil and roots without disturbance; all 20 of these redwoods are alive and well - with healthy, rapidly growing green foliage.

BASIC SECRET

"This is the basic secret - if you want to call it that - of planting redwoods. Don't disturb the root systems," she said. "I didn't know if any of them would survive in Georgia's climate, but the survivors are living proof so far, and they're doing fine."

Roland is no stranger to planting trees and practicing good stewardship

concerning forestry and nature in general. During the past 25 years on 350 acres of rural property, she has planted 5,000 pines and 200 dogwoods, mainly as windbreakers for the open land and to provide wildlife habitat. Numerous species of wildlife roam her planted habitat. She has a license to rehabilitate wild animals that have been injured or abandoned. The result is a menagerie of creatures awaiting release back into the wilds. Some of the rehabilitating residents, however, grow to like Roland's place so much that they hang around after they are fully recovered and released. These include deer, rabbits, possums, raccoons, dogs, etc.

FRIENDLY BUZZARD

One of the most noticeable members of the menagerie is Otis-The-Friendly-Buzzard. Otis was an abandoned buzzard chick that decided to maintain his residence. When not circling overhead-pretending to look for a rotted carcass like any self respecting buzzard should - Otis likes to perch on a tub containing one of the redwoods, awaiting a handout of his favorite food, pepperoni pizza. If no handout comes along, he walks backwards around the yard scratching up earthworm snacks, then returns to redwood perch.

"I don't know why he likes the redwood, or that particular redwood in general," Roland said. "Some birds and animals prefer not only certain tree species, but have a special tree they like."

FUTURE GEORGIA REDWOODS?

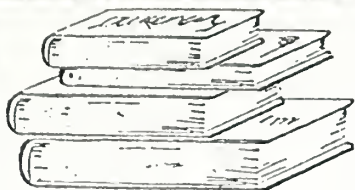
Planting pines, dogwoods and redwoods all blend with Roland's animal-rehabilitation activities. She has established a mini nature preserve of sorts that is well known in the area. She conducts regular nature tours for school children through her cultivated forests, which have included as many as 180 children in one tour.

Roland practices what she preaches about good stewardship of land and forests. Although civilization is encroaching on her small forest preserve, she intends to keep cultivating nature and offering a place of learning and appreciation for the younger generation.

Planting more redwoods will be a major factor in this cultivation.

"I don't know what they (redwoods) will do over the long haul in Georgia because that would take a long time," Roland said. "Some are thousands of years old, so there's no way to know

(continued on next page)



THE BOOK CORNER

A FOREST JOURNEY, by John Perlin, Harvard University Press, \$14.95 Paperback.

A Forest Journey is a fascinating and disturbing panorama of tree exploitation over a 5,000 year period on five continents. Author John Perlin weaves a 361-page excursion revealing man's exploitation of trees began in ancient Mesopotamia - where civilization first emerged.

Perlin points out that throughout history, the deterioration of civilizations followed the decline of forests. A prime example cited is the Roman Empire that consumed more than 500 million trees over a 400 year period for silver smelting furnaces.

During historical periods of accelerated growth, some societies deemed wood more valuable than precious stones or metals; but even when pragmatism prevailed, very few people saw handwriting on the wall. As Perlin advances the reader through forest history and one onslaught after another, there is little recognition of man's fragile and necessary link with other Earth life forms and such inevitable repercussions as the greenhouse effect.

This book, however, is more than a chronicle of deforestation. It is a revelation of the need for reforestation and rational forestry management - before it is too late. An impressive collection of photographs, maps, and etchings complement a text that should be equally thought provoking for foresters, conservationists, environmentalists, and human beings in general - because everybody has to live on this planet for now.

The book quotes a leading citizen of 17th century England as saying his country would be better off "without gold than without timber." That is something to think about today.

(continued from page 20)

what survival growth rate, or size might occur in Georgia."

Although she has no formal education or training in forestry or any of the natural sciences, she is extremely knowledgeable on a wide range of nature subjects. Serving nine years on a local library board put in her proximity with a lot of books. "I just read up on some things," Roland says modestly of her research. She is a member of the Georgia Conservancy and a number of other state and national organizations concerned with nature and forestry.

On the basis of her research and growing experiment, Roland believes redwoods can be successfully grown in Georgia if changing climate conditions do not prevent it. "We don't know what kind of climate changes we're going to have in the future, or how these are going to effect Georgia and the entire world," Roland said. "We're getting more and more of what the biblical scriptures say about reaching a time when you can't tell one season from another. Just consider the last five years, our summer's are getting hotter and our winters are milder."

Nevertheless, Roland will continue her redwood planting as long as she gets good results. The values of forest and land stewardship have been instilled in her three children, and she hopes they will do the same with their children. So maybe many generations from now, redwood forests of some sort might grow in Georgia, and her

forest nature preserve will still flourishing. "Time will tell," Roland said.

Considering the odds of future redwood forests in the Augusta area, the prospects are dim; but Barbara Roland has already beaten the odds with excellent survival rate. Another encouraging factor is a redwood approximately 80 feet tall, growing in an Augusta residential area.

The impressive residential specimen is a Sierra wood or sequoia (*Sequoiadendron giganteum*), the same species planted by Barbara Roland. Ideal growing conditions described by Save-the-Redwood League of San Francisco - are a contrast to the Augusta climate, but the single residential specimen and Roland's survivors are doing well. The League points out that the sequoia is "less suited to the Southeastern states, perhaps because of hot, humid summers."

The League also emphasizes that "any attempts to grow redwoods outside their natural range should be considered experimental unless previous plantings have proved successful."

Barbara Roland is trying to establish some successful plantings for the record. Since the giant sequoias are among the largest and oldest of living organisms - some predating the birth of Christ by 2000 years - Roland thinks there is plenty of time for others to continue her initial efforts to see how mature specimens fare in Georgia.

TREE IMPROVEMENT PROGRAM

(continued from page 13)

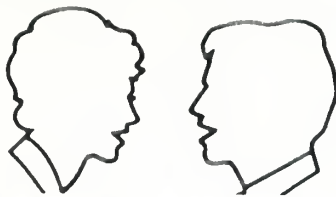
double benefit when the organization's loblolly pine annual improvement rate is added to the benefits. "We have the same public service 10 percent improvement rate for loblolly pine on an additional 30,000 acres for Georgia reforestation," said Pohl. "Of course, this doubles economic benefits to private landowners and the state's economy to \$1.5 million a year."

Projecting similar future benefits, Pohl pointed out that a new Commission seed orchard, now being developed on the Flint River, will begin producing seedlings in the next seven years. "This will add still another 10 percent to the improvement rate for 30,000 acres - that would bring total financial benefits to Georgia Forestry to over \$2 million a year," Pohl said.

Pohl emphasized the Commission public service tree improvement program is particularly important to Georgia's private (non-industrial) tree growers because the genetic improvements sought by industry differ from those necessary to meet the statewide needs of landowners.

"Private industry focuses tree improvement on a very concentrated base of objectives," Pohl explained "simply because they know where the trees will be planted and the exact rotation cycle," Pohl said. "We (the Commission) place an emphasis on more genetic diversity of improvement so the needs of landowners in locations throughout the state will be covered. It's sort of like a diversified portfolio - covering a lot of bases so break in one or two chain links will cause no great harm in improvement production."

PEOPLE



IN THE NEWS

SPENCER MCGRAW, district ranger, Rome, who came with the Commission in 1961 in the Cherokee County Unit, retired July 31. Many co-workers and other friends honored the retiring ranger at a dinner at the Palladium in



MCGRAW



REASONOVER

ome. McGraw was made assistant ranger of the Paulding County Unit in 1963 and served in other areas before moving to his Rome assignment in 1984. He is a native of Haralson County and a graduate of Bremen High School. He attended West Georgia College for two years. McGraw and his wife, Juanita, and sons, John and Joseph, attend the United Methodist Church...BILL REASONOVER, a native of Camden, South Carolina, and a graduate of Clemson University, is now forester and chief ranger of the Commission's Johnson County Unit. Reasonover, who succeeds Marvin Water in the post, was supervisor of the lumber division of Westvaco Corporation's Summerville, S. C. opera-



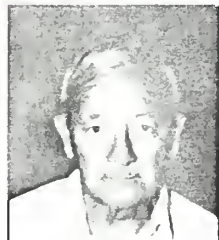
HENSON



SANDERS

ons for four years. The new ranger is a member of the First United Methodist Church of Wrightsville. He participates in the triathlon in Georgia and in his native state...BOB HENSON, who came with the Commission in 1981 as forest patrolman with the Columbia County Unit, is now chief ranger of the McDuffie County Unit. Henson trans-

ferred to McDuffie in 1987. A native of Louisville and graduate of Louisville Academy, he served with the Marines in Vietnam during 1969-70. His commendations include safety awards and a letter from the governor for assistance on a Western Fire Crew. Henson is a member of the National Guard, VFW, and American Legion. He attends the United Methodist Church in Harlem...Forester BUFORD SANDERS, a graduate of the University of Georgia, came with the Commission in June and has been assigned to the Washington District office to work in reforestation in Warren and Taliaferro Counties. Sanders is a native of Albany, but grew up in Chamblee. He served as an intern in the Athens District while completing his education at UGA. The new forester is married to the former Miss Teri Fallaw of Athens and they are members of the Baptist Church...



BENNETT



KENERLY

HOMER BENNETT, Chief Ranger of the Lamar-Pike-Spalding Unit since 1984, was recently honored at a retirement dinner in Griffin. The ranger, who came with the Commission as a patrolman in 1969, was praised for his performance in directing activities of the big, tri-county unit. Bennett and his wife, Mary Lou, have three children and four grandchildren...JEFF KENERLY was named Chief Ranger to succeed



BENNETT



HERRIN

Bennett. A native of Carrollton, he came with the Commission in 1988. Kenerly received an associate degree in marketing and forest technology from Abraham Baldwin Agricultural College. The new ranger and his wife, April, live in Pike County...Commission employees and other friends of SHARON BENNETT will gather in Waycross for a dinner in early October to honor the Waycross District Secretary. She retired in August to end a 34-year career with the Commission. The retired secretary, a native of Ware County and a graduate of Wacona High School, lives in Waycross with her husband, Andrew. They have two children...GLORIA HERRIN, who formerly worked with the Department of Family and Children Services in Waycross succeeds Bennett in the secretarial post. She and her husband and their two children live in Manor and the family attends Zenith Baptist Church.

SOCIETY HONORS GEORGIAN

A Macon resident is among the ten recipients of the 1993 Honor Awards presented by the Soil and Water Conservation Society at the national organization's 48th annual meeting held in Forth Worth, Texas.

Elsie Todd Daniels, a retired Macon school teacher and the only Georgian to receive the award, was recognized for her commitment to educate children of all ages on the importance of conservation practice.

Daniels has been certified in intercultural understanding and recently returned from Moscow,

KILN COURSE SCHEDULED

A short course on Quality Drying of Construction Pine Lumber will be held November 1-2 at the Georgia Forestry Commission in Macon.

The course concerning southern yellow pine high temperature dry kilns is sponsored by the University of Georgia Cooperative Extension Service, the Georgia Forestry Commission and the University of Wisconsin Extension Service.

Following the two-day basic course, a seminar on tools for Total Quality Management in Kiln Drying will be held November 3.

For additional information, contact Julian Beckwith, Wood Products Specialist, University of Georgia Extension Service, Athens, GA 30602. Phone (706) 542-3446.

Tree planting represents a wise investment, but in some cases, it's an unselfish endeavor. You might not be around for instance when the trees you plant this year reach maturity and the timber is ready for a profitable harvest, but someone will. Perhaps someone close.

Quality seedlings are available at Commission nurseries and now is the time to make that investment for the future.



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Macon school students enjoy a hayride as part of a tour of Sandy Creek Christmas Tree Farm in Twiggs County. Many growers now promote tree sales with tours, Santa appearances, storytelling sessions and other events.

PUBLIC URGED TO PURCHASE FRESH GEORGIA-GROWN CHRISTMAS TREES

If your family is among the 36 million that will buy a real Christmas tree this year you can do so with a clear conscience that the tradition is both "environmentally correct and even patriotic," according to the National Arbor Day Foundation.

Growers who own the more than 200 Christmas tree farms throughout Georgia will readily agree with that assumption. They have been urging buyers for years to settle for nothing less than a fresh, home grown tree.

The Georgia Christmas Tree Growers Association encourages the public to purchase a tree at one of the many "choose and cut" farms or from a sales lot supplied by a local grower. While some of the larger growers wholesale their trees after Thanksgiving, many promote an annual family tradition by inviting buyers to the farm and in some cases provide entertainment in keeping with the season.

Georgia farms range from those that grow a few hundred trees to highly mechanized farms that grow and harvest up to 50,000 Christmas trees annually. Virginia pine continues to be the main crop of almost every farm, with red cedar as the second most popular species. White pine, Leland cypress, Norway spruce, blue spruce, Scotch pine and Fraser fir are also grown on some farms, but in limited numbers.

According to the National Christmas Tree Association, 90 percent of all Christmas trees are grown on some 15,000 plantations, many of which are family operations. The tree farms are found in all 50 states and employ 100,000 people full or part time.

The association points out that artificial trees, on the other hand, are generally manufactured in Korea, Taiwan and Hong Kong, and are usually made of non-biodegradable plastics and metals.

The national organization, which includes many Georgia members, also emphasizes that for each real Christmas tree harvested, two to three seedlings are quickly planted in its place. Since young trees in their rapid growth years have a high rate of photosynthesis, just one acre of Christmas trees produces the daily oxygen requirement for 18 people. With approximately one million acres dedicated to Christmas tree production in the U. S., this translates to oxygen for 18 million people every day.

ON THE COVER - Commission photographer Billy Godfrey focused on this ice coated Georgia pine near Jackson in the dead of winter.

Two Georgia state agencies are cooperating in a project that would possibly provide a solution for some landowners who are realizing conflicts in managing their timberlands in association with red-cockaded woodpecker (RCW) colonies.

The Georgia Forestry Commission and the Wildlife Resources Division of the Georgia Department of Natural Resources (DNR), are proposing the development of a statewide Habitat Conservation Plan (HCP) benefiting both the birds and the landowners.

Meetings are being held to obtain public input on a Habitat Conservation Plan for the endangered red-cockaded woodpecker, according to the Georgia Department of Natural Resources and the Forestry Commission.

"The presence of the woodpecker on private land can present financial hardship to forest landowners wishing to develop or extensively harvest their forest land," said Larry Thompson, Endangered Species Coordinator of the Commission's Forest Management Department. "Landowners need a process which will ensure their rights and benefit the birds as well." DNR wildlife biologist Jim Ozier and Thompson said public input will help in the development of a plan that will attain that goal.

The first meeting was held at McRae and other sessions are scheduled for January 13 at Darton College, Albany, and January 27 at Herty Auditorium, Dixion Memorial State Forest, Waycross. The meetings begin at 7:00 p.m. For further information call toll free 1-800-GA TREES.

Populations of the small black and white birds declined to such an extent that it was listed by the U. S. Fish and Wildlife Service in 1970 as

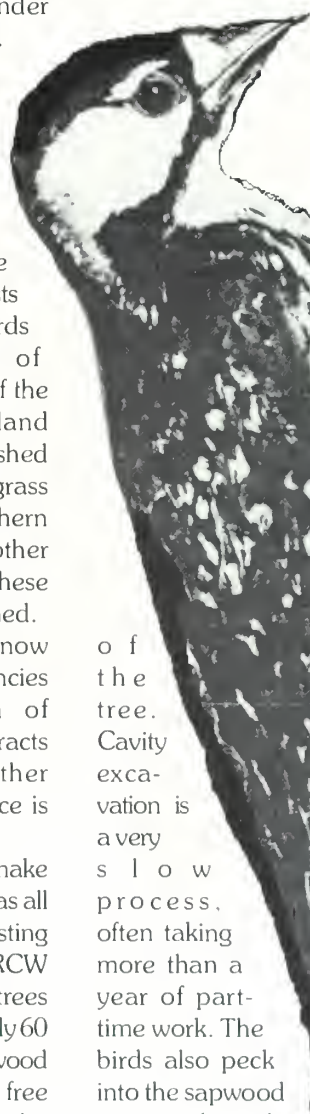
an endangered species because of a genuine threat of extinction. The protection came under the Endangered Species act in 1973, making it illegal to harass, harm, shoot, trap, kill or capture the bird. Protection also came under Georgia's Endangered Wildlife Act.

The federal act posed a hardship on some landowners, as the bird inhabits some mature forest tracts ready for harvest. Most of the red-cockaded woodpeckers, however, are presently found on federal government lands, including wildlife refuges, military bases, national forests and other protected areas. The birds were once common residents of Georgia's coastal plains and parts of the piedmont area, but as various land management practices have diminished the fire-climax longleaf pine/wiregrass community and open mature southern yellow pine forests, the bird and other animals and plants associated with these habitat types have drastically declined.

The Habitat Conservation Plan now being proposed by the two state agencies would involve the relocation of woodpeckers from some isolated tracts of private lands to public or other protected lands where their presence is desired.

Several characteristics of the bird make them unique and vulnerable. Whereas all other woodpeckers excavate their nesting and roosting cavities in dead wood, RCW use only living pine trees. These trees must be of sufficient size and age (usually 60 + years old) to contain enough heartwood for a suitable cavity. The heartwood is free of the sticky resin that oozes from the pines' sapwood. The birds prefer pines with red heart, a fungal disease that causes heartwood decay, making cavity excavation easier.

They must first peck through the tough sapwood, however, to reach the interior



of the tree. Cavity excavation is a very slow process, often taking more than a year of part-time work. The birds also peck into the sapwood surrounding the cavity entrance to create an area of resin flow that probably serves to deter predators and competitors. Once a

(continued on pg. 22)

A
POSSIBLE
SOLUTION

RED-COCKADED WOODPECKERS AND PRIVATE LANDOWNERS

BY JIM OZIER

NON-GAME SPECIALIST, GEORGIA DEPARTMENT OF NATURAL RESOURCES



Gone are the days when rural Georgians have to stand by helplessly when fire strikes their homes or barns. Many country residents now have modern fire protection that rivals services provided for those who live in cities.

RURAL FIRE DEFENSE

By Howard Bennett

When the old farm bell in rural Georgia rang at noon, it was "dinner time," and when it sounded again at dusk, field hands knew it was "quittin' time," but when it shattered the quiet of the countryside at any other time, it meant FIRE or some other disaster and neighbors came running from miles around.

That was yesterday.

Thanks to a statewide program administered by the Georgia Forestry Commission, the old bell has given way to a sophisticated radio pager system and well-trained volunteers with modern firefighting equipment have replaced neighbors who usually fought losing battles against burning farm houses and barns.

When a fighter plane crashed near Pearson on a May morning, scattering fire and debris that destroyed one home and battered several others, volunteer firemen from four departments were quick to respond and are credited with saving several structures. It was dangerous duty, as the plane was carrying ammunition and six bombs.

A train was moving along a stretch of track in rural Pierce County on a Sunday afternoon when a ruptured fuel line caused a fire to suddenly erupt in the locomotive. Fortunately, the train was near the Bearville Fire Department and volunteers from that county station extinguished the blaze that could have heavily damaged or destroyed an extremely expensive piece of railroad

equipment.

The old gymnasium at Southwest Georgia Academy near Damascus was made of heart pine and when it caught fire, probably from faulty electrical wiring, volunteers knew it was futile to try to extinguish the inferno, but they did save four adjacent buildings, including the main classrooms and a library. Fred Haddock, farmer, one of the founders of the private school and a volunteer fireman, said value of buildings saved was "between \$400,000 and \$500,000."

The fires are just three of the thousands fought across the state each year by the 750 Rural Fire Defense (RFD) stations now operational in 145 Georgia counties. Georgia's RFD program, designed to protect property against fire in the broad

rural areas, crossroads farm communities and in some small towns, began in the late 1960's. The RFD program was established to help communities obtain adequate firefighting equipment and training for volunteer firemen. The program concerns structural, motorized equipment and miscellaneous fires that cannot be extinguished, of course, by fire plows, the Commission's primary defense against forest wildfires.

Today, it is a widespread protection endeavor that sets Georgia apart from all other states. Several others are building a system of rural fire protection, but no other state can match Georgia's network of fire departments that respond to thousands of fires annually.

Basic training in firefighting is offered to volunteers by the Georgia Fire Academy at the Georgia Public Safety Training Center in Forsyth, and arrangements are often made for the course to be taught at local fire stations.

The Commission had realized for years that the small water tanks on forest rangers' pickup trucks were inadequate for fighting most rural structural fires and when a congressional act cleared the way for the state agency to receive excess military property through the U. S. Forest Service Cooperative Fire Control Plan, the RFD program was aunched.

Don Freyer, RFD Coordinator for the Forestry Commission, said "we started slowly back in the 1960's in creating this program of protection and for several years we had to be content with working almost solely with federal excess equipment, mainly trucks, which we obtained for counties interested in establishing rural fire departments."

The Commission set up shops in several county forestry units and personnel, when not engaged in fighting forest fires or attending to other essential duties, built steel tanks that are mounted on the surplus trucks. They installed pumps, finished the necessary plumbing and then painted the newly fabricated fire trucks. The finished product, called a "fire knocker," is equipped to draft water from lakes, rivers or other bodies of water in the proximity of a fire. The fire trucks are leased to a county or community on a 50-year basis.

"Our people have to be welders, plumbers, mechanics, automotive electricians, pipefitters and painters to build the fire knockers and other equipment," Freyer said. "Some who had these skills when they came with the Commission have taught others." A special shop was built at Commission headquarters in Macon in recent years to augment the unit shops and handle the more difficult and technical work.

Now that RFD is well established in all sections of the state and rural residents are more appreciative of the protection it affords, some counties and other entities are becoming less dependent on the Commission. Some, through taxation, cost-share programs or other means, are buying new trucks and having

the Commission build and mount tanks on the chasis and install front mounts to create Class A pumpers.

Freyer said, however, that "the durable Fire Knocker, with its 950-gallon tank, continues to be used in most of the rural fire stations and, of course, we're still building them."

Although some federal, state and county money is involved in initially establishing the fire departments, Freyer said many of the volunteer firemen and their families raise money locally to build firehouses, buy breathing apparatus and protective clothing, and provide general maintenance of equipment.

Roger Browning, the Commission's Urban Interface Fire Coordinator, points out that shortly after the program was started it became obvious that "it was not only bringing fire defense to long neglected areas, but it was also bringing rural people closer together socially." He explained that those involved in RFD work together to hold fish fries, auctions, bake sales and other fund-raising projects to benefit their departments. In Sale City, a small South Georgia community, such activities paid for a fire station, complete with modern kitchen, and now proceeds are going toward purchase of a second truck. The firehouse is the social center for the small town and outlying farm



This home battered by debris caused by the plane crash near Pearson was burning when RFD units arrived on the scene to extinguish several fires in the area.



Mennonites who conduct annual bake sales to support their volunteer fire department in Macon County are representative of many communities that sponsor fund-raising events to keep their firefighting equipment in top condition.

communities and the department sponsors fall festivals, Easter egg hunts and Christmas parties, but the activities never get in the way of keeping equipment and personnel in readiness for the next fire.

Some of the most devoted firefighters and successful fund-raisers are the Mennonites of Macon County, members of a religious order founded in Holland in the 16th Century. The master farmers and dairymen moved to the area from Virginia 40 years ago and turned worn out cotton land into lush pastures and grain fields. When RFD was introduced, they went about organizing their fire department with the same zeal exhibited in establishing their model farms.

The most popular and profitable event held by the Mennonites to support their fire budget is an annual "all you can eat" feast and bake sale which is held each November at their firehouse. This year, more than 1,300 persons paid \$6.00 for the food prepared by the Mennonite women. In addition, the Mennonite men hold an auction of farm equipment and tools in Montezuma

each spring to raise needed funds.

"There is always a need for money to keep rural fire departments in top condition," Browning explained. "Water hoses deteriorate, pumps and truck motors have to be repaired, ladders and tools undergo rough treatment at fires and have to be replaced and firehouse utility bills have to be paid."

Oglethorpe County, a rural area of three small towns and a half dozen farm communities, is one of the more active in the RFD program. There was a time when residents could do little more than stand by and watch fire consume a country home, cotton gin or crossroads store, but today more than 150 trained volunteers attached to eleven fire stations stand ready to tackle fire even in the most remote areas of the county.

A volunteer from the county's Sandy Creek Fire Department remembers when citizens first started raising money to buy used trucks and build fire houses. "We had a barbecue that brought in \$1,475," he said "and the wives had a big part in it." Freyer is quick to point out, however, that "wives participation in RFD is not

limited to working in benefit barbecues and other fund-raising projects. Many are well trained volunteers who fight fire alongside the men."

One of the current problems confronting the Commission is the increasing number of homes being built in heavily wooded areas, especially mountains of North Georgia where rugged terrain makes forest fire suppression very difficult.

"Big Canoe, a development in the foothills of the Blue Ridge Mountains is an example of that type of situation," Browning said, "But the five RFD departments and the close cooperation of some 400 residents in the resort area have greatly alleviated the problem." He said a master management plan, including emergency escape routes, detailed communications instructions and other pertinent information has been worked out by the commission for the RFD units in the event a major fire strikes the area. Browning said it is the kind of comprehensive plan that is being utilized in similar areas.

All calls that come into RFD departments don't concern fire; when needed, the volunteers respond to other emergencies. Kenny Calhoun, Director of Dooly County's Emergency Management Agency and Fire Coordinator, said he always will remember the RFD participation in the dramatic rescue of a log truck driver pinned in the wreckage of his vehicle for almost four hours.

"When we arrived on the scene about ten miles east of Vienna," Calhoun said "the trailer load of logs was in the ditch and the truck cab was upside down, with the driver pinned in and one of his legs impaled by a steel rod." The coordinator said that when the call came from the sheriff's office, he feared fuel from the truck's tanks might ignite, so three RFD departments were dispatched. Although the fire didn't occur, the firemen and personnel from other emergency units had plenty of work to do, according to the accident report. Two surgeons were on the scene to treat the driver after he was carefully extricated from the twisted metal by utilizing special rescue tools.

Freyer said there have been a number of responses in which RFD department

around the state have come to the rescue of persons in floods, storms and other disasters.

Although RFD volunteers are not trained to fight forest fires and are not obligated to assist Commission rangers in battling woods fires, they are often on the scene to attend interface situations that extend out of the woods fires. Several RFD departments recently worked several days to help the Commission subdue a stubborn peat bog fire near Adel.

"We can always count on the RFD people," Freyer said. "They have always been helpful in many different occasions."

The RFD coordinator said it is difficult to place a true value on all property saved from fire by the departments, but based on the latest annual reports filed by the 740 stations on the 14,454 calls answered, the figure exceeds \$109,915,000.

When Rural Fire Defense came to Pickens County in 1985, farmer J. A. Townsend, one of the organizers of the department in the Hinton Community, recalled a time during his youth when a faulty flue set fire to the wood-shingled roof of his country home. "Daddy saw it in time," he said, "and he leaned a ladder against the house and me and my brothers and sister carried buckets of water up to the fire and put it out." He said the family was lucky, as country fires were usually not detected in time and help was often too far away. There were times when the old farm bell was of little help.

That was yesterday.



COMMISSION PERSONNEL TRAIN ENGINEERS IN FIREFIGHTING

District 6 Commission personnel completed their second training session for U. S. Corps of Engineers at Strom Thurmond Lake in Columbia County. The second session, completed by 27 Corps of Engineers members, was requested after a similar 1990 Training meet held in District 6 resulted in positive evaluation response from all Corps members completing the course.

Pete Allen, senior ranger of the Commission's Harlem Unit, was in charge of training that consisted of eight hours of classroom and five hours live fire training. Other Commission District 6 personnel assisting Allen with instruction included: Senior Ranger Reggie Morgan, Chief Ranger Bill Dawkins, and Reforestation Forester John Colberg.

The specially requested training session was conducted through the Commission's statewide RFD training that assists in instructing personnel throughout Georgia. Don Freyer, Commission RFD coordinator for the state, said it is gratifying to interact with other agencies and provide wildland fire training as a public service. Freyer said similar training for the Corps of Engineers was provided by the Commission in Elbert County.

Pete Allen, who trained both District 6 Corps of Engineers classes, said the request for a second training session from large outside agency shows the training is working well. He said the course, modified to meet the needs of Corps members, is designed to teach basic guidelines of brushland fire control with handtools. Areas of instruction include: fire weather, fire behavior, tactics, communication, and chain of command.

"This is a safety first training operation," Allen emphasized. "We take all precautions to assure the safety of all participants. There are firebreaks - either natural or plowed lines - and a comprehensive written plan on how the burn will be conducted." Allen added that he often limits trainees to half-hour actual work sessions with live fire because of the strenuous work and intense heat.

According to Commission safety guidelines for the course, one Commission employee is designated as safety officer and emergency ambulance services are notified of exact locations and times of training.

Although firefighting with handtools may seem a simple process to the uninitiated, there is a definite procedure, chain of command, and defined use of a variety of handtools that must be followed for an effective, safety first operation. Crew organization varies according to density of brush, trees and grass.

For instance, crew organization for line control of fire in heavy brush consists of a foreman who moves up and down the fire line directing operations continuously. The foreman is responsible for crew safety, location, and progress. He maintains appropriate contact with the sector chief. Each handtool also has a specific use in the critical environment of a brush fire. Brush hooks are used to cut entry. Pulaskis widen fire lines. Shovels cool hot spots, trench, and scatter brush in the burn area. Axes chop heavy material. Some of these tools change in use as the fire line changes. A tool boy (or swamper) is present on the crew to carry a shovel and knapsack as required by the foreman.

Wildland types of fire situations are covered in Commission instruction. Training provided by the Corps of Engineers is considered unusually valuable because of the positive interaction of agencies in protecting large areas of Georgia land under jurisdiction of the U. S. Corps of Engineers.

GEORGIA FFA TEAM THIRD NATIONALLY

A Georgia FFA Forestry Team has won 3rd place in national competition at the 66th National FFA Convention held in Kansas City, Missouri.

The Bleckley County High School FFA Forestry Team won the national honor under the direction of Cliff Paulk of Cochran. Team members included Stewart Thigpen, Dwayne Havard, Jonathan Braswell, and Scott Carr.

The Bleckley County team, that won the Georgia FFA Forestry Finals competing against 20 teams in Macon, matched skills with 36 winning teams from other states for the national contest. Arkansas won first place and West Virginia came in second.

Don Register, Georgia Department of Education Area Forestry Teacher, who is one of three state FFA forestry coordinators, said the Georgia winners displayed exceptional skills in national competition. He added that the Bleckley County team, like other Georgia teams that have competed nationally, were retrained for different events and perspectives of forestry competition on a national level. Georgia FFA forestry teams have placed in the top three nationally, in the past nine years of competition.

According to competition guidelines, the National Forestry Contest annually tests student skills and knowledge in forest management. Competition segments include: a general forestry knowledge exam, tree and equipment identification, forest-business management problem, timber cruising skills, timber stand improvement, map interpretation compass practicum, tree and forest disorders, and chainsaw troubleshooting.

2,000 TREES GIVEN TO CARTER CENTER

Georgia-Pacific recently donated more than 2,000 loblolly pines to the Carter Center in Atlanta for use in their landscape projects. The three-foot pine line the executive entrance to adorn the Presidential Parkway and are used in various locations around the facilities.

The center recently won the 1992 Outstanding Civic Organization Award for its on-going efforts toward tree preservation and planting.



GOLDEN ANNIVERSARY OF SMOKEY BEAR COINCIDES WITH RESCUER'S 90TH BIRTHDAY

By Bill Edwards

EDITOR'S NOTE: As part of the 50th Anniversary of Smokey Bear celebrations, the Georgia Forestry Commission has scheduled the Smokey Anniversary Hot Air Balloon to be in Macon during the annual 94 Cherry Blossom Festival. The balloon will be featured and a birthday cake cutting ceremony will be held on March 25 at Macon's Central City Park from 3:00 to 5:00 p. m. The Commission has invited Governor Miller to attend this event.

Georgia's other appearance of the Smokey Balloon is scheduled for the Southeastern Forest Festival in Patterson, April 9-10.

This year's 50th anniversary of Smokey Bear and the 90th birthday of his rescuer, Homer C. Pickens Sr., coincide for a New Mexico birthday party that received front page coverage by the Albuquerque Journal and national coverage by the Associated Press.

Homer C. Pickens Jr., a retired full colonel of U. S. Army Intelligence said, "We knew there would be some coverage of the party because my father's name is prominent in New Mexico, but we never expected anything this extensive." Pickens Jr., now working as senior legal assistant for the Augusta, GA law firm of Knox and Zacks, remembers well the now

famous rescue of the little burned bear cub that grew up to be an international image second only to Santa Claus in recognition.

An estimated 100 guests, including numerous dignitaries, Pickens children, grandchildren, great grandchildren, and Smokey himself (actually a ranger in a Smokey suit - but the kids didn't mind) attended the event. The Pickens' birthday party serves as a prelude to numerous events planned nationwide to celebrate Smokey's Golden Anniversary from October 1993 to August 1994. Anniversary activities will culminate with a celebration in Washington, D. C. on August 9, 1994.

If the attention attracted by the Pickens' birthday party is any indication, the nationwide series of anniversary events will give Smokey all the credit he deserves for a half century of service.

"Actually," said Pickens Jr., "it was not my father, personally, who lifted the bear from the burning tree. He had assigned men from his department to help fight the massive forest fire, and one of these men picked up the injured bear and gave it to a game warden. That's how the whole story of Smokey started."

At the time, summer of 1950, Pickens Sr. was assistant director of the New Mexico Department of Game and Fish. An 18,000 acre fire was burning in the

Capitan Mountains of the Lincoln National Forest near Roswell, New Mexico. Pickens assigned personnel from his agency to fight the growing blaze. The fire grew to such intensity that numerous agencies and private citizens were involved in the firefighting. Even the U.S. Army from Fort Bliss, Texas, were called out with specially trained firefighting crews of Mescalero Indians.

Pickens Sr. devotes an entire chapter of his autobiographical book *Tracks Across New Mexico* to the raging mountain fire and rescue of the bear cub. Copyrighted in 1980, the book is now out of print and a highly sought after collector's item. Chapter 14 relates that Speed Simmons was in charge of a crew of firefighting soldiers assigned to one side of Capitan Mountain when the fire crowned and passed over them. The crew escaped being burned alive by flattening themselves among the rocks and covering their heads with handkerchiefs soaked with canteen water.

After the fire passed over, they heard a squealing sound and discovered a singed bear cub clinging to a small oak tree. The cub's feet were so badly burned that he would have died without medical attention; there was no trace of a mother bear or any other cubs. Simmons removed the cub and carried him to a

fire camp where Ray Bell, also serving with Pickens department as a game warden, examined the bear and then flew it to Santa Fe and took the injured cub to a veterinary hospital. The Bell and Pickens families eventually took care of the bear until it was fully recovered and developed what Pickens Sr. remembers as an "ornery disposition." The bear stayed in Pickens' home for about a month while recovering.

CELEBRITY

During his recovery period, the little cub became increasingly popular with local residents and adults. Warden Bell and Pickens Sr. came up with the idea of using the bear as a living symbol for the Smokey Bear fire prevention image that was established in the early 40s. The original Smokey image had been established shortly after Pearl Harbor when forest protection agencies became alarmed over loss of personnel to the Armed Services and defense plants.

Since statistics showed that more than 90 percent of forest fires were caused by human carelessness, it had been felt that an educational program was necessary and the Smokey image was created as part of the program.

Now, Bell and Pickens Sr. offered their concept of a real live Smokey the Bear

to the U. S. Forest Service through the new Mexico Department of Game and Fish. The idea moved rapidly through the ranks and plans were made to fly little Smokey to Washington, D. C., where dedication ceremonies would be held and he would be provided with a new home at Rock Creek Zoological Gardens. Having been rescued from certain death, the newly recovered little Smokey was now to be provided with the best of everything - including a special diet and swimming pool.

Publicity mushroomed and none other than Mr. Piper, manufacturer of the Piper Cub aircraft, provided a plane to fly Smokey to Washington. Santa Fe artist, Jim Young, painted the plane's fuselage with a picture of Smokey during the flight from Santa Fe to Washington. Flight stops included Amarillo, Tulsa, Kansas City, St. Louis, Louisville, Cleveland, Cincinnati, and Baltimore. The crowds grew larger with each stop.

In St. Louis, the group was greeted with a black limousine to take them to the Chase Manhattan Hotel. On the third day, the group landed for their last stop in Baltimore, where Smokey was taken to a veterinary hospital for a routine examination. Smokey checked out fine; celebrity status apparently agreed with him.

On the final morning of the journey,

Smokey and his group flew into the Washington airport in a heavy rainstorm. In spite of rain, they were greeted by a large crowd and great fanfare. Senator Dennis Chavez and Pickens Jr. (then with the Federal Bureau of Investigation) were among the first to greet the group.

Pickens Sr. recalls that little Smokey, who weighed only 10 pounds, remained the center of attention. "I had to wear buckskin gloves because he had a tendency to bite when I least expected it," Pickens Sr. said. "My primary responsibility, I thought, was to protect Smokey. But as it turned out, I had to protect his admirers more often."

NEW HOME

Smokey thrived in his new home and people came from all over the world to visit the living symbol of fire prevention. He grew to be a large bear - a strapping 300 pounds of symbolic message that spread around the world. In 1962, the U. S. Department of Agriculture sent Smokey a bear girlfriend ("Goldey") to produce an heir to Smokey's title, but the relationship failed to produce a little Smokey.

Meanwhile, Smokey's influence seemed to spread everywhere. He even has had his own zip code. In one instance, he appeared in a celebrity

Rare 1950 photo shows Smokey's rescuer, Homer C. Pickens, Sr., displaying recovered cub at Washington D. C. airport before placing him in new zoo home complete with swimming pool. Homer C. Pickens, Jr., now senior legal assistant with Augusta law firm, holds umbrella so that rainy and unattractive Mr. Pickens Sr., now 90, is still an active conservationist.



cookbook that listed his favorite recipe (blueberry cake). In the cookbook, Smokey shared the spotlight with such celebrities as John Wayne, Bob Hope, Lawrence Welk, and Mrs. Richard (Pat) Nixon.

Another indication of fame is when the National Enquirer takes notice. Two years before Smokey died, the Enquirer, having heard of his failing health, could not resist running a story on the subject.

PASSING

Smokey lived much longer than others of his species. The black bear (*Ursus Americanus*) usually lives 10 to 12 years in its natural wild habitat. Smokey lived to be 27 years old. When he passed away on November 8, 1976, arrangements had already been made for the final resting place to be his native mountains in New Mexico.

Once again dignitaries gathered, and most of the faces would have been familiar to Smokey. The body was flown from Washington to Albuquerque, with plans to drive to Capitan for the burial. However, even in death, Smokey's celebrity status was attracting attention - this time undesirable attention - and alterations had to be made in the original burial plans.

It was rumored that a plan was underway to hijack Smokey's body, remove the claws and sell them for for a large sum of money. No actual threat ever developed and nobody ever knew if there was any truth in the rumor; but at the time, no chances were taken. When the plane carrying Smokey landed in Albuquerque, a detachment of New Mexico State Police were waiting to escort the body back to Capitan.

The police escort traveled through a cold and clear New Mexico for three hours. It was dark when they arrived at the burial place and armed state police directed headlights on the site as Smokey was buried.

As the grave digging silently progressed, two semi-inebriated deer hunters wandered out of a dim bar across the road and came over to investigate. When they were told what was happening, both offered assistance and



Homer C. Pickens, Sr. prepares Smokey for flight from Santa Fe, NM to Washington, D.C. Although publicity was widespread and crowds increased with each stop, no one suspected this "ornery" little bear would become international symbol second only to Santa Claus in recognition.

helped lower Smokey into the grave.

When it was over, one of the Texans said, "Nobody is ever going to believe we helped bury Smokey Bear."

SMOKEY LIVES ON

Today, Smokey's image lives on in a nation of children being educated in the wisdom of forest protection. A large granite stone with Smokey's name marks his grave. Pickens Sr., now 90, who retired as director of the New Mexico Game and Fish Department, went on to work an additional 15 years as conservation officer for the U. S. Atomic Energy Commission at Los Alamos; many years have passed, but he still remembers that burial day of Smokey in detail. "I am proud to have played a small role in the story of Smokey," Pickens Sr. said.

Smokey seems to have made an

indelible impression on everyone who encountered him. Pickens Jr. remembers in particular an incident in 1966. Pickens Jr. was home on leave, between military tours in Vietnam, when he went with his father to visit Smokey in the Washington zoo, children were throwing peanuts to the bear when he suddenly looked up. "He looked straight at my father," Pickens Jr. said. "It would be a wild stretch of the imagination to sense that there was any recognition by the bear - but I saw it - and it was very touching to me. It may have been imagination, but it is still real to me."

But it was Homer Pickens III, now 28 and working in Washington for the U. S. Department of Defense, who perhaps best summed up the family ties between his grandfather and Smokey. "My grandfather is synonymous with Smokey," said Pickens III. "They both take on a bit of the same identity."



GEORGIA'S TRAPPING PROGRAM YIELDS VERY FEW GYPSY MOTHS

Seventeen college students serving as Georgia Forestry Commission summer interns have been driving the roads in 84 counties Georgia and hanging cardboard gypsy moth traps on tree limbs.

They have completed the 1993 gypsy moth detection program by placing almost 10,000 traps throughout the wide area, an effort that resulted in the capture of 44 male moths.

The program is designed to discover introductions of gypsy moths into Georgia from surrounding infested states. Gypsy moths and egg masses were found in White County in July of 1991 and these finds were the result of an artificial introduction; someone accidentally brought egg masses down

from one of the northeastern states.

Two spray projects have been conducted in White County. In 1992, approximately 5,250 acres were treated with the aerial application of *Bacillus thuringiensis* (BT) and 1,937 acres treated the following year. A negative moth catch in the region during 1993 indicated a successful eradication.

Commission Entomologist Terry Price said 18 moths and three egg masses were discovered in Fannin County. The GFC personnel will delimit a twenty-square-mile area around the egg mass finds to determine the exact location of the infestation. Other moths were caught in Fulton, Lowndes, Clarke, Hart, Chatham, Glynn, Habersham and Camden Counties.



The dreaded moth is spread from one area to another mainly by vacationers and other travelers from infested states. Egg masses, moths and caterpillars are often transported on motor homes, campers and other recreational vehicles, causing the insects to establish new homes in campgrounds, picnic sites and other forested areas.

Oak leaves are the caterpillars favorite food and they have seriously damaged or destroyed thousands of acres of hardwoods in the New England states, where they have been established for many years.

A regulation now requires that all outdoor household items moved from high risk areas into or through non-regulated areas must be free of gypsy moth life stages - eggs, caterpillars, pupae and adults. The owner of the items is responsible for making sure he or she is not moving a serious pest problem along with the household articles.

A brochure published by the U. S. Department of Agriculture makes this appeal to residents in moth-infested areas:

"If you live in areas where the gypsy moth is prevalent, you know the damage the leaf-eating caterpillars can cause. They defoliate trees and shrubs, giving summer scenes a barren winter look. Gypsy moths have defoliated up to 13 million acres of trees in one season. They cause untold annoyance-crawling on homes, littering lawn furniture and pools, and making outdoor activities miserable...Recent studies show that most new isolated infestations of the gypsy moth were started from egg masses transported on outdoor household article - garbage cans, lawn furniture, firewood, children's toys-any item accessible to the female moth at egg laying time... Don't

WANTED

The Georgia Forestry Commission is seeking a small sawmill to add to the collection of forestry-related machinery, equipment, tools and other artifacts now on display at the Georgia Forestry Museum on the grounds of the Georgia Forestry Center in Macon.

The mill would not have to be operational; it could be a static display to show museum visitors how lumber is manufactured. An old steam-driven mill would be ideal, but any small mill would be appreciated.

A plaque denoting an individual or family donating the mill to the museum will be permanently displayed next to the machinery.

Please contact the Forest Information and Education Department, Georgia Forestry Commission, Box 819, Macon, Georgia 31298 (Phone 912/751-3530) if you can make such a contribution or have information on someone who might make the donation.

be responsible for moving an old pest to a new neighborhood."

Price said that "although we are presently keeping a close surveillance on the European gypsy moth here in Georgia, the Asian gypsy moth is now of great concern in some areas of the United States and Canada." He explained that the Asian variety spreads faster than the European insect and could cause much greater damage to Georgia's hardwoods if it becomes established in the state.

The adult female European gypsy moth does not fly, but its Asian counterpart does fly and may lay an egg mass up to 25 miles from where she lived as a caterpillar. The Asian gypsy moth could elude the conventional monitoring efforts used for European gypsy moths. It also eats a greater variety of hardwood and coniferous trees than its European cousin. Hybrids of European and Asian gypsy moths may have the same troublesome traits as the Asian gypsy moth.

Asian gypsy moths were found in and around Wilmington, North Carolina, in July. The source of the infestation was a cargo ship carrying ammunition from depots and bases in Germany.

Germany is experiencing the largest infestation of gypsy moths since World War II, and reports indicate that outbreaks are occurring in other European countries as well. As more military equipment and personnel return to bases in the United States, the chance is greater that unwanted gypsy moths could be introduced into uninfested parts of the United States.

The end of the Cold War means increased foreign trade-and an increased chance that problem pests will be imported.

Forest pest specialists from the U. S. Forest Service and Animal and Plant Health Inspection Service are working with Russian counterparts in eastern Russian port cities and their environs to set up monitoring programs for the Asian gypsy moth.

The Animal and Plant Health Inspection Service is using an exclusion strategy to prevent ships originating from

(continued on page 17)



Numerous dignitaries attended the dedication of a \$6 million building at University of Georgia's Daniel B. Warnell School of Forestry. Participating in the ribbon cutting ceremony are left to right: Robert L. Izlar, Executive Director of Georgia Forestry Association and past president of Warnell School of Forest Resources Alumni Association; L. A. Hargreaves, Jr. Dean Emeritus; Representative Thomas B. Murphy, Speaker of the House; Klaus Steinbeck, Professor of Forest Resources; Arnett C. Mace, Dean; and Charles Knapp, UGA President.

SCHOOL OF FOREST RESOURCES DEDICATES NEW BUILDING ADDITION

The University of Georgia's \$6 million building addition to the Daniel B. Warnell School of Forest Resources complex was dedicated in a fall ceremony with Speaker of the Georgia House Tom Murphy as keynote speaker.

Other speakers at the dedication included UGA President Charles Knapp; Robert Izlar, president of the Warnell School of Forest Resources Alumni Association and director of the Georgia Forestry Association; and Klaus Steinbeck, a professor in the forest resources school.

Arnett C. Mace, Jr., dean of the Warnell School, also spoke at the dedication. "The new addition to the Forest Resources Complex provides space essential for quality instruction, research, and service programs to more effectively manage Georgia's valuable forest resources," Mace said. "The new

classroom, offices, and modern laboratories will greatly enhance contributions of the school's faculty, staff and students to management of forest for economic, social and environmental values."

Following the dedication, held on the patio connecting old and new buildings, guests toured the facility and attended a reception in the lobby of the new building. Forest resources research, teaching and computer support sections were included on the tour.

Located on south campus, the new brick building is connected by three walkways to the original three building forestry complex. The annex includes extensive teaching facilities, research laboratories, one large classroom, conference rooms, and offices. More than 60 faculty members, staff, and graduate students are housed in the building.



Mike Crane judges Wide Dimension competition at Annual Timber Products Fall Grader's Contest in Orangeburg, SC. Georgia Southern yellow pine manufacturers were among 19 companies from three states competing in the annual event. First and second place awards were won by Georgia's Union Camp.

GEORGIA PINE MANUFACTURERS COMPETE IN GRADING CONTEST

Georgia Southern Yellow Pine manufacturers were among 19 companies competing at the recent Annual Timber Products Fall Grader's Contest hosted by Cox Wook Preserving of Orangeburg, SC. Dale Todd and Barry Bennett, of Georgia's Union Camp, won first and second place awards.

The 68 graders, including participants from North Carolina and South Carolina mills, competed for \$1,700 in cash awards and a First Place Trophy. Contributions for awards were made by participating mills and friends of the industry.

The four contest categories included: Narrow Dimension, Wide Dimension, Board Competition and a written test. Three places were awarded in each category.

Individual winners for Narrow Dimension competition included: First - Dale Todd, Union Camp, Meldrim, GA; Second - John Grant, Georgia Pacific, Columbus, GA; Third - Chris Stewart,

Ingram Lumber, Effingham, SC;

Wide Dimension category winners included: First - Bruce Moore, Ingram Lumber, Effingham, SC; Second - Barry Bennett, Union Camp, Meldrim, GA; Third - David Clark, Federal Paperboard, Johnston, SC.

Board Competition winners included: First - Mike Torte, Ingram Lumber, Effingham, SC; Second - Chris Stewart, Ingram Lumber, Effingham, SC; Third - Robert Washington, Coastal Lumber, Walterboro, SC.

Winners in the written test category included: First - Barry Bennett, Union Camp, Meldrim, GA; Second - David Clark, Federal Paperboard, Johnston, SC; Third - Mike Torte, Ingram Lumber, Effingham, SC.

Ingram Lumber's Mike Torte won the overall individual competition by having the best accumulative score in all categories. Torte, Bruce Moore and Chris Stewart were awarded the team trophy for highest accumulative score.

FLOOD PLAIN TREE PROJECT UNDERWAY

A tree planting project extending 22 miles along creek flood plain areas in Dekalb County was started in mid-November to stabilize soil, expedite plant cover, enhance natural plant regeneration and provide wildlife food source, according to the county's Public Works Department.

The planting project, to extend through February of next year, is being carried out by the department's Water and Sewer Division and Environmental Development Section, in cooperation with the U. S. Army Corps of Engineers. The reforestation work is aimed at "re-vegetating the construction easements" along Dekalb County outfall sewer projects.

Species to be planted will include cherry bark oak, possum hawthorn, swamp chestnut oak, overcup oak, shagbark hickory, persimmon, autumn olive, paw paw, chickasaw plum, sugar berry, pecan, bitternut hickory and wax myrtle. Liner material with rigid seeding protectors will be used to provide maximum survivability.

CENTER RENOVATED ON BRASSTOWN BALD

There is something new at the highest point in Georgia.

The visitor center located at the very top of Brasstown Bald has been in existence for several years, but now the interesting interpretive exhibits detailing the cultural and geological history of the area have a brand new look. There's everything from talking robots to a model mountain railroad locomotive.

The U. S. Forest Service hosted a grand opening celebration recently and Ninth District Congressman Nathan Deal kicked off the festivities with a keynote address.

U. S. Forest Service officials said Brasstown Bald offers plenty to do for families. Visitors can see four states and there are several hiking trails that leave from the parking area to the top. Brasstown Bald is located on Georgia 180, south of Blairsville.



Forest Rangers Phillip Talley, left, and William Couch of the Commission's Dawson County Unit, two of several who worked to restore the big log cart, stand before the prized relic before it is placed on display in the museum.

ANCIENT LOGGING EQUIPMENT RETRIEVED FROM RIVER BED

A scuba diver exploring the depths of the Flint River near Bainbridge in the spring of 1990 came upon two mammoth wooden wheels half submerged in sand and beneath 20 feet of water. It was the discovery of an object that is now proudly displayed in the Georgia Forestry Museum.

Camilla District Forester Greg Findley said the diver told him of the find and with the use of a barge, a crane borrowed from Decatur County and the efforts of Commission personnel and several volunteers, a logging cart dating back to the turn-of-the-century was carefully retrieved from the river bed.

"The big hubs of the wheels were in good shape and so were the spokes that were buried in sand," Findley said, "but most of the parts exposed to the flow of the water over the many years were pretty well worn away." Archaeologist Lewis Larsen advised the district forester and his personnel on further preserving the cart made of heart pine by periodic

spraying with linseed oil and turpentine. They also began a search for quality wood to replace parts that were not salvageable.

The cart - or log skidder - has wheels seven feet in diameter and was used to lift one end of a large log or two. The vehicle was pulled to the sawmill by a team of oxen. The sturdy, high-wheeled carts were widely used in logging operations in colonial Georgia and into the early years of this century. The cart salvaged from the Flint River is believed to have been in use 90 to 95 years ago.

"After our district personnel located and seasoned suitable replacement wood," Findley said, "we found we didn't have adequate shop equipment to fabricate the needed spokes and other parts, so it was all sent to the Dawson County Unit where facilities were available."

Chief Ranger Jerry Barron of the Dawson Unit said the cart arrived in his county this summer on a flat bed trailer and personnel of the unit and the Dawson Demonstration Forest Office began to custom make parts and reconstruct the log cart.



Skidding logs by mule team in Georgia in 1903.



Chief Ranger Terry Herrin helps students identify trees on the school's recently created nature trail. Below, students attend a program at the outdoor theater.

WOODED AREA NEAR SCHOOL BECOMES OUTDOOR CLASSROOM

A serene wooded area adjacent to Patterson Elementary School is now a pleasant learning center for 386 students and the principal is giving personnel of the Pierce County Forestry Unit much of the credit for "making it happen."

Chief Ranger Terry Herrin and others from the Commission helped establish the popular Project Learning Tree Program in the school in 1991 and that's when Principal Joy Williams, Herrin and others began discussing the idea of developing a teaching facility in a natural setting.

The idea caught on and soon money, materials and volunteer labor began coming in from local and area sources. A Rural Development Authority grant helped kick off the project and the donation of money, lumber, concrete, paint, hardware and other materials from 21 businesses assured its success.

The school principal suggested an amphitheater as an outdoor classroom and Ranger Herrin convinced Williams and the other planners that a nature trail should be included in the learning center.

A rustic sign now proclaims the area an "Outdoor Classroom, Amphitheater, and Nature Trail." The trail winds about 600 feet through the woods and is bordered on both sides by cypress logs. Signs identify dozens of tree and shrub species and point out squirrel and bird nests along the way.

The principal said the school is grateful to the many individuals and companies for their generosity and interest, but she had special praise for Ranger Herrin and his personnel. "The forestry people have been very helpful," Williams said, "We had to go to them many times for advice. We could not have made it without them."

Commission personnel assisting Herrin in the project were Ranger Charles Cooper and Tower Operator Pam Brooks from his unit, as well as several employees from the Bacon and Brantley County Units.

The ranger said the entire community has taken an interest in the outdoor attraction and school officials said groups other than students are also invited to use the facility. Several other area schools have visited the outdoor classroom and it is expected to be a model for those interested in building such a facility.



GYPSY MOTH

(continued from page 13)

easter n Russian ports from entering U. S. ports until they can be inspected and certified free of Asian gypsy moths. The traps set out in Georgia are of folded cardboard construction. They contain sex-attractant strips and a sticky substance to attract and capture male moths.

"We plan to use about 10,000 traps in forests in about half of the state next year," Price said, "in our continuing effort to stay abreast of this problem."

The entomologist said landowners and other Georgians can identify the gypsy moth if they better understand the insect's life stages.

The gypsy moth goes through four stages of development—egg, larvae (caterpillar), pupae (cocoon), and moth. It has one generation a year. Overwintering egg masses are attached to trees, stones, walls, logs and other outdoor objects, including outdoor household articles. Each gypsy moth egg mass contains up to 1,000 eggs and is covered with buff or yellowish hairs from the abdomen of the female. The velvety egg masses average about 1-1/2 inches long and about three-fourths of an inch wide, but may be as small as a dime in some situations. In Southern states, eggs begin hatching in late March.

Price said "we are pleased that our trapping program is successful and, of course, thankful we are not faced with a full scale invasion of the moth into our state." He warned, however, that vacationers and other travelers from infected states could drastically change the status of moth populations in Georgia unless caution is exercised.



This symbol represents the program to prevent the spread of gypsy moth on outdoor household articles.



Foresters plant memorial tree while Mrs. McArthur, landowners look on.

TELFAIR LANDOWNERS HONOR ORGANIZER OF ANNUAL MEET

The Telfair County Landowners Meeting was held again this fall, but this time the agenda included a solemn ceremony: a live oak was planted on the grounds of the Telfair County Forestry Unit and dedicated in memory of the late Franklin McArthur.

McArthur, retired chief ranger of the unit who died this year, was the founder of the landowners organization some 20 years ago. The popular supper meeting at the forestry unit nine miles south of McRae deals with a wide range of forestry and allied topics and has an annual attendance ranging from 35 to 80 landowners.

District Forester Grady Williams of the Commission's Helena District presided at the tree dedication and others on the program were Forester Harry Graham, Chief Ranger Guy Bland of the Telfair Unit, and Roger Browning, Rural Fire Defense specialist.

Williams said McArthur coordinated a program to conserve, protect and perpetuate the forest resources of Telfair County and was always willing and eager

to serve the landowners. He said the live oak "planted the second day of November, 1993, is an expression of our gratitude for one who served his fellowman so well."

Five area banks and businessmen cosponsor the annual meeting.

McArthur came with the Georgia Forestry Commission as a forest patrolman in Montgomery County on August 2, 1956. He was promoted to ranger in Telfair County on March 3, 1957, where he served until his retirement on September 30, 1982.

DR. MILLER HONORED

The Southeastern Society of American Foresters has granted its 1993 Excellence in Forestry Research Award to Dr. James H. Miller, research forester with the U. S. Forest Service Experiment Station, Auburn University.

The award recipient worked with the Georgia Forestry Commission ten years ago by directing a research program to control kudzu. The methods developed during that study continue to be the recommended practice.



HAMPSTERS REVEAL SOBERING KUDZU POSSIBILITY

An unruly bunch of boozing hamsters have provided some definite proof that certain extracts from kudzu - a prolific vine that has been choking Georgia's forests for decades - may be highly effective in treating alcoholism, according to Harvard Medical School.

Harvard researchers prescribed kudzu extracts for the party animals and found many of the little beasts voluntarily went on the wagon. The Harvard study points out this is no small accomplishment for this type of hamster. The Syrian Golden hamster, used in the project, prefers alcohol to water. When these little drinkers are provided with the opportunity to really go on a binge, their alcohol consumption rate (when compared with human consumption capacity) escalates to 40 times that of the typical town drunk.

The project established these facts by offering the hamsters dishes of pure drinking water and water solution with 15 percent alcohol, the hamsters eventually ignored the pure water and said bottoms-up to the mixed drink.

What Prompted Study?

Dr. Bert L. Vallee of the Harvard Medical School and his colleague, Wing-Ming Keung, collected research information on the use of kudzu and found Asian doctors have been using derivatives of the vine to suppress alcohol cravings since 200 A. D. Vallee said a kudzu concoction, used in China and Japan for centuries, is taken as a tea.

The Harvard researchers identified the active ingredient in the tea as daidzin, which they synthesized and injected into 71 of the alcoholic hamsters. Results were immediate: the tiny drunkards cut down on their alcohol consumption by more than 90 percent and were rendered

potentially suitable and productive members of the hamster society.

Vallee said the kudzu drugs tested by Harvard did not affect the appetite of the hamsters and seemed to produce no toxic reactions. Harvard researchers are now testing the kudzu compounds on other animals for possible toxicity.

Kudzu Paper

Kudzu, an Asian vine that grows extremely fast, was imported into the U. S. early in this century to provide possible livestock food and prevent erosion. Soon, however, it was recognized that the rapidly spreading plant was very difficult to control, as it draped vines over woodlands and fields, choking out trees and vegetation in Georgia and other states.

Now, however, Georgia's kudzu is being viewed as offering possible benefits from several perspectives.

There is even speculation that kudzu might be a paper making source of the future. Dr. Jeffrey S. Hsieh, director of Pulp and Paper Engineering, is enthusiastic about the potential. Hsieh points out that although the vast majority of paper produced in the U. S. uses wood fiber as a base, non wood fibers are used to produce such things as cigarette paper and dollar bills.

Like other researchers in the paper field, the Georgia Tech researcher is motivated by the belief that demand for paper may someday exceed the supply of trees. "Kudzu can be made into paper," Hsieh said. "The quality is not so good - which is as we expected - but we never expected kudzu to be used to replace wooden fibers, rather as supplemental components."

ARBOR DAY POSTER CONTEST ANNOUNCED

All fifth grade students in the state are invited to compete in the 1994 Arbor Day Poster Contest, a project sponsored by the Georgia Forestry Commission and the Georgia Project Learning Tree in cooperation with the National Arbor Day Foundation.

Sharon Dolliver, assistant chief of the Commission's Information and Education Department and state coordinator for the contest, said the principal objective of the project is to increase students' awareness of the importance of diversity in the urban and country forest.

The coordinator said contestants must be students who are currently in the fifth grade. The posters can be done in crayon, marker, watercolor, ink, acrylic or tempera paint and must relate to the theme "Trees are Terrific...Up Close and Personal!"

The school winner will be eligible to compete in the state contest. The state winner will receive a \$100 U. S. Savings Bond and plaque from Georgia Project Learning Tree, and will be invited to participate in a Georgia Arbor Day Ceremony. The second and third place winners will receive a \$75.00 and \$50.00 Savings Bond, respectively.

The state winner's poster will be forwarded to the National Contest. The national winner, his/her teacher and one parent will be guests of the National Arbor Day Foundation for Arbor Day in Nebraska City, Nebraska. Activities include invitations to the National Awards Banquet. The national winner will also receive a \$500.00 savings bond from The Foundation.

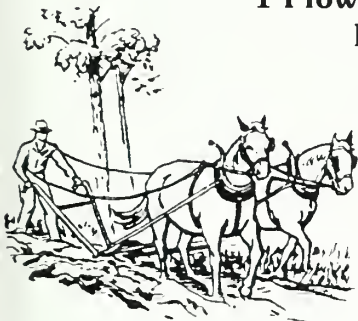
Deadline for the contest is January 31, 1994, and the winning entry from schools must be received at the Commission's state headquarters on or before that date. Address posters to Sharon Dolliver, Georgia Forestry Commission 5645 Riggins Mill Road, Macon, Georgia, 31020. Call Dolliver's office (912/751-3530) for additional information.

LOOKING BACK

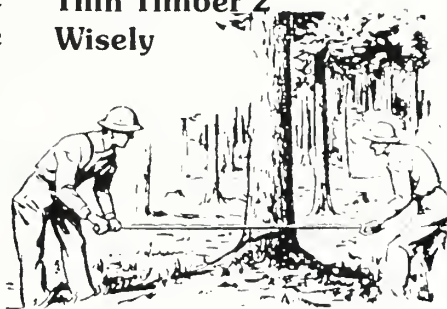
This was an effective poster in its day, an era in Georgia Forestry before the horse-drawn plow gave way to the crawler tractor, and the chain saw and feller buncher replaced the crosscut saw. A fence law finally curtailed roaming cattle, the dibble and the mobilized tree planter also helped make the poster obsolete.

4 ways to insure your future

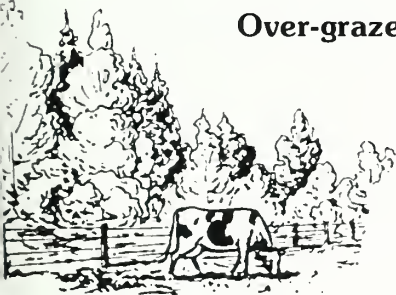
1 Plow Fire Lane



Thin Timber 2 Wisely



3 Don't Over-graze



Plant New Trees 4



NEW TECHNOLOGY PRODUCES SUPERIOR WOODEN CULVERT

A Commission-constructed culvert near Griffin in Spalding County indicates the current demand in Georgia and nationwide for increased use of wood products in this specialized technology.

Constructed on a tract of demonstration forest property that has become a popular Forestry Field Day site, the engineered culvert is built with preservative treated Southern yellow pine. A stream crossing in the forest was made permanent by addition of the culvert and a roadway.

The environmentally beneficial culvert measures 28 feet long and 8 feet wide - with a cross section producing

4 ft. X 4 ft. X 28 ft. sections. Factory fabricated into sections, the panels were interlocked at the site and erected by utilizing hand labor and a backhoe. Commission personnel from local units constructed the rectangular configuration with an earthen overlayer to allow all types of vehicular traffic, including log trucks, fire equipment, and other emergency vehicles.

Treated lumber used throughout the culvert construction will not decay, or permit termite infestation. The wood is impervious to freezing or thawing, and water cannot rust the construction. The culvert's flat bottom is an excellent

avenue for water flow and movement of fish and amphibians along the stream's length. Additional stream treatment included use of rock riprap to slow and direct stream flow and overseeding with grass and mulch to hold soil. Overseeding establishes a non-erodible cover for bare soil around the construction site.

The primary reason for construction of the wooden culvert was to make a section of the forest readily accessible; this section of woodland is needed to demonstrate scientific forest management techniques. Since the demonstration is expected to be an ongoing activity for many years, Commission officials made the decision to install an environmentally beneficial stream crossing that would last many years and provide a safe point of traversal.

While there is not a Georgia firm currently producing culverts from state resources, Commission officials emphasized the potential exists for such an enterprise - and the Spalding County construction furthered technology transfer of the concept. Although wooden culverts are not limited to Southern yellow pine, it is often the species of choice among manufacturers due to its economical cost, availability, strength, and receptiveness to preservative treatments.

An increasingly important fringe benefit in using wood for stream crossings is that it allows carbon to be stored long-term in the wood structure that has been treated to prevent deterioration; the practical application of this knowledge is enormous. For instance, it is estimated that a wood framed house stores more than 14 tons of carbon. Culverts and other treated wooden structures have a similar capacity to trap carbon and prevent it from escaping into the atmosphere and converting to carbon dioxide - which could contribute severely to global warming.

This factor emphasizes again that it is becoming increasingly recognized by the consuming public that wood products are the most environmentally responsible building material in the world - and the resource is renewable.



While the hand held drip torch remains the most popular fire setting device for prescribed burning, at left, methods have been devised for more efficient burning of large areas. The aerial ignition equipment at right makes short work of large acreages by applying ignition devices from a helicopter. Small balls filled with acid are injected with antifreeze with the ensuing chemical reaction being fire. Balls are distributed in a grid throughout to allow each ignition to burn for only a short period before reaching an adjacent burned area.

COMMISSION TESTING PROVIDES FIRE MANAGER CERTIFICATION

Series of Meets Scheduled

Smokey Bear's 50th Anniversary marks a half century of protecting the nation's forestlands against wildfire; but controlled fire can be beneficial to woodlands when used as nature intended. The frequently misunderstood practice of prescribed burning is gaining acceptance following passage of the Prescribed Burning Act.

The Commission is scheduling a series of meetings throughout the state to certify qualified applicants as prescribed burn managers. Sessions are currently set for March 9 at Valdosta State University and for May 19 at Augusta Tech. Other certification meetings will be scheduled at various locations across the state and will be announced when scheduled.

Alan Dozier, associate chief of the Commission's Forest Protection Department, described sessions held recently at Macon, Rome and Statesboro as "very successful." He said the certification program was initiated last year following the Georgia General Assembly's enactment of the Prescribed Burning Act, which recognizes prescribed fire as a valuable forest management tool and an integral part of the Southern pine ecosystem.

"This program is very useful for a practice that is often misunderstood," Dozier said. "Goals of the certification program include honing the skill of

prescribed burn practitioners to allow them to continue to practice burning in an environment of increasing population and regulation in the state. Although the law does not require a person to become certified to practice prescribed burning, it allows the Commission the opportunity to provide those interested with higher learning achievement on the subject," he pointed out.

Program guidelines were set by a committee of private, industrial and government foresters. "The certification program is not a training session to teach individuals how to prescribe burn," Dozier emphasized. "It is a certification process to identify and register those who already know how to burn."

Prerequisites for applicants include the applicant being the person in charge of at least five prescribed burns and having at least two years experience in the field of forestry, or having completed a University-sponsored prescribed burn workshop. Applicants do not have to be foresters, however, as technicians, landowners who practice burning, and forest rangers may apply.

Materials and subject matter chosen by the Committee emphasize areas where improvement is needed. Prescribed burn plan writing and smoke management is emphasized throughout the instructions

because these are the areas where most practitioners are lacking in ability.

Qualifying applicants are mailed a study manual and given a one-day refresher session before taking the certification test. Those who score 70 percent or more on the test receive a numbered certificate and a wallet certification card.

The study manual is divided into 11 chapters; each aimed towards improvement in the practice. Chapter titles include: the written plan, weather and fuel considerations, Georgia's weather forecast, firing techniques, smoke management, fire behavior, public relations, avoiding common problems, safety, and regulations.

Dozier said the primary long-term objective of the program is to clarify and correct public misconceptions concerning prescribed burning. "If we can become better burners and more adept at explaining the process and advantage to the general public then we can gain support for this valuable forest management tool," he said. "Promotional emphasis on fire prevention has created a misconception that fire is bad. This is a serious misunderstanding of the fact. Nature and the environment depends on fire in many of the southern ecosystems."

For more information, contact any Commission office or call 1-800-GA TREE.



BORN IN 1903 AND STILL PLANTING TREES IN 1993

LANDOWNER MAINTAINS 165-YEAR OLD HOMESTEAD

The James Kelly Family owned 22,000 acres of rolling hills in Glascock County in the 18th century and as soon as the virgin longleaf pine was cut from a tract of timber, the land was given away.

Some of the heart pine that was so plentiful in that era can be seen today in the construction of the big two-story plantation house the family built 165 years ago on a hill about two miles northwest of the town of Gibson.

Hardwick (Pete) Harris, the present owner and lone resident of the antebellum home, delights in showing the old house to visitors. Although some necessary renovations have been made down through the years, most of the 165-year-old building has not been altered. Some of the planks in the walls are 17 inches wide. A local historian claims it was "the only painted house in North Georgia" for many years.

Harris, who was born in the house in 1903 and has outlived five brothers, two sisters and two wives, said the Kelly and Harris families are the only ones to have occupied the big house. His father, Sherman Harris, obtained the plantation house, several well-built barns and 5,000 acres of surrounding land before the turn of the century.

Harris said all the pine land was not cut over and "when I was a child we had portable sawmills to come on our land and cut lumber." He said he also

remembers when his father "had 25 to 30 men out in the woods cutting railroad cross-ties" with hand tools.

Parcels of the Harris Plantation have been sold from time to time, but the present owner retains 787 acres and most of that land is in timber.

"The last time I sold some timber was about 20 years ago," Harris said. "Only sold trees 12 inches and up and got a fancy price and I made sure the logs were hauled out of the woods on small carts that wouldn't skin the trees left standing."

Harris said he had a buyer to make an offer on some of his trees about four

years ago and "it was about \$300,000, but I decided to let the trees keep on growing."

Although he celebrated his 90th birthday in September, the landowner continues to make long range plans in his forests. He planted 40 acres in pine seedlings just three years ago.

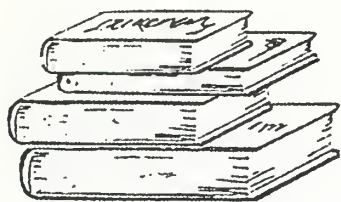
"Mr. Harris is a good landowner to work with," said Ranger Marvin Usry of the Glascock County Forestry Unit. "We keep good firebreaks around his property, and assist him in any way we can. He is always appreciative."



Homeowner and Ranger Usry in front of plantation house.

BOOK REVIEW

"Tree Maintenance"



by

P. P. Pirone, J. R. Hartman, M. A. Sall, and T. P. Pirone. Oxford University Press, New York, NY \$49.95

Tree Maintenance has been considered for the past 40 years to be among the definitive of guides for maintaining North American landscape trees.

The new edition also includes an extensive section on how to diagnose and control tree diseases. This valuable segment also focuses on such problems as construction damage, gas injury, sunscald, and air pollution.

The second half of the 514-page book concentrates on systematic listings of major landscape trees found in North America; diseases and pests most likely to attack each species are described. Also included are listings of relatively problem-free tree species. There is even a breakdown of species that may be suitable for situations adverse to most species.

Site evaluation is also thoroughly covered in relation to soil, drainage, and exposure. After the site is properly selected - detailed information is provided on pruning, fertilizing, and spraying for pests.

Clearly written, well organized, and beautifully illustrated with many new photographs - this comprehensive volume is an authentic encyclopedic resource. From elms and dogwoods to redwoods and magnolias - the information is available at the turn of a page. Anyone seriously interested in trees will consider this Sixth Edition to be an indispensable resource guide.

cavity is completed, it will be occupied for many years. The cavity trees of all members of a group are clustered together on a few acres. The circular two inch cavity opening is usually on the south or west facing side of the tree.

The woodpeckers roost and nest in the cluster of cavities. During the day, they work on additional cavities and as a group search for insects, millipedes, spiders, etc. on the trunks and limbs of pine trees. Most of this activity takes place within 1/2 mile of the cavity trees.

The social arrangement of the bird is also unique. Most other bird family units are temporary and consist of the parent birds and their offspring during the nesting season. They often disperse or migrate afterwards. These woodpeckers, however, live in year-round resident groups of up to nine birds. Each group contains only one breeding pair; the rest are helpers, usually male offspring from previous seasons. If the male breeder dies, one of the helper males will take over. The female offspring disperse during the fall or winter after fledging. If lucky the juvenile females will find bachelor males somewhere nearby and form new breeding pairs. However, females dispersing from isolated colonies will find it difficult to encounter suitable habitat, much less another member of their species. Also, once a resident breeding female dies, she might never be replaced by an immigrating female from another group, so the group may cease to reproduce and eventually die out.

A few isolated groups of birds still exist in mature pine stands scattered on various tracts of private land. However, as these areas are cleared or begin converting to hardwoods because of lack of fire, the woodpeckers and other inhabitants are vanishing. These displaced birds generally will not survive if there are no areas of suitable habitat nearby.

As responsible managers and stewards, landowners should strive to maintain biodiversity for continued existence on some of the few areas where birds remain. This benefits present and future generations and the environment as a whole that we all depend upon for survival. Through sound forest stewardship,

economic benefits can be realized while maintaining ecologically functional forests.

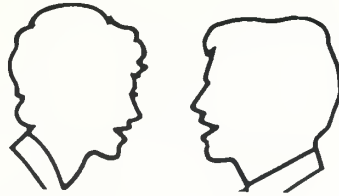
Although isolated groups of birds on small, scattered tracts of private land are probably living on borrowed time, landowners with occupied habitat are encouraged to maintain their land as such if possible. However, in some circumstances, this will not be practical. Recommended restrictions on timber harvest can present significant financial sacrifice. If a tract is providing only a marginal quantity of habitat, any further removal of timber could make it unsuitable for continued survival of the woodpeckers, and might result in a violation of the ESA. A possible solution to extreme situations is to relocate the birds to a more extensive area of habitat with birds present, such as government land. This would remove restrictions from the formerly occupied habitat and allow the birds to contribute their genetic diversity to the recovery of the species in a more stable situation.

In order to lessen the impacts on private landowners, the ESA provides for incidental "take" in some situations. The potential take must be minimized and mitigated, and incidental to an otherwise lawful activity. The take must not jeopardize the future of the species. In order to obtain an incidental take permit, the U. S. Fish and Wildlife Service must approve an application and a Habitat Conservation Plan that details protective and mitigative measures, and ensures funding is available to complete all necessary activities. A statewide plan would permit the state to remove birds from private land in some situations. Enough offspring would need to be relocated to start replacement groups for each group of woodpeckers affected. This might take 2-3 years.

The adults themselves would also be relocated eventually. Translocation of juveniles has proven successful in the past, but adults with established home ranges are less inclined to stay put when placed in unfamiliar surroundings. Once the red-cockaded woodpeckers have been relocated, restrictions on the land would be lifted.

PEOPLE

IN THE NEWS



CHIEF RANGER JOHN MANIOR of the Cook County Unit was honored recently at a retirement dinner attended by many friends and relatives. The ranger, a native of Berrien County, did sales work and served four years in the U. S. Air Force

relatives and other friends. The ranger, a native of Ware County and a graduate of Ware County High School, came with the Commission in 1962. He served in the Ware County Unit, Dixon State Forest and Pierce County Unit before transferring to the Clinch County Unit as chief ranger in 1973. The retired ranger and his wife, Betty, have five children and five grandchildren. The couple is active in the First Baptist Church of Homerville...

FORESTER DARRELL WELCH, a native of Mississippi who earned degrees in forestry from Mississippi State and Clemson University, has been assigned to the Tifton District Office, replacing FORESTER STAN MOORE, who transferred to the 12th District. The

WALKER, who was transferred to Wilcox County. Bland, a native of Telfair County and a graduate of the county high school, has a BA degree in biology from Georgia Southern University. He was quality control manager for a food processing company in Douglas before coming with the Commission in 1983. The ranger and his wife Lynn and children, Guy, Brett



Bland

and Traci, make their home near Jacksonville in rural Telfair County. The family attends the Carmel United Methodist Church...District Chief Ranger JIMMY

LEE, Waycross, was recently named exchange clubs in the South Georgia city. The ranger was honored at a banquet and presented a plaque and a check for \$500 by the club. Lee, who has been with the Commission 24 years, was cited for services "well beyond his required duties"

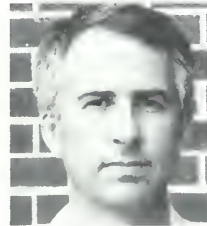


Manior



Rentz

before coming with the Commission in 1964. He was named ranger after one year as a patrolman. Manior and his wife, Delores have five children and eight grandchildren...The retired ranger is succeeded in Cook County by CHIEF RANGER LEVY RENTZ, a native of Valdosta who came with the Commission in 1988 and served in units in Talbot, Brooks and Lowndes Counties prior to his promotion. Rentz attended public schools in Valdosta and earned an associate degree in forestry and wildlife management at Abraham - Baldwin Agricultural College. The ranger and his wife Beth have a daughter, Casey...HEIDI KINSER, 15, a student at Pickens County High School, is the 1993 winner of the F&W Young Forestry Award and Scholarship. The annual



Welch



Henry

forester served Ben Hill, Irwin and Turner Counties...FORESTER BARBARA McCLENDON, A 1990 graduate of North Carolina State University, came with the Commission this summer and is now assigned to the Stone Mountain office and will be forester for North Fulton County. The forester, who grew up in Asheville, N.C., formerly worked at the Regeneration Center for the State of Oklahoma. McClendon and her husband, Brent, live in Forest Park...FORESTER WILL HENRY, a native of Erie, Pennsylvania, who earned degrees in forestry from Auburn University and Penn State University, began work with the Commission earlier this year and is assigned to the Tifton District office. He is the Commission's urban forester for Valdosta and is active in the Morningside Baptist Church in that city...GUY BLAND was named chief forest ranger of the Telfair County Unit earlier this year to succeed JACK

STREAM MONITORING STUDY UNDERWAY

The Forestry Commission is currently monitoring sediment in streams in 13 counties in a study to help determine the effectiveness of best management practices, means by which loggers, foresters and landowners minimize erosion from forestry operations.

Staff Forester Frank Green of the Commission's Management Department, who is in charge of the project that will extend through until next fall, said from one to five sites are selected from each of the counties and water samples are taken above and below streams where timber harvests or other forest activities have been completed.

The number of sites in a county are dependent upon the volume of wood removed from that county in a year. The purpose of this survey is to gather sufficient data regarding the quantitative impacts of commercial forestry activities on solids and turbidity levels of affected streams. Water samples are measured in a turbidimeter for sediment suspension.



McCleendon



Smith

award was presented by F&W Forestry Service, Inc. at the Georgia 4-H Congress in Atlanta...CHIEF RANGER FOSTER SMITH of the Clinch County Unit was recently honored at a retirement dinner attended by Commission personnel,



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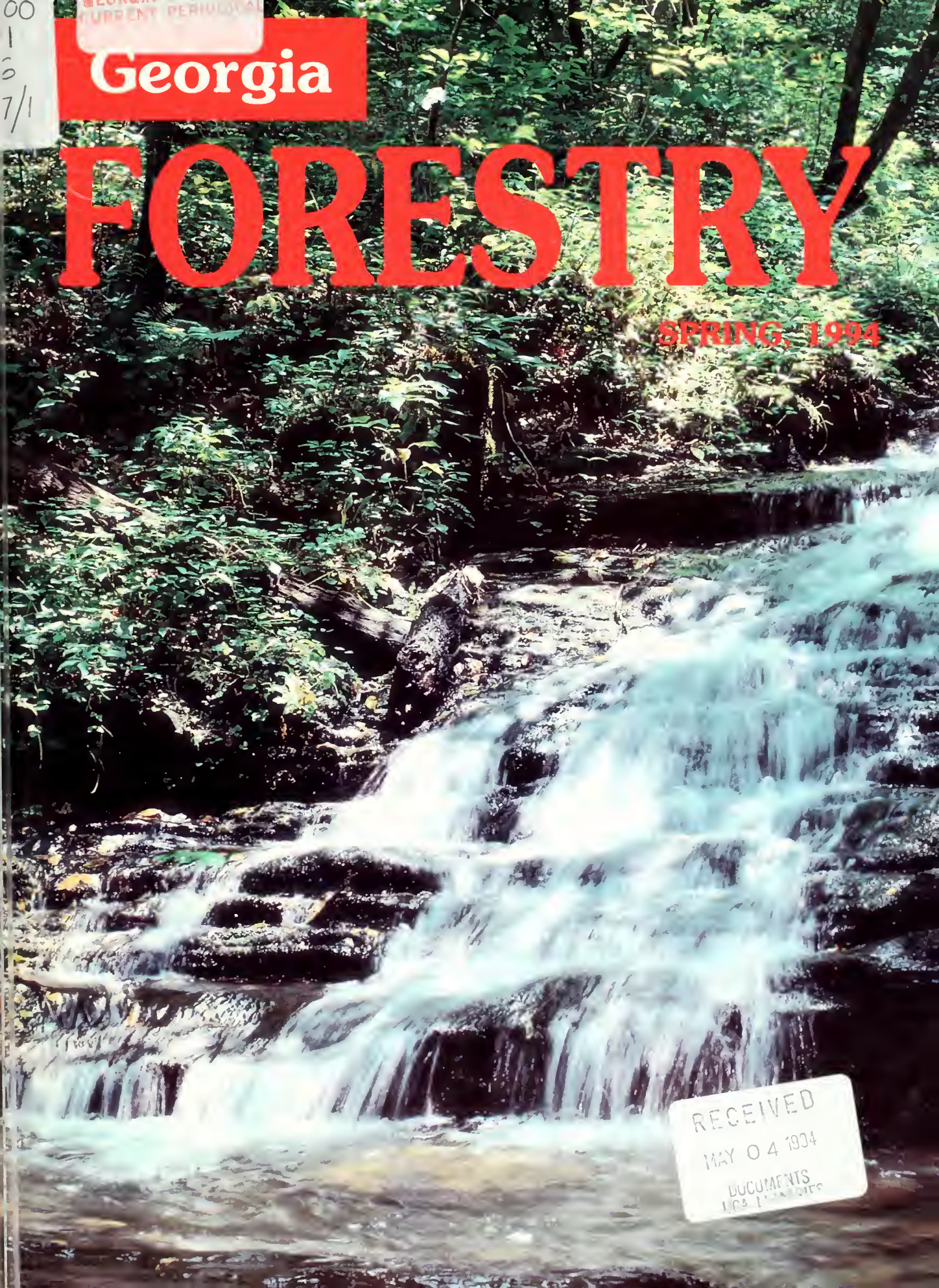
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Georgia Forestry Spring, 1994



The year was 1926 - 18 years before Smokey Bear made the fire prevention scene - when the U. S. Forest Service "Showboat" stopped at Mount Lebanon School in the Cherokee National Forest (now part of the Chattahoochee National Forest in North Georgia) to show black and white slides and present forest fire prevention material to the students. The old wooden school was in the Blue Ridge District, an area assigned to the legendary Ranger Arthur Woody. The colorful ranger, who typified many of the early-day forest rangers, is shown pointing to the poster over the school entrance. The Showboat was a bus converted into a traveling unit to help spread the fire prevention message.

ON THE COVER - The beauty of another early springtime enhances this clear stream in the Dawson State Forest and Commission photographer Billy Godfrey was on hand to capture the tranquil scene on film.

LYME DISEASE SUBJECT OF INTENSE UGA STUDY

Lyme disease, transmitted to humans by ticks, has caused most people to take extra precautions when frequenting Georgia's vast forestlands - mainly because there are no effective treatments when the disease has reached latter stages.

Frank Gherardini, a University of Georgia professor of microbiology, is working diligently to change the nature status of progressed Lyme disease. If the disease is not treated early, it progresses to a chronic, debilitating sickness affecting the joints and central nervous system. To make Lyme disease even more threatening, there are no reliable diagnostic tests or vaccines available.

SUITABLE TARGET

Gherardini, however, believes that identification of a protein on the surface of Lyme disease bacterium would be a suitable target for a vaccine and to design a reliable diagnostic test. According to Atlanta's Centers for Disease Control and Prevention, 7,760 cases of Lyme disease were reported nationwide last year; 43 of those cases were in Georgia. The lack of a reliable diagnostic testing suggests the disturbing possibility that an undetermined number of people may have the disease and not know it.

"The trick to designing a vaccine is figuring out which proteins to target," Gherardini said, "because this bacterium (Lyme disease) has the ability to change its outer surface

proteins to fool the immune system."

Gherardini's past research has also focused on bacteria causing disease. As a researcher at the University of North Carolina, he studied *Treponema pallidum*, the bacterium that causes syphilis in humans. This type of bacterium possesses capabilities of change similar to the Lyme disease bacterium.



Photo by Rick O'Quinn - UGA News Bureau.

In 1991, Gherardini joined the University of Georgia faculty and began his study of *Borrelia burgdorferi*, the bacterium that causes Lyme disease. Seventeen years ago, he was a chemist analyzing samples for a Illinois meat-processing company when a diving accident left him confined to a wheelchair with limited use of his hands.

NEVER GAVE UP

"A good percentage of people with disabilities just kind of give up, but I can't stand to be bored," Gherardini said. He changed careers and acquired two masters degrees and a doctorate that required manipulating complicated laboratory instruments with his hands.

"The number of people who have done this kind of work with disabilities like mine is almost nil," he said. "Everything I did as a graduate student and postdoctoral researcher. I had to figure out how to do. That was half the battle, figuring out new ways to do things."

Gherardini is currently applying this same type of drive and innovation to his Lyme disease research. If past accomplishments are any indication, a breakthrough could be on the way.

UGA Professor Frank Gherardini is conducting protein related research that may lead to breakthrough in vaccine or cure for Lyme disease.



Camilla District Forester Greg Findley, left, and retired farmer Paul Parker stand at one of the giant trees in a grove that was discovered by a movie company after a statewide search for the perfect setting for certain scenes in a movie.

MOVIE SCOUT SELECTS MITCHELL COUNTY OAKS

Paul Parker finds nothing unusual about the large grove of spreading oaks on his Mitchell County farm, but he said a location scout, combing the state for a forthcoming movie, "had a fit" when she discovered the mammoth, moss-draped trees.

The retired farmer admitted he was skeptical when first approached about the use of his land for scenes in a \$42 million motion picture featuring popular Hollywood star Kevin Costner, but now the Parker family is looking forward to the October release of "The War," a movie that will not only include scenes of their picturesque oaks, but will have Parker and sons Michael and William, alongside Costner, portraying migrant workers gathering potatoes in a field on the family farm.

FINAL SHOOTING

The plans for filming on the grove were made last summer, and shooting was not made until a couple of weeks in February of this year.

More than 100 people, including the production crew, Costner, child star Elijah Wood, and Director Jon Avnet, who directed "Fried Green Tomatoes," converged on the scene.

GOOD STEWARD

The director needed young trees for one particular shot and Parker accommodated him by providing five-year-old pines that were cut and stuck in the ground to create a temporary forest at the edge of the grove. Camilla District Forester Greg Findley, who described Parker as "a good steward of his land," said the retired farmer and tree grower was reluctant to sacrifice even a few young pines, although the cutting made only a "small dent" in his plantations.

The setting for "The War" is a small Mississippi town during the Vietnam War and a tree house in a large oak tree figures prominently in the plot. The most spectacular tree in Parker's Grove was seriously considered for the house, but the movie company finally settled on a tree in Beaufort,

South Carolina. The Carolina trees, however, didn't produce enough leaves to suit the moviemakers and a truckload of oak leaves in Parkers' grove were shipped to the site.

Although Parker provided the grove and an abundance of crisp, brown oak leaves requested by the producer and director, they came up with one order he couldn't fill. They needed 20,000 pounds of potatoes.

The ten tons of potatoes were shipped to the farm from out of state and scattered over a large field with furrowed rows as if they were being plowed up and harvested. Costner, Parker and his sons and several other locals were "migrant field hands" for a day. After the filming, the potatoes were given to the Salvation Army and other charitable organizations in the area.

SCOUT SAW GROVE

The Parkers' connection with the movie filmed by Pipeline Productions, which is backed by Universal Studios of Hollywood, all started when Michael Parker answered the door to a locations scout who said she was traveling on State Highway 97 enroute to Brunswick. She explained that she had spotted the oak grove and was interested in possibly using the land for a scene in a movie.

Parker's wife, Frances, said after the scout was given a tour of the woodlands, she contacted her producer and "he looked at the land and fell in love with it."

Maida Morgan, locations manager for the production company, said "the whole ambience of this oak grove captured us all. We had never seen anything like it. We sort of sit around and say this grove was made for this film."

Today, things are back to normal on the Paul Parker farm six miles southwest of Camilla. Cows again move through the oaks on the way to pastures and there is no trace that Hollywood once came to this peaceful grove and filled it with giant cameras and lights and other equipment as movie stars played out their scenes.



Forester Walker Rivers examines the giant condenser and boiler of the turpentine still to be restored and placed on display in the Georgia Forestry Museum.

Old Turpentine Still Donated to Museum

A valuable segment of Screven County's forestry history will be preserved for posterity by the Georgia Forestry Museum in Macon, thanks to the donation by Beatrice Pfeiffer of a turn-of-the-century turpentine still operated by her family.

The Commission plans to dedicate the still and erect a bronze marker in memory of Mrs. Pfeiffer's late husband, Bruno Pfeiffer, Jr., who died last year. Screven County history shows that Pfeiffer, Sr. settled in the Bay Branch area of Screven County in the 1800s. In 1898, he purchased a tract of Brier Creek, land near Brannen's Bridge.

Shortly after purchasing the

property, Pfeiffer, Sr. set up the turpentine still that would be donated to the Commission almost a century later. His company chipped three to four thousand acres of trees to operate the still; an acreage of this size was typical of similar still operations in the early 1900s.

Eventually, several thousand such small turpentine stills were established in Georgia. These smaller stills gradually became extinct in 1940s and were replaced by more efficient steam distillation plants.

These distillation plants were located in what was known as the naval stores belt that ran through the Gulf Coast

Of the thousands of steam distillation facilities that were developed, more than three fourths were located in Georgia. Not only were the distillation plants more efficient than the earlier models, but the facilities also produced a higher grade of turpentine.

Eventually, high-yield gum seedlings were developed to increase turpentine production.

Soon the spread of these new steam distillation plants made the old turpentine stills an anachronism - and very valuable collectors' item.

The Pfeiffer still produced approximately 75 to 80 barrels (50 gallons each) of crude gum per week. During the still's years of initial operation, turpentine was in much greater demand than rosin. As the years passed, however, the demand for gum rosin became much greater than turpentine.

Products of the Pfeiffer operation were hauled in handmade barrels to the Savannah River by mules and loaded on steamboats enroute to Savannah and Augusta. Barrels in which the turpentine was deposited

were made by John Robbins II, who operated the Pfeiffer still from 1901 until the operation closed in 1939. Robbins was a cooper (tradesman who made barrels) and was in charge of the cooperage shop adjacent to the still. In those days, stills often had their own in-house woodworking shop to make barrels and other wooden needs. Robbins' shop also made all bands that secured the barrels.

Although the building enclosing the still collapsed and deteriorated many years ago, the almost century-old coil and boiler remained in relatively good condition. Naval stores experts from the Commission are reconstructing the still for the museum.

Commission officials emphasize their special thanks to Beatrice Pfeiffer and her family for this rare museum donation. A dedication date will be announced upon completion of the reconstruction project.

Chief Ranger Norman Weaver of the Commission's Screven County Unit and his personnel gathered components to the ancient still and transported them to Macon where they will be reassembled for the museum.

The ranger said old fire bricks used in the boiler section, century-old gum collection pans, bands once used around wooden barrels and other items were brought to Macon along with the large boiler and condenser.

This photograph of huge rosin yards at the docks in Savannah was made in 1903, two years after the Pfeiffer still began operation. The rosin was packed in wooden barrels, which represented another forest-related industry of that era.





Thousands of young trees and shrubs have been planted at the Carter Center in Atlanta and additional plantings are made each season.

(Carter Center Photo By Paul Dingman.)

CARTER CENTER AWARDED

The Carter Center in Atlanta has received the Georgia Urban Forest Council's 1993 Outstanding Civic Organization Award for the effort the center made in saving ancient oaks and other mixed hardwoods during construction of the complex.

The award also cites the center, which draws almost 100,000 visitors annually from around the world, for planting almost 2,000 trees and 100,000 shrubs and groundcovers during the initial phase of construction.

Additional trees are being planted each season.

The Carter Center is now working with Georgia Department of Transportation and neighborhood groups in right-of-way plantings along streets leading into the center.

In emphasizing the care taken to save trees on the site, the Council reported President Carter personally eliminated a major doorway in the center's chapel after construction was underway because of the impact it might have on a nearby tree.

MILLIANS HONORED

Bill Millians, Jr., retired Milledgeville District Forester, was recently named Baldwin County Citizen of the Year.

Chosen for the honor over ten other nominees, Millians was commended for his civic work in Milledgeville and his willingness to help in other areas.

Millians joined 14 others on a trip to Lupus, Mo., to help rebuild the flood-ravaged community. "Volunteering his time and expenses is typical of Millians," said his pastor, Gary Abbott of First Baptist Church.

"He worked all day long every day and never stopped."

Millians also has helped build a church in New York, and when Hurricane Hugo

hit South Carolina, he was there amid the destruction, the pastor said.

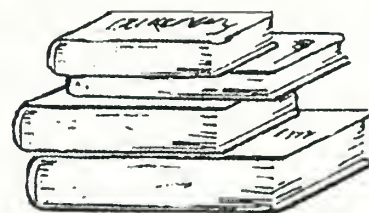
The retired Commission forester was also cited for his work in the Meals on Wheels program and several other projects on the local level.

FUNDS RECEIVED

Georgia received \$1,240,412.85 as its share of national forest receipts for fiscal year 1993, according to the U. S. Forest Service.

By law, 2 percent of the revenues collected by the Forest Service from the use of national forest system lands and resources are returned to the states where the lands are located. The states are required to use the funds for schools and roads.

THE BOOK CORNER



TREES - FRIENDS FOR LIFE

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A useful, concise and easy to understand publication on diverse tree species for Georgia urban landscapes. Fifty recommended species are included in a format that tells the reader at a glance whether or not tree characteristics match objectives. A coded Georgia map makes geographical reference easy.

The book is divided into two sections: Small trees (15 to 40 feet tall) and large trees (50 to 100 feet). Information on each species includes the following: Mature Height - gives height since location is critical to success and survival of a species. Soil - designates moisture level in which tree grows best. Root Structure - indicates root system depth with notation on outward spread in relation to tree canopy. Growth Rate - normal growth rate under typical conditions. Storm Resistance - ability to withstand wind and ice. Hardy Zone - state areas most conducive to survival and growth. Form - a silhouette of tree with printed form and texture. Remarks - general information such as characteristics, major insect and disease problems, and utility lines consideration.

With species ranging from American holly to Japanese Zelkova, this 16-page book provides an informative addition to any forestry bookshelf. Jay Lowery, City of Atlanta Forester, provided primary content and format. Additional technical expertise was contributed by several arborists and foresters.



A classroom in Thomaston was one of many stops along the trail as the runner presented his message of reforestation and other measures to protect the environment.

CRUSADER RUNS ACROSS STATE TO PROMOTE TREE PLANTING

Tim Womick did it again!

The environmentalist and amateur marathon runner repeated last year's "Trail of Trees" run across Georgia, but this time he did it across the mid-state and stopped at 22 towns along the way to promote tree planting and other conservation measures.

The trail started in Columbus and took a circuitous route through Warm Springs, Warner Robins, Macon, Griffin, Atlanta, Athens, Washington and other towns before ending in Augusta.

Commission foresters and rangers worked with schools and civic groups

along the route to arrange for Womick to present his program. The fifth grade class, taught by Mrs. Patricia Hayes at Upson Elementary School in Thomaston, was one of the schools visited and the young students paid rapt attention to Womick's presentation. His talk, both informative and entertaining, concerned the need for young citizens to understand the great value of trees and invited student participation in identifying dozens of products in their classroom that were derived from the forest.

By using a globe, maps and other props, he emphasized the importance of

children planting trees at their homes and to become partners in the global community to help prevent damage to the environment.

Womick's run across the state also helped raise funds to plant trees locally and around the state to make it "cool and green" for the 1996 Olympic Games in Georgia.

The runner's trip through Georgia was sponsored by the Georgia Forestry Commission and the Georgia Tree Coalition, a partnership of local, state and federal agencies, businesses, tree action groups, and private citizens formed in 1991 to plan and coordinate the

planting of over 25,000 trees in various Georgia locations in preparation for the 1996 Olympics.

Womick's run across Georgia last year stretched over 440 miles, and reached out with the message of environmental responsibility and physical and mental fitness to over 22,000 school children. His accomplishments this year were also as successful as his 1993 run across Georgia. He has also completed runs across other states last year, including New York, Texas, North Carolina, Florida, Virginia, and South Carolina. Womick is the founder of the "Trail of Trees," a nonprofit organization supported by the L'Enfant Foundation in Washington D. C. In his campaign, Womick has helped plant over 50,000 trees and made presentations to more than 100,000 people.

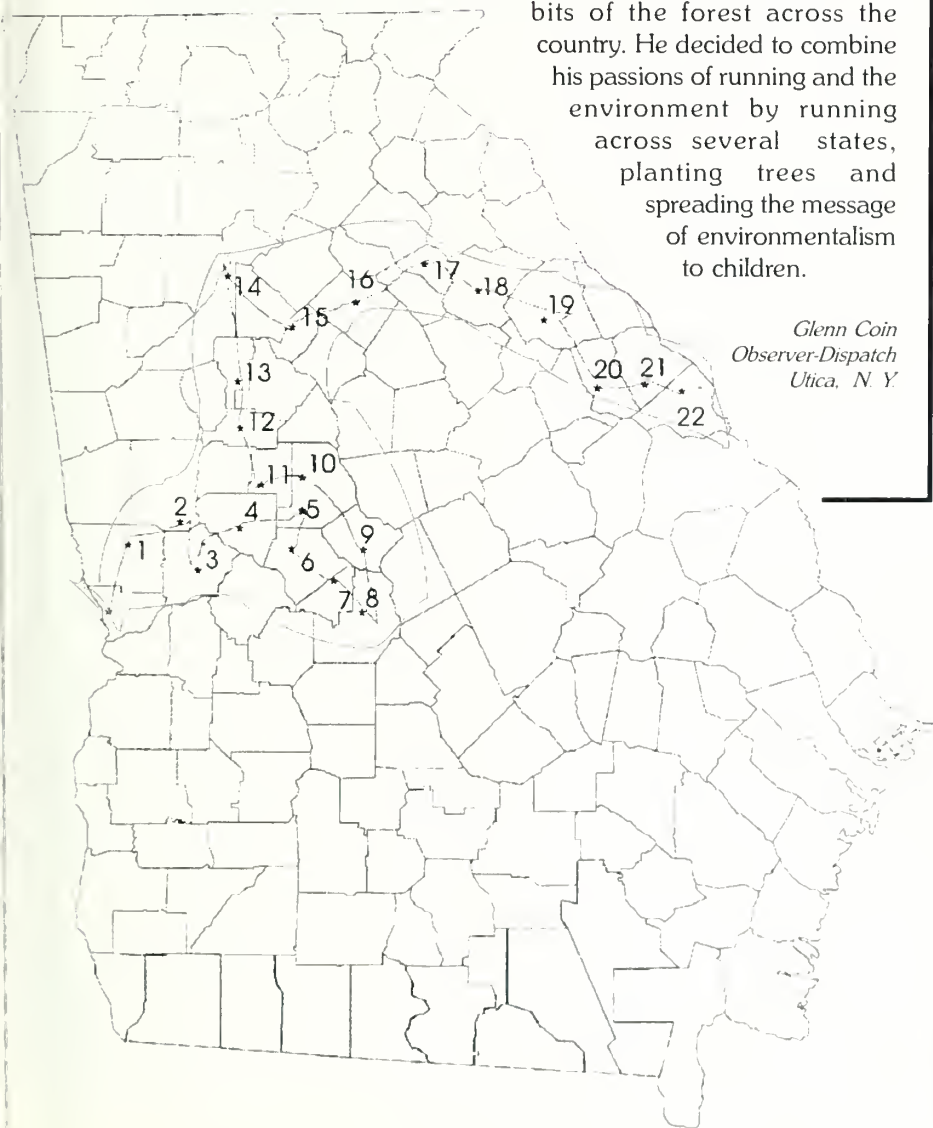
Tim Womick made good money as a professional chef, and blew it on cocaine, alcohol and cigarettes. But one day in 1989, shortly after his favorite uncle died of lung cancer, Womick had a revelation.

It happened in Joyce Kilmer National Park near Womick's hometown of Cashiers, N. C. He suddenly felt a spiritual connection to the earth, and a surging sense of purpose.

"It was kind of like these trees spoke to me," said Womick, 34. "I was overwhelmed by the magnitude of the forest."

Before emerging from his own private Walden, Womick had decided to dedicate the next five years of his life to spreading tiny bits of the forest across the country. He decided to combine his passions of running and the environment by running across several states, planting trees and spreading the message of environmentalism to children.

Glenn Coin
Observer-Dispatch
Utica, N. Y.



FOREST FARMERS ASSOCIATION SETS ANNUAL MEETING

Charting a New Forestry Course Through Troubled Waters is the theme of the 1994 Southern Forestry Conference and annual meeting of Forest Farmers Association April 27-29 at the North Charleston Marriott in Charleston, South Carolina.

Association officials said a slate of well-known experts will address the pressing issues that confront forest landowners today. Program participants include Bob L. Schieffer, anchor of the Saturday edition of CBS Evening News and moderator of the Sunday CBS news show Face the Nation; John Hosemann, chief economist and director, Public Policy Division of American Farm Bureau Federation; Congressman Charles Taylor (R-NC), a defender of private property rights in Congress; and Charles Raper, G. W. Peake Professor of Forestry at Auburn University.

A panel of landowners discussing government regulations will include Peggy Reigle, chair, Fairness to Landowners Committee; Ocie Mills, Navane, Florida; and Ben Cone, Greensboro, North Carolina.

Attendees will have the opportunity to sharpen their forestry business skills by attending concurrent workshops designed to give landowners the winning edge in today's business climate.

For further information on the 1994 Southern Forestry Conference and Annual Meeting of Forest Farmers Association, contact Forest Farmers Association, Box 95385, Atlanta, Georgia 30347 - (404) 325-2954.

FORESTRY QUOTES

"If I were to pick my greatest accomplishment in public office, I think it might be the establishment of the Forestry Commission. When we started it, forestry in the state was a \$300 million industry. Now they tell me it's over \$12 billion."

Herman Talmadge,
Former Georgia Governor
and U. S. Senator

"In the past seven years we have doubled the amount of information we know about trees. If you have a tree care book that is more than five to ten years old, it's time to buy a new book. How trees are tended has changed rapidly. We have discarded mythology and those old tales that have been damaging our trees for decades."

Forester Kim Coder,
Georgia Extension Service

"...and because Forest Service employees are dedicated to doing what's right, I don't need to know how to do everything. I've got 30,000 highly trained, competent people to do the Forest Service job. Just as I did on my first job, digging ditches, I'm going to do with this job-- I'm going to get in there and dig. And, in the end, people will get to decide: Was the ditch dug straight and deep or not?"

Jack Ward Thomas
recently named Chief,
U. S. Forest Service



Research Scientist Jan Yang (left) and Professor Karl-Erik Eriksson are shown with world's largest scale model pulp mill. Related equipment donated with mill will be used for pollution reduction research at the University of Georgia.

(Photo by Rick O'Quinn/UGA News Bureau)

DONATED MODEL MILL VALUED AT \$200,000

The world's largest scale model pulp mill, valued at \$200,000, has been donated to the University of Georgia, according to UGA reports.

University sources said the model was donated with \$70,000 worth of related research equipment by Alabama River Pulp Company. The pulp mill model, located on the UGA campus in Driftmier Engineering Center, was built before construction began on a large Kraft paper mill near Purdue Hill, Alabama, that now produces almost 15,000 tons of pulp a day.

The model is 30 feet long, 20 feet wide and 9 feet tall at its highest point. Although it is not operational, the scale model shows students the exact design of a pulp mill.

Equipment accompanying the mill will be used in a UGA campus program to study alternative methods of bleaching paper pulp and enzymatic de-inking of recycled paper.

Karl-Erik Eriksson, UGA professor of biochemistry, said, "To study quality as we must, this equipment is absolutely essential. We have the full range of testing equipment we need at this point."

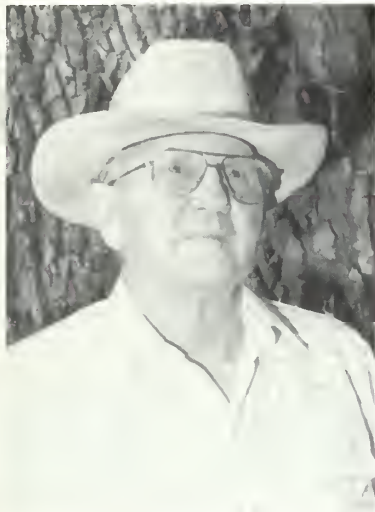
The equipment is now being used by a UGA research team that developed a process for bleaching pulp that helps reduce pollutants. The Clinton

administration has established new rules that will require virtual elimination of dioxin contamination in rivers and reduction in toxic air emissions from pulp and paper plants. The regulations will effect an estimated 350 pulp and paper mills in various sections of the nation.

Wood pulp is usually bleached using chlorine or chlorine derivatives that result in by-products that sometimes contain dioxin. According to UGA reports, Professor Eriksson's research team has developed technology that can purify affluent streams of chlorinated compounds by means of a system that prevents waste water from being dumped into rivers, streams, or holding ponds.

The UGA researchers have also developed an "EnZone process" that uses an enzyme treatment in combination with oxygen, ozone and alkaline hydrogen peroxide bleaching stages. UGA sources said an operational pilot plant to test the process is scheduled to be set up this spring in the Driftmier Engineering Center.

Jan Yang, a UGA research scientist in Professor Eriksson's lab, said the donated research equipment includes oxygen monitors, pH meters, a paper sheet maker, and a device to test brightness and tensile strength of paper.



C. M. STRIPLING

\$70,000 IN STUDENT LOANS FOR UGA FORESTRY MAJORS

First-Come-First-Serve

More than \$70,000 in college loan funds - that have remained virtually untouched for the past five years - are still waiting on a first-come-first-serve basis for Georgia high school graduates statewide who want to major in forestry at the University of Georgia.

C. M. Stripling, a Mitchell County tree farmer who was named national Tree Farmer of the Year in 1987, established the loan fund in 1988. Although the loan program was instituted primarily for the UGA Warnell School of Forest Resources, the same requirements for a loan apply to students attending the College of Agricultural and Environmental Sciences at UGA.

Designated the "C. M. and Bernice Stripling National Tree Farmer 1987-88 4H and FFA Loan Fund," the program offers preference to Mitchell County residents, FFA members, and 4H members.

"However," Stripling said, "this preference would certainly have presented no obstacle to other students applying since there have been only two applications for loans in the past five years." He added that both applicants were promptly granted the loans.

"One loan was for \$5,600 and the other for \$3,600," Stripling said. "One loan has been paid off and the other student is still in school. What I don't understand is why more students haven't applied for the loan. The requirements for a loan under this program are just

about as simple and lenient as a school loan can get. The student has to graduate from high school and maintain a passing average in college. A student would have to do this anyway to enroll in college and stay there."

A conspicuous indication that the Stripling loan money has not been appropriately used is the \$50,000 fund placed in trust with the University of Georgia now exceeds \$70,000 due to accumulating interest. According to the

University of Georgia majors acceptable for students granted a loan through the Stripling fund include the following:

FORESTRY MAJORS

- * Wildlife
- * Forest Biology
- * Fisheries
- * Forest Business
- * Timber Management & Utilization
- * Policy and Recreation
- * Soil and Water Resources
- * Forest Science

AGRICULTURAL AND ENVIRONMENTAL MAJORS

- * Agribusiness
- * Agricultural Communications
- * Agricultural Economics
- * Agricultural Education
- * Agricultural Engineering
- * Agricultural Technology Management
- * Agronomy
- * Animal Health (Pre-Vet)
- * Animal Science
- * Biochemistry
- * Biological Science
- * Botany
- * Chemistry
- * Crop Science
- * Dairy Science
- * Entomology
- * Environmental Economics & Management
- * Environmental Health Science
- * Food Science
- * Horticulture
- * Landscape and Grounds Management
- * Microbiology
- * Plant Pathology
- * Plant Protection and Pest Management
- * Poultry Science

trust agreement, all Georgia high school seniors - who have been accepted for enrollment in the UGA Warnell School of Forest Resources or the College of Agricultural and Environmental Sciences at UGA - are eligible for a loan.

The loan pays \$800 per quarter to a total of \$9,600. Repayment at 5 percent interest begins the fourth month after leaving school. This is a co-signer loan available through the UGA Office of Student Financial Aid.

"Apparently, a lot of people just don't know about it," Stripling said. "because a number of people - some with the Commission - have said they wished a loan program like this had existed when they were in forestry school. I want this thing to be used so it can benefit as many Georgia students as possible."

Stripling emphasized that the self-perpetuating design of the program is the basis for future potential. "The more students using the program, the more interest increases and the more the fund builds for future use," he said.

Both Stripling and UGA personnel consider the program to have significant potential because there was previously no school loan program exclusively for the UGA Forest Resources School. The original guidelines were intended to benefit Georgia forestry students. As plans progressed, agricultural and environmental majors were included.

SCHOLARSHIP

The final benefit added to the Stripling fund was a scholarship provision applying only to students accepted by or enrolled in the UGA Warnell School of Forest Resources. The scholarship is for one year's tuition.

The same preference for Mitchell County residents, 4H and FFA members is applied to scholarship applicants. Also eligible are students already enrolled in the School of Forest Resources who have at least three quarters remaining before entering the professional program.

All selections for scholarship recipients are based on academic record, extracurricular activities and statement of career goals. The high school applicant must be in the top half of his or her class. If the student, has completed one or more



Student Jason Pierce, Danielsville, is a recent C. M. Stripling Scholarship recipient

quarters of college, a grade point average of 3.0 or better must have been maintained.

The scholarships, presented annually at the School of Forest Resources Spring Awards Banquet, are contingent on the recipient's subsequent graduation from high school and enrollment in the University of Georgia as a pre-professional Forest Resources student. The scholarship is presented by C. M. Stripling or his designee. If the scholarship recipient changes majors or leaves UGA, the scholarship will be terminated.

Although requirements are much more demanding for a scholarship than a loan, Stripling feels competition has not created the number of applicants expected. "This is not taking anything away from the winners of the scholarship," Stripling said. "Two boys and one girl have been awarded the scholarship. They are excellent students and highly deserving of the award. It's just that we expected more applicants because we know there are many more Georgia students interested in forestry and qualified to compete."

In any case, Stripling and the UGA School of Forest Resources personnel are trying to generate more participation in the scholarship competition.

Stripling is often asked why he established the UGA loan and scholarship fund. He says one of the main reasons is that he remembers only

too well, more than half a century ago, when he was forced to drop out of college during his freshman year due to illness. Now, in a society demanding increasing specialized education, he wants to offer others an opportunity he was denied.

ANOTHER REASON

"But, there's another reason," Stripling said. "My grandfather, on my mother's side, came to the United States from Ireland. And it seems like the whole family back then evolved into teachers or preachers - both educators of sorts. I deviated from the pattern and became a tree farmer, but I still have a strong affinity for education in general. Maybe this is just my way of participating in the cause."

Regardless of Stripling's motivation, the money for a college education in forestry is ready and waiting for Georgia students who take advantage of the opportunity.

For more information and application forms from the Warnell School of Forest Resources, contact: Susan Miller (Development Coordinator), *Warnell School of Forest Resources, University of Georgia, Athens GA 30602-2125. 706-542-1465.*

For more information on the UGA College of Agricultural and Environmental sciences, contact: Becky Carlson, *College of Agricultural and Environmental Sciences, 102 Conner Hall, University of Georgia, Athens GA. 706-542-7868.*

For loan application materials, contact: *Office of Student Financial Aid, 220 Academic Building, University of Georgia, Athens GA 30602. 706-542-6147. Ask specifically for an application for the C. M. Stripling Fund.*

For detailed information on the loan, contact: *Ed Sanders, Student Loan Department, 110 Business Services, University of Georgia, Athens, GA 30602. 706-542-2965.*

ANOTHER ATTEMPT TO BEAT THE BEAVER

By Howard Bennett

North America's largest rodent, an aquatic creature having thick brown fur, chisellike teeth and weighing up to 50 pounds, has been building elaborate dams for Georgia landowners for generations.

Farmers, forestland owners and other rural residents, however, are not appreciative of the beaver's engineering skills that cause backwater impoundments that kill forests and row crops. Landowners are expressing interest in a device that has been invented to outsmart the eager dam builder.

Dr. Gene Wood, a Clemson University ecologist working on the premise that a beaver will not build a dam if it does not detect water current flow or the sound of falling or trickling water, set about perfecting a device that would mask the sounds.

Today, his Clemson Beaver Pond Leveler is being used in Georgia and other Southern states to some extent, and as far away as Minnesota to help prevent millions of

**WILL THE CLEMSON
BEAVER POND LEVELER
HELP ALLEVIATE
GEORGIA LANDOWNERS'
LONG-STANDING
FRUSTRATION?**

The leveler consists of a 10-inch PVC intake pipe pierced with 160 holes that allow the water to move at such a slow and steady rate that the muted sound cannot be detected by the

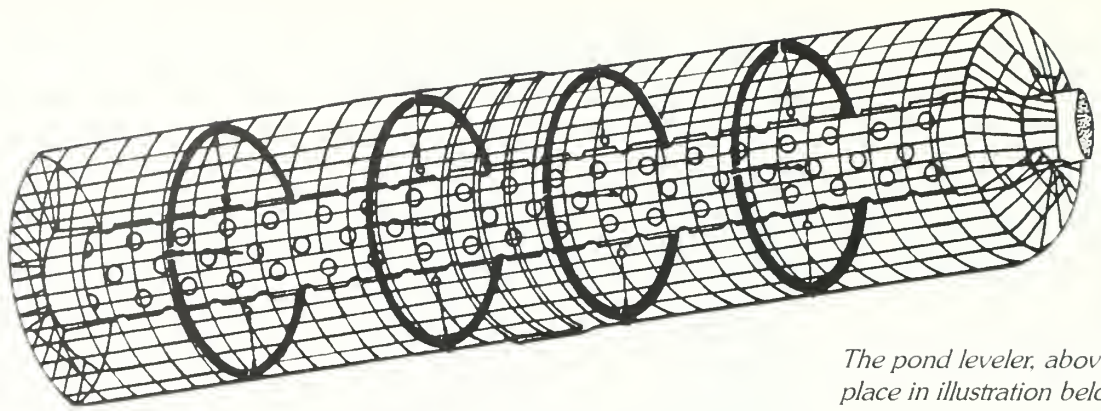
beaver. A wire cylinder surrounding the pipe prevents the animal from testing the small holes.

The beaver (*Caster canadensis*) is a vegetarian that feeds on leaves, twigs and trees; its favorite forest species includes river birch, black gum, pine, willow and dogwood. The animal often kills trees when feeding by girdling (gnawing through the bark to the cambium layer). The major damages occur, however, when trees are cut and used in construction of wood and mud dams that flood timberlands, cultivated fields and orchards. The hard working beaver presents a headache to road maintenance crews by plugging culverts and building dams under bridges. Backwater often inundates county roads and utility and railroad rights-of-way.

Wood said the device he developed "is most ideal for culvert situations. Beavers can plug culverts but can't get to the holes of the intake pipe which carry the flow and when they can't detect water flow, they don't have a target to work on."

The leveler has been tested on many





The pond leveler, above, is shown in place in illustration below.

sites in South Carolina and more than 200 are now in use in that state and others. The South Carolina Highway Department and the Tennessee Valley Authority are installing the device.

Bill Berg, research wildlife biologist with the Minnesota Department of Natural Resources, started testing the leveler after 49 were constructed by prison labor. They were installed by several agencies in his state to control dam construction in culverts and waterfowl impoundments. "So far, not a single site is being plugged by beavers," Berg said. "Some counties have had to hire crews for about \$500 a day to maintain road culverts, and that hasn't been necessary since the levelers were installed."

Many Georgia landowners, especially those who have had valuable timberland flooded by beavers, will probably want to give the leveler a trial. They have been frustrated for years in waging an

unsuccessful war against the nuisance. Some have blasted the dams with dynamite, only to have the sly, web-footed creatures paddle back at night and rebuild; some have introduced imported alligators into ponds, only to find that the reptiles had little appetite for beaver meat.

Doug Hall, state director of Animal Damage Control, U. S. Department of Agriculture, said the leveler "works well when properly used." He contends the beaver is usually satisfied with the water level maintained by the device as long as he can travel back and forth to his den without being detected by predators and food supplies remain readily available. He said that if conditions are not suitable to the animal, however, there is nothing to prevent him from moving upstream or downstream to build a new dam.

Another problem voiced by some professional foresters is that the leveler tends to be more beneficial to wildlife

maintenance than the protection of timber; if evicted, the beavers readily establish a new home nearby that often results in more woodlands flooding.

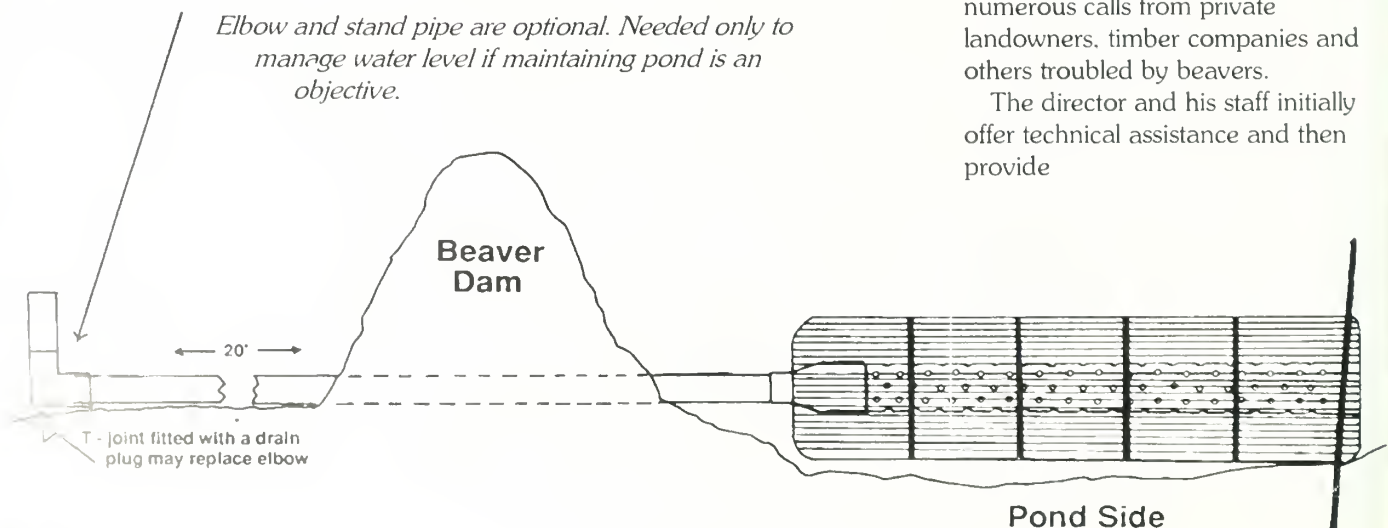
A leaflet published by the university is in agreement that the leveler has limitations and doesn't attempt to eliminate "all beaver problems." It is said to work best where the water input to a pond is from a small stream or spring.

Hall explained that several devices, including the Three Log Drain and others have been used through the years, but Clemson University's leveler seems to be the most efficient tool for its purpose. He noted that none of the equipment has helped stem the rapidly rising tide in Beaver population across the state, a problem that calls for frequent trapping.

Many Georgia landowners agree that trapping and shooting are the only methods of dealing directly with the nuisance.

Hall, with offices at the University of Georgia in Athens, said he receives numerous calls from private landowners, timber companies and others troubled by beavers.

The director and his staff initially offer technical assistance and then provide



operational control at the site if warranted. Under contractual arrangement, the beavers are trapped and explosives are often used to restore a stream channel to its natural flow.

BENEFICIAL ENGINEER

Although many Georgia landowners consider the beaver a stubborn and costly nuisance, to others he is a beneficial engineer who works without pay. His sturdy dams create fish ponds and watering holes for livestock. In some instances, the industrious dam builders help control erosion by slowing water runoff.

A beaver family, consisting of two to nine members, builds a "home" dam and several minor dams above and below that construction. Dams are most frequently built away from large streams and lakes, but the beaver is known to move into larger bodies of water.

The females usually have a litter of three or four offspring in the spring or early summer and although the young can swim within the first week, they tend to remain in the family den for up to a year before venturing out on their own.

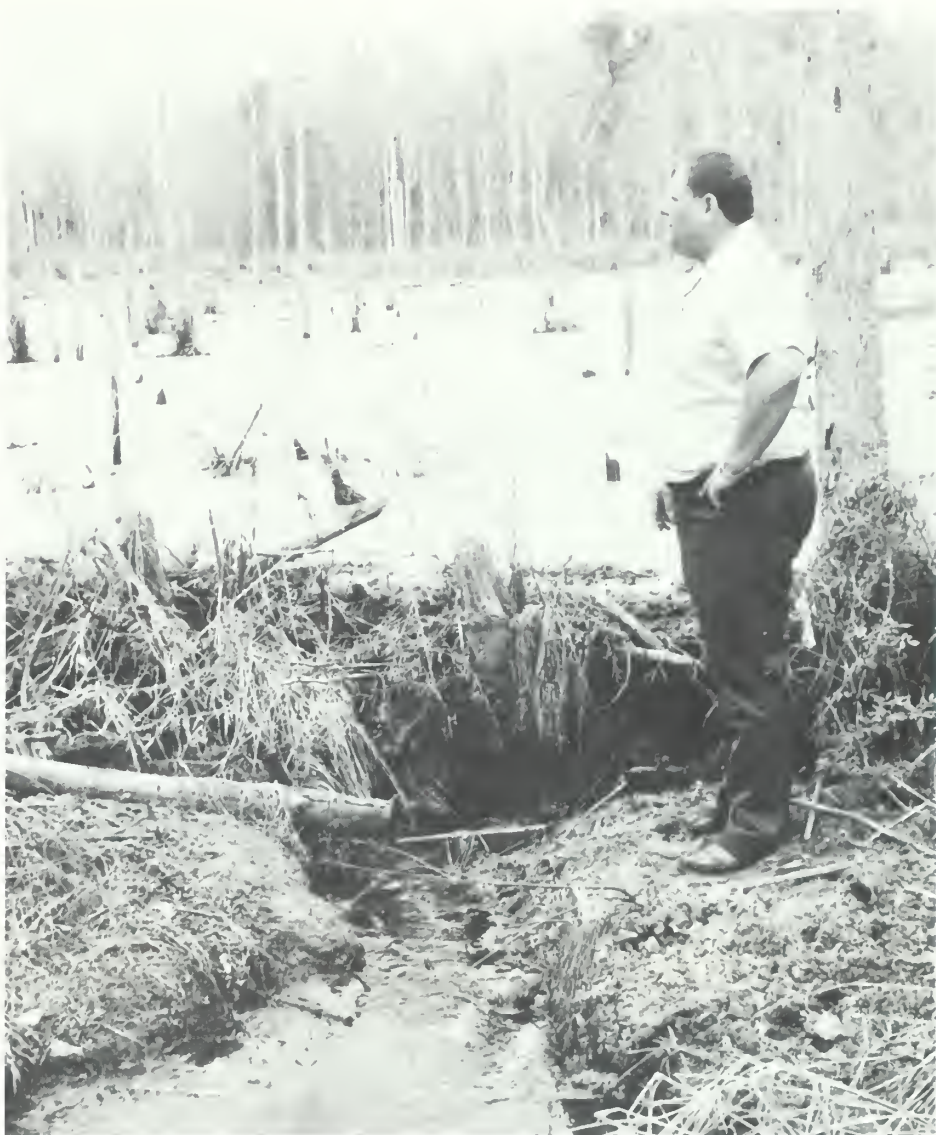
Beavers are highly elusive creatures and about the only time they can be spotted by man is late evening and early dawn when fatigued from their night work and are less alert.

In gathering material to build a dam, the beaver can use its sharp incisors to cut through a five-inch tree in three minutes! The nocturnal animal burrows into the bank of a lake or stream to make a den and sometimes build elaborate lodges of sticks and mud in the vicinity of a dam to regulate the water level.

NOT A PANACEA

Clemson University scientists point out that the leveler is not a panacea that would tame the destructive beaver, but was developed to meet two specific goals: to suppress the problem of flooding agricultural and timberlands and to maintain or improve some of the benefits derived from beaver ponds and associated plant communities, while preventing extensive flood damage. They stressed that the device

(continued on page 23)



Chief Ranger Randy Kirksey of the Commission's Grady County Unit looks over a beaver dam that has caused backwater to kill a tract of timber. Below, a pond leveler is being installed at another site to help prevent timber loss due to flooding.





Dog handler Jerry Davis (left) and Richard Stager, Hercules corporate executive, pose with Jenka - the wonder dog that detects underground stumps - on one of the canine's visits to corporate headquarters in Brunswick.

\$7,000 STUMP DOG EMERGES AS HERCULES CORPORATE CELEBRITY

Only Dog Of Its Kind In The World

By Bill Edwards

A \$7,000 super-nosey "stump sniffing" dog has become a corporate celebrity at Hercules Corporation of Brunswick and the popular canine defies anyone to prove she is not the only one of her kind in the world - a dog that sniffs out underground stumps for fun and profit.

Richard Stager, district supervisor for Hercules, describes Jenka as "the only known stump dog in captivity." Stager, a

20-year Hercules employee and University of Georgia forestry graduate, explained that the Brunswick Hercules plant is the only one of its kind in the free world, so Jenka is the only dog of her kind - a highly specialized canine-detector of underground stumps.

Although there are similar stump procurement operations in Siberia, no one has come forward with a Siberian

stump dog.

The Brunswick plant was built in 1911 and known as the Southeastern Yaryar Naval Stores Company with operations focused on producing dark wood rosin turpentine and pine oil. Hercules bought the plant in 1920 and expanded with new products and markets.

Hercules' operation concentrated on harvesting pine stumps from eight states

Resin from stumps is refined for such products as paints, varnishes, adhesives, detergents and synthetic rubber.

Things went well in the Hercules stump business for 70 years. Then, in 1991, the corporation formed an "underground wood team" to investigate possibilities of finding underground stumps; above ground stumps were becoming less plentiful each year.

"But," said Stager, who is in charge of all stump procurement in Georgia, "we believe there are millions of tons of stumps right under the surface of the ground. The problem is knowing where to dig, because they're not making any more lighter stumps. The existing stumps are those left from pines probably cut 100 years ago - and those trees were probably 75 to 100 years old. That's what it takes to make a lighter stump and it just doesn't happen anymore."

Stager explained that although pine is abundant in southeast Georgia, young trees do not contain much rosin. A ton of fatlighter stumps will yield about 350 pounds of rosin, but a ton of fresh cut younger pines will yield only 25 to 50 pounds per ton. In an old tree, rosin saturates and preserves wood cells. Fast growing young trees are not mature enough for this process to occur.

With this finite number of lighter stumps considered, the idea finally surfaced within the Hercules organization to use dogs for sniffing out underground stumps. Some thought the idea was crazy; others thought maybe it wasn't so crazy. Stager considered the potential of a "stump dog" and contacted Global Training Academy, a Texas company that specializes in training dogs to sniff out illegal drugs and explosives. The company had even trained dogs to sniff out explosives left behind after the war in Afghanistan.

TRAINING

Global instructors said they had never trained a dog for this purpose, but would give it a try if they could get some lighter stumps (resinous pine stumps are not native to Texas). Hercules immediately collected an ample supply of stumps and shipped them to Texas.

Shortly afterward, two dogs were sent to Hercules for a trial run. The pair did



so well that Hercules bought three dogs at \$7,000 each for a total of \$21,000. Unfortunately, two of the dogs were killed in accidents. Marco, who liked to play with children, ran to meet a school bus and was hit by a car. The second dog, Chita, escaped from his pen in Folkston and was struck by a train.

Although the Belgian malinois (pronounced *mal-uh-nwah*), is very intel-

ligent and the breed of choice for Global Academy training, the dogs tend to be hyperactive and excitable - especially when first separated from their structured environment.

Although all three Hercules dogs were carefully watched and received excellent care, special precautions were taken with the remaining Jenka. She was now the last and only one of her kind.



(Top Photo) Jenka pauses in pine forest clearing to test wind for resin scent of pine stumps. The dog works at peak efficiency in open areas, so any lighter stumps down to eight inches below ground level are easy pickings. (Bottom Photo) Truckload of fatlighter stumps is all in a days work for Jenka shown giving final scent test to area to be sure no stumps have been missed. The highly trained stump-finder accepts commands in Dutch and English to sniff out an average of 50 to 60 stumps a day.

LAST OF THE STUMP DOGS

Stager said the handlers of Marco and Chita cried when the dogs were killed. "The handlers spend a lot of time with these dogs and they become a lot like family to them," Stager said.

Despite the loss of Marco and Chita, Jenka has emerged as an admirable representative of her deceased colleagues. She lives with handler Jerry Davis and his family in Homerville and has found as many as a hundred stumps in a good day. Jenka also displayed all the positive qualities of the Belgian malinois breed.

The malinois is one of four types of Belgian sheepherding dogs registered in Belgium and France as the *Cien de Berger Belge*. The breed is agile, versatile and easily trained. Many dogs have distinguished the breed in police and military work, search-and-rescue, and as guides. The malinois, like the four other sheepherding dogs in its classification, is sturdy and thrives on outdoor excursions. The average malinois weighs 62 pounds at an ideal height of 22 to 26 inches. Keen intelligence, easy-care-coat, and medium size are primary factors in making this a desirable breed.

Hercules dog handler Jerry Davis has found Jenka to be an ideal specimen of her breed. His only problem with Jenka was the initial necessity to speak to the dog in Dutch; she did not understand English. However, Jenka is now fluent in her understanding of English, even with a Southern accent.

Davis and Jenka have developed a highly perfected rapport for working together. Stager emphasizes that the abilities of the dog handler are equally important to the talents of this \$7,000 dog, and he recognizes Davis as an unusually skillful practitioner of this art.

"If the wood is there, Jenka will find it," Davis said. "She'll average 50 to 60 stumps in a five-hour day." He added that this average find yields approximately 3,000 pounds of resin in a day. Obviously, Jenka has more than earned back her purchase price.

DOG LIKES JOB

If 100 people liked their jobs as much as

Jenka likes hers, their average office would be a different place. Jenka needs no motivating lectures to incline her toward increased productivity. Both Davis and Stager said this dog "lives to find stumps" and covers vast areas of pine forest in a day.

Jenka passes all above ground stumps as if she did not notice them. She knows people can see stumps above ground. When Jenka catches the scent of an underground stump, it's a different story.

The dog begins to dig with a fury and will dig up the entire stump if Davis does not stop her and indicate that he knows the stump is there. Then Jenka takes off again on a frantic zigzag run through the forest to capture her next stump.

"She can smell a stump eight inches below the ground surface," Davis said, "maybe even a foot if the soil is loose." After a particularly impressive find, Davis rewards Jenka with an orange rubber ball, which she chews for a few seconds before returning it to him.

The only thing that really slows Jenka down is extreme heat. On some summer days, when Georgia temperatures hover around 100 degrees, Jenka and her nose have to be given a rest after an hour or two.

After a week of running the woods,

Jenka is ready to relax with the Davis family for the weekend and play with the kids. She has developed into as much of a pet as a professional work dog.

RETIREMENT AND PENSION

The Hercules Personnel Office has not designated a pension for Jenka, but this presents no lack of security for a stable retirement. Now four years old, Jenka is expected to retire at seven. Davis and Stager are both ready to take Jenka in for her rocking chair years. Judging from the reactions of Hercules employees, there are many others who would like to have her as a family addition.

When Jenka makes one of her occasional visits to Hercules Brunswick headquarters from the pine hinterlands of her Homerville station, employees rush from their offices to greet the phenomenal stump-finder. In fact, Jenka seems to receive similar receptions everywhere she goes.

Since Jenka has adapted so well to the English language and her increasing popularity, her next progression on the celebrity circuit might be to sign autographs. □

THIRD FIELD DAY PLANNED FOR MAY

The third biennial Land Use and Forest Management Field Day will be held Friday, May 6, on the James Morgan farm near Swainsboro, according to the Forestry Commission and other sponsoring organizations.

The one-day event has become a popular occasion for hundreds of landowners interested in the most effective methods of managing their forests, fields and streams.

The field day, to be held again on the Morgan farm 12 miles north of Swainsboro, will feature 23 demonstration stations where foresters and other natural resource specialists will explain exhibits and tell how land can be made more profitable and environmentally safe.

Planners said stewardship will be the theme again this year and six new demonstrations, as well as expansion of many of the others, are expected to greatly enhance the field day and be of interest to a greater number of landowners statewide.

Demonstrations range from prescribed burning and natural regeneration of the forest to straw production and estate and tax planning.

Admission, which includes a luncheon, is \$10.00 if registration is made on or before April 27 and \$12.00 if made after that date. For registration or additional information, contact Forester Chip Bae or District Forester Dan Gary at the Commission's Statesboro District office in Statesboro. Phone (912) 681-5347.



Georgia Forestry Commission Personnel present the Tree City USA Award to the City of Young Harris Tree Board. Left to right are Dennis Martin, Jack Moss, and Everett Rhodes (GFC), tree board members Beth Palmour, Debbie Edwards and Barbara Chaille, GFC District Forester David McClain, tree board Chairman Paul Arnold, tree board members Jo Barse and Dale Kuykendale, and Sharon Dolliver (GFC).

73 CITIES IN PROGRAM

Twelve Georgia cities received first-time designation as Tree City USA for outstanding urban forestry accomplishments in 1993.

Forester Dennis Martin and Chief Rangers Everett Rhodes and Roger Lane of the Gainesville District worked with city leaders in Hiawassee, Homer and Young Harris to help them meet the standards to achieve the Tree City USA award. The Americus District also had three new cities to receive the award. Forester Steve Smith and Chief Rangers Todd Bell, Morris Cook and Sandra Veach assisted Buena Vista, Cordele and Woodland in attaining Tree City USA status.

Auburn, Calhoun, Fort Gordon, McDonough, Ocilla and Robins Air Force Base are also first-time award recipients. These twelve communities join 61 recertifying communities to make a total of 73 in Georgia that have



received the prestigious award from the National Arbor Day Foundation. The cities of Bainbridge, Blakely, Canton, Chatsworth, Cornelia, Covington, Dalton, Gainesville, Macon, Moultrie, Statesboro and Warner Robins received the Tree City USA Growth Award for special achievements in 1993.

For information on how your community can become a Tree City, contact your local Georgia Forestry Commission office.

DOLLIVER NAMED TO STATE BOARD

Sharon Dolliver, executive secretary of the Georgia Urban Forest Council and associate chief of the Forestry Commission's Information and Education Department, has been appointed to the State Board of Registration for Foresters by Governor Zell Miller.

The state board is responsible for reg-

ulating forestry professionals in the state, including examination and licensing of foresters.

Dolliver, a professional forester and a former biology teacher, is a member of the Society of American Foresters, The University of Georgia Jayhole Club, the Georgia Conservancy, National Arbor Day Foundation and other forestry-related organizations.

LOOKING BACK



1733

Georgia Colony traded products of the forest with several other British Colonies to the north.

1793

The invention of the cotton gin by Eli Whitney in a little shop near Washington in Wilkes County set off large scale forestland clearing in the upper coastal plain and lower Piedmont for cotton planting.

1882

The Naval Stores Exchange was chartered at Savannah.

1899

Georgia ranked seventh in the nation in lumber production. The Georgia Sawmill Association was formed with 25 charter members.

1925

The Forestry Administrative Act of 1925 provided funds for the State Board of Forestry and Burley M. Lufburrow became Georgia's first State Forester.

1987

Governor Joe Frank Harris and other dignitaries were among more than 1,500 persons attending the dedication of the new \$1 billion Fort Howard paper mill in Effingham County.

CAREER ENDS FOR NAVAL STORES SPECIALIST

Forester Grady Williams, who first learned the value of naval stores while growing up on a farm in Telfair County and went on to become one of the nation's leading specialists in the industry during his career with the Georgia Forestry Commission, retired at the end of 1993.

"I learned as a child that turpentine farming was a way of earning an advanced income from the trees on our family farm long before they were harvested as timber," Williams said, "and naturally my interest in naval stores increased as I entered the forestry profession." The forester has been engaged in numerous research projects through the years that have greatly benefited producers throughout South Georgia, Alabama, Florida and Mississippi, the states that comprise the naval stores belt.

RECENT ACHIEVEMENT

One of the specialist's most recent achievements was the introduction of a sealed collection system, the use of a plastic bottle to replace the costly and labor intensive cup-and-gutter method of extracting oleoresin from pine trees. Although still in the experimental stage, it is believed the system could eventually revolutionize the way the product is harvested.

Jim Gillis, President of the American Turpentine Farmers Association and chairman of the Commission's board, praised Williams for his "devotion to

always seeking better and more profitable ways for producers to manage and harvest their crops." He said, "there is absolutely no way a dollar value can be placed on the contributions he has made since the U. S. Forest Service gave responsibility of the program to the Commission in 1973."

Williams, who was honored at a re-



tirement dinner in Dublin in January, attended Middle Georgia College and later earned a degree in forestry at the University of Georgia. He came with the

Commission in 1958 as assistant ranger of the Crisp-Dooly County Unit. After other promotions he was named McRae district forester, a position he held until 1973, when he became the Commission's naval stores specialist. He returned to the district post in 1984 to assume the dual responsibilities of district forester and specialist for the industry.

Gillis said Williams is "definitely one of the leading naval stores authorities in this country and in the world and he will be missed in the industry now that he has retired." The specialist's international prominence is verified by the volume of mail his office receives from foreign lands. Inquiries concerning naval stores come from China, Portugal, Brazil, Argentina, Columbia, India and several other countries. Most of the foreign requests are for technical information. Williams explained, however, that "we're dealing with a highly competitive industry and I had to be careful in limiting information that would jeopardize the American market."

PROUD OF DISTRICT

Although he maintained a tight schedule in working with the industry, Commission officials pointed out that Williams never neglected his duties as district forester. "Actually, I'm extremely proud of the accomplishments of the personnel in our district," the forester said. "We have maintained a very active reforestation program throughout the

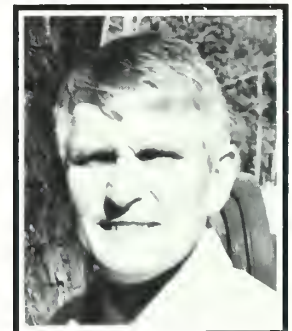
(continued on page 23)

Harry G. Graham, who came with the Commission in 1974, was named McRae District Forester, effective January. He succeeds the retired Grady Williams in the post.

Graham, a native of Laurens County, attended Middle Georgia College for one year and transferred to the University of Georgia, where he earned a degree in forestry. He worked as a forestry consultant following graduation and later

became forester-ranger of the Commission's Laurens County Unit, a position he held for five years. He was assigned to the McRae District office in 1979 to work in reforestation and stewardship programs.

The new head of the 11-county district and his wife, Angie, have two children, Jonna, 13, and Jenny, 10. The family attends Jefferson Street Baptist Church in Dublin, where he serves as deacon.



Harry Graham



DEATH CLAIMS JOEL W. HALL

Commission personnel across the state and other friends were saddened March 3 to learn of the death of Joel W. Hall, supervisor of the Dixon Memorial State Forest.

The forester, 47, died at St. Vincents Hospital in Jacksonville, Florida following a brief illness. He was a native of Waycross, but had lived in Pierce County for many years.

A graduate of Patterson High School, he attended Abraham Baldwin Agricultural College and later received a degree in forestry from the University of Georgia. He came with the Commission's Turner County Unit in 1969 and was later named Americus District Forester. He was transferred to Waycross in 1980 to head that district and was later named supervisor of the Dixon Memorial State Forest.

The forester was a member of Central Baptist Church in Waycross.

Survivors are his wife, Mrs. Patricia Combee Hall of Blackshear; three daughters, Mrs. Teresa Fitzgerald, Miss Angela Marie Combee and Miss Helen Jean Combee, all of Blackshear; a son, Jeffery Wilford Hall of Blackshear; his mother, Mrs. Pauline Winn Hall of Patterson; a sister, Miss Pawnee Hall of Fernandina Beach; two brothers, Paul & Donald Hall, both of Patterson; and two grandchildren, Brad & Samantha Fitzgerald, both of Blackshear.

JOSLIN NAMED REGIONAL FORESTER

Bob Joslin of Ogden, Utah, has been named Regional Forester for the 13-state Southern Region of the USDA Forest Service in Atlanta, GA, according to Forest Service Chief Jack Ward Thomas.

Joslin, currently Deputy Regional Forester for the Intermountain Region, will be the agency's top policy officer for the 34 national forests and two national grasslands in the South, which include more than 12.5 million acres of public land.

He will also oversee cooperative programs with state forestry and wildlife agencies across the region. His reporting date in Atlanta has not yet been set.

Joslin, a 29-year veteran with the Forest Service, has extensive experience in the South, having served as Deputy Forest Supervisor on the Daniel Boone National Forest in Kentucky from 1980 to 1983, and as Forest Supervisor on the Kisatchie National Forest in Louisiana from 1983 to 1987.

A native of Palo Verde, Arizona, Joslin graduated from Northern Arizona University in 1964 with a bachelor's degree in forest management. He also completed the Senior Executive Fellowship program at the John F. Kennedy School of Government at



Bob Joslin

Harvard University in 1987.

Joslin began his Forest Service career as a temporary employee on the Kaibab National Forest in Arizona. Prior to his service in Kentucky, Joslin held resource management positions in Wyoming and Colorado. Joslin left the Kisatchie National Forest in 1987 to become Deputy Director of Timber Management in the agency's Washington office. He assumed his current position in Ogden, Utah in 1989.

NEW SUPERVISOR APPOINTED

George Martin, who began his U. S. Forest Service career 26 years ago in Mississippi, is the new supervisor of the Chattahoochee-Oconee National Forest in Georgia. His appointment was effective February 20.

Martin returns to Georgia for his new post after serving the past five years as deputy forest supervisor of Cherokee National Forest in Tennessee.

Martin, who replaces the late Ken Henderson, received a bachelor of science degree in forest management from Mississippi State University and a masters in forestry and recreation from Virginia Polytechnic Institute.

He began his career on the National Forests in Mississippi, but also worked on the Jefferson National Forest in

Blacksburg, Va., before moving to Atlanta as a group leader for the Southern Region's Fire and Aviation Group.

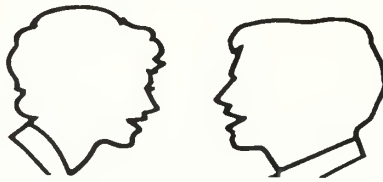
Martin currently serves on the National Wildfire Coordinating Group and chairs the resource management committee of the Southern Appalachian Man and Biosphere program.

The new supervisor replaces Ken Henderson who served in that position for four years. Henderson died of a heart attack in August of 1992.

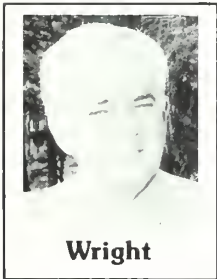
Martin will make his home in Gainesville with his wife Carol and son Danny, 19, who will attend Gainesville College. His daughter Leigh, 24, lives in Alexandria, Virginia, and son David, 22, attends the University of Tennessee.

people

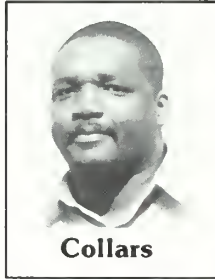
IN THE NEWS



CHIEF RANGER ROBERT WRIGHT, a native of Taliferro County who came with the unit in that county as patrolman in 1958 and transferred to Wilkes County early in his career to serve as ranger, retired in January. He was honored by



Wright



Collars

county officials and others at a retirement dinner for his 34 years of service to the county. Wright and his wife, Judy, have six children, Tim, Angelia, Tina, Dan, Martha and Paul. The retiree and his wife are active in Victory Baptist Church...NATHANIEL COLLARS, who came with the Commission in 1980, has been promoted to chief ranger of the Wilkes County Unit to succeed Robert Wright. Collars, a native of Wilkes County, attended high school in Washington and two years at a technical school. The new chief ranger and his wife,



Batchelor



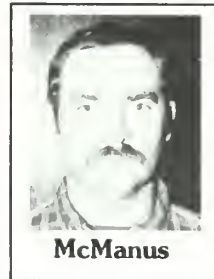
Tanner

the former Miss Mable Jean Benson, have four children; Nathaniel, Jr., Renate, Netiqua, and Nathaniel III. The family attends Springfield Baptist Church. MARK BATCHELOR, who came with the Commission in 1990, has been named chief ranger of the Morgan-Wilkes County Unit to succeed forester

JAMES JOHNSON, who now serves as senior forester in four counties of the Athens District. Batchelor, a native of Morgan County, has a degree in ornamental horticulture from the University of Georgia. The ranger and his wife, Rhonda, and daughter, Ashlee, attend Gibbs Memorial Baptist Church, where he is a deacon and Sunday School teacher..JIMMY TANNER was named chief ranger of the Barrow-Jackson County Unit in August to succeed FORESTER RICK HATTEN, who is now assigned to the Athens District Office. Tanner, a native of Monroe, has a degree in ornamental horticulture from the University of Georgia. He came with the



Reynolds



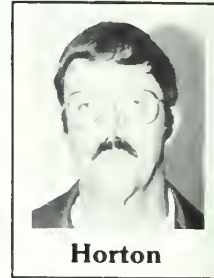
McManus

Commission in 1986, beginning his career at the Morgan Nursery and transferring to the unit in 1993. The ranger is active in Campton United Methodist Church...CHIEF RANGER LARRY REYNOLDS of the Harris-Muscogee Unit retired in February to end a 34-year career with the Commission. Fellow employees and other friends attended a retirement dinner in his honor. The ranger and his wife, Shelby, have three married children, Steve, Angelia and Kim, and four grandchildren. The couple attends the Pine Mountain Valley Church of God...MARK McMANUS has been the chief forest ranger of the Bibb County Unit since mid-February. He succeeds Steve Laval, who resigned several months ago. McManus, a native

of Jesup, attended Wayne County High School, Ware-Tech, and earned a degree in forestry at Waycross Junior College. He formerly owned a building construction company. McManus and his wife, Robbie have an infant son, Brandon. The family is active in the Baptist Church...LEE BURNS, a native



Burns



Horton

of Carrollton who has served as ranger in Henry and Heard County units, has transferred to the Macon Office to train for the position of investigator, a post position vacated by the recent retirement of Milton Rose. Burns will attend the Peace Officers Training School at the Georgia Public Safety Training Center in Forsyth. Burns and his wife Beverly have moved from Carrollton to Macon...JOHN HORTON, a Vietnam veteran and a ranger in the Quitman, Stewart, Webster Unit, has been promoted to Chief Ranger. A native of Stewart County, he attended Abraham Baldwin Agricultural College for two years. He is a member of the Lumpkin Lions Club. The ranger and his wife Helen and son Benjamin, 13, are members of County Line Baptist Church...TOM HUTCHESON is the new chief ranger of the Washington County Unit. He



Hutcheson

succeeds JIM McDONALD who transferred to Whitfield County. Hutcheson, a native of Washington County, attended Georgia Military College, ABAC and South Georgia Technical School. The new ranger and his wife Judy have two children, Aaron and Ethan. They are active in the First Christian Church of Sandersville.

BEAT THE BEAVER

(continued from page 15)

does not negate the need for direct control of beaver populations where problems are both extensive and severe, although the leveler may reduce that need.

MARKET SLUMP

Chris Plott, owner and manager of Plott Hide and Fur Company in Griffin a company that has been in business since 1923 - has bought beaver pelts from trappers across the state in good times and in bad. In recent years, the demand for pelts has been in a deep slump and a trapper today can only expect \$7.00 to \$10.00 for a stretched and dried beaver skin. The fur dealer said the depressed market has discouraged many from going after the beaver and that is undoubtedly causing a considerable increase in population. The Georgia Department of Natural Resources reported that only 4,116 beavers were trapped in the state last year.

Plott, who refers reputable trappers to many anxious landowners who call with beaver problems, predicts a brighter future in the market for beaver pelts as a demand continues to grow in China and some European countries. About 70 percent of his company's business is already in exports.

EASY METHOD

Although the leveler won't stem population growth, it is apparently working well in reducing timber loss due to flooding on some lands. Robin Hartrick, A Georgia Pacific Company district forester for northeast Louisiana and Arkansas, said he has found the leveler provides an easy method of eliminating flooding in road ditches and valuable timberlands.

When beaver dams are to be dug out for installation of the leveler, it has been said that dam destruction by hand is not difficult if an old forest firefighting tool known as a Pulaski is used. When the tool, which has an axe head on one side and a maddox on the other, is used to break the downstream side of the dam, water pressure helps push out the debris.

When parts of a leveler assemblage

need to be transported across a body of water, they can be floated by placing water resistant tape over the ends of the overflow pipes. The pipes are then tied together to form a raft for transporting other parts to the site.

Joe Cockrell, a private lands biologist with the U. S. Fish and Wildlife Service, said that without the leveler, the landowner is compelled to kill the beavers and not derive any benefits from the ponds. "The leveler," he said, "allows the landowner to have the best of both worlds."

For further information on the Clemson Pond Leveler or free plans for building the device, write to the Department of Agricultural Communications, A-101 Poole Agricultural Center, Clemson, South Carolina 29634 or call 803-606-0109. The materials to build the leveler will cost about \$200. For technical or operational assistance with a beaver problem, write Animal Damage Control, School of Forest Resources, UGA, Athens GA 30602, or call 706/546-2020.

(continued from page 20)

CAREER ENDS FOR NAVAL STORES SPECIALIST

district and we have worked to stress conservation through school programs and in adult educational projects. Our people have an excellent record in fire suppression and fire prevention and enjoy a good relationship with the area landowners. A lot of progress has been made."

Williams and his wife, Emma Jean, are active in the United Methodist Church. He is president of the Telfair County Division of the American Heart Association and a member of the local Lions Club. The couple has two sons, Dave and John.

The retiree said he intends to continue to play a role "in some capacity" in naval stores during his retirement.

Williams said the McRae District is "in good hands" with the appointment of Harry Graham to succeed him as district forester and the naval stores industry can continue to call on Specialists Wesley Hartley and Ed Herbert for assistance.

MISS GEORGIA FORESTRY PAGEANT



A new Miss Georgia Forestry will be selected and crowned at the 54th annual pageant scheduled for June 24-25 at the Radisson Downtown Hotel in Macon.

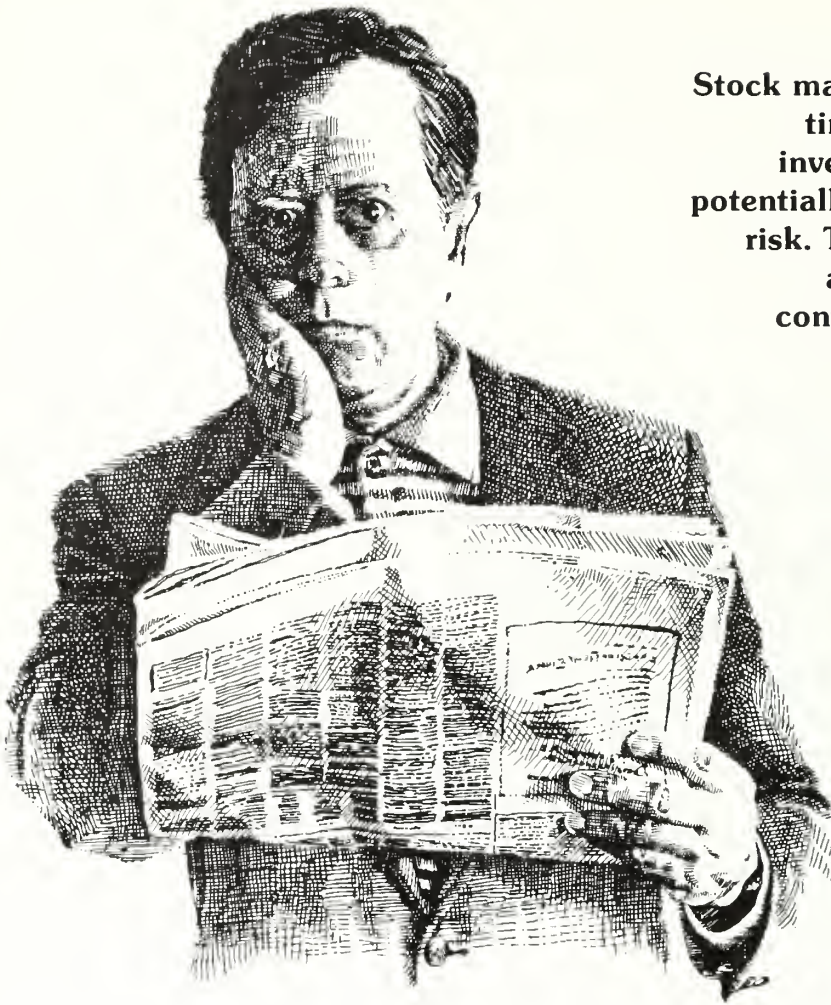
The pageant, started in 1940 in Waycross and later held for many years on Jekyll island, was moved to Macon two years ago. Contestant representing about 45 counties each year vie for the crown.

The reigning Miss Georgia Forestry is Denise Michelle Griffin of Fitzgerald and Amy Thompson of Lyons is the current Miss Gum Spirits of Turpentine, a crown awarded to a contestant representing one of the counties that produce naval stores. Both will crown the new queens at the annual event.

Miss Georgia Forestry receives a \$2,500 scholarship to the school of her choice after completing her one-year reign. She represents forest industries, associations and other forestry interests by attending festivals, conventions, and other events where forestry is promoted. The runner-up receives a \$500 scholarship.

Miss Gum Spirits of Turpentine, who represents the American Turpentine Farmers Association, receives a \$1,000 scholarship and her photo appears on the organization's widely distributed annual calendar.

A contestant must have never been married, be between the ages of 16 and 21, and a resident of the county she represents. Contestants selected on the county level enter the pageant in Macon for the finals. Additional information is available at all forestry offices.



Stock market problems? Maybe it's time to turn to another type investment - an investment of potentially higher yield and far less risk. The demand for wood is at an all-time high and it will continue to increase well into the new century. Contact the Georgia Forestry Commission for some solid facts concerning the investment advantages of planting fast growing trees in Georgia soil.



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Aviatrix Julie Oster of Tampa, Florida flew into Macon recently to personally present an invitation to Commission Director John Mixon to attend the celebration commemorating the 20th anniversary of the International Forest of Friendship in Atchison, Kansas.

The pilot, a member of the International Organization of Women Pilots, said the invitation to the event, scheduled for June 21-23, is being presented by members to all state foresters across the nation.

The International Forest of Friendship is a memorial to the world history of aviation and aerospace. It consists of trees representing all 50 states and U. S. territories and 35 other countries around the world.

Winding through the forest is Memory Lane, a walkway honoring such internationally recognized flyers as Amelia Earhart, Charles Lindbergh, Jimmy Doolittle, Chuck Yeager, the Wright Brothers, Sally Ride, President George Bush and others.

Oster said the organization is also known as the Ninety-Nines, as that was the number of members shortly after it was organized, with famed flyer Amelia Earhart as the first member. She said there are now about 3,000 members in the organization.

The forest is a gift to the organization from the City of Atchison. Atchison is also the birthplace of Earhart, legendary woman pilot mysteriously lost on a flight over the Pacific in 1937 and the subject of many books and magazine articles for more than a half century.

ON THE COVER - Main entrance into picturesque and historic Wormsloe, a former plantation on the Isle of Hope near Savannah. (Photo by Billy Godfrey.)

STEWARDSHIP PROGRAM EXPERIENCING INCREASE IN CONSULTANT FORESTER ACTIVITY STATEWIDE

An increasing number of consulting foresters throughout Georgia are taking an active role in working with private landowners in developing management priorities for the Forest Stewardship Program.

Commission records show that among 166 consulting foresters in Georgia, approximately 90 are actively involved in the Stewardship Program; a primary example of this increasing activity is the Commission's District 10. With headquarters in Statesboro, the district includes the following counties: Bryan,

Chatham, Bulloch, Candler, Evans, Tattnall, Effingham, Emanuel, Jenkins, Liberty, Long, McIntosh and Screven.

Dennis Pope, District Reforestation Forester, said of the 1200 participants in the Forest Stewardship Program, one-third are located in District 10. "In Bulloch County alone," Pope said, "There are 120 participants in the Stewardship Program." Pope added that the Bulloch County Stewardship Program plan, developed by Stilson landowners, Mr. and Mrs. Donald Whitney - with private forestry consultant Jerry Marsh, is an

excellent example of results that can be obtained when a good working relationship of this sort is sustained.

Jerry Marsh is a retired 1989 Commission forester who now operates a private consulting service out of Statesboro. Marsh has worked with the Whitneys for 30 years in managing their 900 acres. While employed with the Commission, he worked with the Whitneys (as with other forestland owners) within the specified regulations of the Commission. After retirement, he

(continued on page 14)



District 10 group displaying sign and award reflect increasing statewide role of consulting foresters working with landowners in Forest Stewardship Program. Left to right are: Thomas Joyner, Soil Conservation district supervisor; Jerry Marsh, Consultant Forester; Mr. and Mrs. Donald Whitney, landowners; and Dennis Pope, Commission district reforestation forester.

GEORGIA COMPANY REVIVING LOST ART OF BUILDING WOODEN ROLLER COASTERS

By Bill Edwards

Atlanta's Mike Black is on a roll - reviving the once almost lost art of building wooden roller coasters - with his latest offspring requiring shipment of a million board feet of Georgia pine to Japan for a 115-foot tall fright ride that is the highest cyclone-style roller coaster in the world.

President of Atlanta-based Roler Coaster Corporation of America (RCCA), Black and his company have designed and built a number of the nation's most famous wooden coasters, indicating a resurgence of interest that has now spread overseas. Unknown to Black, Togo Japan, Inc., one of the most accomplished amusement ride manufacturers in the world, had been researching RCCA and other companies to offer somebody the job of building a giant wooden roller coaster near Tokyo; the designated site was Yomiuri Land amusement park in Inagi-Shi, Japan.

The Atlanta RCCA organization was selected because, according to Togo representatives, they were considered to be the best in the world at building "Woodies" (which in roller coaster rhetoric means wooden coasters). Togo needed this specialized expertise; the company is well versed in the manufacture of steel roller coasters, but had no experience with wood.

Togo's research quickly revealed that RCCA had plenty of experience with wood through more than 20 years of constructing Woodies, including such coasters as *The Great American* and *Machine Six Flags Over Georgia*

(Atlanta), *The Florida Hurricane* Ringling Brothers Barnum & Bailey Circus World (Orlando), and *Judge Roy Scream Six Flags Over Texas* (Arlington).

MILLION BOARD FEET OF GEORGIA PINE IN TOKYO COASTER

RCCA also constructed in 1992 the world's highest wooden roller coaster - *The Rattler*; this giant of Woodies, located at Fiesta Texas theme park in San Antonio, is 179 feet tall and \$100 million-plus and 5,080 feet long. The structure is secured by 23,500 pounds of nails and has enough lumber to encase 95 homes with 1,500 square feet each.

Togo has also acquired an impressive reputation for construction of steel roller coasters. World record status includes establishment of the *Bandit* (1988 speed and height record holder), and the *Surf Coaster*, first roller coaster actually built over an ocean. Togo has been the leader in Japan's amusement ride fabrication since 1953.

Considering Togo's background and RCCA's experience in wooden roller coaster construction, it seems inevitable that the two worlds join forces for Japan's

big Woodie christened *White Canyon*.

Togo's experience in steel roller coasters prompts the question of why the Japanese company was determined to build this large wooden coaster - and why the revival of general interest in Woodies after steel coasters seemed to have stolen their thunder for so many years.

According to Mike Black, a number of factors influenced Togo's decision. "The Japanese like many things about American lifestyle," he said, "and what could be more American than the traditional American wooden roller coaster."

There were also market pressures from within; a Japanese competitor had already started work on the country's first Woodie, and the prestigious Togo was not about to be surpassed. Also, as Black points out, "The Japanese have amusement parks and a high standard of living - which means they have discretionary income - and lots of Japanese visitors go to our theme parks ride wooden coasters and like them. You can't help notice the difference between American Woodies and the steel coasters the Japanese have at home."

WOOD PREFERENCE

Further evidence of preference for wooden roller coasters is emphasized within the 4,000 worldwide membership of the American Coaster Enthusiasts; many members proclaim there's no comparing the ride of a wooden coaster with steel ones that took over so much of the market from 1940 to 1970.



Japanese cranes set sections of giant wooden roller coaster in place. More than a billion feet of Georgia pine were shipped to Japan for this cyclone-style (figure 8) coaster.

"They're totally different rides," said Matt Crowther, "an Atlanta coaster enthusiast who was married on a Woodie, and claims he has ridden every roller coaster in the country. "If you took a poll of enthusiasts, most of them would tell you they prefer wooden ones. Wooden coasters are rougher - more of an exhilaration," Crowthers said.

Eventually, Togo Japan's president, Kazuo Yamada, rode the *Texas Cyclone* (Houston) and decided on a cyclone-style (figure 8) wooden coaster in his country. Black described Yamada as one of the world's leading roller coaster enthusiasts and obviously highly qualified to make style comparisons.

Black described the steel ride is smoother, more streamlined, more high-tech, like being shot out of a gun barrel; while the Woodie ride vibrates, jerks,

Japanese supervisors oversee building of the world's highest cyclone-style roller coaster near Tokyo. Atlanta based Roller Coaster Corporation (RCCA) designed and prefabricated the coaster from Georgia pine.

jostles, sways, clacks and feels like the rider might become airborne any second.

"That excitement factor has always been part of the Woodie appeal," Black said, "Just as the mystique that surrounded the old wooden coasters. There were constant rumors floating around that the old Woodies were condemned and would only be allowed to run another

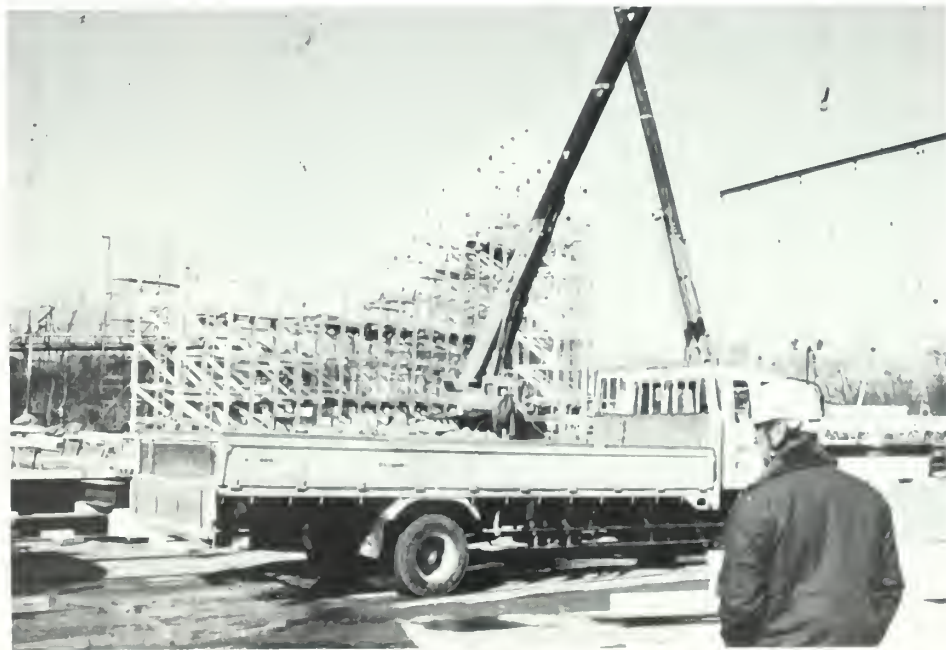
year if the essential wood supports were replaced. Actually, statistics show you would have always been safer on a wooden roller coaster than driving your car home on the freeway."

Black said today's high-tech design, engineering knowledge, makes all currently built coasters the most exciting - and safest - of all. "Things have come a long way," he said, "although we've still got wooden coasters running safely that were built in the 1920s, our company now uses computer animation to propose wood coaster projects to clients here in the U. S."

Although roller coasters always created an aura of excitement, the safety factor was not honed to current high-tech specifications in the beginning. Black said, like most amusement park rides, roller coasters can be traced back to Europe - with crude ancestors of today's models built as early as the 1700s in Russia.

The U.S. began building roller coasters around the turn of the century. Coaster popularity peaked in the roaring 20s when more than 1500 wooden roller coasters operated throughout the nation. "Nearly every state had one or two during this heyday of wooden roller coasters," Black said. "But steel roller coasters really started coming on strong in the 60s, and this was when the Woodies had just about played out."

The decline of the Woodies was steady, and Black estimates there are now only approximately 100 to 150 left in the U. S. - some of these dating back to the



1920s. "Most of them either deteriorated or were torn down, Black said. "Then demographics of the cities changed and popularity of the locations just faded away. This is what happened with Atlanta's old *Greyhound* coaster at the Lakewood Fairgrounds where I used to go as a kid."

The pendulum began to swing back in the mid-60s when modern theme parks, such as Atlanta's Six Flags Over Georgia, began to emerge. It was primarily Six Flags that launched the nostalgic renaissance of wooden coasters when the park enlisted the help of Black's company in 1972 to build the classic *Great American Scream Machine* - a \$1,800,000 coaster 105 feet tall and 3,450 feet long, with 508,000 board feet of lumber, secured with 11,000 pounds of nails.

"When we built the *Scream Machine* in '72, it was the second wooden coaster built in the U. S. since the 50s," Black said. "After that, the Woodies began to gain popularity again. There were probably four or five more built during the 70s, 12 or 15 during the 80s, and they're still being built in the U.S. during the 90s as evidenced by the record breaking Texas *Rattler* that we built.

JAPAN PROJECT

When the Japanese project came along, Black knew that it offered future potential, but there were also significant problems that had to be worked out. "The Japanese prefer agreements to be simple. Then it's up to the two parties to solve problems that come up."

Black had toured Japanese businesses as part of his MBA curriculum at Georgia State University in 1984, but there were still surprises. "The big difference was that our presentations went through several levels until we were finally talking to line workers," he said. "Corporate policy is a process of consensus in Japan, allowing



Like a giant erector set, roller coaster sections of the world's highest cyclone-style coaster are fastened together in Japan. Technical expertise and lumber were furnished by Atlanta's RCCA company.

workers to buy in rather than observe. It was most interesting to watch." The basic problem was solved when the Japanese government agreed to modify their strict building codes and regulations prohibiting tall wooden structures (such as roller coasters). The government, however, requested that the roller coaster be redesigned from proven American standards to make it more resistant to earthquakes.

"We didn't really know how to go about giving them information on this sort of redesigning," Black said. "Then we remembered the earthquake that hit San Francisco in 1989 and registered 7.1 on the Richter scale - a major quake! Well, a fault from the epicenter went to Santa Cruz and just about demolished the whole place; but a wooden coaster in Santa Cruz withstood the earthquake to the extent that it only required cosmetic repairs - replacing boards and filling in the foundation. It was all done within a week."

Findings concerning the Santa Cruz roller coaster satisfied the Japanese, but they still wanted to use double

columns that required more than one million board feet of Southern yellow pine. "This is twice the lumber that would be used to build a cyclone-style coaster in the U.S.," Black said.

PINE FROM GEORGIA

Since Japan has no forestry industry, RCCA shipped the equivalent of 70 tractor-trailer loads of Georgia pine to Japan. All wooden pieces were prefabricated, painted, and packaged by Black's company. "Think of it like a giant erector set," Black said. "This is a 90 percent American product going to Japan, sort of unusual under current trade situations."

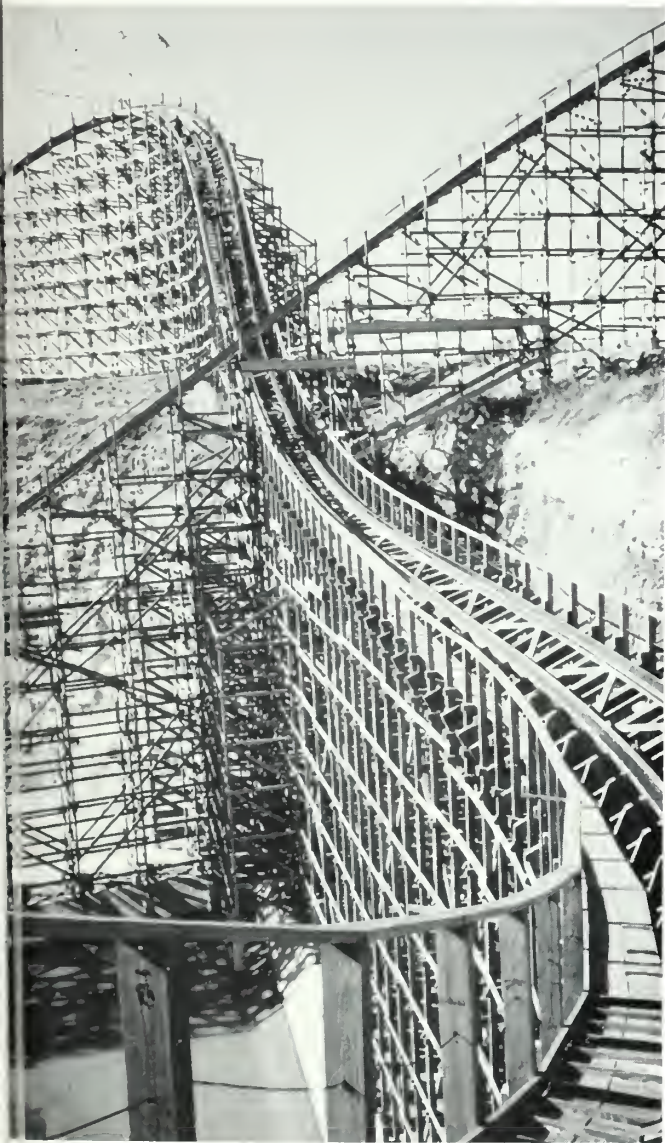
As part of the project, Black also acquainted the Japanese with wooden roller coaster operation and maintenance. The company also provided tracks and trains (through Morgan Manufacturing). Brakes were supplied by Philadelphia Toboggan Coasters, Inc. The completed bent frames were even test assembled in Atlanta before shipping.

his unusual venture may open future doors for increased import of Southern yellow pine. As Black points, Japan had previously imported considerable Douglas fir until environmental pressures restricted such activities. Black believes the import of Southern yellow pine could

very well fill this need in the future for roller coasters - and many other - lumber related projects.

"We are very excited about becoming part of the international amusement community with this project, our first venture outside the United States," Black

said. "I hope we can build roller coasters all over Asia and ship Georgia pine for construction of every one of them?" Since the average roller coaster can now cost \$8 million, there is little doubt that Black's successful Japanese partner, Togo Japan, shares his views.



The Rattler (above), another RCCA famous coaster, is the world's highest wooden roller coaster (not a cyclone-style) at 179 feet. Constructed by Mike Black and company in 1992 at Fiesta, Texas' \$100 million theme park, this coaster has enough lumber in it to encase 95 homes with 1,500 square feet each. Typical RCCA roller coaster construction, (at right) Black shows concentration of wood in design. Peak of roller coasters in U. S. was 1920s when 1500 operated, then steel coasters took over market from 1940-70 until wood dwindled to 150 rides. Now, wood coasters are making a comeback.



Ancient oak tree in suburban Albany has shaded an Indian trail, stagecoach route, and Spanish American War veterans during its long life as a prominent landmark. Roadbuilders contend its in the way of progress; preservationists say its a treasure that should be spared.

HISTORIC TREE THREATENED

By Howard Bennett

The sign on a giant live oak tree standing in the path of a proposed four-lane highway on the outskirts of Albany exclaims: ONLY GOD CAN MAKE A TREE, DON'T LET IT DIE BY THE D.O.T.

Officials of the Georgia Department of Transportation acknowledge the soulful plea of local citizens to spare the historic tree, estimated by experts to be about 300 years old, but they contend that any alternate route for the new highway would cost an additional hundreds of thousands of dollars.

Tree enthusiasts and local history buffs, however, are not being appeased by that explanation.

The "Friendship Oak," as it is called in the neighborhood, is at the busy junction of Jefferson Street and Philema Road and when DOT initially announced the proposed \$4 million highway and bridge project, a local arborist quickly cancelled a long awaited trip to Brazil and took up the fight to save the mammoth tree from the axe.

Many citizens have rallied around David Edwards, who has spent more

than \$4,000 of his own money in a campaign to save the tree, but the replacement of the road by a modern thoroughfare is favored by some, especially commercial developers with an eye on the rapidly growing suburban area.

"I bought a camcorder and was all set and looking forward to a trip to Brazil to visit and photograph the rain forest when the DOT announcement came out," said Edwards. "I decided right then to cancel the trip and stay here and try to help save a historic tree right in my own back yard."

Edwards, owner of D&D Tree Service, and Gayle Hatmaker, also a licensed arborist with the company, set about early in the campaign to enlist the support of the public by setting up tents near the ancient tree as shelters where people could stop by and sign a petition. More than 3,000 signed and many picked up bumper stickers to help promote the drive.

4,000 LIGHTS IN BRANCHES BRING ATTENTION TO BIG OAK SLATED FOR DESTRUCTION

A local radio station and volunteers helped the arborists kick off the drive and Hatmaker said "we even had people from out of town to stop by and sign the petition and had a DOT official to sign."

Edwards emphasized the prominence of the great tree last Christmas by dressing it with 2,000 white lights, later adding an additional 2,000. They remain on the tree and he said he flipped the switch one recent night and witnessed an awe-inspiring sight. He said the lighted tree glowing in the darkness "looked like a great eagle" when seen from a nearby elevated highway.

Ron Smith, former managing editor of the Albany Herald, also noted the eagle resemblance in the tree when he wrote poetically: "From a distance it stands majestically, guarding the intersection...like a protective mother. Its eagle-like wingspan magnificent, its bearing stately, its aura warm and receptive."

SOME FEAR PREVAILS

Although Edwards has enjoyed warm and receptive response from many citizens, some fear his efforts might be in

vain. Highway engineers have already designed the highway, but Edwards said he understands right-of-way purchasing has not begun. Funds for the project, however, are not presently available, according to DOT, and actual construction could be delayed until 1997.

Dougherty County commissioners and DOT officials have agreed they would prefer to save the tree, but claim that sparing the oak and taking an alternate route would be too costly. One estimate is that a different route would involve an extra \$300,000 in right-of-way acquisition and an additional \$300,000 for damages and relocation.

In correspondence with DOT more than a year ago, Bob Takask, Albany's parks supervisor, appealed for an alternate design to preserve the landmark oak. He said a tree of "such importance to the community should warrant imaginative and unconventional design alternatives, and pointed out that "other large, old stately oak trees north of this intersection...could be saved by moving the project work limits a few hundred feet to the south."

VALUED AT \$61,000

Several arborists and foresters have determined the value of the tree to be about \$61,000 and Dougherty County and DOT have agreed to jointly allot that amount to buy and plant trees after the highway construction is completed.

The "sale" of the giant tree doesn't appeal to Edwards and he plans to continue the battle to keep the tree where it has stood for centuries. "There has been a lot of misconceptions about the tree," the arborist said. "Some people claim the oak is in poor health, when actually its health is very good. It is, of course, in its declining years, but that doesn't mean its dying! It could live many years."

Senior Forester Chuck Norvell of the Forestry Commission agrees. "Limbo angles on the tree are very good and that indicates it is structurally strong," he said, "and the root system is apparently getting the proper nutrients despite the paving

that has surrounded it for 20 years." He said the root system and tree top are in balance and the tree could possibly have many more years of good health.

The forester said the tree is the third largest live oak in Albany and one on a nearby farm was determined to be over 300 years old when evaluated 22 years ago. Norvell said social attributes and aesthetic values are difficult to evaluate in terms of dollars and cents when dealing with a specimen such as the Friendship Oak. He told of a woman stopping her car when she saw him examining the threatened tree. "She rolled down her car window and said 'I sure hope you don't cut down that tree. This is the friendliest intersection in Albany, and its because of that tree.'"

Local historians say the tree once provided shade at the intersection of important Indian trails - trails that later became roads that accommodated stagecoaches. In 1898-99, several thousand soldiers mustering out of service in the Spanish-American War maintained campgrounds surrounding the old tree. In recent months, a wedding ceremony was performed beneath its spreading branches.

HIGHWAY OFFICIALS DEFEND POLICY OF BUILDING 20 YEARS IN FUTURE TO SERVE PUBLIC

Edwards said the tree is "a survivor that has been abused by nature and by man, with everything they could throw at it for 300 years, and it has held its ground like an ancient fortress." He added, however, that "there is no way it can survive a chainsaw or a DOT bulldozer" without the help of other protestors. In his appeal for fellow citizens to join the campaign,

he quoted Anthropologist Margaret Mead: "Never doubt that a small group of thoughtful, committed citizens can change the world, Indeed, it's the only thing that ever has."

A DOT spokesman said there are consequences to any progress, but the department builds for 20 years in the future to stay ahead of the need. He stressed that DOT "works for a better transportation system for everyone."



A crusade to save another landmark tree that stood in the way of a highway widening project started in 1988 when it was announced that State Highway 88 in Richmond County was carrying too much traffic and needed extra lanes.

Mrs Lottie McGee led the fight to save the big red oak that accommodated a small roadside park and was said to be at least 200 years old. She recruited the news media, volunteer protestors and civic organizations to join the cause.

DOT spokesman Jerry Stargell said working with the public about a proposed project is a routine event, and the fact that many wanted to save the tree was no surprise. He said the department makes adjustments if at all possible in saving a significant tree, but the first responsibility is to provide safe and efficient roads.

Construction was scheduled to begin in the spring or summer of fiscal year 1992 and the extra lane would have come near the tree, but would have left it standing. Foresters claim any closer to the tree than the existing road would severely damage the root system.

Construction was delayed and now the seemingly doomed oak has been saved. DOT has redesigned the proposed road and it is believed it would be a safe distance from the oak. Those working for the festival, however, point out that a protective barrier would need to be installed to protect the tree's root zone and a bird of maintenance program set up to care for the ancient tree.



Champion tree farmer James Davis, left, and Forester Alan Lamb discuss benefits of good forestry practices.

BULLOCH COUNTY COUPLE SELECTED STATE'S TREE FARMERS OF THE YEAR.

Prominent Bulloch County tree grower and cotton planter James E. Davis and his wife Fostine were recently named Georgia's Tree Farmers of the Year when they impressed a selection committee with their devotion to sound forest and land management.

A portion of the 1,380-acre farm east of Brooklet and between U. S. Highway 80 and the Ogeechee River, represents a grant from a Georgia governor in the late 1700's and Davis is of the fifth generation to own the property. Two of the couple's sons, Ray and Ted, help manage the big farm.

They have two other sons; James, Jr., who owns and operates a business in Savannah and Don is a sales representative in Atlanta. There are nine grandchildren.

Forester H. Alan Lamb, area manager of Stone Container Corporation, nominated Davis for the honor after he and Foresters Steve Price and Rocky Johns toured the farm and observed impressive forestry practices. "Mr. Davis has a long term commitment to total conservation of his land," said Lamb. "He fully understands that a tree farm is a long term investment and not a quick fix to a cash flow."

About 600 acres of the farm are in pine, while most of the cultivated acreage is in cotton and peanuts. About 150 acres are in wetlands.

Davis faithfully adheres to the reforestation policy of replanting every acre that is harvested in timber. He cleared 375 acres in 1974, 35 acres in 1976 and 121 acres in 1988 and promptly planted seedlings after each cut. The 1974 planting has matured and has not been harvested and the new crops of young trees are again growing on the tract. A thinning schedule is carried out on all the tracts on the farm.

Davis has been in the Landowner Assistance program offered by Stone Container Corporation since 1984 and he said the company's foresters "tell me what species to plant, the best methods of planting, how to manage my forest and I appreciate their advice."

Lamb said Davis, who has been a certified Tree Farmer for 11 years, has an excellent, well managed plantation underway and unlike some landowners "he is not out for what his checkbook needs, but rather what the land needs."

Davis and his sons plant about 400 acres in food plots, mainly wheat rye for

(continued on page 4)

SMOKEY BALLOON VISITS GEORGIA

**CELEBRATING
50TH
ANNIVERSARY**



A giant Smokey Bear hot-air balloon is now touring the country in celebration of Smokey's 50th Anniversary. Georgia appearances included Macon, Rome, Patterson and Augusta. Other states on the Smokey Balloon immediate schedule include C, WA, SD, MT, WI, AZ, CO, WY, NY, and A.

The 86-foot tall Smokey likeness has a 10-foot nose and 8-foot eye. More than 5 miles of thread were required to make the 120-cubic foot balloon. With a diameter of 55 feet, the total balloon assembly weighs over 1,000 pounds.

Bill Chapel, pilot of the Smokey Balloon, is a retired U. S. Forest Service employee with 36

years service. When Chapel retired from office, he was assistant to the regional forester in the Albuquerque, New Mexico regional office as coordinator of the Smokey Bear Balloon Program. Previously, he had been assistant director of fire management.

Chapel said the purpose of the Smokey Balloon is "education - pure and simple." The future now looks promising for this Smokey project to spin off into a Saturday Morning television show for kids - and an amusement park ride at some of the nation's major theme parks.

However, it did not happen overnight. Chapel started out with only an idea when he started hot-air ballooning in 1976. He saw

the attraction hot-air balloons had for children and believed a Smokey Balloon could offer and even increase more attraction.

Chapel tried several avenues of approach to get his concept of an educational Smokey Balloon accepted, but had very little success. His dream became a reality when the Friends of Smokey Bear, Inc. was established and the balloon was constructed in May of '93. The Friends organization was a non-profit organization that obtained a license from the U. S. Forest Service to use the Smokey image. Donations were solicited from various sources and the \$87,300 Smokey Balloon was constructed. The

(continued on page 13)



Pierce County High Chapter, above, placed first in the FFA forestry Field Day finals and the team representing Jackson High School, below, captured second place honors. Other photos show students listening to speakers and competing in various skills.



PIERCE FFA CHAPTER FIRST IN FIELD DAY COMPETITION

The Pierce County High School chapter of the Future Farmers of America captured first place and Jackson High came in second in the annual state finals of the FFA Forestry Field Day.

More than 200 students representing first and second place chapter winners in regional field meets, along with their advisors, judges and several special guests, attended the annual competition held on the grounds of the Georgia Forestry Center in Macon. Dean Arnette Mace, UGA School of Forest Resources, was guest speaker.

B. M. Dillard and Don Register, consulting foresters with the state's Vocational Agriculture Department and coordinators for the regional field days in April and the finals in Macon each May, said the two top winners are now eligible to enter competition on the national level. Both said the event this year was highly competitive and reflected the FFA members' willingness to work hard for high achievement.

Scotty Hattaway is faculty advisor for the winning Pierce County Chapter and Jimmy Mock directs the second place Jackson County team.

Dean Mace reminded the students of the substantial contribution forestry makes to Georgia's economy and pointed out the steadily increasing demand for forestry products. He encouraged students leaning toward a career in forestry to consider the UGA school for their training.

The educator said the school in Athens ranks as one of the top forestry schools in the nation and one of its advantages is the relatively small enrollment. He said some who enter the school have had the benefit of FFA forestry training in high school and the experience of participating in the field days.

Other schools participating in the

field day finals were Miller, Early County, Charlton County, Irwin County, Perry, Macon County, Clinch County, Appling County, Harlem, Louisville, Bleckley County, Swainsboro, Harris County, Newton County, Monticello, Pepperell, Gilmer County and Northwest Georgia. First place winners in the various events were Billy King of Perry, reforestation; Don Cunningham of Harlem, standing pulpwood estimation; Will Thomas of Pierce County, standing sawtimber estimation; Bryan Gill of Pierce County, dendrology; and Stacey Woodcock of Pierce County, ocular estimation.

Others included Sam Vesuco of Swainsboro, land measurement; Frankie Kelly of Harlem, compass; Jay Boatright of Pierce County, forest disorders; A. Brian Barrs of Bleckley County, forest management; and Robbie Blocker of Louisville, timber stand improvement.

The event this year was sponsored by Union Camp Corporation, Trust Company of Georgia and the Coca-Cola Bottling Company, Atlanta.

High school chapters winning first place in the state FFA Forestry Field Day during the past eleven years include:

Pierce County	1983
Swainsboro High	1984
Harlem High	1985
Echols County	1986
Perry High	1987
Pierce/Louisville	1988
Perry High	1989
Perry High	1990
Louisville High	1991
Pierce County	1992
Bleckley County	1993

(continued from page 11)

largest donor was the company that constructed the balloon. Aerostar, of Sioux Falls, SD, donated more than \$20,000 to the project.

Chapel emphasized that the U. S. Forest Service does not own the balloon and that all funds are obtained from donations solicited by the non-profit organization *Friends of Smokey Bear Balloons, Inc.*

FLYING SMOKEY

There are strict training requirements to fly a hot air balloon. Chapel said the FAA requires a special license to fly a hot air balloon with an average of 20 hours flying time with an instructor before soloing.

Chapel's crew chief is Pat Mitchuson, also a veteran of balloon flying. Mitchuson is no less skillful at his job than Chapel. Mitchuson can turn a dozen unexperienced balloon crew members into a synchronized team in a matter of a few hours; and this is often exactly what he has to do when these itinerant Smokey Ballooners are traveling from town to town and ask for volunteer crews. Mitchuson, who met Chapel at a hot air balloon gathering, is also a veteran of the art with years of experience. Neither Mitchuson, also retired, or Chapel receive any salary for their services; only their expenses are paid by the Friends of Smokey Bear Balloon, Inc.

Although Chapel and Mitchuson are both experienced balloonists, safety first is their practice when it comes to flying - especially since there are so many children around at the Smokey Balloon gatherings. Even the slightest hint of excessive wind or any other form of potential danger prompts them to cancel a flight.

If anything looks dangerous," Chapel said, "we'll just tether the balloon and talk to the kids - sometimes thousands of them. They really enjoy that and so do we."

Chapel considers the potential of the Smokey Bear Balloon program for educational purposes to be excellent, with a variety of possibilities for branching off. The half hour tv pilot that we're doing has great possibilities," he said. "The show would be for kids and by kids - with kids as actors. The premise is a tree house setting with a ranger type character as sort of a coach, instructing the kids on fire prevention and other

(continued on page 15)

TREE FARMERS OF THE YEAR



(continued from page 10)

wild game on the farm and it has resulted in large turkey and deer populations. Family members and friends enjoy hunting on the land.

Davis, who graduated from Stilson High School, attended Abraham Baldwin Agricultural College and the University of Georgia and served in the U. S. Army's occupational forces in Germany at the end of World War II, said he experimented with growing Christmas trees at one time in his diversified farming operation, but the venture was short lived. "We planted about four acres of Arizona cypress in a place out of sight of the house, and people came by and did the harvesting," he said, "and walked away with free trees."

Lamb said the Davis farm is an ideal place to view good forestry and conservation practices and the family has welcomed visitors. He pointed out that a government conservationist from Venezuela and her associates recently toured the farm to study natural stands of timber versus managed plantations.

Davis is a member of the official board of Hurbert United Methodist Church, a member of the Board of Directors of the Excelsior Electric Membership Cooperative and on the board of Merchants and Farmers Bank in Statesboro. The Davis family was honored as the Bulloch County Farm Family of the year in 1993. The couple is active in several charitable and civic organizations.

Mr. and Mrs. Davis will be guests of honor at the annual convention of the Georgia Forestry Association June 26-28, 1994, on St. Simons Island, where they will be formally presented as Georgia's Tree Farmers of the Year.

STEWARDSHIP PROGRAM

(continued from page 3)

accepted the duties and complete responsibilities of a private consultant. Marsh said 75 to 80 percent of his clients are now interested in the Stewardship Program with "most of them either having applied for the program or currently in the process of applying."

"All of Jerry's clients are diverse," Pope said. "This diversity is what the Stewardship Program is all about. Every client has different needs and individual ideas on priorities. The Stewardship Program enables them to establish a tailor-made plan for their needs."

Marsh points out the Stilson area (location Whitney forestland), is a relatively sparsely populated area of the state that offers good opportunity for wildlife cultivation, which the Whitneys have incorporated into their Stewardship plan.

BASIC AREAS

The Forest Stewardship program is composed of the following basic areas for establishing a plan: "Timber Resource Management, Wildlife Habitat (game and /or non-game species), Soil and Water Conservation, and Recreation and Aesthetics.

Stewardship Program guidelines suggest two primary objectives be selected for an individual management plan. The Whitneys selected Timber Resource Management and Recreation and Aesthetics (with emphasis on aesthetics) Mr. and Mrs. Whitney have been married for 52 years. They live in New York state and spend two months of each year in Stilson to visit and check on their land. Jerry Marsh is responsible for all management details in their absence.

"For the 30 years we've worked with Jerry there have been no problems," Mr. Whitney said. "Now, with the Stewardship Program implemented, things are even better due to clarification."

As Forester Dennis Pope said, "In the case of Jerry Marsh and Whitneys

working together, it's not so much a change in philosophy as the situation of getting everything down on paper as part of an officially adopted program that incorporates their views."

The Whitneys, like many forestland owners throughout the state, selected Timber Resource Management as number one of two primary objectives in their Stewardship Plan. "In the years I've worked with the Whitneys," Marsh said, "they have clear-cut and reforested 150 acres - and had twelve timber sales. Yet, I'd venture to say that she has more timber value on this property today than she had many years ago."

Marsh also stressed that the timber production, harvest, and reforestation does not mar the total aesthetics concentration (the Whitneys secondary objective) of the Stewardship Plan when properly performed. This is very important to Mrs. Whitney, a native of Bulloch County whose 900 acres have been in her family for three generations.

"One of my earliest memories is picking flowers in the woods," Mrs. Whitney said. Like many landowners with Stewardship plans, she wants to maintain good timber resources and aesthetic qualities. Marsh said the Stewardship program encourages cultivation of aesthetic characteristics, and Mrs. Marsh has improved aesthetics considerably by planting shrubs and other types of plants on various sections of her three tracts.

The Whitneys and Marsh have experienced the influences of changing times since the Commission officially adopted the Stewardship Program in 1990. The fragile balance between private responsibility and public benefit was emphasized by public pressure or government agencies to regulate how land, water and resources might be used. This environmental concern became particularly conspicuous in relation to the Stewardship Program's relationship with endangered species.

INITIAL CONCERN

The Whitneys, again like many other landowners in their initial phase of interest, became concerned about what they thought might result in denial of

certain property uses due to discovery of obscure plants on the endangered species list. "We even attended some college courses on this sort of thing to get a better understanding of what is going on," Mr. Whitney said.

Marsh said this is a common concern of many landowners, but once they understand the entire situation, their concerns are in perspective and they have little hesitation about participating in the program.

As Marsh explained, locations of any rare, threatened or endangered species are identified with specific habitat enhancement activities to promote recovery. "This is not something that is targeted specifically by the Stewardship Program," he said. "It is something that influences aspects of many other social and environmental programs. When landowners see there is no real threat to them and understand the reasons, most want to cooperate."

In a similar vein, regulations concerning wetlands and highly erodible soils specified in the 1985 and 1990 Farm Bills are included in Stewardship Program. Stewardship guidelines also point out that many geological and archeological treasures are found within Georgia forests. More modern treasures include old mills, home sites, barns, and other nostalgic glimpses of the vanishing past. A Stewardship Plan can help preserve and identify such findings.

INDIVIDUAL CHOICE

The Forest Stewardship Program develops a management plan based on the individual and owners objectives and potential of the property. Recommendations will be made, but the landowner is not obligated to follow them. But, as Jerry Marsh and other forestry consultants point out "A true Steward of the land will want to follow the recommendations."

An added incentive for following the recommendations is that assistance in funding an approved Forest Stewardship Plan is available through (SIP) The Stewardship Incentive Program. All payments are based on the landowner complying with regulations set forth under the program.

Commission Forester Dennis Pope said the basis for District 12's success in implementing the Stewardship Program is the good working relationship between the Commission and other agencies

involved. Jerry Marsh said, "real success of the Stewardship Program is impossible without the cooperation of the various agencies."

The cooperating agencies include: the Georgia Forestry Commission, Georgia Department of Natural Resources, University of Georgia Cooperative Extension Service, USDA Soil Conservation Service, USDA Forest Service, and USDA Agricultural Stabilization and Conservation Service.

"You could not ask for a more cooperative and productive working relationship than the one that has been developed in District 12," Marsh said. "That's why the Stewardship Program has been so successful here."

To Start Your Forest Stewardship Plan - Call The Georgia Forestry Commission at 1-800-GA-TREES.

SMOKEY BALLOON

(continued from page 13)

related situations." Chapel said the program also plans to provide study guides for schools so classes can follow along with educational objectives of the television show.

As for the amusement theme park involvement, Chapel said the program would like to develop miniature forests in addition to the Smokey water rides.

"Actually, the accomplishments and directions this program can go in are

limited only by imagination," Chapel said. "Smokey is the second most recognized figure in the world - Santa Clause is first, but Smokey gets more mail."


Attraction and popularity of the Smokey Balloon was indicated by large Georgia crowds. Smokey was at Macon's Wesleyan College for a hot air balloon race; more than 4,000 people turned out for the afternoon session, despite high winds that prevented any of the balloons from lifting off. However, Smokey did fly at 6:00 a.m. that morning and a large crowd turned out at dawn.

In Augusta, more than 6,000 elementary school children gathered at Daniel Air Field to wish Smokey a happy 50th birthday. The big celebration was coordinated by the Commission and U. S. Forest Service.

The Smokey Balloon was tethered and did not fly in Augusta, but the children never tired of filing by the giant likeness and squealing when the hissing flight burners were turned on.

Only one Augusta second grader seemed disturbed when looking at the towering face of Smokey. "He looks very old," said James Kelly of Joseph Lamar Elementary School. "I don't believe that's really Smokey."

But as the Smokey Balloon program progresses, all the kids will know that Smokey is forever young. And he'll be back in Georgia to see them again.



The Georgia Forestry Commission is seeking a small sawmill to add to the collection of forestry-related machinery, equipment, tools and other artifacts now on display at the Georgia Forestry Museum on the grounds of the Georgia Forestry Center in Macon.

The mill would not have to be operational; it could be a static display to show museum visitors how lumber is manufactured. An old steam-driven mill would be ideal, but any small mill would be appreciated.

A plaque denoting an individual or family donating the mill to the museum will be permanently displayed next to the machinery.

Please contact the Forest Information and Education Department, Georgia Forestry Commission, Box 819, Macon, Georgia 31298 (Phone 912/751-3530) if you can make such a contribution or have information on someone who might make the donation.

54th Annual Miss Georgia Forestry Pageant

Young ladies who won the forestry pageant on the county level gathered in Macon for the statewide finals; judges selected one to wear the crown of Miss Georgia Forestry. A Miss Gum Spirits also was selected. The colorful pageant, now in its 54th year, was a two-day event in which the contestants were judged on general appearance, personality and ability to meet the public. A reception for contestants was at the Georgia Forestry Center, and the Queen's Luncheon was held Saturday, June 25, at the Radisson Hotel in Macon, followed by the contest in the evening. Denise Michelle Griffin of Fitzgerald was the reigning Miss Georgia Forestry and Amy Marie Thompson of Lyons our Miss Gum Spirits, 1993. Winners will be featured in the next issue of Georgia Forestry.



Zenda Hamilton
Atkinson Co.



Aneisa Marie Young
Ben Hill-Irwin



Kenee Lynn Gregor
Brantley County



Michelle Moore
Burke County



Misty Renee Haley
Butts-Henry



Sarah Gowen
Charlton County



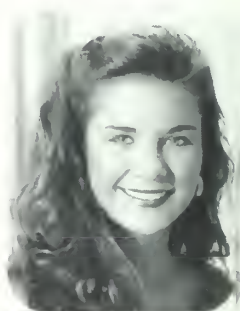
Rachel S. Johnston
Clinch County



Jennifer Barker
Cook County



Brande Gail Puckett
Crawford County



Virginia Lee Hurt
Crisp-Dooly



Delores A. Blair
Decatur County



Anitra Holley
Early County



Cindy Thompson
Emanuel County



Marlo Boyer
Evans County



Jocelyn Nicole Bramlett
Gilmer County



Alicia Newome
Johnson County



Monica Leigh Wood
Jones County



Lani Kristen Swann
Lanier/Lowndes



Crystal E. Middlebrooks
Macon County



Jennie Owen
Madison-Elbert



Lori Lee Heard
Miller County



Stephanie Willis
Montgomery County



Ashley Saye Hammonds
Morgan/Walton



Mandy Jackson
Oconee County



Nancie Joyce Churchwell
Oglethorpe County



Amy S. Eunice
Pierce County



Candace Kitchens
Richmond County



LaShanna Gail Newton
Taylor County



Lisa Benton
Telfair County



Amanda Michelle Pitts
Tift County



Heather Newsome
Toombs County



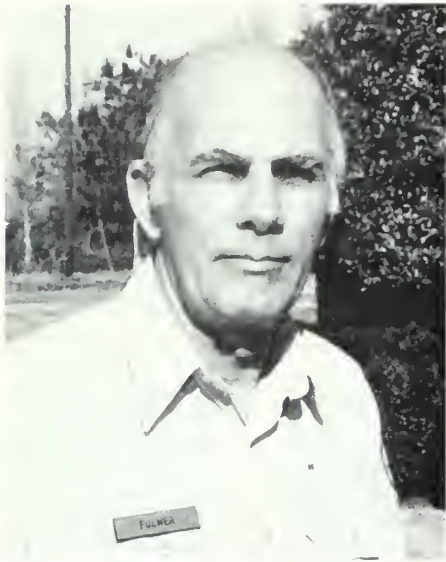
Krystal Miranda Hooks
Treutlen County



Dee Dee Miller
Wayne County



Alicia Suzanne Bagley
Worth County



Fulmer



Allen



Loggins

FIELD SUPERVISOR PRESTON FULMER RETIRES; FRED ALLEN AND TOMMY LOGGINS PROMOTED

Field Supervisor Preston Fulmer retired in May to end a 33-year-career in the job he said he always wanted.

"I reached my goal," said the veteran forester. "From the very beginning of my employment with the Commission, I felt that the field supervisor post would be the most challenging and interesting job in our agency and I'm grateful that I had the opportunity to work in that capacity."

Fulmer, who came with the Commission in 1961, was honored by GFC personnel and other friends at a retirement dinner in Macon.

The Macon native is a 1956 graduate of Lanier High School and the School of Forest Resources, University of Georgia. After his initial assignment in Waycross, he served as assistant ranger in Valdosta, forest technician in Camilla and area forester and assistant district forester in Early County. He was Newnan District forester for 18 years before transferring to Macon headquarters in 1990 to become field supervisor.

Fred Allen, who succeeded John

Mixon as head of the Commission's Forest Research Department in 1983, filled the position vacated by Fulmer. Allen cooperated with Supervisor Tommy Loggins in statewide field assignments. Each was assigned to one-half of the state and they exchanged territories

every two years. "That traditional arrangement set up by the Commission gave me an opportunity to visit every unit and work with personnel in every county in the state," Fulmer explained. "It has been a rewarding experience in working with budgets, construction and other activities out in the field."

While in Newnan, Fulmer coordinated the first Land Use and Forest Management Field Day, an event that is now held biennially in Griffin.

The retired forester and his wife, Teena, have three children. Preston, Jr., Karen and Julie. They are active in the Baptist Church. They will again make their home in Newnan.

*

Allen, a native of West Virginia and a graduate of the University of Georgia with a degree in forestry, began his career as a forest patrolman in the Newnan District in 1972. He transferred to Atlanta the following year to become urban forester for Cobb County.

He was named urban forester for the Augusta area in 1974 and moved back to Atlanta in 1979 to work as wood energy coordinator in cooperation with Georgia Tech.

Allen came to the Commission's Macon headquarters in 1979 to serve as

assistant chief of the agency's Forest Research Department and when John

Mixon, who headed the department, was named Commission Director, he became chief of the department. (The name of the department was recently changed to Forest Products, Utilization, Marketing and Development).

"I looked forward to this new assignment," said Allen, "and now that I'm working in counties across the northern half of the state, I find the personnel very cooperative and the job very interesting."

Considerable progress was made in the promotion of wood energy and the advancement of forest technology during Allen's tenure as head of research and he said he misses his work in that area, but he knows the department is "in good hands with Tommy Loggins as chief." Loggins was formerly assistant chief of the department.

Allen and his wife, Teresa, and their children, John and Michael, live in Gray. The family is active in the First Baptist Church.

*

Loggins, a native of Cleveland, is a graduate of White County High School. He attended Truett-McConnell College and earned a degree in forestry from the

School of Forest Resources, University of Georgia.

He came with the Commission in 1970 and worked as forest technician for the Lake Lanier Islands Authority. He later served three years in the Army and following his discharge, worked as metro forester in the Atlanta area. Beginning in 1977, Loggins served five years as forest technician for the Stone Mountain Authority, later moving to Lawrenceville to work in urban wood utilization.

The forester transferred to Macon in 1984 to serve as assistant chief of the Forest Research Department.

In assuming his new position as department chief, Loggins said working with industry in the utilization of wood would continue to be an important role of the department, although the use of wood waste is now more widely accepted. He said priority also is given to the promotion of wood-constructed bridges on Georgia's secondary roads, with some serving as experimental projects to modern engineering techniques.

Loggins and his wife Wanda and their two children, Patrice and Ryan, live in Dry Branch. They are active in Grayson First Baptist Church.



Tractor-drawn trams transported visitors to the many sites.

HUNDREDS ATTEND BIENNIAL FIELD DAY

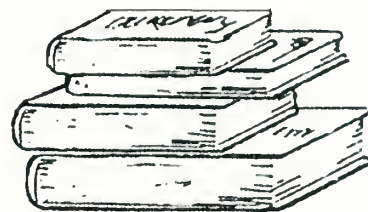
The third Land Use and Forest Field Day held recently near Swainsboro attracted hundreds of landowners who had the opportunity to visit demonstrations that featured the most effective methods of managing forests, agricultural lands and streams.

The one-day event on the James Morgan farm and forests included displays and information provided by professional foresters and other natural resource specialists on a wide range of subjects pertaining to wise land use. The

landowners also enjoyed a barbecued chicken lunch and music by a country band.

The field days have been held biennial, alternatives between the Swainsboro and Griffin areas. The Department of Natural Resources, Georgia Farm Bureau, U. S. Forest Service, forest industries and several other agencies and organizations cooperate with the commission in staging the events. Officials of some of the sponsors make brief speeches at the field days.

THE BOOK CORNER



THE ENVIRONMENTAL ETHICS AND POLICY BOOK, By Donald VanDeVeer and Christine Pierce, Wadsworth Publishing Company (Belmont, California) Hardback \$37.50.

A brand new (1994) proposed textbook, with both authors from North Carolina State University, containing enough pro and con forestry related material to boggle the minds of all but the most entrenched academicians.

The contrasting views on various key topics, range from *The Land Ethic* (by Aldo Leopold) to Ecosabotage and Civil Disobedience (by Michael Martin). One entire section of the text is devoted to *Forests and Wilderness* including such topics as *Tropical Forests and Their Species: Going, Going...?* (by Norman Myers); *Forest Service Policy*, (by Bryan G. Norton); and *Radical Environmentalism and Wilderness Preservation: A Third World Critique* (by Ramachandra Guha).

And so it goes for 638 pages that are almost overwhelming in an array of intricate information and varied viewpoints. Obviously, the authors have served more as compilation specialists than writers in this impressive work; familiar names are scattered through the bylines that offer food for thought on the book's stated purpose of exploring in-depth questions about "how on earth we ought to live" and how we can "live responsibly with nonhumans on the planet."

Designed for undergraduate and graduate university-level courses, this volume is basically a philosophy and ethics guide - with economic overtones - that could complement curriculums of forestry and environmental sciences.

Views range from philosophical assumptions to policy, and include materials instructors desire concerning environmental ethics or policy. Results could be influential in the formulation of future forest and land management.

This book is not designed to dictate - but to make the reader think. Times are changing and this text - whether catalyzing agreement or disagreement - is a sign of the times.



Popular dog helps Chief Ranger W. H. Woodyard teach fire safety rules to children at a public school in LaGrange.

TRAINED DOG TEACHES, DELIGHTS STUDENTS

Smokey Bear, the dedicated 50-year-old crusader against forest wildfire, has some stiff competition in Georgia's Troop and Heard Counties, where he has to share the spotlight with a big friendly dog in parades, festivals, classroom presentations and other appearances.

The popular canine, affectionately known as Smokey the Dog (adopting the middle name the bear used to have), is an animal so well regarded that he receives a Kentucky Fried Chicken gift certificate from a district ranger each Christmas. His training includes a trip through the Commission's fire simulator, making him a member of the Fire Tactics Team, and when fire strikes in his county, he is always ready to hop on the ranger's pickup truck.

The dog's master and trainer, Chief Ranger W. H. Woodyard of the Troop-Heard County Unit, takes the animal to schools to show him to children for fire safety presentations. After the ranger makes his talk, he commands the dog to do tricks that emphasize fire safety.

Some of the tricks that impresses the

kids the most from kindergarten to fourth grade, the ages we usually work with, is the 'Stop, Drop and Roll' stunt," Woodyard said. The ranger advises the students to drop to the ground and roll if their clothing should ever catch fire and he then commands the dog to drop to the classroom floor and show how it is done.

"Our Smokey The Dog has performed in front of 12,000 to 14,000 school children since we started with him in 1987. Woodyard said. "Some of those kids are juniors and seniors in high school now, but they still remember and call out to Smokey wherever they see him."

The ranger said he realizes the fondness people of all ages have for the venerable Smokey Bear and he continues to use him in parades and other forestry promotions, but he is accompanied by the dog. One advantage Woodyard pointed out: "It sure makes it easier when you don't have to find someone to wear a dog suit."

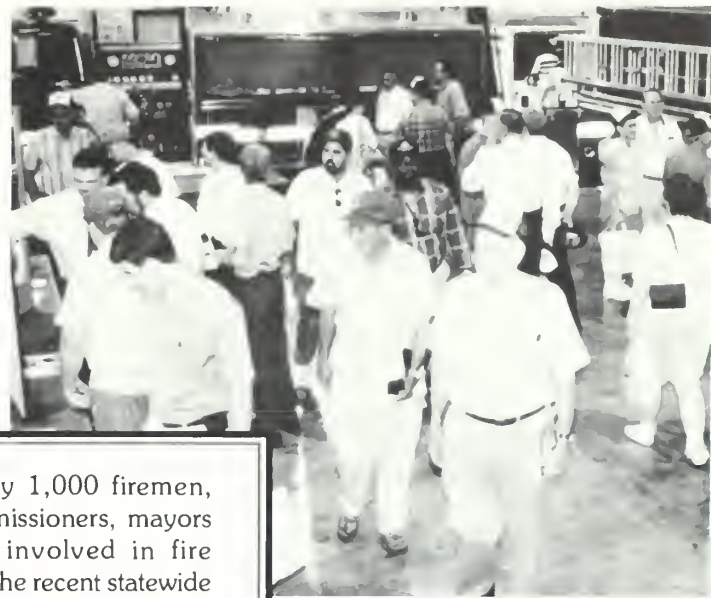
Woodyard said "the smaller children are usually afraid of the bear because of

his size, but they come up and shake the dog's paw and pet him. They seem to be more comfortable with the live animal and it makes a greater impact."

Unfortunately, the gentle 40-pound dog has health problems brought about by his age - he is eleven - and the ranger feels he has only about three more "good years" to help in the fire safety program. Under the advice of a veterinarian, Woodyard gives the dog an aspirin each day to ease the pain of arthritis in his shoulder and hips. The dog has monthly appointments at the vet's office, at the expense the ranger handles personally.

Smokey The Dog is content when he is riding in the bed of a pickup, appearing before school children, riding in a crawler tractor or merely dozing on the floor of the county unit office. If his contribution to safety training saves just one child from death or serious injury, Ranger Woodyard figures he has earned his keep!

One of his rewards will be another KFC gift certificate next Christmas from Athens District Ranger Tommy Hewel.

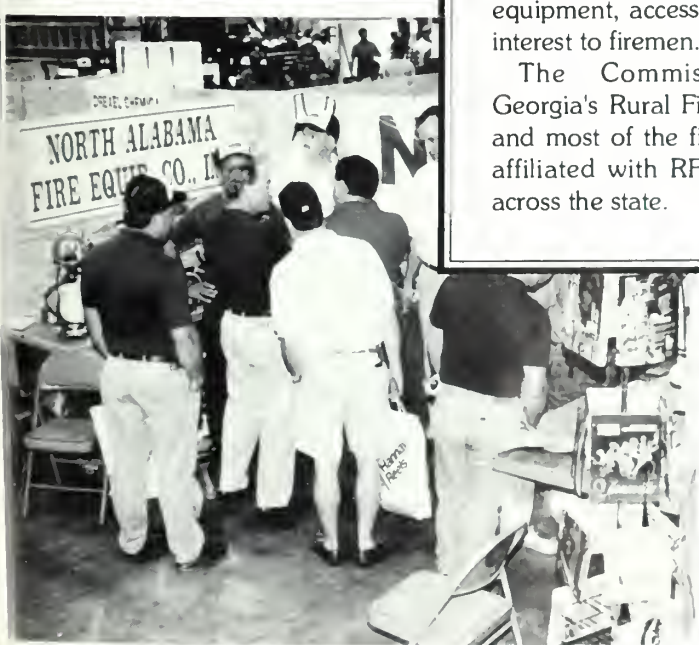


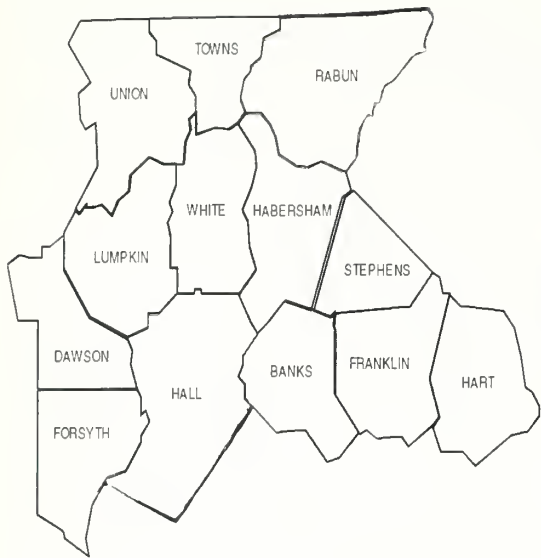
Approximately 1,000 firemen, county commissioners, mayors and others involved in fire protection attended the recent statewide 10th biennial Georgia Fire Equipment Show for an update on firefighting techniques and to view an array of advanced equipment.

David Pritchett, director of the Georgia Fire Academy and featured speaker at the show held at the Georgia National Fairgrounds and Agri-Center, told of new fire training modules at the academy and explained inspection compliance procedures now being carried out jointly with the Forestry Commission. Wesley Wells, chief of the Commission's Forest Protection Department, was moderator for the program.

Twenty-eight vendors from nine states maintained booths at the show to display and demonstrate a wide range of equipment, accessories and supplies of interest to firemen.

The Commission administers Georgia's Rural Fire Defense Program and most of the firemen attending are affiliated with RFD fire departments across the state.





GAINESVILLE DISTRICT, NEWTON-ROCKDALE AND BRANTLEY UNITS RECEIVE PERFORMANCE AWARDS

Plaques for outstanding performance have been presented to the Commission's Gainesville District and the Newton-Rockdale and Brantley County Units by the Georgia Forestry Association. The presentations were made at an awards breakfast during the Association's Annual Convention on Jekyll Island.

The Association cited the Gainesville District for the participation of its personnel in a massive cleanup and salvage effort following the blizzard of 1993 and the district's role in coordinating emergency access during the aftermath of the destructive Palm Sunday tornadoes.

During recent months, the district headed by District Forester David McClain also managed to complete several construction projects, including the much-needed renovation of the district office, a nature trail and outdoor classroom for the Dawson County Educational Forest. An antique ox cart was rebuilt for the Macon Museum.

The judges said the Gainesville district is versatile. It is constantly training and retraining employees, as well as offering expertise to other state and federal agencies. In addition, assigned Commission duties, including completing partnership plans, fabricating and painting fire knocker tanks, making equipment for use by fire departments and the Department of Corrections and other

projects, were carried out.

In nominating the Newton-district's Rockdale Unit for this year's Region I, Georgia GFA Award, District Forester Ken Bailey said the unit, headed by Chief Ranger Budd, is "consistently one of the best kept and run units in this or any other district." All personnel take pride in its looks as well as how it meets the forestry needs of the Newton-Rockdale area it serves, he said.

"Chief Ranger Budd has an excellent working relationship with all county, state and city agencies, as well as the public. He makes forestry a part of their programs through the various services the Forestry Commission offers," the district forester said.

For the past two months, the unit has been involved in a project which entailed moving 300 large trees from the Olympic Horse Venue site to schools and public parks in Rockdale County.

Recently, the Georgia Clean and Beautiful organization gave the Athens District the State-Federal Government Award at its annual luncheon. The Covington-Newton County Office of Clean and Beautiful made the nomination--again showing the influence that this unit has with that organization.

District Forester Buck Wynn nominated

the Brantley County Unit as the outstanding unit in Region II, South Georgia, because of the employees' willingness to assist other units in any project where they are needed.

As an adjoining county to the District Office, the unit is responsible for all year-round maintenance at the D. O. "They also assist other units with equipment needs; the attitude is that their adjoining county neighbors should be equipped and as fire-ready as Brantley County because we all will be on a fire together at some point in time," Wynn said.

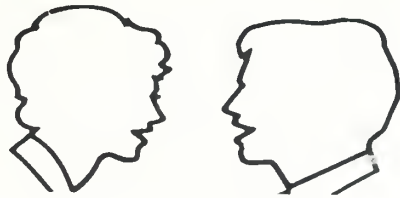
The District Forester said the Brantley County Unit is constantly active in community affairs; they work closely with landowners advising them on proper techniques for burning and managing fire as well as smokes. They work closely with the Brantley County Firemen's Association, promoting fire prevention and fire safety during the month of October (fire prevention month). The Brantley County Unit was instrumental in helping establish the association.

Chief Ranger Chesser is active in the local reforestation committee and at the present time he is serving as chairman. The committee works with the forestry unit in setting up a local forestry tour which has been held every other year since 1987. Chesser also serves as chairman of the Brantley County Farm Bureau Forestry Commodity Committee, which has won a Gold State Award each year for the Unit's efforts in promoting reforestation and fire prevention in the county since 1988.



people

in the news



TWO NEW PLANTS LOCATED IN STATE

Two forest products companies recently announced plans to build plants in Georgia at a cost of \$23 million and provide 250 jobs.

Anthony Forest Products, an Arkansas-based manufacturer of wood products, will build a laminated beam plant in Washington (Wilkes County). Total investment will be approximately \$8 million and employment is expected to reach 100. The company considered 60 sites in Georgia and South Carolina before deciding on Wilkes County. Anthony Forest Products owns and harvests timberlands in Arkansas, Louisiana and Texas. It operates sawmills in Arkansas and Texas, a chip mill in Louisiana and a laminated beam plant in Arkansas.

Fitzgerald Forest Products of Springfield, Oregon has announced plans to locate a \$15 million veneer plant in Ben Hill County. The plant will produce dried pine veneer for the domestic and export markets to be used for plywood panels and other engineered wood products.

FOREST FARMERS NAME RONALD BOST PRESIDENT

Ronald M. Bost, vice president of Crescent Resources, Inc., Charlotte, North Carolina, was installed president of Forest Farmers Association at the group's 53rd annual meeting held recently in Charleston, South Carolina. Bobby J. Neill, a consulting forester in Magnolia, Arkansas, was named president-elect.

"Charting a New Forestry Course Through Troubled Waters" was the theme of the meeting that featured a slate of forestry and property rights leaders imparting their views on ways to stem the tide that threatens to overwhelm the timber growing business.

In other proceedings at the annual meeting, attended by over 400 members, William J. Barton, a forestry consultant and retired division operations manager for Union Camp Corporation Woodlands in Savannah, was recognized by Forest Farmers Association with its highest honor -- the Forest Farmer Award.

CHRIS BABB, a native of Parker, Florida, but who grew up in Fayette County, was named chief ranger of the Coweta County Unit earlier this year. He succeeds Kenneth Parker who was transferred to



BABB



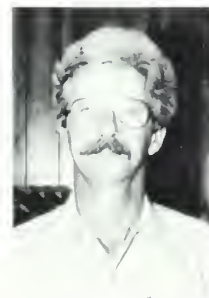
ISLER

Pike County. The ranger, who came with the unit as ranger one in February, 1993, is a graduate of Fayette County High School and he attended Abraham Baldwin Agricultural College for two years. Babb and his wife Sherri have three children, Joseph, Phillip and Elizabeth. The family attends First Baptist Church in Senois...FORESTER LAMAR ALAN ISLER, a native of Clay County, has been assigned to the Tifton District to provide forest management services

forester is a member of Southside Baptist Church in Early County...WADE E. McDONALD, a native of Savannah, has been named manager of the Statesboro Office of F&W Forestry Services, Inc. McDonald, who in 1983 joined the company which provides forest management and consulting services, is a graduate in forestry technology at Savannah Technical Institute...H. A. STANFIELD, JR. former Tattall County ranger, is now Statesboro District Ranger, succeeding Monroe Gaines, who now holds that position in the Rome District. Stanfield, who was born in North Carolina but grew up in Tattall County, came with the Commission in 1969 as patrolman in the unit in his home county. He was later named Chief Ranger for the county and moved to the district post several months ago. The ranger and his wife Aundrey have a daughter, Crystal, and one granddaughter. The couple attends the Baptist Church...CHIEF RANGER BRETT KENNEDY now occupies the Tattall County Unit position vacated by Stanfield's transfer to Statesboro. Following graduation from Reidsville High School, Kennedy attended South Georgia Vocational and Technical School, where he studied automobile mechanics. He worked with his father's Chevrolet and Oldsmobile Dealership for several years before coming with the Commission in 1982. The chief ranger and his wife Sylvia have three children, Jessica, Rader and Katie. The family is active in Reidsville United Methodist Church. Kennedy is a member of the Tattall County Cattlemens' Association and Ducks Unlimited.

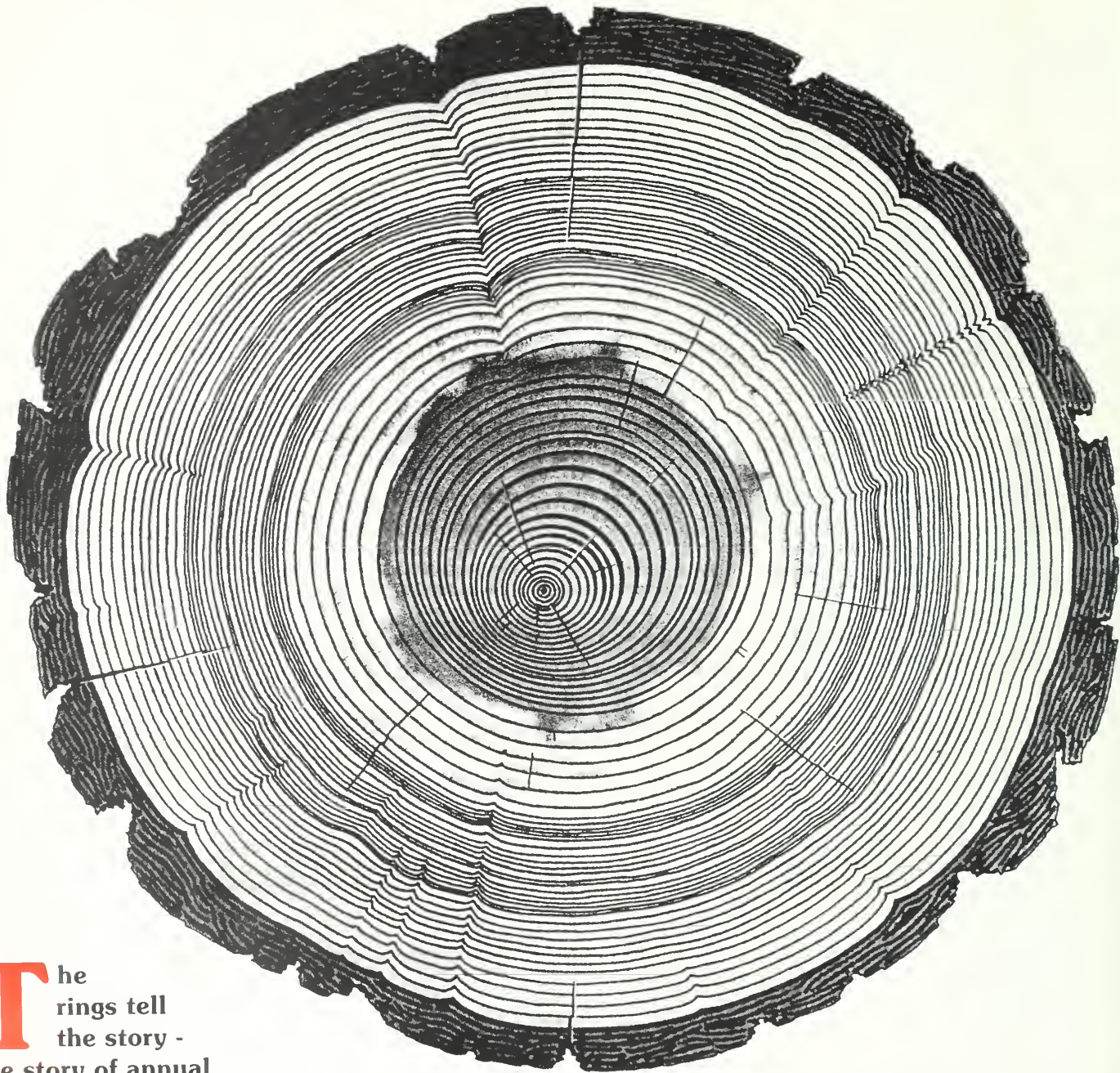


MCDONALD



KENNEDY

in Brooks, Berrien and Cook Counties. Isler is a graduate of Calhoun County High School. He attended ABAC before transferring to the University of Georgia, where he earned a degree in forestry. The



The rings tell the story - the story of annual growth in an investment that keeps accumulating dividends year after year, in good times and in bad.



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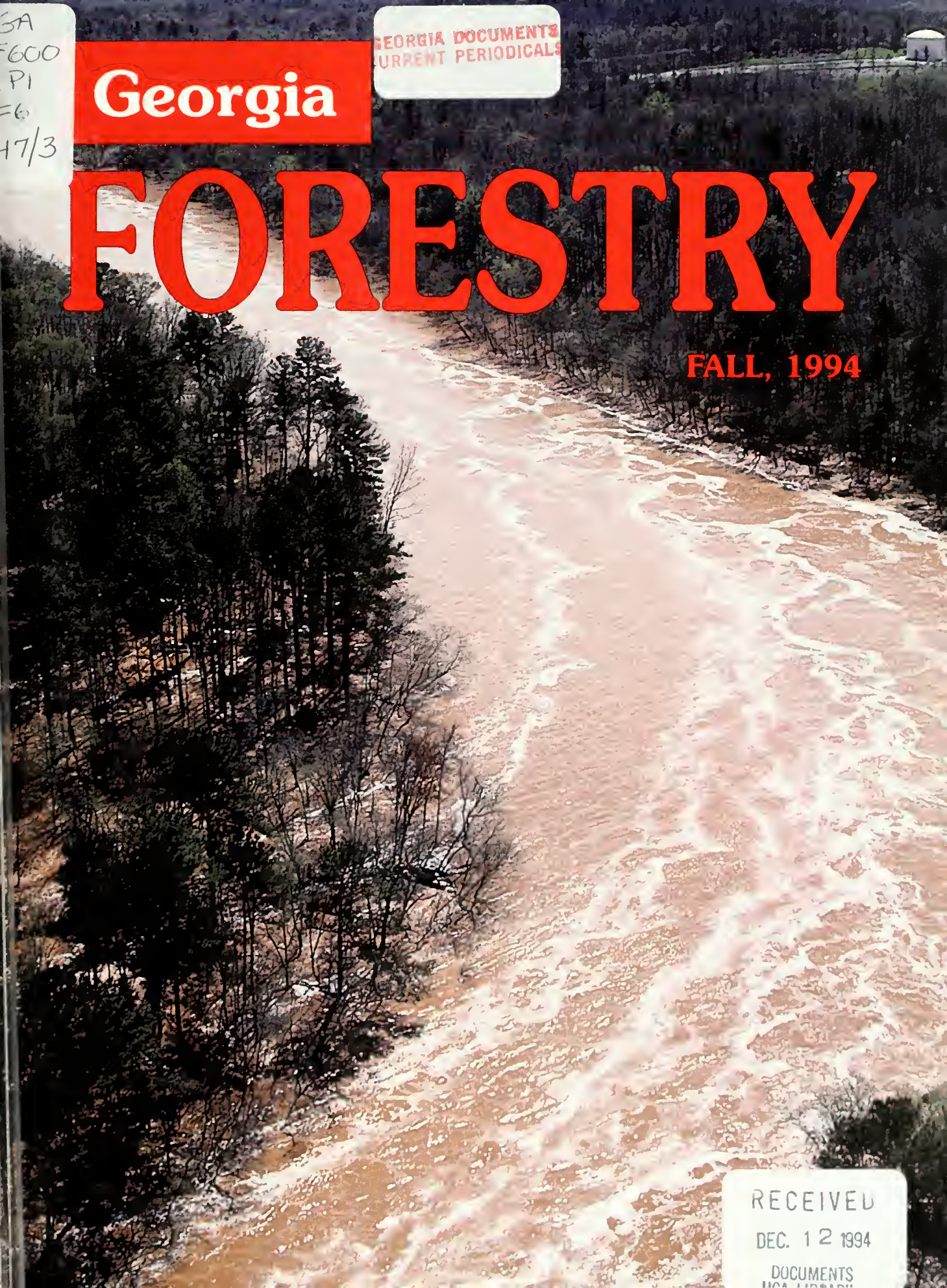
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Georgia Forestry Fall, 1994



District Forester Geoff Rockwell examines the trunk of Tifton's landmark Magnolia which has been defaced by vandals.

ANOTHER TREE IN TROUBLE

Another historic Georgia tree is being threatened.

This time, it's a magnificent magnolia with a crown spread of more than 88 feet that has existed for at least 500 years at a site that is now part of an industrial park on the outskirts of Tifton.

Other endangered trees featured in this magazine included an ancient red oak that stands in the way of a highway-widening project in Richmond County and a landmark live oak in the path of planned road construction in Albany.

The "Save the Magnolia Tree Committee" in Tifton, however, has no problem with the Department of Transportation; its protest is against vandals who have carved on some of the tree's several main trunks and defaced it with spray paint.

The committee bent on saving the huge tree was formed in 1991, after Dr. Kim Coder, a forester with the University of Georgia Extension Service, recommended steps that should be taken to slow the decline and improve the general health of the magnolia. The necessary \$2,500 to fund the project was not raised and the tree has continued to be abused.

District Forester Geoff Rockwell of the Commission's Griffin Office, said maintenance of the tree is difficult because of its remoteness. "It's in a bad location," he said. "If it was within the city it could be properly protected."

Rockwell and others interested in salvaging the tree, said to be one of the largest magnolias in the state, are not giving up. They hope the committee can renew its fund raising efforts and they are seeking a federally-funded urban forestry grant.

The tree site is expected to be less isolated and less of a target of vandals as new industries continue to build in the area, but the immediate goal is to take steps to keep it alive until it can be better protected.

ON THE COVER - An aerial view of the Ocmulgee River on a rampage through Central Georgia. The Ocmulgee and Flint Rivers teamed up to give Georgia the greatest flood in its recorded history.

Photo by Billy Godfrey. (See flood story, photos on pages 8-12).

OLYMPIC TREE PLANTING CAMPAIGN UNPARALLELED IN URBAN FORESTRY

The Commission has launched a statewide urban tree planting program to welcome the 1996 Summer Olympic Games to Atlanta with the goal of planting 25,000 trees on Olympic corridors and major event sites.

Commission Director John Mixon said this is the largest urban forestry tree planting program ever initiated in the state's 27 years of an officially adopted urban forestry program.

Georgia Governor Zell Miller, and the Georgia General Assembly, with the support of Representative Terry Coleman, appropriated \$100,000 to the Commission for a matching grant to purchase trees for Georgia towns and cities. A community that applies for the funds must provide a minimum 50-50

match for trees - then plant and maintain the trees for at least three years.

Although urban Olympic tree planting will focus on Atlanta, other sections of the state will also benefit from the program. To implement the massive and detailed statewide program, the Commission formed Georgia Trees Coalition (GTC) in 1991. Coalition membership is composed of partners throughout Georgia representing citizens tree groups, businesses, local institutions, and representatives of local, state and federal government. The Atlanta Committee for the Olympic Games (ACOG) is also be a member.

Sharon Dolliver, Commission Urban Forestry Coordinator for Georgia, said, "Although GTC members have different

priorities, partners have unified to make the best possible impression for Georgia and the United States. The Coalition is now one strong and unified entity dedicated to that purpose."

Dolliver added that even though Georgia was one of the first states in the nation to implement an urban forestry program, nothing has ever compared with this monumental tree planting in scope or detailed planning efforts. "There's a universal aura of enthusiasm and cooperation within the program,"

Tree lined street scene below is typical of view planners hope world visitors will find in Atlanta and other Georgia cities.



she said. "Every Coalition member knows that the accomplishments of this program will create a positive influence for visitors from all over the world. And many of our foreign visitors will carry this one-time image with them for a lifetime."

Coalition members know the aesthetic value of well-planned tree planting will greatly influence this first impression of Georgia and the U. S. "The whole world will be watching," Dolliver said, "and representatives from much of the world will be watching from Atlanta."

STATEWIDE PLANTING

Although the Olympics will be concentrated in Atlanta, other Georgia cities and towns will be Olympic training sites during Spring and summer of 1996. Macon will be the training site for Russian athletes, while LaGrange is scheduled to host participants from Nigeria, Athens, Columbus and Moultrie are potential sites.

Other Georgia areas are preparing for the international attention because of recreational, cultural and historic significance. Savannah is typical of such areas.

Initial Coalition enthusiasm was diluted to a degree when the magnitude of the tree planting was realized. But partnerships soon began to evolve and the project progressed on schedule.

Trees Atlanta, a nonprofit volunteer group, devised a method to inventory every potential tree space in downtown Atlanta. The analysis included sidewalk details, utility line locations, awning obstructions, etc.

Following the inventory, a team of volunteer city planners, contractors and landscape architects was formed. The team volunteered time every Tuesday and Thursday; the result is a green strip painted on every location designated for tree planting.

COMPUTER TREES

The Trees Atlanta computerized inventory included every city block and street providing at the touch of a button the number of trees that needed to be planted, varying calipers, species, and the location where the trees would be planted in



Trees planted now will blend in with large, established trees in Atlanta and other Georgia cities to provide a more pleasing image by the time the Olympic Games are held in the summer of 1996.

planters or sidewalk soil. This high tech mapping is expected to be used frequently in future urban forestry activities.

When former Atlanta Mayor Maynard Jackson examined the mapping technique, he appointed Trees Atlanta as coordinator for all volunteer planting within the "Olympic Ring" - defined as a 2.3 mile area where most Atlanta Olympic venues are located. "I'm excited about all these activities," Mayor Jackson said. "It's gratifying to see all these partnerships coming together to beautify our city and state for the '96 Games."

Mayor Jackson's views are being shared by citizens and organizations throughout Georgia. As activity intensifies, the Coalition is developing tree planting sponsorship programs for businesses, corporations, and individuals; Georgia Power and Georgia Pacific contributed \$10,000 to this effort.

Other tree planting funds resulted from contacting congressmen, meeting with the Woodruff Foundation, and seeking corporate donations. A \$500,000 U. S. Forest Service Grant was obtained for planting trees within the Olympic Ring.

GRANT WAS VITAL

This \$500,000 grant was vital to the Coalition and appreciated by all concerned - but there were conditions the money could not be used for overhead or maintenance. Furthermore none of the half million dollars could be spent on anything unless there was a matching grant. In the spirit of partnership and national pride that has characterized this entire tree planting program, the Woodruff Foundation matched the funds.

Another source of funding came when the Small Business Administration Tree Planting Program provided a \$12,250 grant to plant along a high profile

Olympic corridor in Atlanta; 26 Darlington Oak Trees were planted along Atlanta's Ponce DeLeon Avenue. Matching funds were provided by the organization of Park Pride. The matching funds totaled more than \$16,000, bringing the total project value to over \$28,000. In other sections of Georgia, the Small Business Administration (SBA) provided grants for planting more than 1,000 large trees.

SAVANNAH PREPARES

While Atlanta increased tree planting, Savannah was busy with similar activities. Located five hours southeast of Atlanta, this historic seaside city had been selected for Olympic yachting competition. Nonprofit groups matched funding and A Phase One Plan was developed to inventory art resources, heritage sites and transportation corridors. Phase Two followed and Savannah was awarded more than \$3 million in ISTEA funds (Intermodal Surface Transportational Efficiency Act of 1991). Savannah must provide matching funds of 20 percent and pay improvement design costs.

ACCENTUATE THE POSITIVE

Even the most negative of situations seem to have reversed themselves through the cooperative partnerships of the Coalition. One such negative potential was the scheduled destruction of 300 trees to be bulldozed from the site of the Olympic Equestrian Center in Rockdale County. But to Coalition enthusiasts, this seemed a flagrant violation of what they were working to accomplish.

A decision was made quickly among Coalition partners. The equestrian facility would be established on the site, but all 300 trees would be saved. A Commission urban forester with many years of experience was appointed to transfer the trees to other sites. Ken Bailey, District (3) Forester, identified the numerous species and located appropriate sites for replanting them. Many of the trees were more than 20 feet tall and required extreme skill and care in moving. Bailey, however,

MASSIVE TREE PLANTING PROJECT AIMED AT GIVING OLYMPIC VISITORS A PLEASING VIEW OF GEORGIA.

completed the job without losing a single tree.

Species that were replanted at alternate sites included river birch, sumac, wateroak, and sassafras. Most of the trees were replanted on Rockdale County School System locations. The larger trees were removed by tree spades provided by the Commission and Georgia Department of Transportation - another example of successful Coalition partnerships.

No account of Georgia's historic Olympic tree planting would be complete without recognition of Tim Womick's 440-mile run through Georgia to spread his contagious interest in trees.

Sponsored by the Coalition, Womick made statewide appearances to school children, teachers, mayors, tree board members, county commissioners, and media representatives. Womick's tree-inspired odyssey started years ago when his interests in nature helped him discard a fast-lane lifestyle. Today, he is a prominent spokesman for forestry and the environment. The Coalition feels fortunate that Womick's Georgia run coincided with the statewide tree planting campaign.

Coalition members believe Womick made a significant contribution to Olympic tree planting goals. In addition to the goal of 25,000 trees planted on Olympic corridors and venues, Coalition partners have also been involved in planting more than 80,000 trees and seedlings in other Atlanta locations and cities throughout the state.

As tree planting continues, the multi-cultured international city of Atlanta awaits hundreds of thousands of guests to pour into the city from all over the world. Already well known as "The City In A Forest," Atlanta will graciously offer a multitude of international visitors the urban personality of a state that has planted more trees in rural areas during



Some of the Olympic games will be held in Savannah and the historic coastal city is enhancing its natural beauty by adding more trees in parks and along avenues.

the last decade than any state in the nation - or any nation in the world.

Commission Director John Mixon summed up the situation saying, "It is the hope of all those involved in Georgia Olympic tree planting campaign that the effort will reflect the need to cultivate a better world - a greener world."

COALITION MEMBERS

Currently increasing GTC membership includes the following partners: American Society of Landscape Architects; Association of County Commissioners of Georgia; Atlanta Botanical Garden; Atlanta Committee for the Olympic Games; Atlanta Department of Parks, Recreation & Cultural Affairs; The Atlanta Project; Augusta Trees & Park Department; The Buckhead Coalition; The Carter Center; Decatur Downtown Development Authority; Fannin County Tree League; Fernbank Museum of Natural History; Folly Lake Farms Nursery; Fulton County Department of Public Works & Grounds; Fulton County Soil & Water Conservation; Rockdale County Soil & Water Conservation; Georgia Agribusiness Council; The Georgia Conservancy; Georgia Institute of Technology; Georgia-Pacific Corporation; Georgia Power Company; Georgia State University; Georgia Urban Forest Council; The Home Depot, Inc.; Keep Macon-Bibb Beautiful; Macon Cherry Blossom Festival; MARTA; Metro Atlanta Landscape and Turf Association; Morris Brown College; Fernbank Museum of Natural History; Georgia Department of Community Affairs; Georgia Department of Corrections; Georgia Department of Pardons & Paroles; Georgia Department of Transportation; Georgia Forestry Commission; Georgia Environmental Organization (GEO); Georgia Green Industry Association; Moultrie-Colquitt County Chamber of Commerce; North Georgia Regional Development Authority; Paradise Park Conservancy of Thomasville; Rockdale County Soil & Water Conservation; Park Pride Atlanta; Plant It-2000; Savannah Park & Tree Development; Southern Nurserymen's Association; Stone Mountain Authority; Atlanta Finance; Tifton-Tift County Clean Environment Commission; Trees Atlanta, and U.S. Forest Service.

FIGHTING THE WESTERN FIRES

The Commission expects more than 175 firefighters will have been involved in the great Western fires before the destructive flames are finally contained, according to David Nicholson, GFC coordinator for the Western crews.

Commission personnel - all volunteers on annual leave from their state employment - are dispatched to the western states in 19-member crews.

Terry Russell, a member of the Commission's first team to respond to the big Western fires in July, has volunteered for the duty in four previous seasons. He contends, however, that it is "never routine out there."

DANGER LURKING

Russell pointed out that danger is always lurking and a couple of times "fire started crowning from vertical fuel" and our crew had to be pulled back from the inferno until conditions improved.

Although the firefighters enjoyed 50-degree weather as they spent their nights in sleeping bags, they endured temperatures up to 95 degrees during their 15-hour work day on the fire scene.

"It was not only hot out there, it was extremely dry," Russell said. "Except for a few green patches where they had irrigated, all the grass was brown."

The Twiggs County ranger said he and his fellow Georgians enjoyed working with Indian crews in Montana. "We ate with them at the base camp and enjoyed their company and when we ran a water hose to them - saving them a three-mile trip to get water - they were so grateful they said they would name future children after us and even call one 'Georgia Forestry Commission'."

Although he had some unforgettable experiences, Russell said he was anxious to get back home to his wife, Teresa, and their children, Dawn and Cliff, in Dry Branch.

Steve Miller, foreman of the automotive shop at Macon GFC headquarters and former patrolman in the Bibb County Unit, made his sixth annual trip to the fires and said "it is still challenging and rewarding. A chance to climb mountains, see scenery and visit places I would not otherwise have an opportunity to visit."

TOUGH JOB

The foreman admits, however, that it's not a leisure vacation. "It's a tough job that can take your life quickly," he said, "and you have to be constantly alert. Safety First were the first words we heard over and over from the incident commander before we left the base camp every morning."

Miller said he enjoyed the church services held at the base camp, the food at lunch and supper, but grew a little tired of the "same old" breakfast they had each day while fighting fire on the mountainside.



Ranger Jack Wagner of the Bibb County Unit is believed to have answered the call to assist in the great fires more times than has any other person presently employed by the Commission. He started out on the first call in the early seventies and has not missed a trip since. He even made three trips during one season.

Wagner has been in some dangerous spots in the six states in which he fought fires, but he said safety first are the key words for survival.

Ranger William Wells of the Murray County Unit was crew boss of the Commission's first wave of firefighters to fly west this year and he said "our people worked well out there." He said safety is being stressed more than ever this year and GFC personnel were "well aware of the need to put safety first in such a dangerous environment."

WORKED WITH INDIANS

Wells said the Commission crew worked on fires in Plains and Hamilton, Montana and Pueblo Indians were also on the scene. "They were super workers and we had some interesting conversations with them, although we had some language differences and communications were a little strained at times."

The crew boss said the language of his own personnel also presented some fascination for many of the firefighters from Connecticut, Minnesota, Wisconsin and several other states. "They wanted to hear our Southern accent," he said.

Randy Scarboro of Swainsboro came with the Commission ten months ago and when word reached the Emanuel County Unit that volunteers were needed to help battle the big Western fires, the ranger wasted no time in signing up for a new adventure. "I had never been in that part of the country," he said, "and it turned out to be a great experience."

Scarboro said the firefighters "got up at 4:30 each morning at the base camp and after breakfast we headed out for a 15-hour day on the mountain, working with shovels and pulaskis." He said he was surprised he didn't encounter any snakes in the rocky terrain.

The ranger said, "it was so dry out here that the brown grass looked like frost had hit the land and even the trees

Commission firefighters who volunteered for the hazardous duty of fighting Western forest fires were fortunate in suffering no casualties. However, the deaths of 14 other firefighters on Oregon's Storm King mountain emphasized the constant danger of fighting massive wildfires - and the little known relation of Native American symbolism to the tragic event.

For many Native American tribes, the eagle is a revered messenger. The day after a firestorm engulfed Storm King Mountain, three eagles appeared over the charred mountain, circling directly over the slope where 14 firefighters died.



Sunday memorial services were held for the firefighters in a Glenwood Springs park. While community residents and 700 firefighters stood in a group singing *Amazing Grace*, three eagles were seen again, circling above the mourners. The majestic birds floated silently overhead throughout the service. "The eagles will take the message to above of the prayers said today," said Kenny Frost, Ute tribal liaison.

In yet another symbolic appearance, the three eagles circled a small airfield used by the Mount Hood National Forest as a DC-3 landed to deliver the remains of 27-year-old firefighter Scott Blecha to his family. The eagles seemed to repeat the same gentle, circular ritual that was seen over Storm King Mountain and Glenwood Springs.

Native American Utes consider the eagle to be a messenger that gathers prayers and takes them to the Creator. The Indians regard eagle appearances in connection with the deaths of 14 firefighters to be an honorary gesture of nature signifying the bravery and selflessness of those who lost their lives.

were turning brown from the dry weather" and he told of lightning setting fire to the dry vegetation. "Some nights, lightning would set 20 to 30 fires and at one time it got so bad they pulled us off the hill."

The young ranger said he was a little apprehensive about making the tour as his wife, Lisa, is expecting their first child in October. He was assured during frequent phone calls from Montana, however, that everything was going smoothly back in Swainsboro.

Hunting elk in the high country of Colorado and attending auto races in Riverside, California are diversions thoroughly enjoyed by Ranger Carolyn Reagan of the Dawson County Unit, but her most frequent trips westward concern forest wildfires. Her trip this year marked her fourth time to join in the annual battles.

The ranger said the hours were

long, the work was hard and the weather was hot, but she was glad to be a part of the 25,000 that were battling the blazes that were running wild in several states. She told of an incredible view from atop the 7,000-foot Henry Peak near Plains, Montana. "We could see for 40 miles," she said, "and we spotted a lot of fires caused by lightning and the danger from lightning even pulled us back a couple of times."

Ranger Lance Graham of the Cherokee County Unit passed the physical, met other qualifications and looked forward to going west for firefighting four years ago, but he said "something always came up when it was time to go. I was on annual leave or something."

He made it this year. He said he cancelled a planned vacation and caught the flight out of Knoxville. Now Graham is back home with memories of the experience - an experience.



GEORGIA'S GREAT FLOOD

BY HOWARD BENNETT

Employees of the Georgia Forestry Commission have battled some mammoth forest wildfires, cleared miles of timber in the aftermath of tornadoes and worked to help victims of devastating hurricanes, but Georgia's Great Flood of 1994 presented new challenges.

Foresters, rangers and other Commission employees were quick to join in the massive relief effort as the rampaging Ocmulgee and Flint Rivers and dozens of creeks destroyed homes, businesses and bridges, leaving 32 persons dead and hundreds homeless, from the mid-state to the Florida line.

"Our people moved in during the early hours of the disaster," said Wesley Wells, chief of the Commission's Forest Protection Department and coordinator of the GFC's response. "They knew what to do and they did it very effectively." Their assistance ranged from rescuing families from rapidly rising waters and providing fresh water to the public to transporting food and repairing washed out roads. In some areas they had the grim task of pumping water from cemeteries so caskets that floated up from graves could be reburied.

COMMAND CENTER

The flood waters in Macon were rising to incredible heights - even blocking Interstate Highways 75 and 16

FULL RESOURCES OF COMMISSION MADE AVAILABLE DURING STATE'S MAJOR DISASTER.

in places - a Forestry Incident Command Center was set up at local shopping center and Commission personnel went to work in force under the direction of Chief Ranger Glenn Williams of the Jasper-Jones County Forestry Unit, who was named Incident Commander for the area.

Macon's municipal water system was flooded out and the Commission helped transport and distribute drinking water and water for sanitary purposes for 20 days to more than 130,000 residents. Personnel handed out bottled water at points around the city and dispatched water tankers to hospitals and nursing homes in cooperation with volunteer firemen of the Rural Fire Defense program - a program administered statewide by the Commission. The effort in the Macon area involved more than 8,400,000 gallons of water, or an average

daily delivery of 420,000 gallons.

Some water was drafted from area ponds by RFD trucks, while another source was purification units set up by the U. S. Army on the bank of the Ocmulgee River. Bottled water was trucked in from points as far away as Pennsylvania and Arkansas.

The Commission and other agencies and organizations operated under the Georgia Emergency Management Agency (GEMA) and Staff Forester Alan Dozier represented the Commission at GEMA headquarters in Atlanta during the disaster.

WELL PREPARED

"Fortunately, we had the well-trained manpower, the equipment, the advanced communications network and other assets to carry out a wide range of emergency services to help our distressed fellow Georgians," said Commission Director John Mixon, "and I commend all our people for a superior performance under very hazardous and difficult circumstances."

Shortly after the flooding began and Macon's water plant was shut down Governor Zell Miller called the National Guard to active duty. Bob Lazenby, chief of the Commission's Information and Education Department, and also a lieutenant colonel in the Georgia National Guard, was named commande



Hundreds of Commission employees worked for three weeks in transporting and distributing water to residents of Macon.

of water procurement and distribution and served as liaison officer for the City of Macon.

Several hundred troops, including those who helped distribute bottled tank water, as well as water purification specialists from the U. S. Army's 559th Quartermaster Battalion, were under his command.

Although his time was devoted to his military mission during the three weeks of duty, Colonel Lazenby said he did have time to observe the many forest rangers and other Commission personnel working in flood relief "and I was never more proud of our people." He said the emergency "proved how effectively and smoothly our people can perform in time of a disaster."

"Our people put in an estimated 21,000 man hours throughout the flood zone," Wells said, "and our trucks traveled more than 113,000 miles during the flood emergency and recovery effort."

Rangers in several towns helped haul sheetrock, carpeting, furniture and other water-logged debris to landfills after it had been taken from flooded homes and piled along the streets.

MONTEZUMA

Chief Ranger James Conner of the Macon County Unit thought it would never quit raining. When an overwhelming 15-inch deluge fell on Montezuma in 24 hours, he knew Horse and Beaver Creeks would be out of their

banks and the Flint River would be backed up against the levee, but he didn't expect the flood of the century to swamp his town!

He said the reality of what was happening came when he heard an early appeal on a sheriff's radio for help in evacuating families from rapidly rising water in a residential area. From that moment on, the ranger and his personnel worked almost around the clock to aid victims in a flood that covered the downtown section in eight to twelve feet of water and washed out numerous roads and bridges.

"Our first effort was to evacuate

families in the northern section of the county," Chief Ranger Conner explained. "The water was rising fast and we used our trucks to haul as much of their household furnishings as possible to higher ground and, of course, to make sure all occupants were rescued from the homes." He said the belongings of some of the flood victims were stored in a building at the Commission's Flint River Nursery.

The forestry unit continued to work in the fast moving flood by helping merchants remove merchandise from their stores. To complicate matters, a major fire broke out in the midst of the disaster after water had knocked out the local fire department and the forestry unit again came to the rescue. Ranger Conner called in RFD units from surrounding counties and water was drafted from a nearby creek to battle the blaze at Southern Frozen Foods.

"We used the RFD Units all night," Conner said, "and after our Commission helicopter arrived, water drops were made for three hours before the fire was finally contained."

As water from the rampaging Flint River inched toward the unit headquarters, all files and office equipment were moved up a slight elevation and into the shop and truck shed. When the river crested at a record-breaking 35 feet, eight inches of water



The office of the Macon County Forestry Unit, the only unit under water during the flood, had to be completed renovated inside.

stood in the office. By that time, State Highway 26 in front of the unit was in eight feet of water and roads to the building were impassable. Personnel had earlier abandoned the headquarters and moved trucks to their homes, where they continued to receive calls and go out and help victims.

As the water receded, unit personnel used their crawler tractors to help restore washed out roads around the town and county. When this work was finished, they finally had time to go back and assess the damage to the unit office.

"I met with GEMA building inspectors and they told us what had to be done," said the ranger. "We had to rip out the paneling and remove all wall installation because of contamination by the filthy flood water. Floor covering and some floors had to be taken up and replaced and studs and other framing had to be washed with disinfectant."

Chief Ranger James Conner has been through some tough emergencies during his years with the Commission, but he said he has never experienced anything as hectic and demanding as were those four days in July that marked the "Great Flood of '94."

AMERICUS

Americus didn't dominate the national headlines as did Macon, Albany and little Newton during the flood, but among the 32 persons who lost their lives, 15 lived and in and near the Sumter County city.

Chief Ranger Troy Key of the Sumter County Unit, who helped the Americus Fire Department search for bodies along the swollen Town and Muckalee Creeks, said several people were drowned when they attempted to drive through what they believed to be shallow water, when actually roadways and bridges has been washed out, resulting in gorges from 15 to 25 feet deep.

The ranger said roads in the county were washed out or under water in more than 30 locations. "I was hemmed in and couldn't leave home during the first day of the flood and my rangers were in the same situation," he said. "After that first day of devastation, however, water had receded from a point where they could join



Chief Ranger Troy Key of the Sumter County Unit, who helped search for bodies, stands before an Americus home wrecked by waters from a swollen creek.

other agencies in the emergency. Key said one of his duties was to direct traffic away from a huge 30,000-gallon bulk fuel storage tank that had been ruptured. "A backfire from a car could have set off a major fire," he explained.

The ranger said, "We had 23 inches of rain in 24 hours, after we already had enough rain during the July 4 holiday weekend to saturate the ground. When dams on several ponds and lakes broke, they caused our two creeks to overflow." Although 35 homes were destroyed or damaged, he said he has not found any damage to timber in the county as a result of the high water.

At one point Ranger Key feared he was going to have to deliver a baby. "We got an emergency call that a woman was in labor," he said. "We finally got a boat up to her house and had an ambulance standing by on the other side of the water, but she suddenly decided she didn't want to have a baby during the flood and could hold off."

ALBANY

When water began rising on three sides of the Dougherty County Forestry Unit, Chief Ranger Warren (Frosty) Kavanaugh and his personnel were forced to turn their office into a "makeshift barracks."

They set up cots for sleeping and prepared their own meals in the unit kitchen when they were not out working

in shifts in around-the-clock flood relief duty.

The ranger, who was designated incident commander for the Commission in the Albany area, called on personnel in other units to join his people and together they worked long hours, day after day, wherever they were needed. One of the first efforts was helping build sandbag dams around Palmyra Hospital and later aiding the National Guard in making a sandbag landing pad for helicopters.

CASKETS FLOAT

When hundreds of caskets floated out of cemeteries in the area and the Georgia Bureau of Investigation was called on to retrieve and identify the bodies for burial, the forest rangers began a water pumping operation to clear the cemeteries and surrounding pools of stagnant, contaminated water where it was believed other bodies might be found.

"We pumped water around the clock during almost all of July and into early August," said Kavanaugh, "and the water in some areas adjacent to the cemeteries was 20 feet deep." As the water level lowered, unit crawler tractors were brought in to build "shelves" on the slopes so pumps could be moved closer to the water for more efficient vertical pumping.

Ranger Phil Hammond, in charge of the pumping operation, and those working with him were required to wear masks, gloves and boots. All Commission

personnel involved in flood relief work in the area were given tetanus shots.

Incident Commander Kavanaugh said he didn't fully grasp the extent of the widespread and destructive flood until he took to the air and viewed the neighborhoods, farms, forests and major highways that were under water.

Ranger Diane Johnson was the only person in the local forestry unit to experience flooding in the home. "A neighbor woke me about four o'clock in the morning and said water was rising in a big ditch near my apartment," she said, "and we began to help some people evacuate and before long my own apartment began to flood." Water eventually rose to six feet in her apartment, but "that didn't stop her from reporting to work at the unit that morning and staying on the job for the duration of the emergency," according to Kavanaugh.

NEWTON

When the little town of Newton was almost swept away by the rampaging Flint River, the Baker-Mitchell County Forestry Unit lost no time in swinging into action. Camilla District Forester Greg Findley named Ranger Coy Biard Incident Commander for the region and said, "I soon learned that I had made a wise choice. Coy did a great job, he worked tirelessly and almost around the clock until he knew that he and others had done all that was needed during the emergency."

One of the problems that kept Biard and his crew on the scene for many days after the water had receded was the contaminated water left in several low-lying places. The men worked day and night pumping the water back into the river through large fire hoses. Residents who lived adjacent to the large basins of standing water were not able to return to their homes until the pumping was finished.

FOOD SUPPLY

Three refrigerated trailers supplied by the Commission were set up in the town and personnel transported food and ice from Bainbridge and other areas to keep them well supplied for benefit of the many flood victims. For a time, two water



Top to bottom: Camilla District Forester Greg Findley confers with National Guardsmen as they work together to aid flood victims in Newton. Ranger Tony Gentry of the Early County Unit pumps water in Newton. Flint River leaves large sand deposits along its banks in Sumter County.



buffaloes (military tank trailers) were pulled from house to house to provide potable water.

Personnel of the Baker-Mitchell Unit and assisting forestry units from other counties also transported chlorine bleach from Atlanta, did emergency electrical and plumbing work and operated heavy equipment to help drain flooded streets.

BAINBRIDGE

The Decatur Forestry Unit at Bainbridge was prepared for the worst. It was predicted the raging Flint River would crest at a record high; muddy water three feet deep would invade the unit office at 1611 Dothan Street. Personnel hastily evacuated the unit and set up operations at the Decatur County Fire and Rescue Station.

Fortunately, the dire prediction never came true. The flood never came closer than a half-mile of the unit.

The flood was damaging to many, nevertheless, and Chief Ranger Ronnie Martin, Incident Commander for the Bainbridge area, and his personnel quickly went to the aid of residents who were in trouble.

Thanks to an early warning from upstream, local GFC employees and those from other units were able to help evacuate 200 families from low-lying areas. During the peak of the evacuation effort, about 50 GFC employees, some coming as far away as Dade County, were hauling household furnishings to higher ground.

Several Commission refrigerated trucks, as well as some borrowed vehicles, transported food, ice, medical supplies, cots and other items from Bainbridge Salvation Army and Red Cross storage areas to Newton, Albany, Americus and Montezuma.

When the crucial period of the great flood had finally ended, Chief Ranger Warren Kavanaugh of Albany said it best: "Many people in this town are ready for some sense of normality so we can all get our lives back." It was the sentiment of thousands of others from Macon to Bainbridge.

Photo: Chief Ranger James Conner of the Macon County Unit points out the damage on the highway fronting his office. Roads and bridges washed out throughout the Americus area.

LIFE SIZE T-BEAR CARVING READY FOR TOUR OF DUTY

A life-size-one-of-a-kind sculpture of Smokey's sometimes alleged cousin, T-Bear, is resting quietly and awaiting further forestry related duties at the Commission's Lincoln Unit near Augusta. T-Bear's repose follows numerous District 6 parades and special appearances.

For those unfamiliar with T-Bear, he is Smokey Bear illustrator Harry Rossoll's latest creation to assist with changing needs of modern forestry. Rossoll christened his new character "T-Bear" (for Tree Bear) after three years of transformations that evolved the new forest custodian into a pleasing character with the message emphasizing tree harvesting and wood products are completely compatible with good stewardship of the land.

T-Bear finally began gaining media recognition in 1993. Shortly after T-Bear's debut, retired Commission Patrolman Neal Hinegardner overheard members of his Harlem unit saying they wished that they could find a T-Bear likeness to use on the Thanksgiving Parade Float. The parade was only 13 days away.

Hinegardner, who retired from the Commission as a cabinetmaker and firefighter a year before, has dabbled in artistic pursuits for most of his 68 years. He won his first art prize in the fifth grade for drawing a display of miniature animals in his native Kansas. Several years ago, he carved a Statue of Liberty for the Commission, and a seven-foot wooden soldier for the Harlem unit's Christmas Parade float.

"So being retired, I volunteered my services even though there was a 13-day

deadline," Hinegardner said. With such a tight deadline, he knew there was not enough time to carve the likeness from wood, so he opted for Styrofoam.

Hinegardner finished the sculpture on schedule. Unless an observer is within a few feet of the sculpture, it is unlikely anyone would guess the painted likeness



Retired Commission Ranger Neil Hinegardner poses with his sculpture of T-Bear complete with dibble. T-Bear (for Tree Bear) is only known life-size likeness of character created by illustrator Harry Rossoll to promote changing needs of modern forestry.

is carved from Styrofoam.

"I selected Styrofoam because it's light, easy to work with, and requires only a knife and saw to get a finished likeness," Hinegardner said. "Anything else, like wood, takes a lot of time and a lot of tools. So I finished on time and nobody who has seen T-Bear seems to care what he's made of."

For practical reasons, of repair and refinishing, Hinegardner sculpted T-Bear in sections which are fastened together with metal rods that are not visible. The bear was painted with acrylic paint because oil-based paint or varnish would dissolve the Styrofoam.

NOT MICHELANGELO...BUT

"This was hardly a Michelangelo project of sculpting a block of stone to reflect life," Hinegardner said. "But I like to think there are similarities. Sculpting in general - anything out of anything - is generally considered the most difficult art form because you have to see it in your mind completely. There is no pattern because you can't make a three-dimensional pattern."

Hinegardner, who retired from the military after 22 years service before working with the Commission for 14 years, has had no formal art training - but he can talk endlessly on art techniques, approaches, mediums etc. Since the first grade, Hinegardner said he has been drawing, painting, carving or sculpting in one form or another; but he never got around to getting any formal art training.

"I thought about going to art school a lot of times," he said, "but I just always seemed to be too busy."

However, just by his self-proclaimed "dabbling," Hinegardner apparently developed some impressive art skills. After he was discharged from the military following World War II, he was offered a job as a dress designer "But, at that time, my nerves were such that I just could not sit and draw," he said. "So, for better or worse, I moved almost completely away from art - except for compulsive dabbling."

Nevertheless, Hinegardner's dabbling, serious or whatever he cares to call it, always attracted requests for his

work. Requests have ranged from amusing children with cartoons to carving T-Bear. His old Commission colleagues at the Harlem unit are still trying to persuade him to carve a wooden buffalo head for the office wall.

"Like I told them," Hinegardner says, "maybe I'll get in the mood and do that one of these days. Or maybe, since I've got the time, I'll get in the mood to take some money that's been offered to me to do this or that art project."

Still not Michelangelo - but an artist must have inspiration. Hinegardner says the right price could really get him inspired.

FOREST FARMERS NAME NEWTON EXECUTIVE VP

Stephen M. Newton, who was legislative assistant for agriculture to Senator Paul Coverdell in Washington, has been named executive vice president of Forest Farmers Association to succeed B. Jack Warren, who recently retired.

Newton also served for nine years as commodity director with the American Farm Bureau Federation at the organization's national headquarters in Chicago. He coordinated and conducted seminars and meetings on marketing, regulation and legislative issues affecting forestry and other agricultural commodities.

The new executive vice president is a native of Georgia and holds two degrees from the University of Georgia and a masters of business administration in finance from DePaul University in Chicago.

During his career as executive vice president, Warren was instrumental in forming the Forest Farmers Association Education and Research Foundation. The foundation was organized to award scholarships to deserving forestry students and promote forestry research beneficial to private timberland owners.

Early in his tenure, Warren saw the need for a Washington-based representative to give quick response to national issues of concern to private timberland owners. In 1987, Randy Nuckolls, partner in the law firm of Kilpatrick & Cody, was hired and

remains as the association's spokesman in Washington.

Warren was instrumental in redesigning *Forest Farmer* magazine and manual for better readability and more useful information and has more than doubled advertising income.

The retired executive and his wife Nancy will continue to live in Atlanta.

COMMISSION RETIREES PLANS ANNUAL REUNION

The sixth annual Georgia Forestry Commission Retirees Reunion will be held Friday, September 23 at the Georgia Forestry Center, according to Curtis Barnes of Macon, chairman of the GFC Reunion Committee.

All employees who have retired from the Commission, their spouses and other family members, and spouses of deceased retirees, are encouraged to attend the annual event.

A guest speaker will be featured during a morning session and a business meeting will be held. A steak luncheon will be held at noon and a tour of the Georgia Forestry Museum and other facilities on the grounds will be available during the afternoon.

"The reunion begins at 11:00 A. M., but we are encouraging retirees and their families to come early and visit with old friends and former co-workers," said Barnes. "Last year, we had more than 100 attending and I believe we will have even better attendance this year."

The Georgia Forestry Commission is seeking a small sawmill to add to the collection of forestry-related machinery on display at the Georgia Forestry Museum. An old steam-driven mill would be ideal, but any small mill would be appreciated.

Please contact the Georgia Forestry Commission, P. O. Box 819, Macon, Georgia 31298 (Phone: 912/751-3530) if you can make such a contribution or have information on someone who might make the donation.

HISTORIC NATURE PRESERVE HANGS IN UNOFFICIAL LIMBO

FORESTED OASIS UNDISTURBED BY ATLANTA

BY BILL EDWARDS

A cluster of 11 historic trees are growing patiently in the Fairburn backyard of a retired Commission urban forester as they await transplanting in Fulton County's Cascade Springs Nature Preserve when a seven-year-old maze of difficulties are resolved to officially establish the 135-acre forest preserve. Problems include zoning, legal and financial - all complicated by past internal wrangling of involved parties and attempts of developers to move in on the preserve located only six miles from the State Capitol in Atlanta.

Meanwhile, Louie Deaton, the retired (1989) Commission forester who has custody of the historic grove, continues to work with the project dedicated to establishing the unusual nature preserve. Since 1981, he has been on the Board of Trustees of the Outdoor Activity Center, an organization influential in establishing a master plan for the site that includes 115 upper Piedmont tree species.

In 1987, potential for establishment looked promising. Atlanta was selected as one of 32 locations across America to receive "Famous and Historic Tree Groves" with Cascade Springs Nature Preserve designated as the planting site. The American Forestry Association distributed historic grove seedlings to select communities for commemorative plantings on public land as part of the "Plant a Living Legacy to the United States Constitution" project on the

Bicentennial of the U. S. Constitution and Atlanta's 150th birthday celebration.

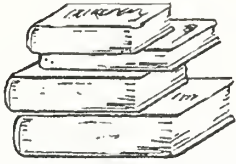
Since the Cascade Springs area was the origin of Fulton County, the historic grove was scheduled for planting there on Arbor Day (February 19), 1988. The "Plant a Living Legacy" project was dedicated in September of 1987 at the Georgia State Capitol as part of the Bicentennial Celebration of the U. S. Constitution. Later, in November 1993, the

Atlanta Department of Parks and Recreation held a dedication ceremony for the Cascade Springs Nature Preserve.

However, the historic trees remain in the Fulton County backyard of Louie Deaton. "Delays and complications were expected," Deaton said. "The problem is that these trees are now seven years old. My main concern is that some may get so big that moving them could be a real



Forester Louie Deaton stands before the collection of historic trees when they arrived seven years ago. Some trees, now 20 feet tall, pose a transplanting problem.



THE BOOK CORNER

TREE CONSERVATION ORDINANCES,
by Christopher J. Duerksen, with Suzanne
Richman. Scenic America, 21 Dupont
Circle, NW, Washington, DC 20036 (202-
833-4300) \$24.00 plus \$5.00 shipping.

One of the first (1993) and most comprehensive manuals on urban forestry tree ordinances. Serving as a how-to guide and explanatory study, the 107-page book includes five chapters: Tree Conservation - The Next Emerging Environmental Issue, Legal Aspect of Tree Conservation, Crafting an Effective Tree Conservation Ordinance, and The Politics and Practice of Tree Conservation.

Mushrooming environmental concerns and related interest in urban forestry need such a guide that is not only informative, but enhanced by good photography and line drawings. Although the information does not pretend to make complicated topics simple, it does lead the reader on a well chartered course.

For instance, it points out "that drafting a good tree conservation ordinance is only half of the tree conservation game. Depending on the situation, it may take some political gymnastics to get the ordinance passed into law."

The text skips from one section of the country another, highlighting interesting developments and meticulous care that some urban forestry keepers are now applying to trees. In Austin, Texas, a provision calls for capital improvement projects to be reviewed by the city arborist; while Asheville, NC arborist Scott Knox, preaches no tree topping and no climbing with spikes unless the tree is to be removed.

The objective of this publication is to create community understanding and appreciation of trees that will result in effective ordinances. Protective ordinances should cultivate tree-filled communities for future generations.

A poet Robert Frost is quoted in the book: "The trees in the streets are trees. Used to living with people. Remember trees that remember your father's name."

problem and they could be lost in the process."

Nevertheless, Deaton says he does not want to replant the trees within the preserve until guidelines have been developed that will ensure appropriate care on a continuing basis. Thus, the grove hangs in historical limbo.

All seedlings for the Atlanta historical grove (and the 31 other nationwide locations) were grown from seeds of trees connected with the birth, development and Founding Fathers of the United States. The following are trees selected for the Atlanta grove and their historical connection.

Southern Catalpa from trees lining Palace Green in Colonial Williamsburg, Virginia. Thomas Jefferson mentioned these trees in his plans for the Governor's Mansion.

London Plane from Bartram's Garden, Pennsylvania. Shown in 1852 survey of gardens done by Thomas Meehan. John Bartram was a friend of George Washington and Benjamin Franklin.

White Plains Sycamore from registered historic tree in White Plains, New York headquarters of General Georgia Washington. Battles of White Plains were fought in 1776 and 1778.

The Tree (White Oak) That Owns Itself from a second generation in Athens, Georgia. In 1820, William H. Jackson willed land to the tree within eight feet on all sides. The tree died in 1942 and progeny was planted on the same spot.

Hackberry tree from Robert Carter House grounds on Palace Green in Williamsburg, Virginia. The tree is 150 years old and the largest hackberry in the state.

The Great Oak from white oak near Bassett Hall in Williamsburg, Virginia. Under this 300-year-old tree, Dr. W. A. R. Goodwin and John D. Rockefeller, Jr. contemplated restoration of Williamsburg in 1926.

American Holly from tree planted by United Daughters of Confederacy 60 years ago on grounds of Lauren County Historical Society and Museum in Dublin, Georgia. Planting was to commemorate soldiers who died in the Civil War.

Liberty Tree from willow oak planted

by Daughters of American Revolution in 1921. At Milledgeville, Georgia planting site. Soil samples from historical locations in 48 states were placed.

London Plane from Liberty Island tree at base of the Statue of Liberty. Trees were planted in 1930s by Works Progress Administration (WPA). These entry points to U. S. trees are often first seen by future Americans entering the country.

Ginkgo tree included simply because the species is a living fossil. This tree dates back 250 million years - before Jurassic Period and dinosaurs.

White Dogwood from 150th Atlanta celebration birthday tree. Planted in 1987 Atlanta Arbor Day Ceremony.

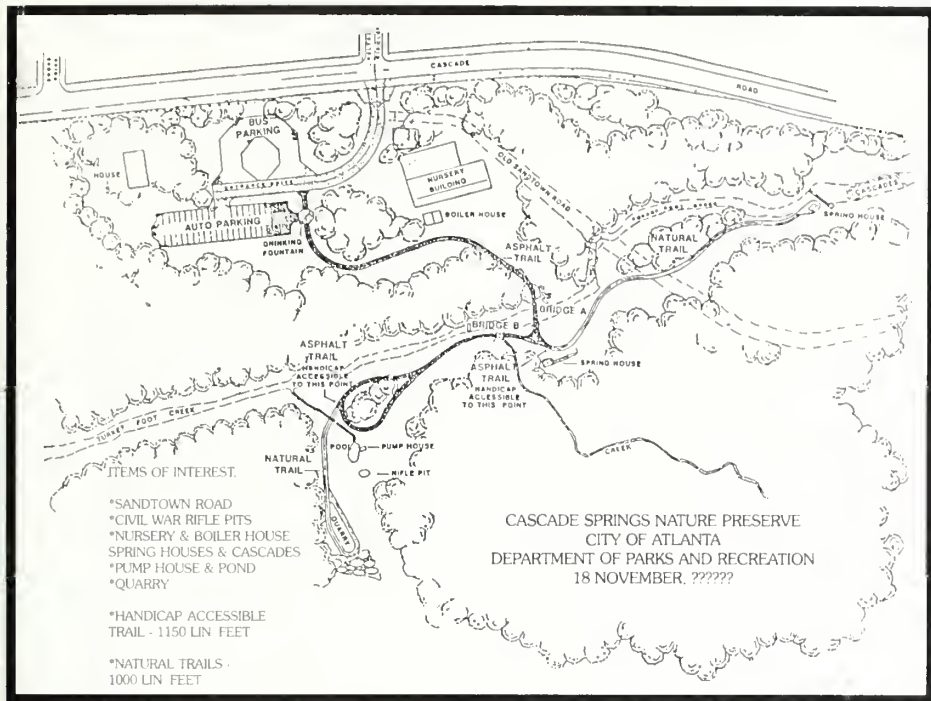
PRESERVE HISTORY

Deaton said the planting of these historic trees would serve as a "perfect enhancement to an already unique and historic nature preserve." He pointed out that Atlanta is the only city in the United States that has two natural forest preserves within its city limits. One is the 26-acre forest of the Outdoor Activity Center at Bush Mountain; the other is the 135 acres of Cascade Springs forest that supports an abundance of trees, plant and wildlife species indigenous to the area.

The Cascade Springs forest area has supported a succession of people that artifacts trace back to possibly 8,000 years ago when nomadic Indians of the Woodland Period hunted there during their migrational lifestyles.

Traces of more permanent settlements can be found in markings of Creek Indians during violent conflicts with Cherokees for control of the area. Minie balls and other remnants of the Civil War are still buried beneath the forest floor from the 1864 battle which saved a vital East Point railroad junction in Atlanta from Union forces and provided a temporary morale boost for the Confederacy.

But it is the old and diverse forest sheltering these historical treasures that hold the dominant fascination for Deaton. He never ceases to be amazed at how so many interwoven historical events, human habitations, progress o



LOOKING BACK



1858

To protect owners from persons stealing lumber, a crime that was "reaching sizable proportions," the Georgia General Assembly declared such thefts to be "indictable offenses."

1870

The Census this year reported that "carpentering, blacksmithing, building trades and flour milling contained the greatest number of establishments, with the lumber industry next in line."

1906

The beginning of what was later to become the George Peabody School of Forestry came into existence at the University of Georgia. It was made possible by a \$2,000 gift by George Peabody to support a professorship of forestry on the Athens campus.

1947

The "Keep Georgia Green" program was launched in November by Governor M. E. Thompson. Union Bag in Savannah added a fifth paper machine during the year.

1948

Three pulp and paper mills began operation in the state. They included Georgia Kraft Company and Armstrong Cork Company, both in Macon, and Southern Paper Corporation, Savannah. Armstrong manufactures ceiling tile.

civilization, and the international-city Atlanta expansion could have taken place and left the Cascade area relatively unmarred in its entirety. The concrete ribbon of I-20 passes only three blocks away. Thousands of cars whiz by every day taking little notice of the woodland sanctuary once stained by the blood of 160 dead Union Army soldiers - but only 18 Confederate casualties in the Cascade Springs fighting of the historic Battle of Utoy Creek. Entrenched Confederates picked off Union invaders as they persisted in trying to advance uphill and secure the area for control of Atlanta.

Trees now cover the landscape where Civil War soldiers, American Indians, and white settlers once roamed. Numerous tree species include: Pine Family - shortleaf and loblolly pine; Cedar Family - red cedar; Willow family - black willow; Walnut Family - bitternut and mockernut hickory; Birch Family - ironwood; Beech family - beech, white oak, Northern red oak, black oak, Southern red oak, water oak; Elm Family - slippery elm, winged elm, hackberry; Mulberry Family - red mulberry; Magnolia Family - tulip poplar, bull bay magnolia, cucumber magnolia, bigleaf magnolia; Laurel Family - sassafras; Witch hazel family - sweetgum; Rose Family - Southern Crabapple, Hawthorn, black cherry; Pea Family - mimosa, redbud; Holly Family -

American holly; Maple Family - box maple, red maple, chalk maple; Linden Family - basswood; Sourgum Family - black gum; Dogwood Family - flowering dogwood, pagoda dogwood; Heath Family - sourwood; Ebony Family - persimmon; Storax Family - silverbell; Olive Family - ash. (Some of the beeches are considered archaeological specimens.

DESTINED FOR PRESERVATION

Deaton believes the Cascade Springs forest is destined to be preserved. He said that since the turn of the century, the area has been basically preserved in one form or another.

After the Creeks and Cherokees left the area in 1835, a series of transitions occurred. Although there are numerous old trees in the area, sections of the forest are only 100 years old because forest areas were cleared for farming, houses, yards, gardens, fuel, and Civil War fortifications.

Between 1845 and 1906, Cascade ownership changed 17 times. In 1909, the land was purchased at public auction by John H. Zaring, Sr. for \$5,100. The Zaring family owned the property for the next 70 years.

After purchase, Zaring began selling spring water. Confident that Indian

stories concerning health-giving properties of the water were true, Zaring drank only water from Cascade Springs; he died in 1957 at the age of 90.

Zaring also built six large greenhouses that produced a variety of flowers and trees nourished by spring water. The Zaring family operated greenhouses until the early 1970s.

In 1975, developers acquired the Cascade Springs area. A local citizens organization, called the Cascade Forest Association, blocked the development effort by submitting a detailed report to the City of Atlanta. The report suggested that the City of Atlanta acquire ownership of the Cascade forest area and incorporate it into the city's official long-range plan of growth.

Among other things, the association report to the city recommended that in order to maintain the area's natural atmosphere "no more apartments should be constructed in the area and zoning of Cascade Springs should be downgraded to single-family residential. The report also recommended that the city purchase the Cascade property as a "natural park area."

The report was well received by the city. During the next few years, city attorneys worked with Zaring's attorney, city representatives, and federal officials to acquire funds to purchase the Cascade tract. In 1979, the City of Atlanta purchased Cascade Springs to remain forever undeveloped.

Eventually, Cascade Springs was fenced in and a number of plans were studied to create a nature preserve. Deaton believes the current master plan, that he helped develop for the Outdoor Activity Center, will become a reality when the nature preserve is officially established. The plan includes \$1 million visitors center, museum and nature study trails. Also a potential archaeological study - prompted by a quartz artifact already identified - could prove beyond reasonable doubt the existence of Paleo-Indian settlement at Cascade Springs more than 8,000 years ago.

Deaton emphasizes, however, that archaeological study and other excavations will take place only after the preserve has been officially established.

TIMBER HARVESTER IS FINED \$25,000 FOR VIOLATING ACTS

Several citizens who have property along a creek in Southeast Georgia were concerned when water in the stream became unusually muddy and upon investigation they found the cause: a timber harvesting operation in violation of water quality acts and non-compliance of other recommended silvicultural practices.

As a result of the violations, the timber buyer and logger were fined a total of \$25,000 for violating the state's Water Quality Control Act and the mandated stream crossing requirements of the federal Clean Water Act. John Mixon, Director of the Georgia Forestry Commission said, "It sets a precedent that water quality laws pertaining to the harvest of timber and other silvicultural practices are being enforced."

CITIZEN COMPLAINTS

The Commission, which investigates complaints involving silvicultural activities for the Georgia Environmental Protection Division (EPD), received several citizen complaints of the muddy conditions in the stream and upon inspection found skidders were operating in the creeks and crossing the stream at unplanned, random crossings, causing excessive sediment in the streams and damage to the stream channels.

Frank Green, the Commission's Water Quality Coordinator, said letters of enforcement from the EPD and the U. S. Environmental Protection Agency

(EPA) were originally intended for the landowners of the property. However, the buyer and logger recommended that since he caused the problem, the landowners should not be involved. He was fined \$10,000 by the Georgia EPD for turbidity violations and \$15,000 by the U. S. EPA for violating the federally mandated stream crossing requirements.

COMPLIANCE URGED

Green said the Commission is urging all forest landowners, consulting foresters, industry foresters, timber buyers, loggers, site preparation vendors, and others involved with silvicultural practices to become more familiar with the state and federal water quality requirements and to follow the recommended Best Management Practices (BMPs) for forestry.

BMP booklets contain recommendations pertaining to streamside management zones along perennial and intermittent streams, logging road location and construction, stream crossings, timber harvesting, and other practices.

Green said BMPs will not only prevent possible fines and penalties, but will prevent serious damage to the nation's waters. He urged landowners and timber buyers to stop by any county or district Commission office for a BMP booklet and a Sample Timber Sales Agreement which contains the BMP requirements, or call 1-800-GA TREES for more information.

"Funding, grants, and additional land are coming in slowly but surely," Deaton said. "The search for funds is ongoing, but not a major obstacle. The main problem now is development of an acceptable contract between the outdoor Activity Center and the City of Atlanta (Department of Parks & Recreation) concerning jurisdiction and liability specifications."

Despite seven years of difficulties, Deaton believes the Cascade problems will be resolved soon. "The bottom line is Cascade Springs Nature Preserve will be a legacy for posterity - and with Atlanta's growing status as an international city, this unique forest and nature preserve will attract visitors from all over the world during the Olympics and afterwards."

Miss Gum Spirits

Amy Sarah Gowen



Miss Georgia Forestry

Amy Eunice

Amy Eunice, a student at Valdosta State College and a former Miss Georgia Peach, is the reigning Miss Georgia Forestry and is representing forestry at fairs, conventions and other events.

The new queen, the daughter of Cecil Eunice and Bonny Brown of Waycross, competed with 34 other young ladies from across the state who had won pageants in their home counties and entered the 54th annual Miss Georgia Forestry Pageant in Macon to vie for the state crown.

Amy was crowned by Denise Griffin of Fitzgerald, the retiring Miss Georgia Forestry. Her ambition is to graduate from Valdosta State with degrees in criminal justice and sociology and continue her education at Mercer

University to obtain a degree in law. She said her special interests and hobbies include dancing, swimming and reading.

First runner-up in the pageant was Alicia Suzanne Bagley of Sylvester, daughter of Mrs. Coleen Bagley. Second runner-up honors went to Mandy Jackson, daughter of Mr. and Mrs. Mike Jackson of Watkinsville, and the third runner-up was Delores Blair, daughter of Mrs. Mary Blair of Bainbridge.

Amy Sarah Gowen, daughter of Mr. and Mrs. Sidney Gowen of Folkston, was crowned Miss Gum Spirits of Turpentine. She was selected from contestants in the pageant who represented counties that produce naval stores. She was crowned by Amy Marie Thompson of Lyons, who held the 1993 title. She is a senior at Charlton County High School, where she

served four years as a band majorette and is an honor student active in the Beta Club, Drama Club, Spanish Club and several other campus organizations.

The new Miss Gum Spirits, who enjoys horseback riding and visiting the beach each summer, said she intends to attend Georgia Southern University and earn a degree in the business field.

Amy is representing the American Turpentine Farmers Association for a year and her photograph is featured on the organization's popular annual wall calendar.

Linda A. Sloan of Macon was emcee for the annual pageant and coordinators included Sylvia Parker and Melinda Parker, both of Augusta, and Sheran Strickland, Waycross.



District Forester George Turk, seated, turns over the reins of the Milledgeville District to Forester Robert Farris.

MILLEDGEVILLE AND TIFTON DISTRICT FORESTERS RETIRE

Georgia Turk began his career as a young forester at Dixon Memorial State Forest and ended it 33 years later by helping victims of the great flood that inundated a great portion of Georgia.

Turk, who served in several capacities throughout those years, retired in July as Milledgeville District Forester, a district that figured prominently in flood relief work in the Macon area.

The forester, a native of Wilcox County and a graduate of the School of Forest Resources, University of Georgia, came with the Commission in 1961. After working at the Waycross Forest, he became a range ranger of the Chatham County Unit and later assigned to the Milledgeville District as management forester.

In July, 1969, he was promoted to area forester for Washington, Jefferson, Glascock and Johnson Counties, later becoming management forester for Johnson and Washington Counties after the area system was phased out.

Turk was transferred to the Milledgeville District Office in 1991 and promoted to district forester, the post formerly held by Bennie Brant.

Turk and his wife, the former Miss Nelle Haralson of Ashburn, live in Sandersville. They have two married children, Trent and Glenda, and a one-year-old grandson, Tyler.

The forester and his wife are members of the historic Sisters Baptist Church in Washington County, where he is a deacon and Sunday school teacher.

Commission personnel, other friends and relatives honored the forester at a retirement dinner in Macon.

Turk said he will "probably do a little forestry consultant work and a little farming" on his land near Sandersville now that he is retired. He also intends to continue his woodworking hobby in his well-equipped shop.

ROBERT FARRIS

Turk is succeeded as Milledgeville district forester by Robert Farris, who has served as reforestation forester and worked in the Stewardship Program in the Newnan District for the past seven years.

A native of Atlanta and a graduate of Henderson High School in that city, Farris attended Abraham Baldwin Agricultural College, DeKalb Junior College, Macon Junior College and the School of Forest Resources, University of Georgia.

The new district forester came with the Commission in 1986 as reforestation forester in the Butts-Henry County Unit and soon transferred to the Newnan office.

Although Farris was born and grew up in Georgia's largest city, he said he always enjoyed hunting and fishing and favored the outdoor freedom that country life offers. He said his fondness for the woodlands led him to seek a career in forestry.

Farris said his new position is a challenge he has looked forward to and now that he is becoming familiar with the 13-county, he realizes there are some landowners he has previously worked with as a Forsyth-based consultant before he came with the Commission. He said one big change in his career is that "now I have moved away from working in the woods and working more with people."

During his years in Newnan, Farris was coordinator for the Land Use and Forest Management Field Day in Griffin. The event was held four times under his direction.

The forester and his wife, Beverly, also a native of Atlanta, have four young children: Lee, Justin, Rebecca and Laura.

A few weeks before his retirement from the Commission, Tifton District Forester James M. Tidwell, Jr. leaned back in his office chair and summed up what 32 years of service with GFC has meant to him.

"If I could go back over it," he said, "I wouldn't change a thing. I have worked with some very good people and it won't be the job I'll miss in retirement, it will be the people."

A native of Bulloch County and a graduate of Bulloch County High School, Tidwell earned a BS degree in forestry at the University of Georgia and came with the Commission in November, 1962, with his first assignment at Dixon State Forest.

Within two years, he was promoted to assistant district forester in Waycross and five years later transferred to Ashburn to serve as area forester. He became Tifton District Forester in 1973.

Actually, the district office was in Ashburn when Tidwell was named to head the district, but it was moved to Tifton in 1982. An attractive and spacious district headquarters building was erected at the new site under his leadership.

Tidwell's office was lined with photographs, plaques and other momentous objects that speak of his long

career in forestry. He is particularly proud of two annual awards for outstanding achievement in his district, which includes 11 counties and encompasses 1,733,500 acres of forested land under protection.

The retired forester and his wife, Ida Jane, a native of Statesboro, have two married children, Beth and Jay, and two grandchildren, Nicole, 6, and Sherby, 3. Eastside Baptist Church has been the family's church for many years.

When asked how he will spend his time in retirement, the forester said "for the first six to 12 months, I intend to just play it by ear, to enjoy being with my family." He said he will later consider working in forestry as a consultant and probably work with a friend in automobile sales.

Commission personnel, other friends and relatives gathered for a retirement dinner in Tifton July 30 to honor Tidwell for his long service to the Commission and to wish him well as he entered his retirement years.

GEOFF ROCKWELL

Geoff Rockwell, a native of Bristol, Virginia and a graduate of the School of Forest Resources, University of Georgia, has

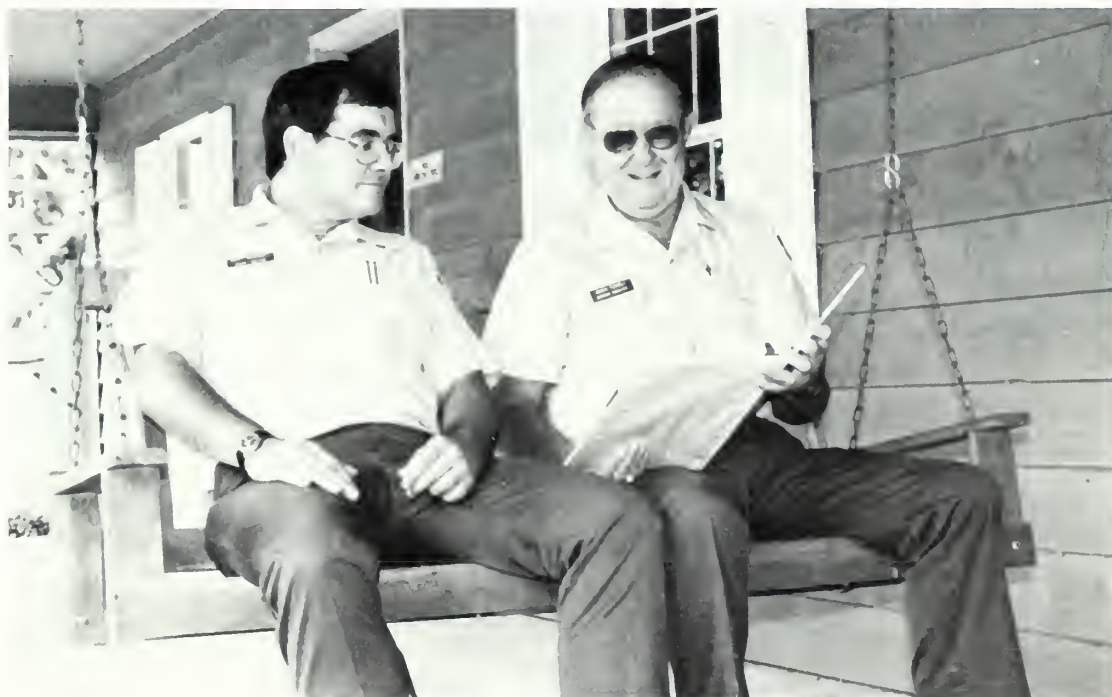
succeeded James Tidwell as Tifton District Forester.

Rockwell, who worked for the U. S. Forest Service and E. I. DuPont Company following graduation from UGA, came with the Commission in the fall of 1987 as management forester in the Tifton District. He was promoted to senior forester two years and six months later. He was officially named district forester upon the retirement of Tidwell on August 1.

In taking over the top position in the district, Rockwell admitted that "I don't have all the answers, but I appreciate the confidence shown in me and the support I am receiving." The forester agreed with the retired Tidwell that "people make the difference" and said he is encouraged by the caliber of young people being employed by the Commission.

Rockwell said the district is staffed by efficient young foresters, rangers and support personnel and he is looking forward to his new role in working with them.

The forester and his wife, Ann, a native of Lynchburg, Virginia, have two children, Jessica Ann, 6, and Christopher Rex, 7 months. The family attends New Covenant Church in Tifton.



Newly appointed Tifton District Forester Geoff Rockwell, left, looks over plans with forester James Tidwell, who recently retired after heading the district for 21 years.



William A. (Bill) Binns, left, retired corporate public relations official, is presented the Wise Owl Award by Ed Killorin, a former recipient of the honor bestowed by the Georgia Forestry Association.

BINNS RECEIVES WISE OWL AWARD

The Georgia Forestry Association awarded the organization's highest honor, the Wise Owl Award, to retired Union Camp Public Relations Manager William A. (Bill) Binns.

The coveted award, presented at the GFA annual convention held on Jekyll Island, signifies a lifetime of superior service to forestry or exceptional and meritorious achievement in the field.

Award winner Binns, a Savannah native who retired from Union Camp Corporation in 1993 after 28 years of service, spent 25 of those years in corporate public relations. A U. S. Navy veteran, Binns served during World War II and the Korean War. He has also been active in community affairs, serving as president of the Savannah Area Chamber of Commerce, Georgia Pulp and Paper Corporation Association, Exchange Club of Savannah, and the United Way. Binns is also a former GFA president.

Ed Killorin, former Wise Owl Award winner, presented the award to Binns. Killorin described Binns as having "rendered some of sterling support to forestry" and "possessing 'the highest character and integrity.'"

The GFA, founded in 1907, promotes

responsible use of Georgia's forest resources. The organization encourages stewardship, education, research, sound environmental practices, and a healthy business and political climate for the state's forestry community.

ANNUAL FORESTRY YOUTH CAMP HELD

Young students attending the annual Forestry Youth Camp near Covington are given a 100-question test after three days of indoor classes, outdoor instructions, field trips and time out for recreational pursuits.

The instructors, representing both the private and public sectors in the forestry profession, admits that some of the questions are tough, but point out that the campers return home with a better knowledge and a deeper appreciation of the forests and allied resources.

Byron Holcomb of Lawrenceville was declared first place winner in the forest skills competition at the recent sixth annual Forestry Youth Camp at the FFA-FHA Camp on Lake Jackson, south of Covington. He received a certificate, a personal plaque and a plaque for his school.

Forester Sharon Dolliver of the Forestry Commission, coordinator for the camp, said Lance Retter of Covington was second place winner, with third place honors going to Will Avery of Swainsboro. Each received an attractive certificate.

CAMP PURPOSE

The purpose of the camp is to develop an awareness among 13 and 14 year old students of the value of forest resources to Georgia's economy and how those resources relate to everyday life, according to the Georgia Division of the Society of American Foresters, sponsor of the camp. The students, representing schools from across the state, are offered the opportunity to increase their knowledge of forestry, wildlife, ecology and related interests in a picturesque, wooded setting.

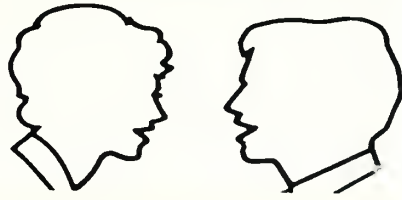
While academics are an important part of the Camp, there is plenty of time for recreational activities. The camp has excellent facilities for tennis, ping-pong, basketball, horseback riding, swimming and other activities. There is also a trip to Stone Mountain Park to view the Laser Light Show.

Dolliver said, "We had a very successful camp again this year. We had some bright, inquisitive students participating this summer and they benefited from our dedicated instructors." She said she appreciates the instructors who left their job to devote time to the youths.

Participants, both boys and girls, should be 13 or 14 years of age and interested in learning about Georgia's forest resources. Most schools recognize selected students by awarding the camp opportunity as a scholarship during the School Honors Program.

Dolliver said teachers interested in sending a deserving student to the camp next year should contact Dick Rightmyer of the U. S. Forest Service in Gainesville at 404-536-0541.

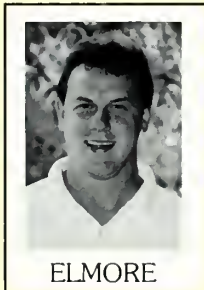
people in the news



FORESTER CLINTON D. MCKENNEY recently came with the Commission and is assigned to the Camilla District. The new forester, a native of Greenville, S.C., attended Clemson University, where he earned a degree in forestry. McKenney attends the Baptist Church and is in the Georgia National Guard...The forester replaces FORESTER WAYNE WORSHAM, who came with the Commission in 1987 and recently



MCKENNEY

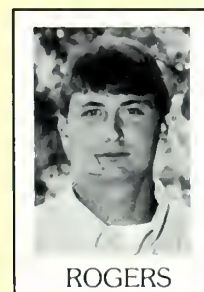


ELMORE

resigned to work in the private sector. Worsham and his wife, Becky, and their two children live in Donaldsonville. FORESTER TERRY R. ELMORE is the new forester in Glynn County. A native of Tuscaloosa, Alabama, the forester attended high school in that city and attended Auburn University, where he earned a degree in forestry. Elmore worked briefly for Georgia Pacific



JOHNSTON



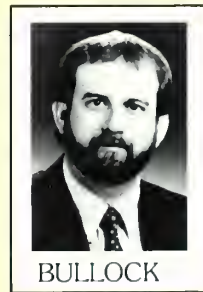
ROGERS

Corporation before coming with the Commission. He replaces FORESTER RICHARD JOHNSTON, who resigned after serving nine years with GFC. A native of Louisiana and a graduate of the University of Kentucky, Johnston and his wife, Pam and their two daughters,

live in Brunswick...FORESTER WALTER DANIEL ROGERS recently came with the Commission and is assigned as a forester to work in Pierce and Bacon Counties. A native of Brunswick, Rogers attended Georgia Southern University and later transferred to the University of Georgia, where he earned a degree in forestry. He will be stationed at the unit in Patterson...FORESTER ROBERT N. HUGHES, a native of Bridgeport, Alabama and a graduate of Auburn University, recently came with the Commission as a forester assigned to the Americus District Office. The new employee replaces FORESTER DAN DURHAM, who transferred to the Athens District...CHIEF RANGER REGGIE MORGAN of the Jefferson, Glascock Unit was recently named Young Farmer of the Month by the Jefferson County Young Farmers Association. The organization recognizes tree farming, as



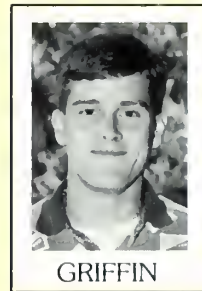
HUGHES



BULLOCK

well as conventional farming, and honors those who have interests in all phases of agriculture...JACK WARREN, who recently retired as executive officer of Forest Farmers Association, has been retained as marketing associate of The Timber Bank in Eastman, a loan program offered by the Citizens Bank and Trust Company...Union Camp Corporation has named JAMES F. BULLOCK, JR., wildlife manager for the company's four woodlands regions, which encompass 1.6 million acres of land in six states. He will be headquartered in Savannah. Bullock is

a forestry graduate of Mississippi State University, where he also attained a master of science degree in wildlife ecology...FORESTER SCOTT W. GRIFFIN, a native of Gainesville and a graduate of East Hall High School, recently came with the Commission and is assigned to the Newnan District Office, Griffin, who has a degree in forestry from the University of Georgia, replaces FORESTER KENNETH PURCELL, who recently retired after 34 years of service. A native of Franklin County and a graduate of the University of Georgia, Purcell came with the Commission in 1960 as ranger in the Oconee-Clark Unit and served as forester in Elbert, Madison,

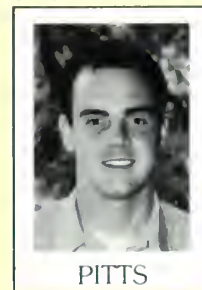


GRIFFIN



PURCELL

Jeff Davis and Ware Counties. Before assignment to the Newnan District office. The retired forester and his wife, Bonnie, live in Carrollton and are active in St. Andrews United Methodist Church. They have three children: Tony, Vicki and Matt...FORESTER WILLIAM PITTS, a native of Pike County, has been assigned by the Newnan District to serve the Lamar-Pike-Spalding Unit. The new forester attended Emmanuel College and transferred to the University of Georgia to earn a degree in forestry. Pitts and his wife, Sherri, are members of the Pentecostal Church...JOY RANKIN of Buena Vista is the 1994 winner of the F&W Young Forester Award. She received a \$750 college scholarship for outstanding achievement in 4-H forestry projects.



PITTS



RANKIN

LIVE-OAK AS EMBLEMATIC TREE
No. 14

A RESOLUTION

Whereas in many of the States of the Union some tree indigenous to the soil of the State has been chosen as an emblem of its sovereignty; and

Whereas hitherto the General Assembly of Georgia has made no such selection; and

Whereas the live-oak, being a tree indigenous to the soil of our State and especially flourishing along the Coastal plains and islands thereof where the first settlers and founders of this State resided, and which tree is so closely associated with our early history, and particularly with the lives of many famous Georgians such as General James Edward Oglethorpe, John Wesley and Sidney Lanier;

Be it therefore resolved by the House of Representatives of Georgia, the Senate concurring, that, at the suggestion and request of Edmund Burke Chapter, Daughters of the American Revolution, the live-oak be and the same is hereby adopted as and declared to be the official tree emblematic of the State of Georgia.

Approved February 25, 1937.



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Georgia State Senator Waymond C. (Sonny) Huggins, representing the state's 53rd District, was ranger of the Commission's Walker County Forestry Unit when he posed in this unusual tree for a photographer sometime back in the 1970s. The white oak which provides an excellent resting place for any weary woodsman, is on Lookou Mountain in Walker County. The senator, who was elected to the General Assembly 12 years ago after having served 32 years with the Commission and five years with the U. S. Forest Service, explains the odd growth of the tree as "just a freak of nature."

On The Cover...*A wintry sunrise gradually warms a rural forest tract in Georgia's Oconee County. Photo By Billy Godfrey.*

THE PENCIL



THE SIMPLEST, MOST
CONVENIENT, LEAST EXPENSIVE,
LEAST APPRECIATED PRODUCT OF
THE FOREST.

By

Howard Bennett

The computer invasion in Georgia has laid waste many conventional tools of communication, but it has failed to bring about the surrender of the common wooden pencil, a centuries-old writing instrument found even today in the desk drawer of every business executive and schoolbook satchel of every boy and girl.

Satellite signals span continents, facsimile machines send messages across great distances in a flash and other electronic marvels are on the horizon, but the lowly pencil remains the most versatile, portable, economical and convenient communications tool ever devised!

There was a time when this slim cylinder of wood came from the forests of Georgia; the red cedar (*Juniperus virginiana*) that grew to some extent throughout the state was an ideal species for the manufacture of pencils. The cedar, which was especially abundant on the limestone ridges of northwest Georgia, but rare in the coastal plain except near the sea, was favored for its light weight, close grain and significant fragrance.

DRAIN ON CEDAR

The demand for the choice wood was so great, however, that most of the suitable cedars were harvested in the early years of this century and before the second World War, pencil manufacturers were sending their timber buyers out to scour the Southern countryside for rail fences, posts, logs cabins, barns, shacks

and other rural structures made of red cedar.

Although manufacturers in other states turned to Georgia for its superior cedar, there was only one pencil manufacturing plant in this state. The National Pencil Company was located on Atlanta's Forsyth Street where Rich's Store for Homes stood since the 1950's and was recently demolished to make way for a federal building. The pencil company

existed from about 1908 to 1919.

The short-lived Atlanta factory engaged in an enterprise that had its beginning in 1761, the year Kasper Faber of Nuremberg, Germany developed the pencil in the form as it is known today.

The modern pencil is actually a descendant of primitive writing instruments that date back to ancient Rome; pointed metal rods were used to make dim lines and thin brushes dipped in ink were also used for writing. The word pencil comes from the Latin "pencilum," or thin brush.

EARLY PENCILS

Many early stylus used lead as a core and today's instrument continues to be called a "lead pencil," although the material inside the wooden casing is actually graphite. An unusually pure deposit of graphite was unearthed by a fallen tree in Barrowdale, England in 1564 and it was soon learned the material could be used for making impressions. The graphite was shaped into stubs, wrapped with string and then unwound as needed. In 1793, Nicholas Conte, a French painter, perfected a process of treating graphite which is still used today in the manufacture of pencils.

Fine clay is mixed with graphite to act as a binder and to add strength. The proportion of graphite to clay in a particular formula depends on the hardness sought in the finished marking element. A greater proportion of clay will

GEORGIA'S
RED CEDAR
WAS THE
SUPERIOR
PENCIL WOOD
UNTIL
THE
TIMBER SUPPLY
WAS
EXHAUSTED

harden the lead and provide a finer line. After the graphite and clay are blended, the batch is extruded from a press in a continuous spaghetti-like strand. The strands, or strings, are then laid out to air dry and later placed into crucibles and fired with extreme heat to harden them.

American manufacturers learned that a good pencil wood should be of an even texture; that is, the summer wood should

be of the approximate hardness as the spring wood. It should have an even, straight grain and be soft and slightly brittle. The red cedar of Georgia, Florida and Virginia possessed these properties, but when manufacturers began realizing a growing scarcity of this favored species, the U. S. Forest Service in 1910 launched an investigation into the possible use of other species.

Woods tested by manufacturers cooperating in the study included Rocky Mountain Red Cedar (*Juniperus scopulorum*), Port Orford Cedar (*Chamaecyparis lawsoniana*), Redwood (*Sequoia sempervirens*), Western White Pine (*Pinus monticola*), Incense Cedar (*Libocedrus decurrens*) and six other species that grow mainly in the Western states. The results of the investigation, as reported in the January, 1912 issue of the *American Lumberman*, revealed that red cedar was well suited for pencil manufacture but did list four substitutes, although they "grow very scatteringly and their exploitation would be costly." The trees included Port Orford Cedar, the Incense Cedar, and the Redwood.

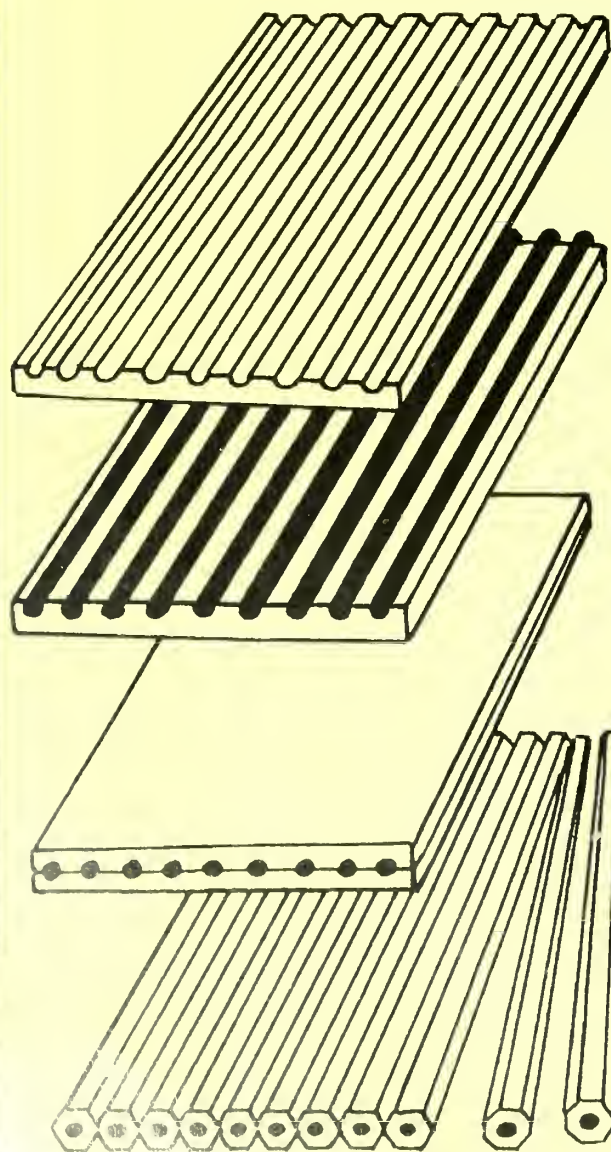
The survey of Western woods didn't end the search for the superior red cedar, however, and in 1908 New York businessman Phillip Berolzheimer thought he had discovered a good source on Little St. Simons Island, a tiny islet near the main resort of St. Simons Island on Georgia's coast. He bought the wilderness island for its red cedar, but soon learned it lacked suitable quality to supply his Eagle Pencil Company. The remote area eventually became a hunting retreat for Berolzheimer and his friends. Current owners now invite the public to the pristine island where couples pay \$300 to \$400 per day and companies and groups can rent the island for as much as \$3,600 a day. Some red cedars continue to thrive on the little island.

WOOD DISPLAYED

The first mass produced pencils were left unpainted so the high quality wood could be seen, but by 1890 manufacturers were painting their pencils and stamping brand names on them. The painting is made after the pencils are carefully sanded and inspected. They pass through a bath of lacquer in a series of coating machines and each one is coated from three to twelve times, depending on the finish desired. The finish must be smooth, uniform and elastic to prevent flaking or chipping when the pencil is sharpened.

Yellow has been the standard color for

HOW PENCILS ARE MADE TODAY



A. 7-inch long slats are cut from Incense-Cedar logs. Grooves are then cut into the slats.

B. 7-inch long pieces of lead (graphite) are laid in the grooves.

C. A second, grooved slat is glued on top.

D. The sandwich is cut into individual pencils. The pencils are then painted and fitted with an eraser.

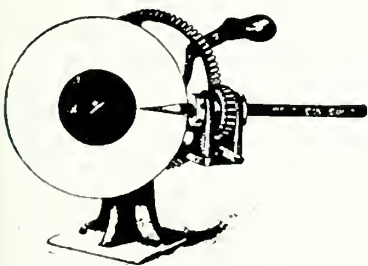
pencils, mainly because it is highly visible, and most modern pencils are hexagonal to prevent them from rolling off desks, tables and counters.

The nation's Civil War was a major turning point for the American pencil industry, as both Confederate and Union soldiers wanted a dry, portable writing instrument that could be carried in a knapsack or pocket. Companies began to mass produce pencils in the 1860's to meet the demand of the troops who had discovered something far superior to the old quill pen they had used back home. Pencils were soon selling for a few pennies each and soldiers used their bayonets to keep them sharp.

IDEAL TOOL

One writer commenting on the lowly pencil said its development as a writing tool represents "good engineering" because it blends into the environment and becomes a part of society and culture so naturally that a special effort is required to notice it. "The very commonness of the pencil, the characteristic of it that renders it all but invisible and seemingly valueless, is really the first feature of successful engineering," he said.

An editorial on the evolution of the pencil in the New York Times in 1938 expressed fear that the typewriter was eliminating "writing with one's own hand" and predicted libraries one day would be searching for the last reference to pencils. Now, 56 years later, the computer age has arrived and the pencil continues to be as available and useful as ever.



The Gem, an early mechanical pencil sharpener employing a rotating disk of sandpaper.

Any reference to the National Pencil Company that existed in Atlanta in the early years of this century conjures up images of one of the city's most sensational murder trials.

Mary Phagan, 13, caught the English Avenue streetcar on Saturday morning, April 26, 1913 to travel to the pencil company on Forsyth Street to pick up her pay for the week. Her employment consisted of working alongside other young girls in placing rubber eraser tips into metal ferrules on the pencils. She earned about 12 cents an hour, the average pay for young people in many factories in the South; it was a time before child labor laws were enacted and it was commonplace for industries to employ children at low wages.

Mary Phagan failed to return to her home that day and when the company's nightwatchman made his rounds in the early hours of the next morning, he found her body in the dark basement of the factory. Thousands attended the funeral of the girl in the Marietta cemetery and the brutal slaying set off a loud public outcry for the conviction of the murderer.

It was a period of racial and class tension in the city and circumstantial evidence quickly pointed to Leo Frank, 29, Jewish superintendent of the factory. He was convicted and sentenced to die, but Governor John Slaton, deeply troubled by persistent claims that the state's key witness might actually have been the killer, commuted Frank's sentence to life imprisonment just one day before the scheduled execution. Several men, said to be "anti-Semitic rabble-rousers," barged their way into the state prison in Milledgeville, however, and took Frank to rural Cobb County and lynched him.

A witness, who was threatened to withhold evidence of the factory superintendent's innocence, finally broke his silence in the last years of his life and 73 years after the trial, on March 11, 1986, the State of Georgia pardoned Leo Frank.



Today the nearest wooden pencil factories to Georgia are in the Lewisburg and Shelbyville, Tennessee area, about 75 miles from the state line. Bob Austin of the Empire Pencil company in Shelbyville said his plant depends exclusively on incense cedar from the West Coast for its production. "It would be great if we had a source of wood in nearby Georgia," he said, but the supply of red cedar had been exhausted in Georgia and the South long before he came with the company.

COMMISSION SEEDLINGS

The cedar continues to thrive around the state, but not in the quantity and quality desired by the pencil manufacturers. In fact, Eastern red cedar is the most widely distributed conifer of tree size in the eastern United States. The tree is grown

in the Commission's nurseries at the rate of about 250,000 seedlings each season, according to Reforestation Chief Johnny Branam. The cedar grows as tall as 60 feet with a trunk diameter up to two feet, but Branam said most of the seedlings sold by the nurseries will never reach that maturity, as they are mainly utilized as Christmas trees, with some used as screens or in landscaping projects.

Branam said he doesn't foresee the day when the species would be grown in Georgia as a "pencil wood." Manufacturers prefer aged cedars that have ample purplish-red heartwood, but Branam and other foresters say very few cedars in Georgia are being grown as a commercial crop, with the exception of the short-term Christmas trees. A few companies continue to manufacture lumber, furniture, wardrobes, chests and small novelty items from scattered cedars

The Book Corner

FLORA OF NORTH AMERICA, Edited by Flora of North America Editorial Committee, Oxford University Press, New York, New York. Hardback \$75 per volume.

With only two of 13 volumes complete, *Flora of North America* is already stirring controversy among the hierarchy and low-archy of botany.

Impending influence spreads even further since plant identification is essential to such specializations as forestry, horticulture, and plant conservation. The second volume (Pteridophytes and Gymnosperms - 475 pages) is particularly relevant to forestry because needle-leaf cone bearing trees are included, the families of which have been reduced from four to three; similar conversions seem preordained for future volumes. Although some observers consider such alterations revolutionary in the positive, others regard them as academic whims in the negative.

It should be considered by all that botany is rooted in transmutations of nomenclature that may provide several names for one plant according to prestige of the taxonomist. Liberal name calling may seem supernatural in other scientific classifications, but botany has been sprouting with such diversified abandon since the 1600s.

Since the 372-page introductory volume is basically an explanation of future volumes and how to use them, the futility of attempting to accurately critique the finished product is obvious. Some exponents of botany will approve of alterations within a science characterized by minute detail, while others will consider changes confusing and prefer not rocking the boat. Some will praise the vast range of contributors; others will feel the roster is incomplete. A maze of potential for criticism and accolades exist; complaints and drawings have already surfaced on page 23)

around the state.

James Shirley, a Lamar County beekeeper who went out of the honey production business in 1989 to buy an ancient sawmill and turn out cedar products, was well aware of the scarcity of the species, but was willing to scout the countryside to find sufficient trees to keep his saws humming.

On rainy days or when the mill is down for some reason, Shirley and his son often go out searching for suitable trees along hedge rows and back roads. Old home sites where cedars were planted generations ago are good sources and Shirley tries to make a deal with the owner when he comes upon trees he wants. Some of the old growth trees would probably be the envy of pencil makers.

Although a prominent mechanical pencil manufacturing company existed for many years in Atlanta, there are no pencils of any type now being produced in the state. Pencil components, including cores and erasers, however, are produced by Asbury Ferst, Inc. of Atlanta and supplied to the pencil industry in Tennessee.

Pioneering pencil makers in Germany realized the red cedar of the Southern United States was a pencil wood superior to any other tree and had some of the

timber exported to that country. When it was predicted that the American supply would one day be exhausted, the Germans took steps to grow their own pencil wood.

Cedar seed was taken from Florida and planted on a 400-acre plot in Bavaria in 1860 by Baron Lothar von Faber. The trees grew very slowly and after 40 to 45 years, when they had attained a size necessary for experimentation, it was found the wood was of an entirely different character than shown in the trees grown in the sunny, semi-tropical climate and soils of Florida. The cedar was totally unsuited for the manufacture of pencils and the search continued in other sections of the world for a suitable wood.

The U. S. Forest Service conducted its search for a substitute for the dwindling supply of the world's best pencil wood 52 years after the failed German experiment and concluded its exhaustive study with the statement that "There is no other wood as well suited for pencil manufacture as the red cedar." California incense cedar had to suffice.

A true substitute has never been found for the fine-textured and even-grained red cedar of Georgia and neighboring states that helped launch the manufacture of the indispensable wooden pencil.



CORRECTION: In the Fall, 1994 issue of Georgia Forestry, an erroneous caption was published with this photograph showing William A. (Bill) Binns, left, retired corporate public relations officer of Union Camp Corporation, Savannah, receiving the coveted Wise Owl Award from the Georgia Forestry Association. The correct identification of the person presenting the award is Ed Hutcheson, president of Georgia Timberlands and former president of the association.



LOST

IN THE WOODS

By Lynn McElroy

Hunters look forward to hunting season all year. None of them expect to get lost in the woods, but it happens every year. However, it is very easy to get lost in unfamiliar wooded terrain. Even the most experienced woodsmen have had this unpleasant experience at one time or another.

When lost in the woods, disorientation can be complete. It is not uncommon for things to look reversed - such as coming to a river that seems to be running the wrong way. In the distorted perception of the lost, nothing looks right until a recognized clearing, or tree, or anything shifts the pieces of the puzzle back to logical reality. Even when following a compass, or directions related to the sun, the feeling of reversal can persist until familiar terrain is reached.

The best advice to anyone traveling in wooded terrain is to do what is necessary not to get lost. But if you do happen to get lost, the best thing you can do is not to panic and maintain a clear state of mind; a clear head will find itself. If everyone did just that one thing, there would be fewer reports of persons lost in the woods.

But for most woodland travelers, out of sight of familiar surroundings literally involves into - out of sight out of mind. Merely being out of sight of others in a strange forest makes most people uneasy - a natural feeling but a dangerous one. I never yield to it.

Loss of mental control is more serious than lack of food, water, proper clothing, or proximity to wild animals. The bottom line is the person who keeps his head

has the best chance of emerging from the situation safely.

RULES OF THUMB

The following rules are worth remembering: (1) Stop, sit down and try to figure out where you are. (2) If confronted by night, fog, or storm, make camp at a sheltered spot. Then find or make a safe place to build a fire (where there is no danger of starting a wildfire and burning yourself up with the forest) and gather plenty of dry fuel for future use. (3) Do not wander aimlessly. (4) If injured, try to find a clear and conspicuous spot (like a mountain spur) and send smoke signals. (5) Do not unnecessarily expend energy. Don't yell, don't run, don't worry, and above all, don't quit.

NIGHT PROBLEMS

The lost woodland traveler forced to stay overnight can face special problems. Before night falls, a shelter should be built - preferably under a ledge, large boulder, or fallen tree. Then a safe space should be determined to build a fire. If it is cold enough and there is no blanket, the fire can be built in a hole; when the fire has burned down, hot coals can be covered with six inches of earth to serve as a warm sleeping area. If no fire can be started, leaves and branches can be used for shelter and warmth.

For a day fire to attract attention, green branches and wet wood should be added to the blaze to create smoke. There is a very good chance in Georgia that

billowing smoke of this sort will be spotted by Commission lookout observers and/or forest patrol planes.

SAFE OR SORRY

Whether a novice or experienced woodsmen, the motto remains the same - Better to carry a clear head on your shoulders than a big pack on your back.

Airlines reportedly do not carry parachutes on board because it would be bad public relations - makes the passengers think the operators anticipate a crash. You don't have to worry about a public relations impression in the woods; and although you don't want to be weighted down with unnecessary gear, it's better to carry a few essentials and be safe rather than sorry.

Whether you're going into the woods for the first time or have a lifetime of experience - a fishline with a few hooks, matches in a waterproof box, a compass, map, a little concentrated food, and a sturdy hunting knife may save you a lot of grief.

NO LOST THINKERS

A thinking woodsman is never really lost for long; but non-thinking panic can evolve into anything from mild frustration to death. The thinking woodsman anticipates that after a night in the forest, he may well wake up to a clear dawn and regain correct perspectives on his location. Although his compass may be useless due to local magnetic attraction and the sun hidden

(continued on page 23)



David McCluney on his mill yard in Baxley.

CYPRESS SPECIALIST

David McCluney's sawmill is in the heart of Georgia's great pine belt, but he tends to ignore that popular species and concentrates almost exclusively on bald cypress.

People restoring old classic homes, builders seeking novelty siding, sportsmen looking for the ideal canoe, and others demanding wood that is resistant to insects and is warm and luxuriant, consider it fortunate the Morris Farms Sawmill on the outskirts of Baxley specializes in cypress.

The mill manufactures several siding patterns, wainscoting, paneling, fencing, decking, dock timbers and lumber for other special purposes. "Most of our products are custom made for customers who send in orders," said McCluney "and we often are called upon to do special cuts that are not available elsewhere." The mill owner, who has been in the business since 1983, said "we sell all over the country and we even export to Japan, but our best market is in North Carolina."

McCluney's attractive cypress is found in many urban homes in Georgia and in other states, but it is mainly

utilized in lakeside lodges and retreats because of its resistance to decay and its rustic appearance. The mill owner said it is a favorite wood for construction of log cabins and gazebos.

Although the mill manufactures novelty, beveled, rabbited, and shiplap siding, tongue and groove planking, V-joint, double shiplap and channel rustic paneling - dimensions and designs one would be hard pressed to find at an

average lumberyard - many requested speciality items are not processed on the site, but McCluney has contacts with craftsmen who can fill the orders. When a customer is interested in a fine canoe, for instance, the mill provides select cypress and an experienced boat builder is contracted to do the work; when a buyer wants a genuine log cabin, the mill furnishes the logs and refers the customer to a competent builder.

The durable cypress is also favored for stadium seats, greenhouses, cooling towers and other commercial installations where high humidity is a problem. Cypress also ends up in caskets, fireplace mantels, landscape timbers and vats, tanks, and tubs.

The mill consisted of well-worn machinery that left much of the manufacturing process to manual labor when McCluney bought it 11 years ago, but in recent years he has converted it to an electric-powered plant and an old tobacco barn on the property is now a highly efficient dry kiln. Although many orders call for rough lumber, the mill maintains a planer for those wanting dressed material. Only five employees working a 40-hour week are required to operate the mill now that it is automated to a great extent and orders keep it humming throughout the year.

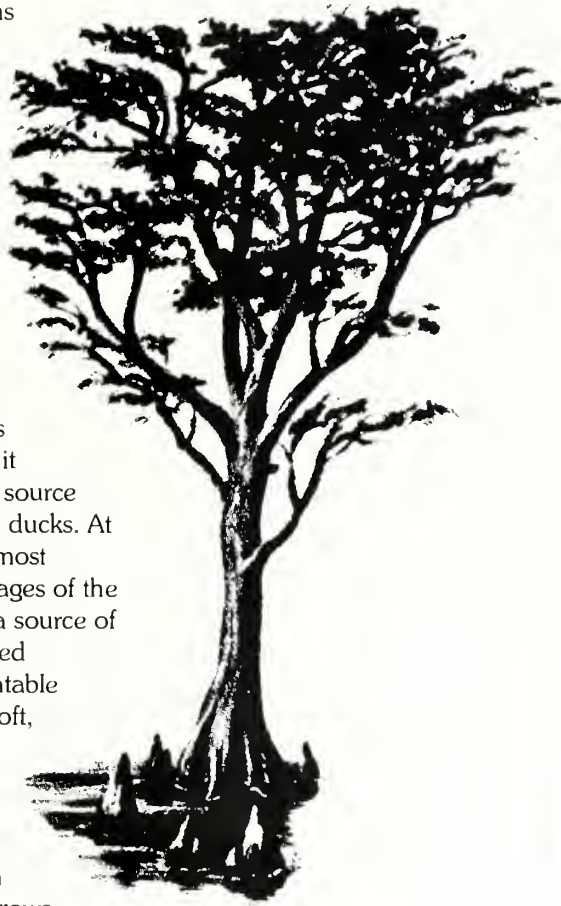
One of the by-products of the operation is mulching material consisting of bark, shavings and other residue. Customers prefer it over pine because of its resistance to termites and other insects and its ability to far outlast the other species.



Bald cypress (*Taxodium distichum*), usually referred to as just cypress, often thrives in stands of water several months

of the year. It is easily identified by the trunk, which flares out at the base into a swollen, buttress-like structure.

The roots send up woody growths that protrude above the water, often several feet, and are called "knees." The branches are often draped with Spanish moss and the tree is known for its long life and the huge sizes it attains. Its seeds are a food source for gray squirrels and wood ducks. At one time it was one of the most dominant trees along drainages of the Southeast, but its value as a source of rot-resistant wood has caused depletion of many merchantable stands. The wood is light, soft, easily worked and straight-grained. The color varies from pale brown to nearly black and it has a somewhat pungent odor. In Georgia, the bald cypress grows principally in swamps and ponds throughout most of the coastal plain. It is often replaced by smaller species, pond cypress (*Taxodium ascendens*).



Timber is harvested, a limited number of cypress trees are usually involved and loggers sell them to McCluney.

RESTORATION MATERIALS

Restoration of old homes, historic buildings and other landmark structures often call for the replacement of ornate wainscoting, intricate moulding and many other architectural details that could be fashioned from cypress. Now that there is a growing trend to renovate older buildings, the mill is receiving an increased number of inquiries and orders regrading cypress.

Pecky cypress, a grade of lumber that comes from old growth timber and was once popular as a decorative wall material for dens, playrooms and offices, is also cut at the mill; orders are rarely received, however, for the hard-to-find trees that have the fungus which gives the wood its unique appearance.

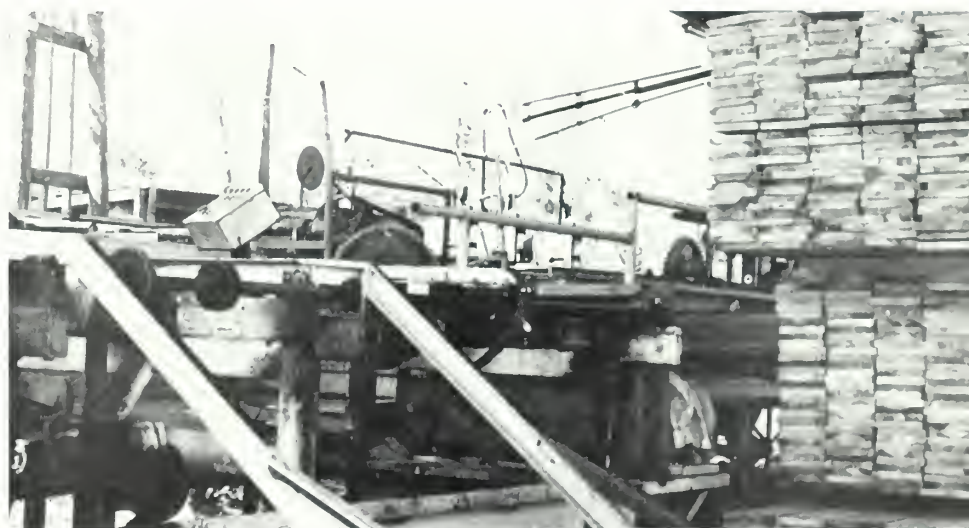
A farmer or builder will often bring in a cypress log and ask the mill to custom trim it to a certain size or design for a special purpose and the crew will gladly accommodate him. There are large lumber mills along Highway 341 which sell lumber by the truck load or the train load, but those interested in rich, mellow wood for special projects find their way to the Morris Farms Cypress Sawmill for a very special kind of lumber.

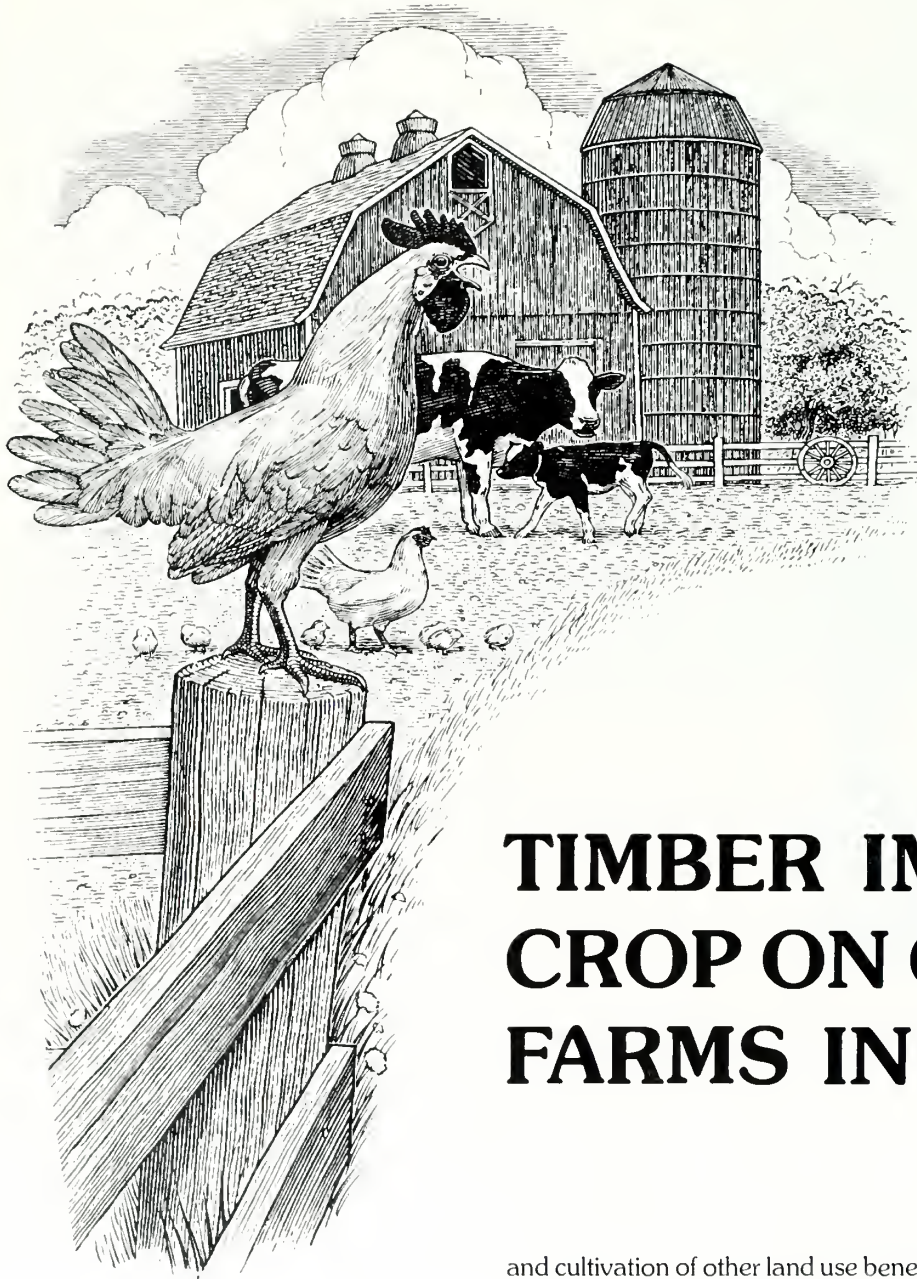
McCluney, who said one of his major customers is a building supply store chain, explained that cypress continues to grow in popularity as more builders come to recognize the unique properties of the wood are not only appearance, but it also holds sealers and stains better than other species.

When asked if he fears the supply of cypress, which thrives in swamps and other low lying areas, will soon be exhausted, the mill owner replies that cypress "grows as fast as pine" and he expects no shortage of the resource within the foreseeable future. "I buy from

about a 75-mile radius of Baxley," he said, "and I don't buy timber, I buy individual logs." Whenever a tract of

At left, a planing mill is operated for customers who want dressed lumber. At right: a modern electric mill converts cypress logs into durable lumber for a wide range of special uses.





TIMBER IMPORTANT CROP ON CENTENNIAL FARMS IN GEORGIA

More than half of the newly certified 1994 Georgia Centennial Farms listed timber as a crop - indicating an impressive connection between good land stewardship and proper forestry management.

Sixteen of the 31 farms receiving awards from the Georgia Centennial Farm Program are still generating income from timber after a century of operation. The diversity of timber production reflects the flexibility of timber production with the production of environmental benefits

and cultivation of other land use benefits such as recreation, hunting and fishing. Well balanced use of these characteristics are the basis of the Commission's Land Stewardship Program.

The Georgia Centennial Farm Program honors farmers throughout the state for their contribution to agricultural heritage. The program also encourages preservation of agricultural resources for future generations.

Participants qualifying for a Centennial Award are honored each year at the Georgia National Fair in Perry. During a special recognition program, farm owners receive a Georgia Centennial Farm Certificate of Honor signed by the

Governor. A bronze Georgia Centennial Farm plaque is also presented to those farms listed in the National Register of Historic Places.

Awards are divided into the three categories. Centennial Heritage Farm Award - honors farms owned by members of the same family for 100 years or more and listed on the National Register of Historic Places. Centennial Farm Award - does not require continual family ownership, but must be at least 100 years old and listed on National Register of Historic Places. Centennial Farm Family Award - honors farms owned by the same family for more than 100 years.

The Georgia Centennial Farm Program is administered by the Historic Preservation Division, Georgia Department of Natural Resources in cooperation with the Georgia Farm Bureau Federation, Georgia Department of Agriculture; University of Georgia, College of Agricultural and Environmental Sciences; and the Georgia Forestry Commission. The Centennial Farm Committee is comprised of representatives from each of these organizations.

QUALIFICATION/APPLICATION

To qualify for certification by the Georgia Centennial Farm Program, a farm must meet the stipulations of the three designated categories. The farm must also qualify as a working farm with a minimum of 10 acres actively involved in agricultural production of \$1,000 annual farm generated income.

Farm land used for tree farming can qualify as a working farm *only* if the farm operates from a forest management program written by a registered forester - and has at least 10 acres of forestland and will have forest products harvested at some scheduled time in the future.

Only one certificate will be issued for each family farm unless the original farm has been subdivided for more than 100 years and the subdivided farm has also achieved 100 years of significance as separate family farms. The line of ownership from the first family member owning the land may be through wives, and husbands, children (adopted included), brothers, sisters, nephews and nieces.

In all three categories, listing on the National Register of Historic Places is required. If a farm is more than 50 years old, and if the farmhouse and at least one of the outbuildings remain relatively intact - the farm may qualify for National Register listing. For complete information on the National Register and Centennial Farm Program application contact: Historic Preservation Division, Department of Natural Resources, 205 Nuttall Street, Suite 1462, Atlanta, Georgia 30334 (Phone: 404-656-2840).



AWARD RECIPIENTS LEAH AND RIDLEY MONK

Ridley Monk, one of the Centennial Farm Award recipients, is surrounded by reminders of the pioneer days of his native Worth County and the ancestors who settled the land on which he and his wife now live.

They occupy a charming old farm place built about 1848 by Monk's great grandfather. Although enlarged and extensively renovated, most of the flooring, ceiling and walls are the wide planks of the original structure. Floor joists and other heavy timbers are fastened by wooden pegs and handmade nails. When reroofing the dwelling, workmen found it decked with planks 14 to 16 inches wide and covered with thick, hand-hewed shingles.

Several handwritten land deeds, complete with beeswax seals and dating as early as 1836, have been framed and placed on the walls in the home. They pertain to acreage deeded by the State of Georgia to Monk's forebears.

Although apparently heavily wooded in the past, there is a current

resurgence of cotton cultivation in South Georgia and much of Monk's farm is now in that crop. He has sold some timber and takes great pride in several ancient oaks which enhance their front lawn.

An old cane mill and syrup kettles were essential to the farm and Monk tells how his ancestors took the large kettles down to the Gulf of Mexico by wagon each year to boil and evaporate sea water to obtain precious salt for meat curing and family cooking. He said his grandmother was known across the countryside for entering prize-winning farm produce in area fairs and later in expositions as far away as Philadelphia and Chicago.

Monk and his wife, the former Miss Leah Yarborough of Albany, have four children: Sue Monk Kidd, a writer for Guidepost Magazine and author of several books; Wade, an attorney; Bob, an insurance executive; and Don, a bank president. The Centennial Farm honorees have eight grandchildren.

FEBRUARY DEADLINE

All applications with supporting evaluation must be submitted postmarked by February 1, 1995.

AWARD RECIPIENTS

Centennial Heritage Farms

honored included: Hudson River Farms, Banks County, Turk Family; Coulter Farm, Walker County, James J. Coulter, Jr. and Vera Coulter.

Centennial Farms honored

included: Eudora Plantation, Brooks County, Ms. Veria Worn; Woodville, Columbia County, Eugene and Edith Collins.

Centennial Family Farms honored

included: V. B. Paul and Sons Farm, Atkinson County, V. B. Paulk; Harrell-Daniels Farm, Atkinson County, James R. Daniel and Ione Wright; Carter Farm, Bacon County, Jimmy and Emily Carter; Eli W. Warnock, Jr. Farm, Bacon County, Mrs. Eli W. Warnock, Jr.; John Rountree & Emma Jane Rountree Farm, Brooks County, Clyde, Richard, Mable Hall and L. Rountree; W. Horace Bird Farm, Bulloch County, W. Horace Bird; Clarence Cheney Farm, Calhoun County, Clarence Cheney; Brinson Home Place, Emanuel County, Mary G. Brinson and Martha B. Wells; Nathan Foskey Farm, Emanuel County, Ann Hammock Peebles; The Reid Farm, Forsyth County, E. H. Reid; Thomas Y. Whitley Farm, Irwin County, Thomas Y. Whitley; Johnson Farm, Jackson County, James Sherwood Johnson; Lane Woodlands, Jenkins County, Camille M. Lane; William Mack Reynolds Home Place, Jenkins County, Newton Tryon Reynolds; Greystone Farm, Laurens County, Albert S. Mercer (Sr. and Jr.) and Patricia; Pine Top Farm, McDuffie County, James E. Wilson, Jr. and Robert N. Wilson, Sr.; Bulloch Farms, Inc., Meriwether County, Sam Bulloch; Oscar Cyprian Bulloch Farm, Meriwether County, Paul M. Bulloch; Pierson Farms, Monroe County, James J. Pierson, Jr. and Roberta S. Pierson; Lindsey Fambrough Farm, Oconee County, Lindsey L. Fambrough; Bemby Farms, Pulaski County, R. Thomas Bemby; Lane Farm, Screven County, William J. Lane, Jr. and Robert E. Lane; Joel Thomas Farm, Sumter County, Joel Fox Thomas; John M. Brewton Farm, Tattnall County, Zelma Brewton Keels; Dallas Farm, Troup County, Mary Jane Hill; Granada Farms, Wilkes County, James A. Granada, Jr. and John A. Granada; Monk's Farm, Worth County, W. B. Ridley Monk.

SOAKED SOILS BAD NEWS FOR FORESTS

By Kim Coder

Saturated and flooded soils are wicked news for tree roots, because the water keeps oxygen from getting to them. The soil organisms and roots then quickly use up all the oxygen available, and the tree is quickly headed for trouble.

Trees - and people, too - have to have oxygen.

Why?

Oxygen acts as an electron acceptor. The tree hands off electrons to oxygen, and as the electrons are allowed to slowly escape into the environment, the tree is able to use the energy generated by the process.

The flow of electrons from high concentrations inside the tree to low concentrations in an oxygen atmosphere allows oxygen-using life forms to survive. This biological process is called respiration, something all living cells in a tree do constantly.

A tree needs to lose electrons easily to the environment. Normal atmosphere around a tree is filled with about 21 percent oxygen, an element that behaves as if it's running low on electrons, quickly taking the electrons the tree offers.

As long as there is plenty of oxygen, food produced by a tree can be quickly and efficiently converted into work-producing energy. If oxygen concentrations are limited, though, as they are when the soil is saturated or flooded, respiration in the roots becomes more difficult.

What happens then is not a pretty picture.

When oxygen is missing in saturated soils, other elements or materials must be used as electron acceptors in the respiration process.

Nitrogen is the first major element used by soil microorganisms when oxygen is depleted. Electrons are transferred to nitrogen. Nitrogen respiration in

saturated soils causes available nitrogen from fertilizers to be turned into gas within a few days.

With no oxygen, and nitrogen respiration getting started in the soil, the next element to be used is manganese, which is normally insoluble in a soil.

That's bad news, because when manganese is reduced with electrons from respiration, it becomes very soluble and mobile. This changed manganese is toxic to roots and may be taken up



into the tree, poisoning the top.

As the soil stays saturated, with no oxygen present, and nitrogen and manganese is being used up as electron acceptors, iron also becomes a respiration element.

Iron respiration allows insoluble forms of iron to be changed by the addition of electrons into soluble types of iron. Like manganese, soluble iron can produce many toxicity problems.

After a time, cells have trouble transferring electrons to the environment because the concentration of electrons inside and outside are about the same.

Sulphur becomes the next element to be used as an electron acceptor. But sulphur respiration can produce hydrogen sulfide, which is toxic to roots. It causes many compounds to bond with sulfides, too, making them insoluble and unusable.

At the end of this no-oxygen respiration process comes fermentation: the transfer of electrons to carbon.

The root cells themselves are made of carbon compounds. Fermentation consumes 20 times the amount of food for the same amount of energy produced, compared with normal respiration.

Alcohols, ethylene, volatile fatty acids and a host of other products are made by fermentation.

The result is an electron-rich solution where there is no place to transfer electrons to generate energy. Sulphur and fermentation respiration produce a stinking, slimy soup of materials.

ROOTS STRESSED

Through these stages of respiration without oxygen, roots have been badly stressed. Root death is a combination of suffocation, starvation and toxic chemical buildup.

Organisms in the environment that can perform anaerobic (without oxygen) respiration will continue to consume the carbon materials of the roots.

A saturated or flooded soil can be a lungeon anytime for tree roots. During the warm growing season, soil saturation can be especially deadly.

(Dr. Kim Coder is a forester with the University of Georgia Extension Service.)



Rampaging river spills over into forestlands.

FLOOD DAMAGE SURVEY

A Flood Damage Assessment Team, composed of two foresters and two aircraft pilots of the Forestry Commission, surveyed the woodlands along the Ocmulgee and Flint Rivers during the record flood this summer and determined that the short term effects of standing water in the forests was minimal.

In the long term, however, the recent flooding could cause a host of insects to invade trees now that the water has receded, according to the team report.

The assignment was to evaluate the extent of timber losses from the flood along the Ocmulgee River from Lake Jackson to Hawkinsville and along the Flint River from Montezuma to the south side of Lake Blackshear. The flight covered approximately 105 miles at an average altitude of 1,000 feet.

The Assessment Team included Foresters Ken Dunn, Bibb County Unit, Keith Moss, Peach-Crawford Unit, and Pilots Brad Turner and Al Newman.

OCMULGEE RIVER

On the Ocmulgee River, no significant timber damage was reported from Lake Jackson south to Highway 83 in Monroe County and slight damage was noted from that highway to North Macon. Timber losses were slightly higher through the city and some areas could not be recovered, since water widened the river channel approximately 50 feet. No upland forests were seen underwater from Macon to Hawkinsville.

FLINT RIVER

The timber loss along the Flint River was even less than on the Ocmulgee in the area inspected, but approximately five acres were lost in the area where the levee broke at Lake Blackshear.



Environmental education class from southeast Atlanta is shown with U. S. Forest Service intern instructors (back row) working with Atlanta Project. Gerald Helton, on loan to the Commission from the Forest Service, coordinates the urban forestry segment of the program established by former President Jimmy Carter to improve inner city neighborhoods.

CITY CHILDREN LEARNING MORE THAN PLANTING SKILLS IN TREE PROJECTS

Gerald Helton's job concentrates on planting trees and conducting environmental education efforts in Atlanta's most economically disadvantaged inner city neighborhoods. After a year on the job, he says some definite collective - positive changes in neighborhood attitudes have resulted from the program.

"I don't have any formal statistics to support it," Helton said, "but just working with this on a day-by-day basis, I can see a gradual unity developing in neighborhoods. People are beginning to pull together for protection of their environment, their children, and to develop a safe and more prosperous life style."

Helton, who is "on loan" to the Commission from the U. S. Forest Service under a two-year agreement,

works out of the Commission's Stone Mountain Urban Forestry Unit. The purpose of the position is to coordinate



*Gerald Helton
Atlanta Project Coordinator*

urban forestry and environmental education programs under the guidelines of the Atlanta Project, established by former President Carter to improve living conditions in inner city neighborhoods.

The Atlanta Project is involved with inner city programs ranging from crime prevention to drug abuse to health care. Helton's urban forestry and environmental efforts are included in these outreach programs - and Helton believes this segment to be one of the most effective in unifying neighborhoods because it offers a psychological opportunity for drawing people together on a simple basis for a common cause. This psychology then spreads to other areas of their lives.

The technique of offering a simple, easily accepted basis to unify a group

for common causes is not new. In John Steinbeck's famous 1936 novel, *In Dubious Battle*, a labor organizer unifies a previously apathetic, disorganized group by having every man in camp give a strip of white cloth to be boiled and used in the emergency delivery of a baby. Only a few strips of cloth were actually used, but the donors never knew. After the baby's birth, the organizer tells a follower that there is no better way to make people part of a movement than to have them give something to it. The request for cloth strips was to promote a simple, collective gesture that would bond the group together for future actions.

EFFECTIVE CONCEPT

This concept is simple but effective. Helton can relate similar reactions from many of his current projects, with the basic difference being that individuals giving their time is vital to the success efforts of urban forestry and environmental efforts that can extend benefits for generations to come. Following such projects, neighborhoods - ranging from small children to senior citizens - often band together to solve other problems. The common denominator in this new atmosphere of cooperation and community spirit is the knowledge that they have worked together successfully on one project and can do the same on another.

"For instance," Helton said, "we coordinated a tree planting at a Westside housing project where 50 willow oaks were planted. There were 15 adults and 25 kids working together. After the planting, the kids, who ranged from 8 to 12 years old, adopted a tree. Each kid received a certificate of adoption and agreed to do what ever was necessary to take care of the tree and maintain it in good health."

Helton followed up on the project and returned to the Westside neighborhood a number of times to check on the trees. On every visit, he found each adopted tree had been well cared for and was in excellent health. "All the kids apparently identified with their tree and took pride in caring for it," he said. "This could be an important step in making them capable of transferring such responsibility to

other efforts and working together to solve problems."

The Atlanta Project divides the city into 20 "clusters." Each cluster is based on an area from which a particular high school enrolls students. Although the clusters are identified by high schools, Helton also works with kindergarten and grammar school children; the faculties of all schools are involved as participants and initiate efforts through requests.

Helton's work is generated by "cluster coordinators." These may or may not be educators - but all are residents of the communities for which they request projects. Helton said a typical situation is for an inner city neighborhood to have a community meeting and determine that they would like to have a clean-up, beautification project, tree planting, or whatever; then they contact Helton through his Commission office.

Most of Helton's projects involve tree planting coordination. However, environmental education has increased to a point that he estimates it now requires 25 percent of his time. Two approaches are used for environmental education projects. One is to conduct classroom sessions at the request of a teacher or school principal; The other is train teachers in Project Learning Tree (PLT) techniques and materials so they can use the program in classrooms; PLT is an award winning environmental education program for educators working with students Pre K-12.

WHOLE NEW WORLD

"But even on a tree planting project," Helton said, "while the project is in process, we always try to get in some environmental education. The younger we can reach the kids, the better. This environmental awareness has opened a whole new world for a lot of inner city kids."

Helton explained the trees on these projects are furnished by the Commission, Georgia Trees Coalition, and City of Atlanta Parks Department. Prior to planting, a Commission urban forester will go on site and determine the best planting areas; more technical expertise is often provided by Atlanta City foresters. On planting day, Commission urban foresters deliver trees and Helton divides community residents into teams for various duties. Teams usually consist of five or six residents to work with each urban forester, and there is always an

effort to get as many children involved as possible.

"This involvement creates the rapport with the community, each other, and the environment," Helton said. He emphasized that another key factor in successful projects is the partnership that has developed between the Commission, Forest Service, and various communities.

Helton estimates that within the past year, he has coordinated the planting of approximately 350 urban trees. Species most commonly planted include: willow oak, red maple, sugar maple, and crepe myrtle.

Although Helton receives considerable assistance in forestry expertise from urban foresters, when it comes down to coordinating the people-efforts of a project, the job is left to him. Helton is well prepared for this task. He has an undergraduate degree in sociology from Atlanta's Morehouse College, and a Master's degree from the University of Chicago in social service administration. In addition, he managed to attend Auburn and complete forestry courses in forest management, silviculture, forest survey, and dendrology.

Employed by the U. S. Forest Service since 1977, Helton has worked in personnel, planning, human resource programs, Civilian Conservation Corps (CCC) projects, and Young Adult Conservation Corps (YCC) efforts. Immediately prior to his current Commission job as Atlanta Project Coordinator, Helton was a Rural Development Specialist for the Forest Service; this job involved establishing grants in rural development to create jobs within the 13 states of the Southern Region.

Helton has always believed in the potential of the Atlanta Project. When the project started and called for volunteers, he was one of the first in line to volunteer personal time. Six months later, he heard about the possibility of a Commission and Forest Service partnership position. When the position was established, he made application and got the job.

POSSIBLE FUTURE

Helton believes the position has made a lot of promising things begin to happen and hopes this will continue. "We've got
(continued page 19)

UNIQUE OBSERVATION TOWER 2,000 FEET ABOVE SEA LEVEL

By Bill Edwards

Increasing Georgia population and aircraft observation could result in the Commission phasing out and dismantling all but one of the state's firetowers - a lonely, windswept tower on a Forsyth County mountaintop that is the highest point facing south to South America.

The tower, perched on top of 1,967-foot Sawnee Mountain near Cumming, bears a strange futuristic design resembling an adjacent flying-saucer-shaped house; all other Commission firetowers in the state are standard design, ranging up to 125 feet. Both the tower and mountaintop house are 40 feet tall from ground level, bringing their height to slightly over 2,000 feet above sea level.

"No matter what happens with phasing out the other towers statewide, this tower will always be here," predicted Ranger Greg Wallace, who supervises a Forsyth County Commission Unit at the foot of Sawnee Mountain. "It's a very unusual structure and the situation that brought it about was just as unusual." A native of the Forsyth County area, Wallace remembers the evolution of the tower in detail.

TOWER CHANGES

In the decades, the Commission had to operate a standard design on the barren top of Sawnee Mountain. Then, in 1961, the mountain



SPECTACULAR
FOREST FIRE
TOWER
ON MOUNTAINTOP
RESULT OF
ARCHITECT'S
VISION

was advertised for sale. James Barker, an Atlanta architect, bought the mountaintop. He and his wife, Arletta, planned to custom build a house and retire there. The only problem was a Commission tower located in the middle of the site where the house was to be built.

Barker, who believed in and supported good forestry concepts, offered to donate an alternate 50 X 50-foot plot next to the house for another Commission tower. The only stipulation Barker made was that the tower must be built according to his design specifications so the structure would blend harmoniously with the circular design of the house.

The Commission readily agreed to this generous offer, but when construction bids came in, all bids exceeded the state

budget limit. Barker, however, with an even more generous offer, volunteered to pay the difference. As it turned out, though, the budget difference was compensated for by using Commission personnel to erect the tower.

The old Commission tower was allowed to remain in place until 1974 when Barker blasted a hole in the solid rock mountaintop for the lower house section, providing an underground protective area from high winds and storms; walls of the underground section were to be solid rock of the mountain on all sides. The opening for construction was blasted out on the north side. It is virtually unheard of to build on the north side of such a mountain, but Barker was a creative architect who knew how to make his ideas work. This underground section not only would provide security during storms, but proved easy to keep cool in summer and warm in winter.

FOLLOWING A VISION

As the building of the house progressed, there were those who wondered how a Commission firetower could be designed to blend and compare with this unique structure - especially since Barker was following to the letter a "vision" he received during a dream that concerned the design of the house.

Barker recalled the vision and wrote it down as follows: *"It shall be like a tree planted in a mountain with its roots in the earth and its branches in the sky, and my family shall be able to walk underground and dance above the clouds, and sleep in the air as eagles in their nests, or in dens underground on mattresses of fur like foxes, as the storm rages past.*

This shall be my home to share with my wife, children, and grandchildren, and loved ones in awe of the wonder, to look in all directions as far as the eye can see and behold the greatness of God."

True to Barker's vision, the house was finished with a 360 degree view of one-fifth of the state of Georgia. On a clear day, the Atlanta skyline can be seen some 40 miles away as the crow flies. As the crow turns north, Brasstown Bald, Georgia's highest mountain, can be picked out of a cluster of peaks approximately 50 miles away. Below the circular deck, flocks of birds pass and buzzards circle lazily on thermals. From time to time, planes pass below over the distant view of Lake Lanier.

The view from the adjacent tower would be the same, but there were still doubts about how such a structure could blend with the house.

SPECTACULAR DESIGN

The spectacular upper design of the house resembled two horizontal bicycle wheels braced with circular bar trusses. The entire construction hung from a central stem which runs from the "Star Room" glass observatory to the underground section walled in by mountain stone. A spiral staircase (on the exact spot where the old Commission firetower was located) runs from top to bottom of the house, with a circular, open elevator running through the center of the staircase. The elevator gives the illusion that the passenger is spinning inside a top as it ascends through the spiral.

The underground section proved to be a safe haven, but there would be no such haven for the new tower. Oldtimers in the area remember lightning flashing down on the mountaintop even before the old Commission tower was built - when a "lookout" would walk along the mountain ridge to spot distant fires.

TOWER LEGEND

Eugene Bennett, a local legend of sorts who spent 27 years working as a Commission firetower operator on Sawnee Mountain, told Barker some harrowing tales before construction started on the house. Stories included accounts of 20 below zero readings on the mountaintop, winds of 75 miles per

hour, and Bennett being forced to stand in the middle of the tower cab and avoid touching anything metal as lightning arced at the tower from all directions and bursts of thunder vibrated the entire structure. Bennett also said he "prayed a lot."

Bennett's past experience supported Barker's vision to build the underground section of the house, and to include new safety features on the tower to come. Bennett, who had lost his arm in 1943 cotton gin accident, lectured Barker on the dangerous realities of weather conditions on this mountaintop. The two became good friends and Bennett operated the new tower for a number of years after it was built. Barker even constructed a special gate and tower door for Bennett, so he could easily enter the areas with one hand. Bennett has now retired, but he remains a



Construction crew works on structure that replaced the Commission's standard forest fire lookout tower on Sawnee Mountain.

local legend and his stories of the mountaintop are often repeated.

THE FINAL TOUCH

When the time came, the new tower took six months to build. Carefully following Barker's design, the Commission headquarters shop in Macon prefabricated the structure piece by piece and transported it by truck to Sawnee Mountain. Barker inspected the various segments and gave his okay for a specially selected Commission crew to erect the tower. Like a ship being christened for sea duty, the final touch was applied when the tower cab was set in place by a crane.

Ironically, necessity for the tower - as well as other Commission fire towers throughout the state - gradually diminished after the Sawnee Mountain construction. The Barkers could see the handwriting on the wall as they viewed population growth spreading into the distance beneath them, and the Atlanta skyline expanding upward and outward as one building after another appeared.

Ranger Greg Wallace said the tower is now used only for emergencies, but the cab remains fully equipped with alidade and radio equipment to cope with any type of emergency that might occur.

Architect James Barker died on May 30, 1993. Ranger Wallace reflects the view of many other Commission employees when he said, "Forestry lost a very good friend."

IMPRESSING LEGACY

Barker's architectural firm of Barker and Cunningham left an impressive legacy by designing more than 400 churches throughout the Southeast. But no accomplishment in his career has left a more original and artistic legacy than the sculpturally blended design of the house and fire tower on Sawnee Mountain.

Considering her husband's lifetime of creative work, Arletta Barker, said, "I think the house and tower remain on this mountaintop forever. I think Jim would have wanted it that way."



Upon completion of the spiral stairway - the last phase of construction - tower operators had access to a vantage point 2,000 feet above sea level. Ranger Greg Wallace and Arletta Barker look out from stairway.

CITY CHILDREN LEARN

(continued from page 15)

a lot of good sponsors for clusters," Helton said, "such as Delta Airlines, Coca Cola, and United Parcel Service - and we hope to get many more. This is the way the Atlanta Project works, it brings together private businesses, industry, non-profit groups, and governmental agencies - all for a common cause."

Helton describes the growth of the Atlanta Project as "phenomenal." He said requests for his assistance have now increased to such an extent that there is no way he can offer services to all of them. He sees this as the result of inner city needs and the mushrooming interest in urban forestry as it relates to environmental concerns.

"Urban sprawl is creating new problems, new challenges, and new opportunities," Helton said. A native of Carrollton, Georgia, some 50 miles from Atlanta, Helton can recall during his 45 years when the area was a relatively isolated rural community. Carrollton is now considered part of the Atlanta metroplex.

"This is happening all over," Helton said. "Many of Georgia's currently defined rural forests will soon become urban forests of sorts. Urban forestry programs, like those in Atlanta, can help lead the way into the future; and when the Olympics arrive, the whole world will be watching Atlanta."

MORE THAN TREES

After another year, the Atlanta Project Coordinator position will be evaluated and a decision will be made on whether or not it will be continued. Helton hopes it will be continued. "Planting trees is important," he said, "but this job is about more than planting trees. In the final analysis, it has to do with better health, lifestyles, and instilling an overall sense among people to improve their communities."

LOOKING BACK



Hauling logs by rail in Georgia in 1903. (Courtesy U. S. Forest Service)

1901

A report of the Georgia Department of Agriculture, concerned mainly with the longleaf pine belt, took cognizant of the importance of the lumber industry, stating that "wealth brought into Georgia by the immense pine forests is of great benefit to the state." The report pointed out that pine timberland which could be bought for 50 cents to \$1.50 an acre only a few short years ago, is now going for \$4.00 to \$8.00 an acre.

1902

The catalog price of Sears Roebuck and Company's regular width, champion tooth two-man, five-foot crosscut saw is \$1.40; log rule with Scribner's scale, \$.72; the Acme Oak wood-burning stove, with all the advanced improvements, including a large ash pan, large feed door, highly polished, heavy nickel-plated foot rails, is on sale at \$4.29.

1930

Problems continue to multiply for the lumber industry in Georgia as a result of increased competition with foreign producers, especially Japan, Russia and the Scandinavian countries, which have abandoned the gold standard and sought actively to "dump" lumber in other markets. Domestic prices for Georgia lumber have dropped as much as 35 percent.

1948

District foresters have surveyed the entire state to determine fire protection needs, gathering data on the towers needed, location recommendations, and vehicular requirements. Consolidation of these field reports indicated that an initial investment of 6.22 cents per acre (\$1.5 millions) would be required to provide equipment, with an annual operating assessment of 7.1 cents per acre (\$1.7 millions) needed for personnel salaries, depreciation and obsolescence of equipment, and miscellaneous expenses.



ALICIA SUZANNE BAGLEY

MISS GEORGIA FORESTRY

Alicia Suzanne Bagley of Sylvester, honored last year as Outstanding Woman by the Junior Woman's Club in her hometown, has been crowned Miss Georgia Forestry of 1994.

The 19-year-old Worth County High School honor graduate and now a freshman at Abraham Baldwin Agricultural College, was crowned by John Mixon, Director of the Georgia Forestry Commission, and Mrs. Sheran Strickland of Waycross, pageant coordinator, during ceremonies in Sylvester.

The new Miss Georgia Forestry, the daughter of Mrs. Coleen Bagley, is the daughter of Denise Griffin of Fitzgerald.

and is the 54th young woman to officially receive the crown since the annual pageant was initiated in 1940. She will represent forestry and forest-related industry during her one-year reign by attending fairs, conventions and other events and participate in parades statewide to promote the importance of forestry.

Alicia, who said she enjoys watching classic movies, reading and spending quiet time at home when possible, is active in the Student Government Association at the college in Tifton and is a member of the Southern Political Science Association. She is majoring in political science and plans to later attend

Florida State University to receive her doctorate.

The crowning ceremony, followed by a reception, was held at the Margaret Long Public Library in Sylvester. Chief Forest Ranger John Cox of the Worth County Forestry Unit was master of ceremonies for the program.

Amy Eunice of Waycross was named Miss Georgia Forestry earlier in the year, but relinquished the crown, and Alicia, second place winner in that pageant, assumed the title. Mandy Jackson, daughter of Mr. and Mrs. Mike Jackson of Watkinsville, has now assumed first runner-up honors.

OAK PLANTER

NEW TIME AND LABOR SAVER



It used to take six to eight people a half-day to plant acorns in a four-row, 750-foot bed at the Commission's Flint River nursery; today it takes about ten minutes to sow that area!

The incredible savings in time and labor is the result of the development of a hydraulically-driven planter that was placed in service at the nursery last year for the first time. The machine was patterned after a machine borrowed from the State of Tennessee.

The planter was closely studied by nursery personnel and with their recommended modifications and suggested improvement by welders and mechanics at the Macon Shop - the machine was built, field-tested and proved to be highly efficient. It not only

accommodates acorns of the eight oak species grown by the nursery, but can easily be adjusted to handle seed down to dogwood size.

Reforestation Chief Johnny Branan said the new planter creates very little soil compaction as it moves over the beds. The device is mounted on a tractor and can be easily converted from single to multiple row sowing.

Every district in the Commission contributes to the acorn supply each year, with the remainder coming from the seed orchards. Although seed orchard acorns are mainly gathered at Arrowhead, young orchards for oak and other hardwood seed are now installed at Flint River as a future source.

Oak species planted in the nursery

include sawtooth, water, swamp chestnut, chestnut, white, northern red and live. Mike Young, Seed Orchard Specialist, said the North Georgia districts produce the bulk of the northern red and chestnut acorns, while South Georgia is the main swamp chestnut oak supplier. He said white and water oak acorns come in from all sections of the state.

Young said foresters and rangers have learned to gather only the well formed acorns with good characteristics, thus supplying the nursery with quality seed.

The Commission nurseries produce 20 hardwood species, in addition to pines and other softwoods. The seedlings are packaged and sold each year to Georgia landowners at a nominal cost.

Select acorns are placed in a hopper and two men operate the seeder as it is drawn over the seedbeds by a tractor.





WOOD IS CHOICE OF MANY BUILDERS

This Central Georgia home builder prefers wood to metal studs and other framing.

Terry Castles of Macon, project manager of a construction company, watched carpenters work with clean, clear wood studs and ceiling joists as they framed a suburban townhouse. He said he is glad his company continues to build with wood, but fears the day is near when it will have to join the growing number of residential builders who are substituting metal studs and other framing members for lumber.

Although wood is presently the material of choice in 94 percent of residential framing, according to the Environmental Building News, some builders contend that steel becomes more attractive as lumber prices rise and metal becomes more competitive. The steel industry is running campaigns aimed at convincing homebuilders to switch to steel because it is "more environmentally correct." Not so, says the publication. It reports that steel is "over 400 times more conductive of heat than wood"...and can "cause a number of problems: excessive use of heating and cooling, the need for larger space conditioning equipment to handle larger loads; condensation of moisture on the warm side of a wall, leading to dust or mold strains."

Castles, a member of the National Association of Homebuilders, said "I'm comfortable with wood; our

METAL MAKES
INROADS, BUT
LUMBER STILL
MATERIAL OF
CHOICE!

carpenters are well experienced in wood construction and if we go to metal, some type of retraining would have to be done." He said the alternate material was discussed at the recent national meeting of the association, which he attended, and some training workshops for metal construction are being held. Now that metal is more competitive in price, the project manager said "it seems we will eventually have to go in that direction."

Although reluctant to follow the trend, Castles said he understands how high lumber prices are making it hard for some residential builders to stay with the traditional materials. "It is not only the price of lumber," he said, "but the dramatic fluctuation in pricing." He pointed out negotiations with home buyers is more difficult when the materials market is so unstable.

Tommy Loggins, Chief of the Commission's Forest Products Utilization,

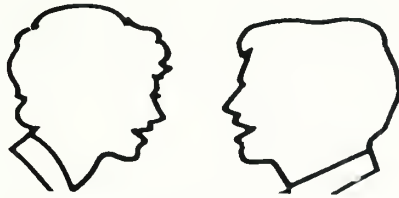
Marketing and Development Department, said "wood is naturally renewable, requires less energy in the lumber manufacturing process and is, of course, biodegradable." He stressed that steel requires "raw material extractions that can be harmful to the environment and the manufacturing process involves considerable energy."

Loggins said "energy use in the manufacture of sawn wood products is relatively low, and there is essentially little to no production of emissions or other pollutants. Additionally, wood processing residuals can be utilized for paper products and along with all the other benefits from wood, it is also a top income producer for landowners in Georgia."

The Forest Products Laboratory of the U. S. Forest Service points out wood is probably the most environmentally acceptable material for construction, especially when the lumber is derived from a well-managed forest. The laboratory cites air-dried wood as superior because of its lower embodied energy and concludes that exterior walls are better framed with wood because they avoid thermal bridging which might occur with other materials.

Steel framing systems instead of the traditional 2X4's accounted for about 15,000 new homes in 1993, an increase

people in the news



ROBERT RUTLEDGE is the new chief forest ranger of the Dekalb County Unit, a unit that formerly served Dekalb and



RUTLEDGE



MUEHLFELT

Gwinnett Counties. Rutledge, a native of Dekalb County and a graduate of Rockdale County High School, came with the Commission as a patrolman in the Butts-Henry County Unit in 1981 and transferred to Dekalb in 1987, where he served as Ranger I until his recent promotion. The chief ranger and his wife, Janet, have two children, Robin and Matthew. The family attends Center Hill Baptist Church...TOM MUEHLFELT is the new aircraft pilot for the Washington District. His parents moved from Illinois to West Palm Beach, Florida when he was a teenager and he graduated from high school in that city. He majored in aviation technology at Southern Illinois University. The pilot, who replaces A. T. BAXTER, who recently retired, has

worked for air freight and air taxi services in Phoenix, Arizona and has served as a seasonal pilot for the Commission. Muehlfelt and his wife Laurie and son, Brett, 14, now make their home in Washington...CHIEF RANGER O'NEAL KELLAR of the Stephens County Unit retired recently having served more than 30 years with the Commission. A native of Stephens County, Kellar served four years in the Air Force and later worked in construction before coming with GFC. The retired ranger and his wife, Peggy, have a daughter, Laura, and two grandchildren. The couple is active in Toccoa First Baptist Church, where they work in a pre-school department. Kellar is a member of Toccoa Masonic Lodge 309 and Yaarab Shrine Temple in Atlanta. Following the ranger's retirement, the Stephens County Unit was combined with the Habersham, Rabun, and White County Units. The four county units are under the direction of Chief Ranger Brion Williams.



KELLAR

of 500 residential structures over the previous year, according to one source. The Iron and Steel Institute of America predicts steel will be used to frame one-fourth of all new homes by 1997.

Industry sources claim the reason for the shift goes back to the endangered spotted owl issue. Since 1991, when logging was severely curtailed in the Pacific Northwest to protect the owl, lumber prices have risen dramatically. It is estimated that increased lumber prices have added about \$5,000 to the cost of

an average house.

Regardless of the optimistic predictions of the steel interests, Loggins and others concerned with the promotion of products from the forests of Georgia - the state which leads all other states east of the Mississippi in the production of quality lumber - believe the majority of families planning to buy new homes will choose wood as the most efficient framing material.

THE BOOK CORNER

(continued from book corner story) faced.

One thing is for certain; when 13 volumes are complete, regional flora can be related to continental relatives from a cohesive perspective never before offered. Everything you ever wanted to know about *Flora of North America* (but were afraid to ask) will be in these pages.

As one prominent botanist put it: "Since the set is incomplete, it remains to be seen whether this will be the work of the century, or a collection of trash." Lest this diametrical contrast be taken too seriously, it should be noted that this is the same botanist who defined horticulture as "the growing of plants" and forestry as "the cutting down of plants." A graduated moderation of expectations may be more applicable - just like botany provides several names for various plants.

(LOST IN THE WOODS

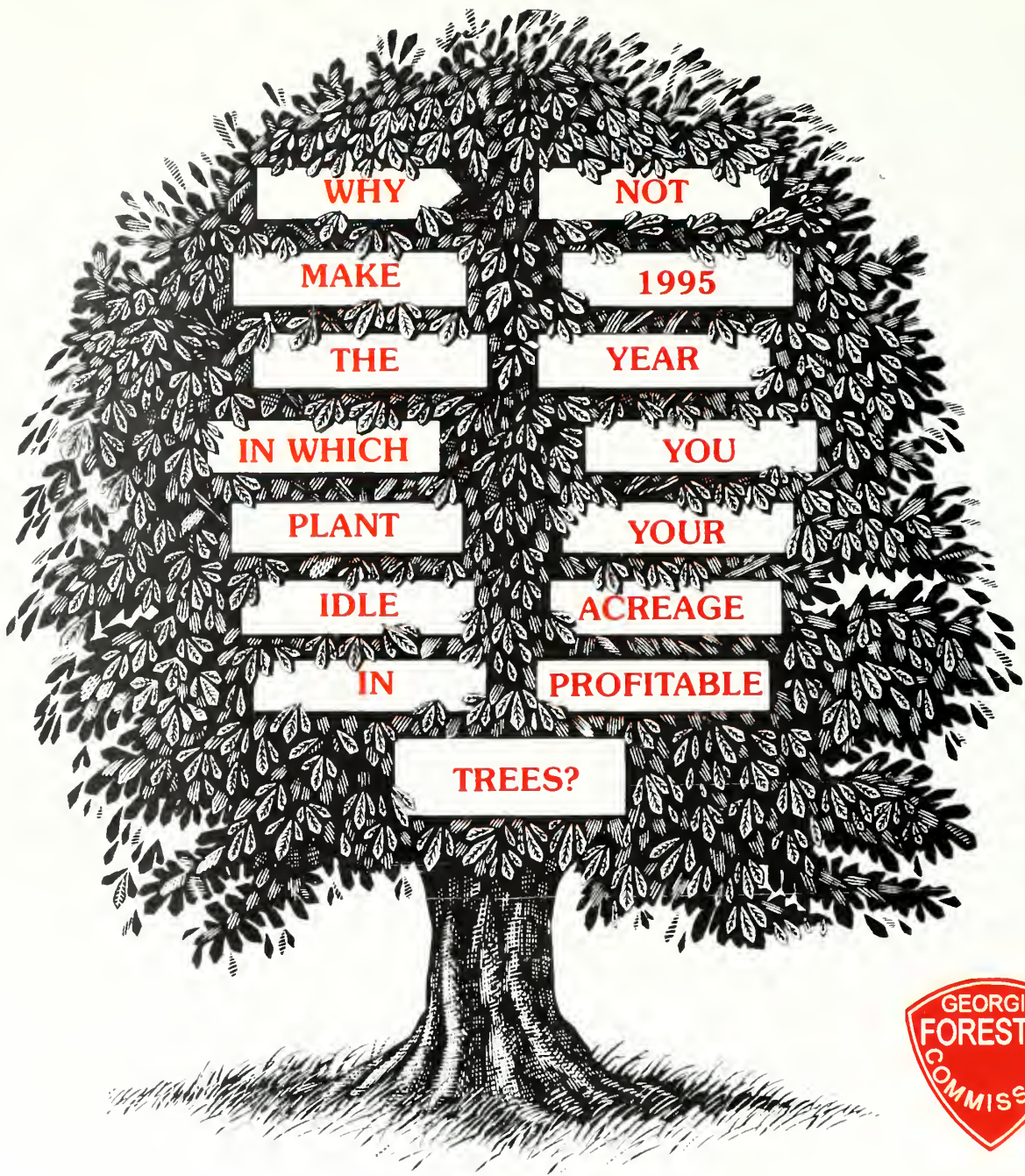
(continued from page 7)

by overcast, he knows what types of vegetation grow on the shady side and sunny side of ridges.

He also knows that wild food which sustains animals may be eaten sparingly. If necessary, he knows that he can go two weeks without any food - but two days without water and he's in trouble. Depending on the situation, he knows that he must remain where he is and wait to be found, or move on with some definite objective in mind - but never to the point of exhaustion. In most cases, he knows that someone is looking for him and this knowledge makes hardships easier.

There is another case of being lost in the woods that is relatively easy to deal with. In many states, such as Georgia, increasing population has made it likely that a lost traveler in the woods might very well have wandered onto posted property. In most cases of this sort, all the lost hunter would usually have to do is fire his gun in the air several times and the landowner will have the sheriff promptly rescue him.

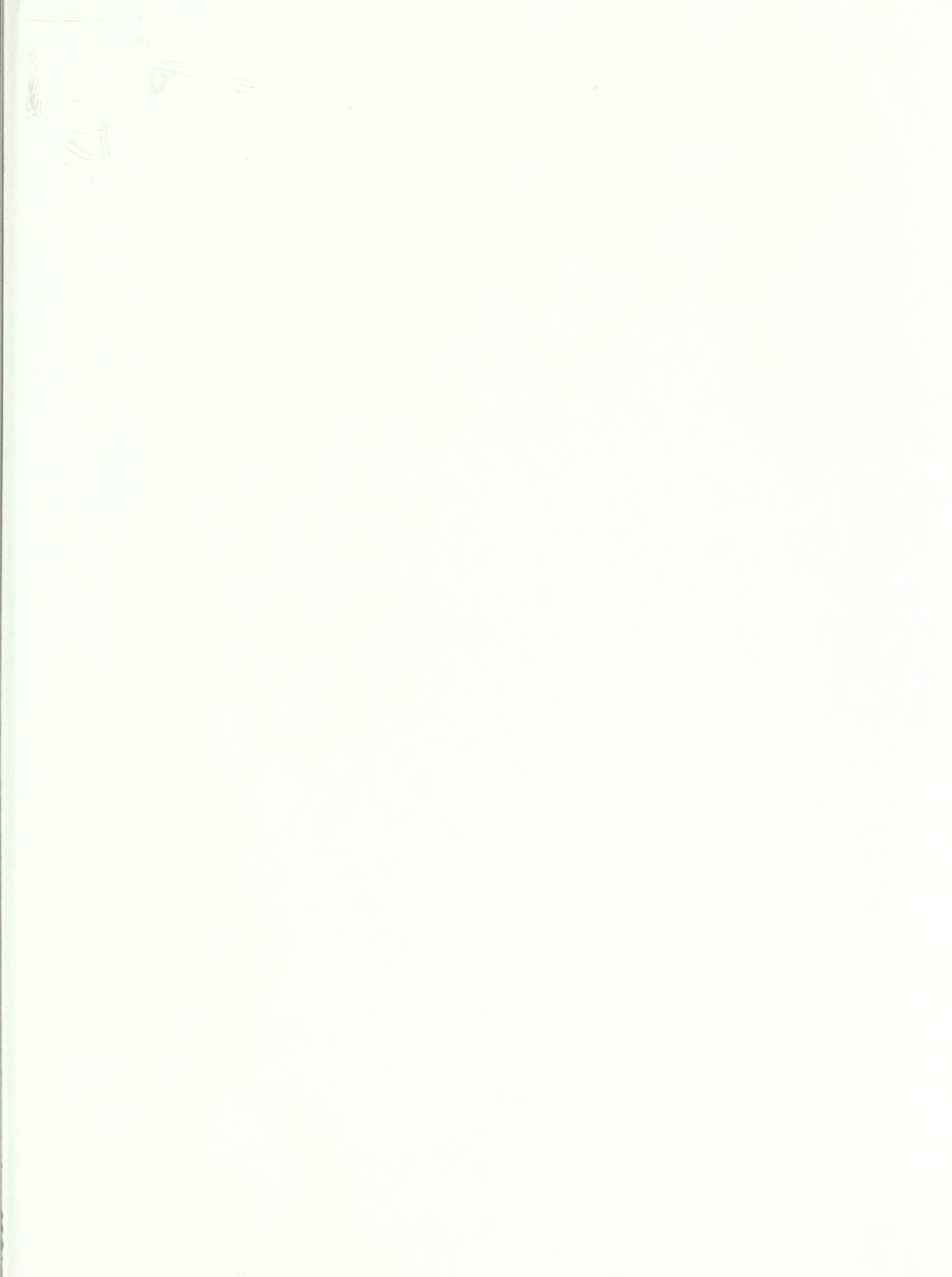
(Lynn McElroy is the Commission's Newnan District Ranger.)



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