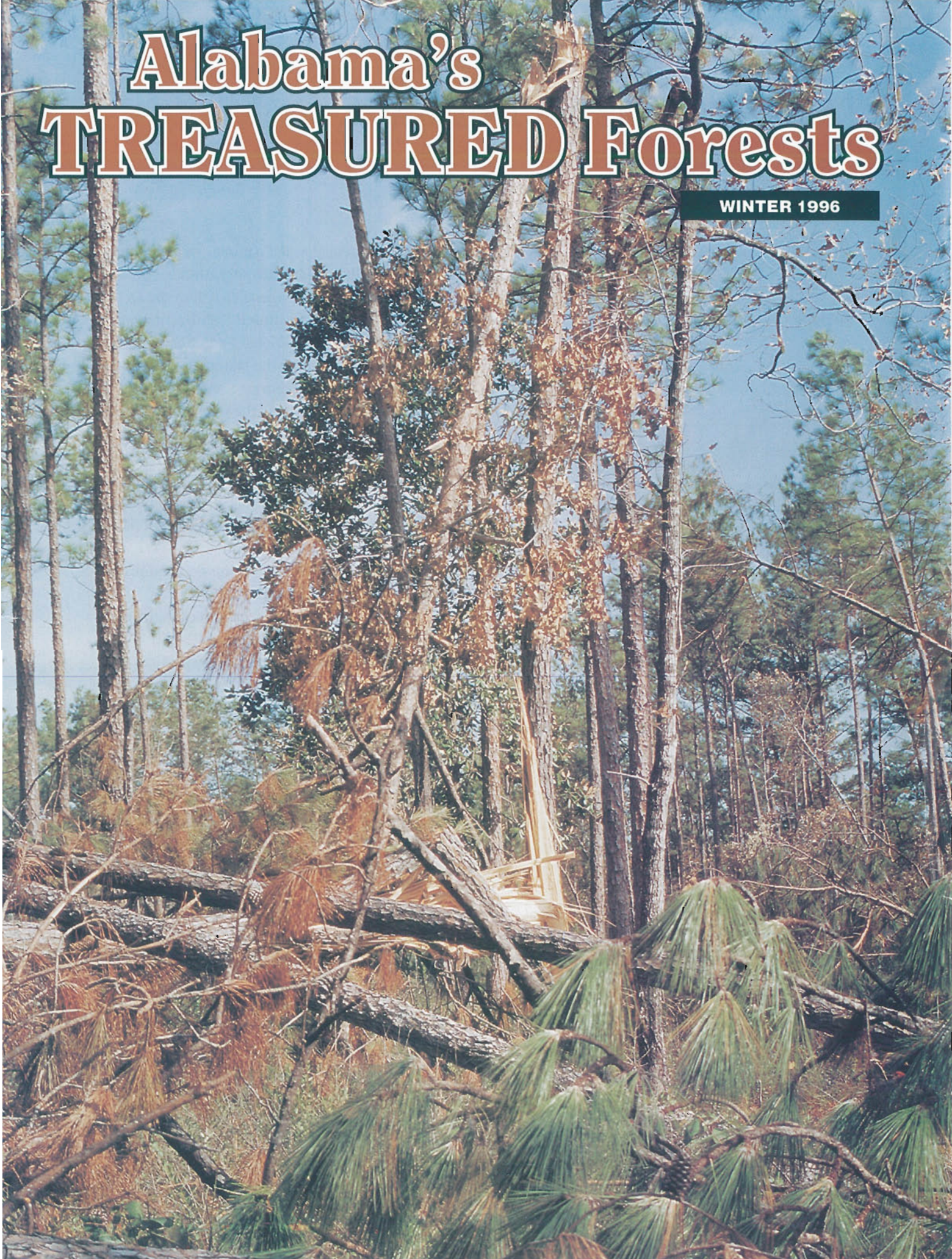
Alabama's TREASURED Forests

WINTER 1996



STATE FORESTER'S MESSAGE

by TIMOTHY C. BOYCE, State Forester

The winds of change created at the national level are blowing hard across the southland. Changing attitudes in Washington have restructured many agencies within the Department of Agriculture: notably the Agricultural Stabilization and Conservation Service, now the Consolidated Farm Service Agency; the Soil Conservation Service, now the Natural Resources Conservation Service; and the USDA-Forest Service. Now state legislators across the South are rethinking the roles of state government as well.

Across the South many state agencies are undergoing reorganization and/or downsizing because of budgetary restraints. Alabama is no exception. In 1991, the Alabama Forestry Commission employed 513 people with a general fund appropriation of $13.5 million; today we employ 403 with an appropriation of $11.7 million. Without a doubt it is time to rethink our mission and restructure our organization to put the maximum effort toward serving the people of this state.

In late September we developed a major reorganization plan for the Commission which changed our structure from 11 districts to 4 regions. One segment of the restructuring was to reassign 12 staff level positions from state headquarters in Montgomery and nine staff level positions from district offices to field operations.

This restructuring allows us to take advantage of attrition and to focus more resources at the county level. It also gives us more flexibility to use resources over a broader area to get the job done.

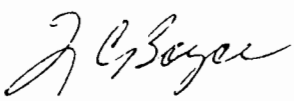
Although we have restructured our agency to address changing conditions, we still must not lose sight of the fact that we need additional funding. It is imperative that we stabilize our funding and regain the $1.3 million we lost this year. We spend 98 cents per rural acre for protection, while some neighboring states spend between $1.28 and $1.84 per protected acre.

We now have the personnel to effectively and safely man only 90 fire suppression units out of 127. The $1.3 million we lost would go a long way in improving our suppression ability for both wildfires and the Southern Pine Beetle.

In the past, the Commission has had great support from many in the forestry community. At no other time in our history have we needed that support more than today.

Your support and actions will make a difference.

Sincerely,



Timothy C. Boyce
State Forester

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

Alabama's TREASURED Forests

Volume XV. No. 1 **WINTER 1996**

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DEPARTMENTS

COVER: Pine trees were broken like match sticks when Hurricane Opal made its way from Florida into Alabama. Scenes like this one at the Solon Dixon Center near Andalusia have forced landowners to rethink management plans and goals while planning salvage operations. Articles about storm-damaged timber relating to taxes and management are found on pages 25-30. Photo by Kim Gilliland.

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All in the Family

by MADELINE HILDRETH, Staff Forester, Alabama Forestry Commission, Brewton

This lake is the result of a gravel-washing operation while the Claiborne Lock and Dam was under construction.

Seven generations of the Williams family have enjoyed benefits from their expansive Monroe County forest. With each generation, the property and some of its uses change, but one thing is constant. The Williams family loves and appreciates the land. Their devotion to the family legacy was rewarded when they were named a district Helene Mosley Memorial TREASURE Forest Award winner in 1994.

Since 1848, forestland near the community of Finchburg has been part of the Williams family. Times have changed over the past 150 years; so, too, has the management of the Williams land. As the family grew, more members took an active interest in the management of the land. Other family members moved away, making it difficult to assume any duties. Eventually, the family formed a limited partnership, Wilco Properties. The property, like many others in rural Alabama, was almost a community itself. Now the massive hardwood bottoms and upland pines welcome hunters, loggers and devoted family members.

Fonde Williams is the property's only permanent resident. He moved back to the property from Monroeville when he married 60 years ago. After his wife's death, he remained to oversee day-to-day operations.

Although the family plays an important role in the management of the forest, they rely heavily on professional guidance from foresters and wildlife managers. The Alabama Forestry Commission, Department of Conservation, Auburn University fisheries and local timber companies all participate in the management of the Wilco forestland.

Timber Management

Auzie Lee Brown, forest technician with Estes Timber Company, is very involved with the everyday management of the forest. Although about one-half million board feet of timber is harvested annually, little change is evident from year to year on Wilco Properties, Ltd. This is the result of many years of sound forest management. Mature and damaged timber is selectively harvested in scattered stands each year. Upland stands of mixed timber are slowly being converted to pine by removing hardwoods. All of the timber harvesting is timed before and after hunting seasons.

Though the acreage is substantial, Brown is familiar with every bit of it. He can easily recall when stands have been thinned or burned, and his appreciation for the land is apparent. "I really enjoy marking timber up here. You just don't see trees like this anymore."

The stately hardwoods in the river swamp have been left largely untouched since improvement cuttings in 1984 and 1988. To avoid unnecessary roads and log landings, the timber was transported directly to barges on the river. The bottomland is managed primarily for wildlife, with timber benefits part of the distant future.

With so many acres of large, old pines, the southern pine beetle poses potential problems. Working closely with the Alabama Forestry Commission, active beetle spots are quickly located and salvaged. Beetle spots have been kept small, even during periods of heavy infestation.

Plantations make up only a small part of the Wilco property. Salvaged beetle spots are replanted and some of the old fields were planted in pines in 1990. Other fields are leased and remain in cultivation.

A prescribe burning program was initiated several years ago after many years of little or no burning. The burning program not only aids in timber management, but wildlife habitat and aesthetics have also greatly benefited. Since the implementation of the burning program, the stands of straight and tall loblolly pines are park-like—clean and open with the grassy ground cover sprinkled with wildflowers.

Wildlife

Wildlife and recreation are considered just as important as timber production at Wilco Ltd. For the past 15 years, Harrigan Lumber Company has leased the hunting rights. Family and friends also have hunting privileges. Harrigan plants food plots and maintains the roads and a lakeside lodge. The property has been under the Deer Management Program for six years and Harrigan Lumber and family members work closely with the Department of Conservation to maintain a quality hunting area.

Since the large, rural acreage lends itself to poachers, Harrigan Lumber Company employs a game warden to prevent illegal hunting.

Scattered over the property are approximately 30 food plots of varying sizes. Wheat, rye, oats, chufa and clover are planted. The leased croplands are incorporated as supplemental plots once crops are harvested.

Deer hunting is stalk only and a variety of stands are available. Some hunters choose simple tree stands in the swamp. Others can keep warm in the luxury of a deluxe stand bordering a food plot.

Harrigan Lumber Company says that deer hunting is popular with the customers it entertains at the lodge, while turkey hunting is a favorite of other visitors. Squirrel, duck and rabbit hunting are also enjoyed by family members. The most talked about sport, however, is coon hunting. "I can't walk as much anymore, but I still love to go. I just love to hear those dogs," Fonde Williams remarked.

The ample hardwood bottomlands provide excellent wildlife habitat. Certain managed areas attract large numbers of ducks. The less popular inhabitants of these bottomlands, beavers, can create problems, so trapping them is an integral part of the land management.

Wild boars were imported and released in the area for hunting years ago. Over time, they bred with domestics. These offspring are still numerous in the swamp areas. Since their destructive habits ravage the environment, they too are trapped. The results of trapping efforts—barbecues—make the swine less of a nuisance.

Mature pines make up a large portion of the timbered acreage.

Other Recreation

Fishing is another form of recreation enjoyed by family and friends. The Corps of Engineers bought 1,000 acres of the Williams property to build the Claiborne Lock and Dam. The Corps needed a place to wash the gravel used in building the structure, and a 20-acre lake is the result. The lake provides fishing as well as a scenic background for the main lodge. Today, Auburn University fisheries assists in the management of the lake. And, if bass and bream aren't biting, a small catfish pond offers an alternative.

Aside from the main lodge, trailers are used by visiting family members. Robins Williams, who lives in nearby Monroeville, loves the place. When asked how he manages to maintain the orchard and garden surrounding his camp so well, he answers, "I come up here every day. I'd live up here if my wife would let me." His hobbies are evident. The yapping of the newest litter of coon dog pups can be heard. Limbs loaded with juicy, ripe plums threaten to break. Peaches are there for the picking. Bluebird houses dot the landscape.

There are also a variety of martin houses. Over the years they have become a hobby and Robins has developed the management of the purple martins along with his knowledge of their feeding and housing preferences. An unbelievably large number of martins circle the area, feeding on the plentiful mosquitos.

Trees like this dogwood have been left for aesthetics and wildlife.

The towering pines and vast open bottomlands invite nature lovers. Friends and family often spend the days riding through the forest on four-wheelers. The scenic setting of the lodge lends itself to gatherings and many recreational opportunities. Church groups use the area for retreats. Class parties, informal get-togethers and forestry tours have taken advantage of the forestland.

Perhaps it's the beauty of the land, or the hospitality of the hosts, or maybe a combination, that makes this Monroe County forest special. As one family member says, "This place has been in my family for generations. It's more than just a piece of property to us. I hope we keep it forever."

Editor's Understory

by MADELINE HILDRETH, Staff Forester, Alabama Forestry Commission, Brewton

Large trees shading grassy openings are all that remain of old home places. The community store now sits boarded and silent. Pine trees grow where cotton fields once thrived. There is little evidence of the cotton gin, grist mill and sawmill that once sent their products down the river. The steamboat landing has been replaced by the Claiborne Lock and Dam. Old family cemeteries stand as silent witnesses to another era. These memories are scattered reminders of bygone days on the Williams property.

In 1848, an antebellum home and 2,000 acres of land started what was to become a legacy. Over the years, more land was purchased until the Williams family had approximately 8,000 acres. During the early 1900s the property played an important role in the economy of the Monroe County community of Finchburg. Nearly 50 tenant farmers sharecropped on the land. The family ran a grist mill and cotton gin, taking advantage of the agricultural products. A sawmill on the property utilized the land's vast forests. The steamboat landing on the Alabama River was busy as wares were sent down the river.

During the 1960s, the Corps of Engineers bought 1,000 acres of the Williams property to build the Claiborne Lock and Dam. Though the family was unhappy to lose the land, the lake resulting from a gravel washing operation brought added recreation.

With each generation, more heirs became involved in the property management. With fourth and fifth generations administering the estate, they eventually decided to form a limited partnership, Wilco, Ltd. The process, although long and difficult, ensured that the property would not be sold. Today, three family members serve as general partners, actually managing the property's assets.

Fonde Williams (right) greets Monroe County Forester Gary Cole.

The lodge serves as a meeting facility and the center of family gatherings.

However, all family members enjoy the recreational benefits of the property—hunting, fishing, and nature walks—as well as profits from hunting leases, agriculture leases and timber sales. Annual meetings allow opportunities to discuss future management and provide a time for family get-togethers.

The Williams family and their property played an important role in the history of Monroe County. Because of careful management and the ability to keep the property together, the tradition continues. Wilco now plays an important role in Monroe County's future. Though the property is no longer home to many farmers, Mr. Fonde Williams still lives there in the original family home. The steamboat landing is no longer busy, but it has been replaced by the enormous Claiborne Lock and Dam. The cotton gin and mills are closed, but timber is still utilized at newer mills nearby. Most family members don't live on the property, but they enjoy time spent on the land.

Nearly 150 years have brought many changes to the Williams property. The family has weathered these changes together and managed to maintain high standards of stewardship. Despite economic and social pressures, the entire 7,000 acres will be managed together. It will also continue to make memories for the next generation because the Williams legacy is more than a piece of property—it's a TREASURE.

Lumber Substitutes Unlikely to Hurt Tree Growers

by MARSHALL THOMAS, President, F&W Forestry Services, Inc.

Because of economic cycles (such as housing recoveries and declines) and because of the effects of substitute products, a real price band exists for pine sawtimber.

If the cost of lumber goes high enough, there will be some shift from wood exteriors to brick, from wood frame construction to concrete block, from wood floors to carpet, and so on. It is no surprise that a great deal of interest in substitutes for traditional wood for home building is surfacing.

What Are the Substitutes?

Some of the most effective competitors with traditional wood materials are engineered wood products (EWPs), built from wood chips or sawdust and glued together to make lumber. These products have many of the same characteristics and advantages as traditional solid wood products, including ease of working, strength, and relative lightness. They may be competitors to wood products as far as their manufacturers are concerned, but not for tree growers. The ultimate use of the wood is less important than the fact that the grower has a market for his trees.

Steel is making a real run on wood framing. Seventy-five thousand houses were built with galvanized steel frames in 1994, up from 20,000 in 1993 and 500 in 1992 (American Iron and Steel Institute). There is a great deal of variation in builders' reactions to steel, with some claiming it is cheaper and easier to produce, while others claim the opposite. Builders who claim it is cheaper are usually using far fewer studs than are used in traditional wood framing.

Concrete blocks are making a comeback in a form you would not recognize. Concrete blocks are now made with all kinds of plastic fillers and insulation, which greatly increase the insulating properties of the material. The blocks are also much lighter and, in some cases, can actually be sawn and shaped with standard wood carpentry tools.

How Do They Stack Up?

Price comparisons between wood and other materials are difficult, because none of the publications we reviewed use the same pricing units. However, the current interest in substitute materials underscores the fact that current high lumber prices are allowing competitors to make inroads into traditional wood markets.

In quality terms, substitute materials have advantages and disadvantages. Steel, for example, is fire and termite proof but is not as good an insulator as wood. Concrete blocks are strong, resistant to fire and insects, and offer enhanced insulation.

Wood, however, is a strong competitor. Wood can be customized on site to fit varying dimensions, while steel has to be ordered to dimension. Wood does not lose its strength if it is handled roughly. Concrete blocks break if they are dropped, and steel, if bent, cannot be used in load-bearing portions of a house. In addition, wood may handle temperature extremes better than steel, which tends to contract and expand more with temperature.

From an environmental viewpoint, wood is also a good competitor. Using materials other than wood or EWPs saves trees, but sometimes at high costs. For example, it takes nine times as much energy to make a steel stud. Energy usually requires burning oil or coal, both non-renewable resources. Steel has one environmental advantage. Steel studs can be removed from an old house, melted down and used again. Of course, you use a lot of energy doing this, but steel currently has one of the highest recycling rates of American materials—66 percent.

Trees extract carbon from the atmosphere and use it to build the cells that form the various parts of the tree. Sawing wood and preserving it in buildings helps tie up the carbon that we are depositing in the air through emissions from autos, power plants, and other manufacturing facilities.

Engineered wood products are even more environmentally friendly. EWPs typically use smaller trees of diverse species often harvested from mixed stands of pine and hardwood. Also, there is little tree waste in manufacturing these products; an acre of woodlands will go farther for EWPs than for solid wood products. Engineered wood products are especially adapted to the Southern forest, where trees are smaller and generally of a lower grade than timber grown in the Pacific Northwest.

Impact on Tree Growers

Before getting too concerned about competitors for solid wood products, we need to remind ourselves that these substitutes become competitive only at a time when lumber prices are historically high.

If the housing market cools, or the substitutes make too much of an impact in the market, lumber prices will drop, making other products less competitive. In fact, the temporary success of substitute products could lower lumber prices to the point that substitutes would no longer be competitive.

If national forest policy and other restrictions on domestic timber harvesting keep prices artificially high, we can expect substitutes to make substantial gains. I believe, however, that supply will stabilize at reasonable levels.

For these reasons, I believe that substitutes for wood products will continue to claim about the same share of the market that they always have, with probably some increase in engineered wood use likely. That can only benefit Southern timber growers.

IMPORTED FIRE ANTS AND WILDLIFE POPULATIONS

by R. SCOTT LUTZ, Assistant Professor Wildlife Management, University of Wisconsin, CRAIG R. ALLEN, Graduate Research Assistant, University of Florida and STEPHEN DEMARAIS, Associate Professor, Texas Tech University

The red, imported fire ant (RIFA) is native to areas along the Paraquay and Parana Rivers of South America. These ants were accidentally introduced into the United States at the port of Mobile, Alabama, around 1930. Despite federal control efforts, the ant has spread rapidly from southern Alabama, and now occupies approximately 200 million acres from the Atlantic seaboard states to California. Entomologists consider native fire ants a "keystone" predator; such predators can have significant impacts on insect communities. The RIFA is known to out-compete native fire ants and disrupt arthropod communities in the United States.

The purpose of this article is to review the biology of this insect and to present what we know about the impact of red imported fire ants on our native fauna.

Fire ant mound density averaged 100 mounds per acre on the study sites.

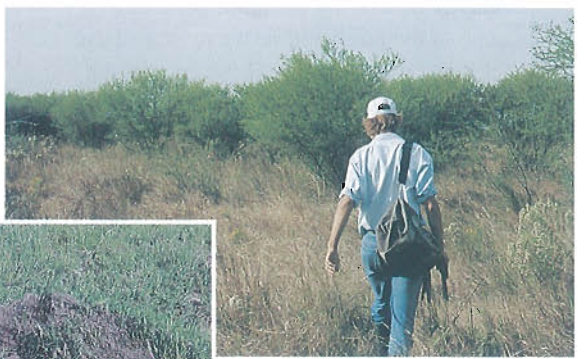
Imported Fire Ant Biology

A mature colony of RIFAs may contain 200,000 ants, and mound densities may reach 600 per acre. Once established, RIFAs can outnumber native ants 10-30 times. High densities of RIFAs dominate food sources, out-compete other ants, decrease the diversity of native insect communities and may negatively impact vertebrates.

RIFAs favor open and semi-open habitat; habitats that are often shared with many wildlife species. RIFAs are generalist feeders, and most foraging occurs when soil temperatures are between 70 and 100 degrees. This temperature range coincides with peak reproductive activity of many wildlife species. RIFAs are attracted to mucous and eggs, and newborn animals may be especially vulnerable to these ants.

Reports of Impacts on Vertebrates

Reports about RIFAs killing wildlife and domestic livestock led us to review the scientific literature for RIFA-vertebrate interactions. We found many accounts from our scientific colleagues of RIFAs causing the death of individual animals.



Craig Allen walked an average of 35 miles in each of the 10 pastures each year to survey bobwhite populations.

There are many reports in the literature about RIFAs impacting bird species. Our colleagues at Texas A&M suggested that RIFAs, using tree cavities, may have precluded use of these cavities by wood ducks. Additionally, they observed RIFA predation on wood duck nestlings and pipped eggs. In east central Texas, researchers found that swallow nests in the culverts under highways were impacted by RIFAs. When RIFA populations were reduced around these culverts, swallow nest success almost doubled. Fire ants have also reached offshore barrier islands and have influenced the nesting of shorebirds.

Biologists have also reported RIFAs killing terrestrial animals. Researchers in Alabama reported that approximately 25 percent of cottontail rabbit litters were destroyed by RIFAs. Fire ants were even discovered on muskrat houses in the coastal marshes of Louisiana. Many scientists have reported that live-trapping small mammals is virtually useless because captured small mammals are eaten alive by RIFAs.

Our review of the scientific literature indicated that RIFAs had caused the death of individual animals from many different trophic levels. We also noticed that there was a lack of information on the response of wildlife populations to RIFAs. We believed that a population level view of the problem would help place the impact of RIFAs on wildlife in perspective. To do this, we needed to join forces with our entomologists colleagues.

Texas Tech Research Efforts

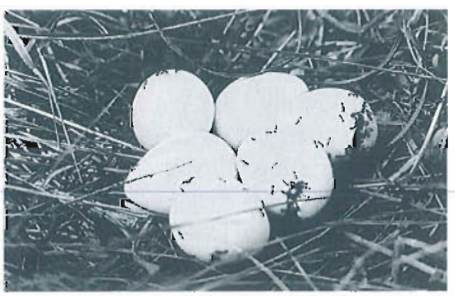
In 1990, with the help of Texas Tech University entomologists Sherman Phillips and Harlan Thorvilson, we began to design a large scale experiment to investigate the impact of RIFAs on wildlife populations. We discovered that there was a host of state, federal and private industry entomologists who were familiar with fire ant control methods. By late 1990 our cooperative research team had grown to include USDA entomologists Homer Collins and Tim Lockley and Texas Department of Agriculture inspector Mark Trostle.

Our next step was to locate suitable study areas. We decided to work in the Coastal Bend of Texas because this area had excellent potential for wildlife as well as high RIFA densities. We found no shortage of landowners who wanted to volunteer their ranches, especially if their pastures had a chance of being selected for fire ant reductions. We settled on 10, 400-600 acre pastures located in Refugio, Victoria and Calhoun Counties. By luck of the draw, five of these pastures would remain untreated and five would be treated with a fire ant bait, Amdro®. Our plans were to aerially apply the fire ant bait at the recommended rate of 1.5 pounds per acre as soon as soil temperatures heated up in the spring.

Our goal was to reduce RIFA abundance during the summer months when most wildlife reproduce and then survey wildlife populations during the following fall. Our approach was broad based, with a focus on the response of several trophic levels in the ecosystem—insects, reptiles, small mammals, bobwhite and white-tailed deer. We weren't sure how effective treating such large blocks of habitat would be, so we monitored fire ant abundance every 10 weeks. We decided to use the resulting trends in RIFA levels to evaluate whether or not additional treatment would be necessary.

What We Learned

We found that large scale reduction of RIFAs is possible; we reduced RIFAs by greater than 75 percent on all our treated pastures. We also documented that fire ants quickly recolonized the treated plots after our first treatment, so we treated them again that fall and the following spring. It is likely that long-term reductions in RIFAs using Amdro® will require at least one, and possibly two treatments per year.



Red imported fire ants are attracted to moisture and many impact pipping quail eggs.

After our experiments, we are convinced that RIFAs had an impact on many trophic levels in the ecosystem. For instance, we found that insect communities were much more diverse and plentiful in areas where RIFAs were reduced. Initially we were concerned that our bait would drastically reduce all insects. Because RIFAs are such aggressive foragers, the fire ant bait disappears very quickly and most likely is consumed primarily by RIFAs.

We also discovered that both reptile and small mammal communities are sparse in areas inhibited by RIFAs, making it difficult to measure differences in these populations just after RIFAs are reduced. We had difficulty assessing small mammal populations because the RIFAs would consume our small mammal bait almost as quickly as we set straps. RIFAs often also consumed the few reptiles in our traps, forcing us to become adept at identifying species from skeletal remains.

We were amazed at what we saw regarding the game animals we surveyed on our study areas. We found that fawn production per doe nearly doubled on our treated pastures. We also saw about a two-fold difference in quail numbers on the

(Continued on page 14)

The Red Imported Fire Ant

Presently, fire ants are reported in all of Alabama's 67 counties. Although fire ant mounds may interfere with mowers and other turf-maintenance equipment, the real problem is the painful stings that fire ant workers can inflict.

If it were not for the painful experiences associated with fire ants, almost anyone would find them fascinating. Their life cycle and social behavior are surprisingly complex.

The Mound

Although not essential, the fire ant mound is usually the most obvious part of the colony. The height of the mound and the depth to which the core extends into the soil are determined by factors such as colony size and age and soil texture and moisture. Inside the mound is a teeming metropolis of worker ants—all sterile females capable of stinging.

Radiating out from the mound are underground tunnels that worker ants use to leave and return to the colony. Workers forage for food on the surface and bring it back to be processed. Last-stage larval forms "digest" solid food, which then becomes available to other ants in the colony. Only these developing larvae can process solid food; other stages must feed on liquids.

Life Cycle

Fire ant workers (sterile females) range in size from small to medium to large. Workers are produced by queen ants that are little more than egg-laying machines. A typical queen may lay more than a thousand eggs a day and live for two years or more, unless food is limited. Most colonies have only one queen, but colonies with more than one queen have been found in Alabama.

Eggs hatch in about a week into legless larvae that go through several growth stages. After six to 12 days as larvae, developing fire ants enter a transitional pupal state that lasts for nine to 16 days. The white or clear forms that are found in fire ant colonies are developing immature stages. These stages are moved by workers up or down the mound, depending upon the external temperature and moisture conditions.

Fire ants are exothermic, or "cold-blooded" animals. This means that they cannot maintain their body temperatures by internal mechanisms, the way warm-blooded animals can. Their body temperatures and functions are dependent upon the outside temperature.

A fire ant worker lives an average of one to six months, depending upon its size. Larger workers live longer than the smaller ones. Unmated winged males and females may be found in colonies during warmer months.

Fire ant winged reproductive females and males fly and mate, and new colonies are established during warmer months. Males die soon after mating. Mated queens lose their wings after landing on the ground; many are eaten by predators such as spiders, lizards and ground beetles. Those queens that survive dig chambers into which a few eggs are laid. These first eggs hatch and mature into workers that care for the queen and the next brood of workers. Visible mounds appear above the surface as the colony increases in size, usually within several weeks or months.

This information was taken from the Alabama Cooperative Extension Service publication ANR-175, ***Imported Fire Ants in Lawns, Turf, and Structures****, by Patricia P. Cobb and Eric P. Benson.*

TREES OF ALABAMA

AMERICAN SYCAMORE

by BOB KEEFE, Champion International Corp., Cullman, Alabama

American Sycamore *(Platanus occidentalis)* is a common tree in Alabama and found throughout the state. It usually grows along creeks and rivers, in moist coves and well drained hardwood bottoms. This is because it grows best in rich, moist soils where there is an abundant water supply during the growing season. American Sycamore is not normally found on upland sites because these soils often dry out during the summer. In addition, Sycamore is seldom found in deep swamps because it is not tolerant of soils that flood periodically, especially where the water stands for more than a two-week period. Thus it is a tree found primarily along the banks of Alabama's abundant waterways and drains.

Sycamore is seldom found in pure stands. It normally grows singly or in small groups associated with a variety of other moist site species such as boxelder, green ash, water oak, black willow, sweetgum, river birch and yellow poplar. Sycamore is a valuable asset to its neighbors since its strong fibrous root system helps maintain the integrity of the streambanks where these communities are usually found and prevents erosion.

Sycamore can be one of the largest trees in the state. Mature trees are commonly 50 to 100 feet tall but can reach 150 feet tall on the better wetland sites. Trunk diameters of 3 to 5 feet are common but sycamores have been recorded with diameters up to 11 feet. In fact, it can grow to a larger trunk diameter than any other North American hardwood.

These massive trees, when grown in the open, often form broad, open, rounded crowns, up to 100 feet in diameter. The dense shade they provide makes them useful as street or shade trees in many areas. In the forest, however, sycamores tend to have relatively smaller crowns and the trunk is often clear of branches for 75 to 80 feet.

Sycamore fruit consists of single, brown, cottony seed balls about 1 inch in diameter that hang from slender stalks. These seed balls can become a nuisance for homeowners. Cleaning them up after they are scattered all over the lawn in the late summer may override the sycamore's other uses as a desirable ornamental. The seeds are a source of food for some birds.

American sycamore has a very distinctive bark pattern. Its bark is multicolored and peels off, or exfoliates, in strips, leaving irregular patches of brown, green, gray and even white up and down the tree trunk. It is usually darker brown at the base of the tree and white higher up with the tans, greys and greens in between. Because of this striking bark pattern, sycamores can be easily identified in the forest setting. This feature, combined with its dense shade, contributes to its use as an ornamental and shade tree.

In the forest, sycamore is found in all the stages of plant succession from the pioneer stage on bare ground, through the transitional and subclimax stages and into the climax or old growth forest. It is classified as intermediate in tolerance to shade and in its ability to compete with other plants for nutrients and water. Its seedlings need direct sunlight to survive and the seeds fail to germinate in thick litter over two inches deep.

Sycamore pioneers often on sandbars along creeks and streams and sometimes even on bare strip mines. On these drier upland sites it usually only has a pioneer or transitional status and does not survive into the climax forest. However, on the rich, moist sites its relatively fast growth and longevity allow it to persist in the ecosystem as plant succession progresses into the subclimax and climax stages.

Sycamore wood is not especially valuable for lumber, but can be important commercially for lower grade wood products such as boxes, crates, baskets, interior parts of furniture, and woodenware such as butchers blocks. Its wood is hard, heavy, moderately strong and turns well on a lathe, but is only intermediate in nail holding ability. It is not very decay resistant and is difficult to season.

Probably its major use today is as a pulping species. It is mixed with other species of hardwood and pine chips to produce various kinds of paper including writing and copy paper, envelopes, computer paper, magazine paper and business forms. In the past, sycamore has been grown in "biomass plantations" across the South as a source of raw material for paper mills. This is not being done commonly at present since this is an expensive undertaking which requires intensive site preparation, fertilization and even irrigation on drier sites to reach its full potential. These plantations are established at very close spacing and can be reproduced by coppice (stump sprouts) on short rotations—usually 4 to 8 years. It is projected that on certain sites on the Coastal Plain that over three 12-year rotations the yield would be 50 percent more than natural stands. As natural hardwood supplies begin to become more and more restricted, this use for sycamore may become important in Alabama.

The beauty, fast growth and potential size of sycamore when grown on the right sites will guarantee it a place as an ornamental around Alabama's homes and parks despite its pesky seed balls. Its competitive ability in the forest setting, as well as its importance in streambank erosion control, will guarantee it a place in our forests as well.

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WILDLAND URBAN INTERFACE
It's Not Just in California

by STEVE BOWDEN, Ranger IV, Alabama Forestry Commission, Blount County

Every summer we watch the news coverage of the devastating wildfires in California where hundreds of thousands of acres of forestland are charred and many homes and businesses are destroyed. We sit back in our recliners and say to ourselves, "I'm glad that type of thing doesn't occur here."

What most Alabamians don't realize is that the problem Californians have dealt with for decades is rapidly becoming a major concern in the South. Every year the exodus to a more rural environment increases with homes and businesses being built in the middle of a potential fire threat. This situation where the wildland intermingles with structures, no matter where it is located, is called Wildland Urban Interface.

There are many situations in Alabama where developers have built subdivisions or an individual has built a home with little or no planning from a fire safety point of view. The attraction of living in the woods or having the appearance of living in the woods has overshadowed our good sense in building a home or other structure that can be defended from wildfire.

You can enjoy the multiple-benefits of a woodland home and still have a fire safe environment by following a few simple guidelines.

Choose a Fire-Safe Location

Take the time to look around your house. Is it fire safe?

- Check with local officials to see what fire protection is available.
- Evaluate the site:
  - Level is better than sloped. Fire burns faster and hotter uphill.
  - Will emergency vehicles have easy access?
- Don't forget to clearly mark your location so firefighters can find you. Make sure your house number is clearly marked on your mailbox or home.
- When selecting a lot or a subdivision for your home, make sure you select one where there is more than one escape route. Your way out is the emergency vehicles' way in. Avoid dead end roads.
- Avoid long narrow or steep driveways.

The number one cause of home losses in wildland fires is from untreated wood shake roofs.

Design and Build Fire-Safe Structures

- Work with architects, contractors and fire officials to create a design that is both aesthetically pleasing and fire safe while using fire resistant building materials.
- The number one cause of home losses in wildland fires is from untreated wood shake roofs.
- Avoid wooden decks overhanging steep slopes. Be aware of potential flammable vegetation which might be growing under or around the deck or overhang.
- Remove limbs hanging over or within 10 feet of roofs and chimneys.
- Don't let sparks jump from your home to the wildland.
- Don't let sparks jump from a wildland fire to your home.

Stay on Guard with Fire-Safe Landscaping and Maintenance

- Create a safety zone around your home by removing, pruning, or thinning flammable vegetation 30 to 100 feet from around your house.
- Plan for and provide room for a defensible space on all sides of each structure.
- Sweep gutters, eaves and roof on a regular basis.
- Stack firewood well away from your home or other outbuildings.
- Avoid using outdoor incinerators for household trash. Be aware of and follow all local burning regulations.
- Install smoke detectors. Replace batteries on a regular basis.
- Have ample safety exits in case of fire.

Suggestions for a Fire-Safe Landscape

Remember that all plants burn. There are no fire proof plants, but some plants are more fire-retardant than others. Use these considerations when choosing plants and trees for your yard.

Choose plants and trees with:

- A high moisture content in the leaves.
- A low oil or resin content (avoid pines).
- Minimal litter and accumulating debris.
- Limited foliage, and few dead branches.
- A lower overall height.
- An open, loose branching habit.
- Easy maintenance and pruning.
- Drought resistance.

Avoid having these plants within 30 feet of your house:

- All pines and evergreens
- Eastern redcedar
- Kudzu

If you have questions about Wildland Urban Interface, contact your local Alabama Forestry Commission office or your local fire department.

Computer Technology for Forest Management

A Landowner's Options

by DAVID GILLULY, President, Forest Resources Systems Institute

Nonindustrial Private Forest Landowners (NIPF) own and manage forestland for a myriad of reasons. Management objectives typically include income from timber production, game and non-game wildlife habitat, passing a valuable and treasured resource to heirs, and others. Successful implementation of a multiple objective forest management plan requires a clear and accurate understanding of important biological factors such as soil types, land cover type and acreage, age category, etc. Furthermore, economic and social factors such as trends in market values, supply and demand, and regulatory constraints also need consideration. Prudent decisions today can make the difference between meeting management goals and being greatly disappointed 5, 10, or 20 years in the future. Computer technology can provide the tools necessary to evaluate the complex interactions among these factors over the long planning horizon for forest management.

Most often, a professional forester is hired to assist in developing and implementing the plan. However, many landowners can also become directly involved by taking advantage of the computer tools available. In most cases, a landowner does not have the technical forestry training necessary to collect the data and understand all of the complex biological interactions at play in a forest ecosystem. However, with the guidance of a professional forester, it is possible for a landowner to utilize the computer tools available to perform much of the data analysis and mapping. Each landowner must decide how much direct involvement is appropriate. Having a basic understanding of the tools available can greatly improve the landowner's ability to participate in the process, even if he or she does not choose to use the computer technology.

Selecting a PC

Selecting the best personal computer (PC) is the first and most important decision to make when implementing computer technology for forest management, since all software and future hardware upgrades are limited by the basic computer system.

Important factors in selecting a PC include the following: operating system, processor, memory, and storage capacity. A full and detailed analysis of the factors to consider in purchasing a PC is beyond the scope of this article. Fully research these factors before purchasing a PC by reading computer magazines, talking to local PC vendors, forestry consultants, or contact FORS (Forest Resources Systems Institute) for advice. Regardless of how a decision is reached, the most important step is determining exactly what applications and other tasks will be performed with the computer system. Below is a "typical" computer system that can facilitate all of the applications mentioned in this article as well as others used for forest management.

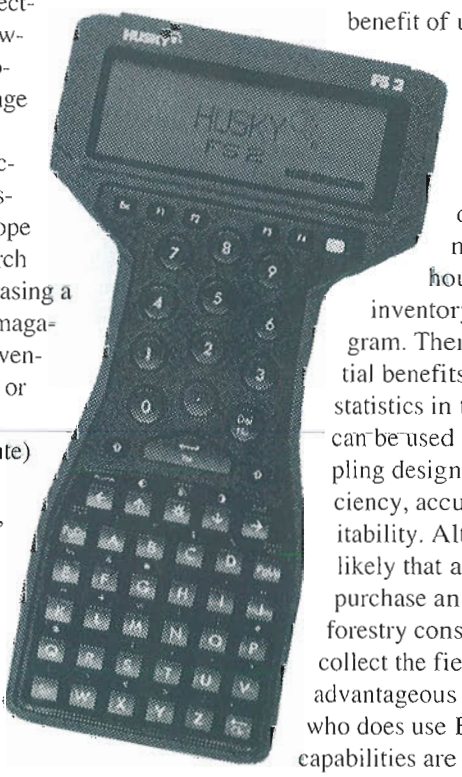

Figure 1

Pentium-75MHz.....$2,000
16Mb RAM
800Mb Hard Disk
FAX/Modem
MS-Windows

Laser Printer.....$750

Forestry Applications

Data Collection—Electronic Data Recorders: An Electronic Data Recorder (EDR) is any method for collecting and/or transferring data to electronic format without recording and keypunching data in separate steps. The most common type of forestry EDR is a "brick" style machine that consists of a keypad, screen, CPU, memory, storage, and port for transferring data to a PC (Figure 1).

Benefits—The most commonly cited benefit of using EDRs is saving time when keying field data into the PC for processing. A typical day's cruise data can take 30 minutes to several hours to enter into an inventory processing program. There are other potential benefits, such as obtaining statistics in the woods, which can be used to modify the sampling design for greater efficiency, accuracy, and profitability. Although it is not likely that a landowner will purchase an EDR since forestry consultants typically collect the field data, it may be advantageous to hire a consultant who does use EDRs. If an EDR's capabilities are being fully used, a consultant can save time, which should result in lower consulting fees to the landowner. Furthermore, the consultant should be able to collect more accurate data, which could result in increased profitability from timber sales.

Global Positioning Systems: A Global Positioning System (GPS) is a method of determining a location on the surface of the earth by interpreting radio signals received from satellites. GPS software analyzes data collected and stored by the receiver using triangulation techniques (i.e., distance and location relative to

each satellite) to determine X, Y, and Z coordinates.

Benefits—There are many forestry applications in which GPS can improve accuracy and save time. A typical forestry GPS can produce field measurements with accuracy greater than 15 feet. Commonly cited applications include orienteering, area calculation, and mapping. Theoretically, a field forester can walk the property lines, stands, and streams; drive the road system; return to the office and download the data to the PC; process the data; dump the processed data into a mapping program, and have an accurate map of all features. In practice, there are still some impediments to the smooth implementation of such a scenario, although these goals can be met with proper equipment, training, planning, and a little luck.

As with EDRs, it is not likely that a landowner will purchase a GPS, but it may be advantageous to hire a consultant who does use GPS. Consultants using GPS can save time and develop more accurate maps compared to a consultant not using GPS. More accurate maps, in turn, can save money when paying for management activities that are billed by the acre, such as tree planting or herbicide applications. For example, assume that a consultant estimates the acreage of a stand with a 10 percent error, which is realistic for calculating stand acreages from an aerial photograph. If the true acreage is 80, and the estimate is 8 acres over, the landowner would be billed for 8 acres too much for any contract work. A consultant using GPS could potentially reduce errors in area calculation.

Inventory Data Processing/Growth Prediction/Financial Analysis: Inventory processing software converts individual tree measurements (e.g. species and size) into volume estimates. Growth prediction software converts current volume estimates into future volume estimates using one of many techniques for "growing trees." Financial analysis software allows the user to define a scenario of potential management strategies and likely economic trends to produce present and future cost and revenue estimates. All of these applications are discussed together since the best programs are integrated to reduce redundant data entry.

Benefits—The key to any successful integrated system is well written and powerful software. Such programs minimize data entry time while maximizing the output of accurate data in customized reports. These features (time savings and improved accuracy) are the greatest potential benefits a field forester can expect from using these programs. An inventory processor that readily accepts data from an EDR can save hours of data entry time from each cruise. Ideally, the EDR data collection software will create files formatted specifically for the inventory processor.

Custom reporting of products from a tract can directly increase profitability. For example, a report showing high quality sawtimber and crossties for one buyer and a report showing veneer and studs for another buyer can be produced with a simple re-run of the processor. The potential to obtain higher bids for timber sales by customizing reports is almost limitless. Additional benefits include efficient error checking and data editing.

The benefits of growth prediction and financial analysis programs are very clear: obtaining reliable estimates of current and future values. Growth prediction programs facilitate "what if" style analyses. For example: "What if the 200-acre tract is thinned now with a final harvest in 12 years?" versus: "What if the trees are selectively harvested over the next 50 years?" Which scenario will best meet the landowner's objectives? Additionally, quality financial analysis programs will provide a framework to examine alternative investment strategies in addition to forest management strategies.

Many consultants currently use software for inventory processing, growth prediction, and financial analysis. Although it is not practical for landowners to collect the basic forest data necessary to implement a management plan, it is feasible to use growth prediction and financial analysis software. The best opportunity for a landowner who wants to take a more active role in the management process is to find a consultant using suitable software who is willing to spend time helping the landowner get up to speed in using the same software. Since

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Table 1

Forestry Software for Forest Management in Alabama

PROGRAM	CONTACT	PHONE
Inventory Processing		
OMNITALI	Forestry Supplier	(800)752-8460
Timber Cruise by Grade	Twin Tier Systems	(800)327-9919
FRIS-Tally	WestVaco	(803)871-5000
INFORM	FORS	(205)767-0250
Timber Inventory	Bennett & Peters	(504)927-3500
Growth Prediction		
WINYIELD	FORS	(205)767-0250
INFORM	FORS	(205)767-0250
TWIGS	FORS	(205)767-0250
GAPPS	Univ. of GA	(706)542-1187
Financial Analysis		
INFORM	FORS	(205)767-0250
QuickSilver	FORS	(205)767-0250
CASH	Univ. of MN	(612)624-3788

Computer Technology

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there are several programs available for under $500 and still more choices above $500, landowners may want to seriously consider this option.

Mapping: For the purpose of this discussion, desktop mapping is defined as the use of survey data, existing maps, pre-digitized map data, and/or aerial photographs for producing high quality, scalable maps using a PC.

Benefits—Potential benefits of desktop mapping (DTM) include professional looking maps, improved map accuracy, flexible output, and saving time.

The most obvious benefit of desktop mapping is producing professional quality maps. Although many foresters have developed expertise with hand drawn mapping techniques, there are many occasions where the time required to hand draw a map can not be justified. For example, most foresters can not justify hand drawing three different maps for stands, stream buffers, and wildlife management zones for a stewardship report. However, a quality DTM program will facilitate printing these different maps and numerous other types of maps very efficiently.

Options—There are several desktop mapping options currently available that offer various levels of user friendliness and output quality. The best DTM programs are customized Computer Aided Design (CAD), Geographic Information Systems, and other applications. There are numerous programs available from this category that range in price from $500-$2,500+. Features and user friendliness vary greatly and selection of such a program requires careful examination of all options. These programs generally facilitate the use of data from all of the sources mentioned above in addition to area calculation, stand delineation, buffering, and most any other map enhancement.

Geographic Information Systems: Geographic Information Systems (GIS) integrate features of desktop mapping with databases (attribute data) providing spatial analysis capabilities.

Benefits—The benefits of GIS include the ability to produce professional quality maps with the extremely powerful capability of spatial analysis via database queries. Spatial analysis facilitates analysis of forest resource data based on attributes such as stand age, species composition, basal area, etc., *and* spatial relationships such as proximity to roads, other similar management units, streams, etc. Thus, GIS provides unprecedented analytic capabilities for forest management.

Costs—GIS is generally cost effective only for long-term management of relatively large tracts (thousands of acres). The time required to develop a map using GIS along with attribute data is usually too great an investment for small tracts. Furthermore, efficient use of GIS requires significant expertise achieved through training and experience. GIS is by far the best tool available in many situations, but can be can be a disastrous drain of financial and staff resources if used in inappropriate situations.

Summary

Computer technology is not only an excellent tool for implementing multiple-use forest management, but has become almost a necessity. A "typical" forest landowner in Alabama with 50 to 5,000+ acres can benefit from using computer technology, either personally or through a consulting forester. There are many inexpensive tools available in addition to more costly technologies that can save time, money, and, most importantly, lead to successful implementation of a management plan through better forest management.

Author's Note: For more detailed information on the topics discussed in this article, contact the Forest Resources Systems Institute (FORS). FORS is a nonprofit, member based association that promotes and supports the efficient use of computers for forest resource management and utilization. In addition to providing telephone consultation and assistance, FORS publishes the "Directory of Forestry Computer Software," "Directory of Natural Resources Computer Consultants," and "Review of Electronic Data Recorders for Forestry."

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Imported Fire Ants

Continued from page 9

pastures where RIFAs were reduced. To verify our work, we conducted surveys one year after our last fire ant reduction; at this time, populations of deer and quail were the same on all pastures.

After we had tabulated our results, we worked with an economist at the university to explore the costs and benefits of this type of control effort. We learned that given the current techniques of RIFA reduction and selling deer and quail through hunting leases, the costs of treatment exceed the dollars obtained from lease hunting. In other words, even though quail and deer populations responded to RIFA reductions, there is not a positive return on your RIFA treatment investment.

Future Work

We are fascinated by this ecological puzzle. We plan to investigate other methods of control and hope to work in ecosystems in other areas of the country. We are preparing papers for submission to scientific journals to report our findings to the scientific community. We believe that RIFAs present one additional challenge to landowners trying to manage wildlife on their property. We also caution that RIFAs should not be used as a scapegoat to explain the decline of wildlife in all areas. However, the idea that an exotic organism may be responsible for long-term declines of native species should give us a reason to pause.

Acknowledgments

Our work was made possible by the generous support of many groups. We would like to thank the landowners of the Coastal Bend who allowed us to trespass on their property; our colleagues at Texas Tech University, Drs. Auld, Ervin, Phillips and Thorvilson, who were instrumental to our team; and those from whom we received financial support, American Cyanamid, Department of Agronomy, Horticulture and Entomology at Texas Tech, Houston Livestock Show and Rodeo, Quail Unlimited, U.S. Department of Agriculture-RIFA Lab, Texas Department of Agriculture, Texas Parks and Wildlife and the Welder Wildlife Foundation.

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FOREST HERBICIDES:
What, When, How and How Much

by JAMES P. JETER, Forest Management Specialist, Alabama Forestry Commission and
TIM L. GOTHARD, Reforestation Specialist, Alabama Forestry Commission

With increasing regularity, herbicides are being used to accomplish a multitude of forest management tasks. Site preparation, herbaceous weed control, pine release, and timber stand improvement are some of the more common management activities that can be carried out using forest herbicides. This broad range of uses is encouraged to a large degree by the number of herbicides suited to forestry needs and their inherent flexibility. Most forest herbicides can be applied in varying quantities, at varying times, using varied equipment, to provide control of varying types of vegetation. These *varying* qualities are beneficial, but they can also be confusing. Let's look at some of the management practices that are commonly handled using forest herbicides and explore some of the issues that impact the *what, when, how, and how much* decisions related to forest herbicide use.

Site Preparation

Site preparation, in simple terms, is any cultural practice needed or desired that is applied to a site before tree seedlings or seed are applied. A herbicide application used to control herbaceous weeds, grasses, woody brush and trees before tree planting is one example of a site preparation treatment. In most cases, the application rate for a particular herbicide is higher when used for site preparation than when used for most other forest management applications. The purpose of the higher rates for site preparation is to eliminate, to the maximum degree possible, present and future competition that could hinder the growth and productivity of the species to be planted or naturally regenerated. Since many forest herbicides have an "additive effect," which means that the effectiveness of control increases as the amount of herbicide applied increases, higher rates can provide greater initial control and often lengthen residual control of target vegetation. In direct proportion, costs are usually higher for site preparation treatments than for the other herbicide applications mentioned previously.

The diversity of the competition to be controlled can also have an effect on herbicide decisions. Usually, one herbicide will not kill 100 percent of the vegetation that needs to be controlled. If so, a combination or tank-mix of two or more herbicides may provide greater benefit. In general, a tank mix uses a larger proportion of one herbicide to control the majority of the target species and a smaller amount of another herbicide is used to kill the remainder of the target vegetation.

Another factor that can affect herbicide decisions for site prep is the need or ability to burn the site before planting. Prescribed burning for site prep can provide two important benefits: improved access for planting crews and competition control. Sites with heavy logging debris may present problems for hand planting crews. Prescribed burning can improve access and contribute to higher quality planting. For such sites, the ability of a herbicide to brown-up the target vegetation and make it available to carry a fire may impact the choice of herbicide and the rate to apply. In other situations, such as sites near roads, urban areas, etc., burning may be difficult and the herbicide choice may be influenced by the need to control the target vegetation without the aid of additional control from fire. Once a particular herbicide has been chosen, the rate applied may also be influenced by the ability to follow the application with a prescribed burn.

Landowner management objectives can and should impact herbicide decisions. For instance, site preparation in an area where maximum timber productivity is the primary objective may lead to herbicide selections and rates that eliminate as much competition as possible, and in all probability would aim to eliminate any need for further herbicide use during the rotation. On the same site with different landowner objectives, the herbicide choice and application rate might be influenced by the desire to target part of the vegetation for control while leaving certain plant species beneficial to desired wildlife relatively unaffected.

Herbaceous Weed Control

Herbaceous weed control, as the name implies, is a practice aimed at controlling herbaceous weeds, grasses, and other non-woody plants. Some site preparation treatments provide short-term control of this target vegetation, but most often herbaceous weed control applies to treatments occurring after trees have been planted. Herbaceous weed control is employed regularly when trees are planted on abandoned agricultural land, particularly when droughty soils are involved. Studies have shown that this vegetation component can be one of the most significant early competitors of young trees.

The timing of herbaceous weed control differs from many site preparation treatments and is usually applied in the spring following planting. It specifically attempts to provide competition free growing conditions during a narrow window at the beginning of the first growing season. Most herbaceous weed control treatments involve broadcast or banded applications over the top of planted pine seedlings; therefore it is imperative that a selective herbicide is used. The herbicide selected and its application rate will depend upon the seedling tolerance to the particular herbicide and the vegetation to be controlled. Some herbicides can eliminate pine when used at higher rates, but can safely be applied over pine at the right time and at a lower rate. Timing of application is very

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LANDOWNERS LEGISLATIVE · ALERT

NATIONAL

by TERRI BATES, Washington Representative, National Association of State Foresters

November 1995 marked the first anniversary of last year's dramatic elections and it proved to be a year as tumultuous as predicted.

At press time and on the plus side, prospects for a cut in the capital gains tax that would benefit timberland owners were very encouraging. As approved by a House and Senate conference committee, the cut would be retroactive to January 1995. On the other hand, the federal government was in the process of shutting down due to fundamental disagreements between Congress and the president on, among other issues, the future direction of the federal budget.

Of the 13 appropriations bills that annually fund the federal government, only the spending bill for the U.S. Dept. of Agriculture had been signed by the president. This covers the Natural Resources Conservation Service (former SCS) and the Consolidated Farm Service Agency (former ASCS) and their programs, which include the Conservation and Wetland Reserve Programs and the Agriculture Conservation Program. Funding for the USDA-Forest Service was far more uncertain. That agency is funded by a different appropriations bill which was headed for a promised presidential veto.

Cost-share Programs Examined

In a year that has already seen many dramatic budget reductions, Congress provided support for most USFS programs with one major exception—the Stewardship Incentives Program (SIP). SIP provides financial cost-share assistance to small nonindustrial private forest landowners for multiple resource management on their lands. Funded at almost $18 million last year, both the House and Senate came close to eliminating all funding for the program. An effort to restore partial funding on the Senate floor ultimately provided the program with $4 million for the current fiscal year, but prospects for future year appropriations are highly uncertain.

The Forestry Incentives Program (FIP), a landowner cost-share program for reforestation and timber stand improvement, fared only slightly better. Funded at $6 million under the agriculture appropriations bill, it has been reduced 50 percent from its historic level. Cost-share programs like SIP and FIP fall into programs that Congress is increasingly drawing the line between what it deems to be "essential" and "non-essential." With timber harvest rates significantly up across the South, there is growing alarm over a negative reforestation/harvest ratio. Many have argued that a capital gains reduction will have a positive and immediate impact on reforestation. Still others believe incentives programs are equally important to reforestation on non-industrial private forestlands. This is a key issue for the South, where the forest products industry is a major component of virtually all state economies!

There has been significant discussion on Capitol Hill about consolidating a range of smaller conservation programs of largely regional appeal into a single, comprehensive program. The advantage of this would be to pool the respective funding for these programs at the national level to be focused toward broader conservation goals. These discussions have come principally in the context of the 1995 Farm Bill debate. The Senate Agriculture Committee, for example, is considering a proposal for the Farm Bill that will continue but gradually scale back the popular CRP program while phasing in a new program called the Environmental Quality Incentives Program (EQIP). EQIP would consolidate the Agricultural Conservation, Great Plains, and Colorado River Salinity Programs into a single program and allow the USDA to prioritize conservation objectives and regions in need of assistance. EQIP would also take advantage of the CRP funding mechanism, which offers greater assurance of federal dollars being available. Existing forestry programs like the Forest Stewardship Program would not be incorporated in EQIP, though certainly forestry will be used as a conservation practice as appropriate (streamside buffers, windbreaks, shelterbelts, etc.).

Capital Gains Discussed

As part of the battle of the budget, Congress is pushing for a significant change in the tax code which would benefit forest landowners. A House-Senate conference committee has agreed to a 50 percent deduction in the capital gains subject to taxation for individuals; this would result in a reduction in the maximum capital gains rate from 28 to 19.8 percent. The effective date of lower capital gains tax would be retroactive to January 1, 1995.

Corporations would face a maximum capital gains tax rate of 28 percent, down from 35 percent. The bill also includes changes in estate taxes that would significantly increase the exemption from inheritance taxes and help prevent forced sale of farms and forestlands for inheritance tax purposes. These tax provisions are part of the Republican leadership reconciliation bill. At press time the bill was before a House-Senate conference committee; from there it was to be sent back to Congress for a final vote before being forwarded to the president.

Other Legislation

While the end-of-the-year budget battles overshadowed almost all other legislative developments, action on other resource issues has continued, including reauthorization of the Endangered Species Act by a House committee and the Clean Water Act by the full House. Both of these acts have been awaiting permanent reauthorization for several years.

The House Resources Committee approved a major rewrite of the Endangered Species Act in late October. The bill (HR 2275) would require landowners to be compensated if any portion of their property is devalued by more than 20 percent as a result of a government activity, and would require the federal government to purchase the property if it is devalued by more than 50 percent. The bill also eases virtually all regulatory controls on private land, provides incentives payments for voluntary actions, and holds landowners harmless for the taking of a listed species. For these, the bill would overturn a recent decision by the Supreme Court that upheld the U.S. Fish and Wildlife Service's authority to regulate habitat modification on private lands.

Although the House passed a major revision of the Clean Water Act earlier this year, the Senate has moved at a slower pace. The first hearing of the legislation held by a Senate committee was November 1 and focused on S.851. This bill would redefine wetlands and require regulation based on a classification system. Compensation would be provided to landowners whose property values are adversely impacted by federal regulations.

ALABAMA

by FRANK SEGO, Legislative Liaison, Alabama Forestry Commission

At "deadline eve" for the release of this column, your writer found himself staring into the yellowed second sheet of copy paper not knowing for sure if, or when, Governor Fob James would call a special session to deal with the controversial issue of tort reform in Alabama.

The regular session had ended in a hail of legislation on July 31. Prospects of a special session were gaining momentum across the state. Battle lines were being drawn between House and Senate leadership as to the need for a call by the governor.

As this column was being prepared, the governor seemed closer than ever to making his decision. It would either begin the first week of December or the first week of January. If, indeed, there was to be one, it had to come before the 1996 regular session, which is slated to open on February 6. By the time you read this we all will know.

As this question was still hanging, there came to mind the idea of taking this opportunity to look at an ongoing study being made to assess the needs of forestry in Alabama. In doing so, we look back at a significant legislative act that was created to make legislators and other state official aware of forestry's needs.

The Forestry Study Committee

The Alabama Legislative Forestry Study Committee was born from Act No. 79-711, cosponsored during the 1979 regular session by then-Rep. John M. McMillan, Jr., of Bay Minette and current Rep. James E. Warren of Castleberry. McMillan is now the executive vice president of the Alabama Forestry Association.

The purpose of the act was to conduct a multi-faceted assessment of Alabama's burgeoning forestry program. Specifically identified was the forest fire situation, including prevention and control; management of our forest resource as a base for industrial development; and the impact of state and federal legislation on forestry practices and landowner options.

Since its inception, the Legislative Forestry Study Committee had delved into these issues and emerged with a number of recommendations that have resulted in legislation to increase the funding of the Forestry Commission through a doubling of the forest products severance tax; forest acreage assessment; and the passage of an emergency forest fire fund that also has facilitated response to wildfire emergencies. It supported successful legislation to improve soil and water conservation and forestry practices within the state (the Alabama Resource Conservation Program).

Small Landowner Assistance

The Committee endorsed the establishment of a new tree seedling nursery for the Forestry Commission in north Alabama. Forums have been held to assist the small, non-industrial forest landowner in realizing a better return from his woodland production. The Committee has devoted a vast amount of its time analyzing and advocating the use of wood as an energy source that could revolutionize the state's energy needs.

A subcommittee was established to work with Tuskegee University and Alabama A&M in assisting the minority forest landowners through the training of minority foresters.

One of the Study Committee's prime concerns was forestry education at the university level. Its firm stand on this issue was one of the motivating factors behind the change of status from a Department of Forestry to the School of Forestry at Auburn University.

Further, the Committee proposed legislative resolutions critical of the proliferation of forest product imports. Other resolutions opposed Congressional efforts to eliminate capital gains treatment for timber sales and a requirement for capitalization of current ordinary expenses of growing timber.

Fourth Forest Report

The Study Committee also assumed leadership in updating the Alabama Fourth Forest Report. The Committee will coordinate development of the report and serve as collector of ideas and proposals that will ultimately improve forest management. Rep. Allen Layson of Reform is heading this effort.

In a word, the Legislative Forestry Study Committee has functioned, and

(Continued on page 18)

A Slice of Southern Life

by TILDA MIMS, Forest Education Specialist, Alabama Forestry Commission, Northport

"The South" means different things to different people. To some it is simply an area of the United States; to others it is home. For Al and Jan Hill of Homewood, the South is a way of life to be preserved.

Their Hale County TREASURE Forest is a slice of southern life aptly named "Southland Plantation." Concord grapes, apple and peach trees, scuppernongs, raspberries, blackberries and fig trees surround a comfortable two-story log cabin. From a rocking chair on the back porch you can watch Canadian geese and mallards enjoy a lake filled with bass and bream.

One recent afternoon, the Hills sat on the porch for several hours watching eagles near the lake. Golden eagles and bald eagles have been spotted on their property on many occasions in recent years.

Wildlife enhancement is the primary objective on this 609-acre tract south of Akron. When the property was purchased years ago there was adequate wildlife diversity but not quantity. "We began a good wildlife program to promote what was already here, beginning with bluebirds and wood ducks," Al said. White-tailed deer and turkey were also encouraged through enhanced cover, food and habitat.

Over 100 acres of wildlife openings, corridors, bedding areas, den trees and snags are a central focus of their wildlife program. Fruit trees, chestnut trees and swamp chestnut oaks have also been planted in the deer areas.

Al and Jan Hill admire this "antique" apple tree, a Kinnaird's Choice, which was once found around Southern homesteads. Kinnaird was Jan's maiden name, so the tree has a special sentimental value as well.

"We plant many different foods for wildlife," Al said, "but one in particular that is very effective for deer is an Austrian winter pea. It's very high in protein and is a succulent that lives through the winter in this area. In the spring it puts on pea pods that deer and other animals love." If you are trying to raise larger, healthier deer, you need strong protein foods, not just something they enjoy eating, Al recommends.

The Hills have been in the Deer Management Program for several years now and are encouraged by the results. Al has been certified as a big game guide in Alabama and notes that since then, he has gotten more pleasure from wildlife management than hunting. "It's been a lot of fun watching others, especially children, have a good time on a hunt," he said.

Non-game species are also a great delight to the Hill family. They have built nesting boxes for bluebirds, wrens, kestrels, ducks and geese.

The first pair of Canadian geese purchased from Rosemary Wildlife Refuge in Madison, Alabama, have now raised young and attracted other geese for a total of 13 around the lake.

Although timber management is their secondary objective, education fits easily into the plan. "The Hills have capitalized on every opportunity to develop their forestland into an educational showplace," said Jim Junkin, county supervisor.

From shiitake mushrooms to old-fashioned apples; from grape arbors to bald eagles; and from hardwood stands to English walnuts, life at Southland Plantation includes the spice of variety for both the Hills and the wildlife they treasure.

Alabama Legislative Alert

Continued from page 17

will continue to function, as a viable force in guiding the destiny of Alabama's forestry program.

Members of the Committee are selected quadrennially. Three are chosen from the House by the speaker; three from the Senate by its presiding officer; and seven are appointed by the governor. The state forester is a standing member of the Committee and serves as its secretary. The dean of the School of Forestry at Auburn University is the 15th member.

The New Committee

Committee members for the new quadrennium have been selected as follows:

- HOUSE: Representatives James E. Warren, Castleberry; Allen Layson, Reform; and Richard Laird, Roanoke.
- SENATE: Senators Doug Ghee, Anniston; Hap Myers, Mobile; and Charles Steele, Tuscaloosa.
- GOVERNOR'S APPOINTMENTS: Randy Batiste, Mobile; Eric Cates; Greenville; Frank Grant, Eufaula; David C. Long, Monroeville; Al Peak, Eufaula; and William F. Sahlie, Wetumpka (one yet to be appointed).

State Forester Timothy C. Boyce and Auburn School of Forestry Dean Emmett Thompson complete the makeup of the Committee.

The next Legislative Alert will focus on forestry issues in the 1996 regular session. 'Til then . . .

The Public Needs to Know

by JAMES R. LOWE, R.F.

The practice of forestry in the South is rapidly becoming a public issue. Those groups opposing the harvesting of trees are vocal and are misleading the public with partial data slanted to support their agenda. We must convey to the citizens of Alabama the full perspective of the benefits that are derived from sound forest management to include the economic and environmental achievements that have been realized in the past half century.

Who is better qualified to do this than the registered foresters of Alabama? Every registered and licensed forester has a niche where he or she can be proactive in helping their communities understand the dynamics of Alabama's woodlands.

The Alabama Board of Registered Foresters has a legacy of accomplishments that gives credibility to the profession.

- Licensed foresters assist landowners with the latest technical advice on forest management. They are required to earn continuing education credits every year in order to keep their registration current. By staying in touch with the latest market trends, they can ensure that a landowner has the best advice on harvesting and selling timber.
- Licensed foresters also stay current on environmental issues and regulations. Their expertise may prove invaluable to landowners who aren't aware of the latest trends.
- Licensed foresters are often active in local civic organizations and speak for forestry at every opportunity. They help the public understand that Alabama's forest is more extensive and vigorous now than at any time since the turn of the century.
- They are knowledgeable about the cooperative effort of landowners, the Extension Service, the Alabama Forestry Commission, the Auburn School of Forestry, and the forest industry.

Our forestry schools and forest research activities will continue to lead us to a better understanding of the complexity and dynamics of the forests, resulting in greater accomplishments in the future. However, past achievements have been dramatic. Alabama's public needs the expertise of licensed professionals not only in helping to manage our woodlands, but also in educating those who do not own land about the many benefits they receive. "Untrained" activists have greatly influenced our laws and public's belief. What lies ahead for landowners and professionals in the field of forestry? The outcome will depend on the effort we, as individuals, put into cooperating to make our communities strong.

12th Annual Alabama Landowner and TREASURE Forest Conference

James and Joan Malone of Mobile County were the winners of the 1995 Helene Mosley Memorial TREASURE Forest Award. The award is given annually to the outstanding TREASURE Forest in the state. The Malones are shown receiving their award from John McMillan, chairman of the Alabama Forestry Planning Committee. District winners and runners-up to the state award were Bolling Starke of Bullock County and Marvin Whited of Blount County.

The Mobile County Forestry Planning Committee (above) took top honors as the 1995 state committee winner. Other district winners were Lamar and Pike Counties.

The Masters Award is presented each year to an outstanding planning committee that has previously won a state award. Covington County was honored with the 1995 Masters Award.

From George Washington's Yard to Yours

by BILLY RYE, Forest Management Specialist, Alabama Forestry Commission, Florence

Can you imagine planting a direct descendant of one of George Washington's shade trees in your yard? How about owning a seedling from Henry David Thoreau's famous Walden Woods? Sound interesting? Thanks to the Famous & Historic Tree program sponsored by American Forests, you can now own a living piece of American history. According to Executive Vice President R. Neil Sampson, the Famous and Historical Tree program combines contemporary conservation with our nation's historical past.

American Forests, the nation's oldest non-profit citizen's conservation organization, has identified trees all across America that are associated with significant people or events in American history. From the seeds of those one-of-a-kind trees, they grow small, healthy seedlings and make them available to the public.

Seedlings are available in a wide variety of species and historical categories. For instance, those interested in the American Revolution might choose to purchase a seedling from the Independence Hall Black Locust. This magnificent tree witnessed the ratification of the Declaration of Independence on July 4, 1776. America's exceptional women are celebrated by many seedlings including the Susan B. Anthony Sycamore, which shades the house of the woman who established the National Woman Suffrage Association in 1869. For those more interested in a "down home" appeal, Table 1 has a listing of some of the trees associated with the state of Alabama.

Regardless of which tree seedling you choose, each comes with a one-year guarantee and a complete planting kit to ensure the tree a good, healthy start in its new home. Included in every $35 kit is the following:

Dr. Jim Jones (right), project coordinator, and Billy McLain, head of the grounds crew, inspect the Independence Hall Black Locust planted as part of the "Historic Trees for a Historic Campus" project at Athens State College.

- A personalized Certificate of Authenticity which tells the history of your tree.
- A one- to three-foot container-grown historic tree.
- Detailed planting instructions.
- A photodegradeable tree shelter.
- A stake for added support and fertilizer for your tree.
- A safety net to protect your young tree.

An example of where the Famous & Historic Tree Program has taken root is

at Athens State College, in Athens, AL. Project Coordinator Dr. Tim Jones states that the ultimate goal of their "Historic Trees for a Historic Campus" initiative is to plant every available space on the 172-year-old campus with a Famous and Historic tree seedling. Using private donations, 38 Famous & Historic Trees have been planted to date on the grounds of Alabama's oldest college.

To help the initiative grow, Athens State officials decided to plant seedlings next to associated buildings. For example, historic trees associated with literary figures are planted near the campus library. In addition, the John Tyler Magnolia was planted next to Founders Hall, which was constructed during his term as president of the United States in 1842.

American Forests believes Athens State College is the only institution in the country to have undertaken a project on such a large scale. However, there are many other opportunities available for use of the trees. American Forests sponsors the "Living Classroom" program to bring high-profile attention to corporate sponsors. The $1,500 cost of the "Living Classroom" is tax deductible to companies who choose Famous & Historic Trees as their means of demonstrating community involvement. In addition, American Forests also sponsors "America's Historic Forest" located near Des Moines, Iowa. This unique forest is composed of 1,500 acres of Famous & Historic Trees, which are planted using $35 donations from the general public. Finally, many community tree boards, professional societies, and local planning committees use Famous & Historic Trees to commemorate a special occasion or as a memorial to a person or an event.

In short, Vice President Sampson states, "The Famous & Historic Tree Program will serve as a window to history and the environment, giving every participant a clearer view of how our lives are intertwined with nature's priceless gift—trees."

If you or someone you know is interested in finding out more about the Famous & Historic Tree program, "Living Classroom" educational program, or about America's Historic Forest, please contact American Forests at 1-800-320-8733, or write to Famous & Historic Trees, 8555 Plummer Road, Jacksonville, FL 32219.

Table 1

Some Famous & Historic Trees Associated with the State of Alabama

▲ NATIVE AMERICAN HERITAGE

Trail of Tears Trees

In 1825 the Cherokee national legislature established a capital in Georgia called New Echota and tried to pattern their government and lifestyle after the white man, only to be uprooted and moved westward to Oklahoma. Over 4,000 Cherokees died on the forced, winter march, earning the name, "Trail of Tears." The trees from New Echota stand today at the homeland they were forced to leave behind.

1540 Trail of Tears Redbud, Planting Zones 6-9.

1583 Trail of Tears Water Oak, Planting Zones 6-10.

▲ AMERICA'S EXCEPTIONAL WOMEN

Helen Keller Water Oak

Born in 1880, Helen Keller lost her sight and hearing at age 19 months, and became an unruly, nearly savage child. When Dr. Alexander Graham Bell advised Helen's father to write to the Perkins Institution for the Blind, they sent Anne Sullivan to teach Helen to communicate. Helen often studied nature by climbing this mighty water oak at her Tuscumbia, AL, home. Helen Keller, a writer and lecturer, became an inspiration to challenged people of all nations.

179 Helen Keller Water Oak, Planting Zones 6-10.

▲ AFRICAN AMERICAN HERITAGE

Jesse Owens Trees

Jesse Owens set several records as a member of the Ohio State University track squad. But his most lasting achievement came with his triumph over Hitler's best German athletes, winning three gold medals in the 1936 Olympics.

1332 Jesse Owens Water Oak, Planting Zones 5-10.

1601 Jesse Owens Honeylocust, Planting Zones 5-10.

▲ AMERICAN INVENTORS

George Washington Carver Persimmon

Born a slave, this brilliant man dedicated his life to bringing prosperity to the South. In his laboratory at Alabama's Tuskegee Institute, Carver invented an astounding 325 products made from peanuts, 118 from sweet potatoes, and many others from a variety of southern raw materials. The Carver Persimmon grows at his Diamond Grove, Missouri, birthplace.

131 George Washington Carver Persimmon, Planting Zones 4-9.

▲ CIVIL WAR PERIOD

Battle of Selma Live Oak

This live oak stood witness to the fall of Selma, Alabama, on April 2, 1865, just days before the end of the Civil War. Confederate troops under the command of General Nathan Bedford Forrest, who had never lost a battle, were outmatched by 14,000 Union Calvary, lead by Gen. John Harrison Wilson. Selma fell, and the war soon ended.

216 Battle of Selma Live Oak, Planting Zones 7-10.

(# indicates number assigned to the tree by American Forests.)

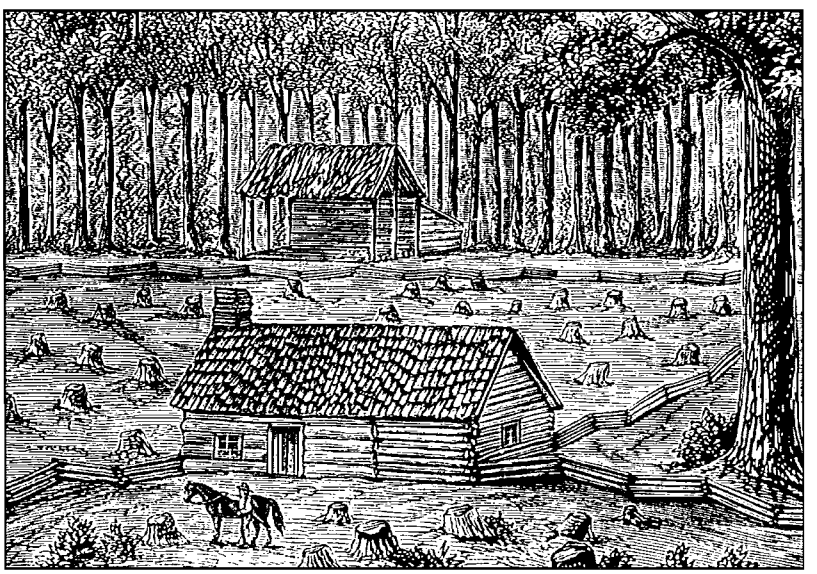
PART 2

The Southern Forests: *1800-1850*

by DON BURDETTE, Alabama Forestry Commission

Colonial America had relatively little impact on the southern forests except along the Atlantic and Gulf Coasts (see Part I in the Fall 1995 issue of *Alabama's TREASURED Forests*). It had taken almost two centuries for America's population to reach 5 million people. But during the 19th century, the population multiplied more than 15 times to over 76 million people. One result of the United States' burgeoning population was an accelerating demand for and impact upon the nation's natural resources.

By 1819, the new country of the United States of America had claimed all territory east of the Mississippi River. As American pioneers began to move into the Southeast to settle and develop the new U.S. territories, they discovered that there was more virgin, old-growth forest than when DeSoto had traveled through 250 years earlier. During the 1800s, these pioneers continued the philosophy of earlier European colonists who equated progress with the removal of the all-overshadowing forest. Fledgling communities in the developing South depended and prospered mostly upon the export and trade of agricultural commodities produced on open ground and the continuous forests were an obstacle to their plans. And yet pioneer families designed ingenious ways to use the forest and its products to support life, civilization and progressive development.



Forestland was cleared for farming and homesteading.

Continued intrusions by white settlers onto Indian land within U.S. territory finally touched off skirmishes that led to two separate wars with factions from both the Creek and the Seminole tribes. While there may have been pros and cons to either side of the issue, both wars were settled decisively by General Andrew Jackson of Tennessee in 1814 and 1818. The consequence paid by all Indians in the Southeast was the gradual dispossession of their best farming and hunting lands by the U.S. government. Under duress, the "Five Civilized Tribes" were coerced into ceding their remaining territory to the U.S. government and leaving the Southeastern region. Between 1832 and 1835, the U.S. Army supervised the forced removal of the last organized Indian settlements along the "Trail of Tears" to Oklahoma.

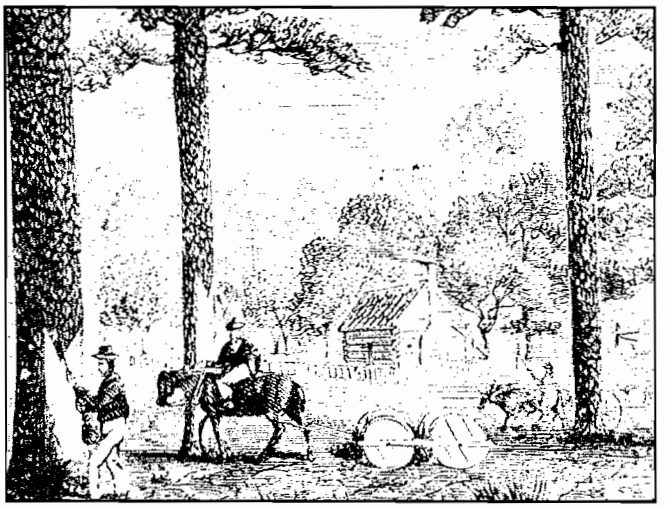
Settlers Clear Land, Depend on Wood

After the Indian removal, there was a new vigorous rush into southern territories to claim land. A new wave of white settlers streamed into the deep South from the Virginias, the Carolinas, Georgia, Tennessee and Kentucky by means of established Indian trails, new federal highways and riverboats. As settlers continued to spread throughout the land, there was hardly a thought given to conservation of natural resources. Forests, wildlife, good soil and water were all so abundant relative to the still sparse population that it didn't seem possible that there would ever be any shortages. The only concern was to exploit these resources in order to, first, survive in the wilderness, then to make life more comfortable and convenient, and eventually to produce great personal wealth. The southern landscape was transformed as its forests were cleared for agriculture, fuelwood and building materials.

Ninety-five percent of the population at this time was rural. Most people in the Southeast lived on small, self-sufficient farms usually located in the fertile soils of stream flood plains. In hilly and mountainous terrain, clearings were also made on ridge tops with the side slopes utilized as wood lots and/or burned annually to improve livestock grazing. Large antebellum plantation farms, the envy of every farmer, eventually began to be cleared from rich river bottom and other prime forestlands. A wealthy, aristocratic southern society developed that was dependent upon slaves in order to clear, cultivate and

harvest lucrative crops of tobacco, wheat, rice, indigo, and eventually cotton. Poor farming and soil management techniques frequently resulted in depleted, eroded and abandoned farm land which may or may not have reverted back to naturally regenerated forests.

It took an average of three acres of cropland to support each person. It also took at least an equal amount of land for pasture and hay to support a farm's draft animals. Land was cleared for agriculture, towns, roads and other uses at about the same rate as the population growth and was by far the primary cause of forest loss. Such clearing resulted in an 18 percent reduction of forestland in the Southeast between 1800-1850; by 1860 an estimated 43 percent of the South was in farmland. In addition, tens of thousands of acres were burned to improve grazing for free roaming livestock.



A chief forest product of the southern coastal plain forests in the early 1800s was turpentine and naval stores.

Wood was virtually the only fuel used in this country until the latter half of the 19th century. Consumption of fuelwood averaged about four cords per person per year through most of the 19th century. In 1800, about 80 percent of the timber removed from the forest was used for fuel. By mid-century, wood still supplied more than 90 percent of the nation's heat energy needs; domestic heating and cooking accounted for the largest use of fuelwood. As fuelwood around the older and larger settlements grew scarce and expensive, cast-iron wood stoves, which were four to six times more efficient in using wood than fireplaces, came into use.

While wood stoves decreased the domestic demand for fuelwood, industrial demands of the forests for iron-making, steamboat and railroad locomotive fuel increased continuously throughout the first half of the century. As the country began to turn to coal, and later to oil and gas, wood dropped from supplying more than 90 percent of the nation's energy needs in 1850 to about 10 percent in 1920. Yet even the move to coal increased the demand for timber in the form of millions of mine props to support deep mining operations in the mountains.

Navel Store Industry Grows

Besides fuelwood, the chief forest product of the southern coastal plain forests in the early 1800s continued to be turpentine and naval stores for waterproofing wooden ships. The turpentine industry could not be duplicated in any other part of the continent outside of the 125-mile-wide longleaf/slash pine belt that followed the coasts from the Chesapeake Bay of Virginia to the Trinity River in Texas. The industry began as mere collection of raw pine sap throughout the Atlantic Coast to be shipped to a centralized iron kettle processing plant in present-day North Carolina. In 1834 an improved process for distilling the turpentine using copper stills resulted in new processing plants all along the Atlantic and Gulf Coasts. This increased the profitability and value of pine trees to local economies.

Extracting gum or pitch was a destructive process during the 1800s. Until the turn of the 20th century, workers gathered the raw pitch by cutting deep boxes into young trees. The weakened trees were thus greatly susceptible to insect and disease attacks, wind breakage and fire, usually resulting in the trees being unusable for lumber production later. A less destructive "cup and gutter method" was developed in 1901 which allowed longer gum production and, later, utilization for lumber. Naval store production and supply eventually exceeded demand when shipbuilders began converting from wooden to steel hull construction. Production peaked in 1875 then began to decline at the turn of the century until pulp mills began producing tall oil as a byproduct in the 1920s.

Also in the early 1800s, use of southern timber for American ship-building grew as the industry expanded and then shifted from the Atlantic to the Gulf Coast. John Landreth was sent by the U.S. Navy in 1818 to survey timber resources along the major river systems in Alabama for large tracts of red cedar, white and live oaks, and longleaf pine that could be used in the new shipyards at Mobile.

Next Issue

The third part of this series of articles on "The Southern Forests" will appear in the Spring issue of *Alabama's TREASURED Forests* magazine.

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Understanding Your Timber

The Key to Getting the Best Price

by BARRETT MCCALL, Forester, Environmental Specialist, Larson & McGowin, Inc., Mobile, Alabama

We recently helped a client sell 45 acres of timber that was a mixture of pine and hardwood. The terms of the contract called for clearcutting all merchantable timber, and we asked potential buyers to provide us with a sealed bid along with earnest money for the rights to this timber. The timber was good quality, but the accessibility of the tract was poor, and logging conditions were only average. The results of the bids were as follows:

Bidder #1	$102,929.17
Bidder #2	$74,375.18
Bidder #3	$64,360.00
Bidder #4	$61,670.00
Bidder #5	$59,529.00
Bidder #6	$57,200.00

The difference between the high and low bids was a whopping $45,729.17. So, where was the market on this day? To bidder #1 the market for this timber, on this tract of land, on this particular day was $102,929.17; but for bidder #6 the market for this timber, on this tract of land, on this particular day was only $57,200.00. What creates this disparity? Is bid #1 a fair price? What about bid #6? What if this sale had not been a bid situation and a buyer had simply offered $61,000 for the timber in a negotiated deal? How can a landowner determine if the offering price is fair? How can a landowner be assured he or she is getting the best price? Does bidding solve all of these problems all of the time?

Consider the typical situation. The timber buyer is almost always a professional who is trained to buy timber and does so on a daily basis. The typical landowner sells timber only once every 8 to 10 years, if not only once or twice in an entire lifetime. The typical landowner simply does not have the same level of experience and understanding about timber as the typical buyer. This is not to imply that the buyer exploits this situation, but when you see such huge price differences in a 45-acre timber sale, doesn't it make sense for the landowner to level the playing field and conduct business from an informed position?

At this point in this article all of our timber buying friends have just let out an awful groan. They are muttering to themselves something along the lines of, "Here go those consultants again with the same broken record about sealed bid timber sales."

In the efforts of fair play and to create realistic solutions, remember that it takes **both** a willing seller **and** a willing buyer to make a timber sale. A landowner usually does not want to be unreasonable with the buyer. It will be very difficult with a hard-line attitude to ever get a good price for your timber, particularly if pine beetles or hurricanes ever put you in a jam and your damaged timber needs salvaging immediately. Understanding the timber market and what it takes to harvest a tract of land correctly will not only help you get a better price for your timber, but will also make you a better seller. Being a better seller makes the buyer's job easier, which in turn makes him more willing to pay top dollar for your timber.

Where to Start?

There are many excellent articles on the subject of selling timber and the one underlying theme which they all describe is the importance of ***identifying your objectives***. Certainly, the main objective is often financial gain, but timber harvesting is an important management tool as well, so planning for what you want your land to be like after the sale becomes equally important. In order to develop a harvesting and sale plan, several pieces of information are necessary:

- How much timber do you have? (You wouldn't sell your cows without counting them.)
- What species are your trees? (Are you selling a brick or a wooden house?)
- What is the quality of the trees? (Are you selling your mint condition 1965 Ford Mustang or your 20 year old hunting truck with the back window broken out?)
- How far is it to the nearest mill? (Location, Location, Location)
- How many other mills are in the area? (Location, Location, Location)
- What is the property's loggability? (Can a buyer drive heavy equipment on the land after a heavy rainfall or only in the driest parts of August and September?)
- What kind of contract should I use: Lump Sum (money up front) or Unit (money as they cut)?
- Should I ask for sealed bids or negotiate the sale?

Answering these kinds of questions help you zero in on the ***value*** of your timber sale. You need to have information on your personal needs and operating constraints (timber supply) and your buyer's needs and constraints (timber demand). Remember, you are trying to identify your niche in what is a much larger timber market containing buyers and sellers "trading" timber every day. You are also gathering the information

(Continued on page 31)

HURRICANE OPAL

Tax Effects to Timber Owners

by DAVE G. BORDEN, CPA and THOMAS R. BORDEN, CPA

October 4, 1995, is not a day that will be easily forgotten by Alabamians, especially Alabama timber owners. Hurricane Opal swept across the Florida Panhandle and drove through the state of Alabama. Spawning tornados, the rapidly moving storm lost little intensity as it headed over land, devastating woodlands in the eastern two-thirds of the state. A trail of uprooted and damaged trees marks Opal's path from the Gulf of Mexico into north Georgia.

The economic losses were substantial. The Alabama Forestry Commission estimates that 242.7 million board feet (International Scale) of Alabama timber were damaged or destroyed, with a dollar loss of $72.7 million. The Commission reports that both hardwood and pine forests received significant damage. Hardwood damage was concentrated in drainage areas and open areas that were moist prior to the arrival of high winds, while pine damage was heaviest in thinned or low density stands.

In addition to timber volume damage, timber owners' losses were magnified by the reduction in price of damaged, salvageable timber. Excess supply, increased logging costs, and damaged timber combined to significantly reduce stumpage prices in the affected areas.

The purpose of this article is to explain the income tax implications for those who have suffered storm damage. It will discuss the various provisions of the Internal Revenue Code that apply to such an event, outline the steps required to claim entitled tax benefits, and review various tax planning alternatives dealing with gains that may result from timber salvage operations.

When Is a Loss Not a Loss?

Alabama timber owners have suffered major economic losses as a result of the storm, but may be surprised to discover that those losses are not deductible on their tax returns. In fact, holders of appreciated timber stands with significant salvage proceeds will likely report taxable gains as a result of the storm.

The reason for this is that the Internal Revenue Code makes a distinction between *economic losses* and tax losses (see Table 1). It also treats losses incurred in profit-making activities differently from those related to personal use property. Further, in cases where a gain is recognized from the salvage of damaged timber, the *involuntary conversion* provisions of the Code (discussed later) offer some relief from detrimental tax effects. Let's examine these rules more closely.

What Does the Tax Code Say about Losses?

Types of Losses—Any uninsured losses on property connected with a trade or business, or property held for investment, are deductible in the year the loss is incurred. For the sake of brevity, we'll refer to these as *business* losses. (The vast majority of Alabama timberland owners who own timber property for investment fall in this category.) Also, losses incurred on property not involved in a profit-making activity are deductible if they are the result of ". . . fire, storm, shipwreck or other casualty or theft." We'll call this last type of loss a *personal* casualty loss. (These rules would apply, for example, to shade trees destroyed at a personal residence.)

Measurement of Loss—The measurement of the loss, whether it is *business* or *personal*, is the lesser of two amounts:

(1) the decline in the fair market value created by the hurricane, or

(2) the cost basis of the property.[1]

The amount determined in (1) or (2) is reduced for any salvage proceeds received on the sale of the timber.

Further, any *personal* casualty loss is diminished by a $100 per casualty deduction and is additionally offset by 10% of the taxpayer's adjusted gross income. The effect of these offsets virtually eliminates most *personal* casualty deductions except in the most extreme of circumstances.

Tax Character of Loss—If the timber was held as part of a trade or business, any loss sustained is an ordinary loss, and is fully deductible in the year it is incurred. Most individual Alabama timber owners, however, hold their timber for investment, and their losses are capital losses. A capital loss is deductible only to the extent of capital gains from other transactions plus $3,000. Any excess capital loss carries forward indefinitely into future years and is deductible with the same limitations.

(Continued on page 26)

[1] *The Internal Revenue Service takes the position that basis should be maintained per unit (i.e., board feet, cords) and any loss should be limited to specific units. However, there is divided opinion judicially about this with some courts taking the position that basis should be determined on a "tract" or "entire property" method.*

Record Keeping—The timber owner will need to maintain records of salvage proceeds from damaged timber on a tract-by-tract basis. The timber owner will also need to maintain separate records relating to the cost of timber or "basis." This is generally the amount the landowner paid for the trees, either when planted or when the property was purchased. If the land was inherited, the basis of the trees is the value of the trees when the former owner died. If the taxpayer has owned the land for a long time, and the trees were not planted but grew naturally, the cost of the trees may be close to zero and no basis may exist.

Special Disaster Area Provision—In counties declared federal disaster areas by the president, taxpayers can elect to deduct their losses attributable to the hurricane on their ***1994*** return instead of their 1995 return. This would be especially beneficial for an individual who had large capital gains in 1994 but not in 1995. By electing to recognize the loss in the earlier year, he would be able to offset the loss against the gains to get more current benefit from the loss. He will have to file an amended 1994 return in order to claim the deduction.

Table 1

A Loss Is Not Always a Loss
Normal Alabama Timber Owner Scenario

TRACT PURCHASE DATA		
40-acre tract of pine sawtimber, purchased in 1986		
Cost basis allocable to timber ($500 per acre)		
Volume per cruise at purchase: 150,000 bd. ft. @ $133 Scribner		$20,000
ESTIMATED VALUE IMMEDIATELY BEFORE STORM		
215,000 bd. ft. @ $325 Scribner		$69,875
STORM DAMAGE ESTIMATES		
Volume damaged: 50,000 bd. ft. @ $325		$16,250
SALVAGE PROCEEDS		
30,000 bd. ft. @ 235 Scribner	$7,050	
40 cords pine pulpwood at $26/cord	$1,040	
TOTAL PROCEEDS		$8,090
	Economic Loss	**Taxable Gain**
Salvage proceeds received	$8,090	8,090
Economic damage to standing timber	(16,250)	
Deductible cost basis (4% growth rate)		(4,640)
NET GAIN OR (LOSS)	(8,160)	3,450

What if I Have a profit?

Many Alabama timber owners will find that they actually have a gain for tax purposes on one or more of their damaged tracts (see Table 1). This will occur when the income received from salvage is greater than the cost basis. In such cases, the owner will have several options for tax reporting.

Recognize Gain—The owner could elect to recognize the gains in 1995. In many cases this may be the wise thing to do. He may have losses on other tracts or investments that will offset the gains, partially or completely. Also, as this article is being written, both houses of Congress have passed bills that would dramatically reduce the tax on capital gains. If something similar to the provisions in these two bills ultimately becomes law, the tax cost of capital gains will be significantly less. It is uncertain at press time whether these provisions will be enacted, and if so, what their effective dates will be.

Reinvest Proceeds and Defer Gain—Involuntary Conversion Provisions—An option for the owner who has a gain from the salvage of his timber is to reinvest the proceeds in a manner eligible for *involuntary conversion* treatment. In general, if property is "converted" into money, by sale or otherwise, any gain realized on that conversion is taxable in the year that the conversion occurs. However, the Tax Code does provide some relief for taxpayers who are forced to sell or exchange their property as a result of an event over which they have no control. Such sales or exchanges are referred to as "involuntary conversions." When your timber is damaged by a storm, you are considered to have suffered an involuntary conversion.

Gains on involuntary conversions can be deferred if the proceeds are invested in property that is ". . . similar and related in use" to the converted property. In the context of timber, conversion proceeds can be reinvested in the following:

- Reforestation or afforestation of land owned or leased by the taxpayer
- Purchase of additional land with an existing stand of timber on it
- Purchase of land for the purposes of reforestation or afforestation.

The proceeds from an involuntary conversion must be reinvested in the replacement property by the end of the second tax year beginning after the year in which the conversion takes place. Since Opal occurred in October 1995, any reinvestment of salvage proceeds by a calendar-year taxpayer must be completed by December 31, 1997.

Even if the entire proceeds from an involuntary conversion are not reinvested in qualifying replacement property, you still may be able to get some benefit from this provision, because the gain recognized is the ***lesser*** of the total gain realized, or the excess of the total proceeds from conversion over the amount reinvested.

Let's look at some hypothetical numbers to illustrate how this works. Assume that you have a tract of timber in which substantially every tree was damaged or uprooted by the storm, and that after the trees have been salvaged, you receive $20,000 in timber sales proceeds. Also assume for purposes of this example that your basis in the timber is zero. Your gain realized from the involuntary conversion is $20,000 (the excess of the proceeds over your basis), and this is the amount you would pay tax on in 1995 if there was no reinvestment.

Now assume that, between now and December 31, 1997, you reforest existing tracts of timber at a cost of $5,000. You also buy a new parcel of land for the purpose of producing timber at a cost of $10,000. Both of these expenditures are considered to be reinvestment in property similar or related in use to the converted

property. Now your taxable gain is $5,000, which is the lesser of your total gain of $20,000, and the uninvested proceeds ($20,000 - $15,000 = $5,000). If you spent as much as $20,000 on replacement property, you would not report any gain from the conversion.

You may want to use the *business* loss rules for one tract of timber, and the involuntary conversion rules for another, depending on whether or not you have a gain or a loss. The key, from an accounting point of view, will be to separately account for the proceeds by tract. If you elect the involuntary conversion reinvestment deferral on your 1995 return, then decide later that you will not reinvest, an amended return is required for 1995. On that amended return, you will pay the taxes on the gains, as well as interest and penalties due to late payment.

The downside of the involuntary conversion is that, while you defer gain, the basis in the replacement property is the same as the original timber tract, zero in the example. Also, in this instance, cost-share assistance in planting the trees, unlike general rules, would be taxable.

Shift timber to lower bracket taxpayer—Another option to diminish the impact of the unwanted taxable gain from damaged timber proceeds is to transfer unsold timber by deed to a lower bracket taxpayer (son, daughter, grandchild, etc.). It is possible, for example, to transfer a timber deed to a parent as custodian for a child under the Uniform Transfers to Minors Act (UTMA). The custodian can then enter into a timber sales contract, and report the gain at the child's presumably lower tax bracket (if child is at least 14 years old). The proceeds could then perhaps establish or augment a college fund for the child.

Conclusion

The tax laws do not always reflect economic realities. However, with careful planning and deductions, some tax payers will realize modest tax benefits associated with tax losses generated by the storm. Others can at least mitigate or eliminate the negative tax consequences resulting from the salvage of appreciated storm damaged timber. As circumstances for each landowner are always unique, each person should consult their tax advisor before taking any tax planning action.

Forest Herbicides

Continued from page 15

important to minimize seedling stress and is listed on most herbicide labels.

Pine Release

Release treatments are designed to free up desirable trees by controlling or knocking back competing vegetation. It is usually performed three to five years after planting and is often employed in stands planted immediately after harvest where no site preparation was conducted. In some cases release is used at the end of the first growing season following planting. Regardless, release should not be confused with site preparation or considered a substitute to achieve the same level of competition control afforded by quality site preparation treatments.

Release treatments generally involve lower herbicide rates than those used for site preparation. However, depending on the situation, the highest release rate for a particular herbicide may overlap the lowest site preparation rate for that same herbicide. Herbicide rate and application timing are critical with release treatments. Some herbicides labeled for pine release can damage or stunt pines if the herbicide is applied before formation of final resting buds in the fall or when the herbicide is applied at a heavier rate than described on the label.

Timber Stand Improvement

Timber stand improvement (TSI) is considered an intermediate stand treatment and is used to improve the quality of a given stand. It has application to both pine and hardwood stands. In most cases, herbicides are used in a directed spray or individual tree or stump application to remove undesirable species within the stand. Often in pine stands, a few distinct species of vegetation (sweetgum, maple, oak, etc.) will comprise the majority of the vegetation to be controlled and will dictate to a large degree the available herbicides to use. Herbicide rates may vary according to both the herbicide used and the method of application. In hardwood stands, TSI can be used to improve species composition. An example could be controlling hickory and blackgum so that a higher portion of the desirable stems in the stand are high value oaks. When used in hardwood stands, care must be taken to avoid damage to desirable trees from herbicide uptake through root grafts. This can be a significant problem if you are trying to maintain quality individuals of a single species while eliminating poor quality individuals of the same species.

Making the Right Herbicide Decisions

Selecting the proper herbicide, rate, and timing to meet your forest management needs is more than a simple flip of the coin. It can be a difficult task, especially if you deal with herbicides on a limited basis. To ensure you meet your objectives, use the services of a professional familiar with forest herbicides. A registered forester or a herbicide representative can help you with a custom prescription that is effective, efficient, safe, and in many cases, backed by guarantee.

Evaluating and Managing Storm-Damaged Areas

by ROBERT L. ANDERSON and PATRICK J. BARRY, USDA Forest Service, Asheville, NC,
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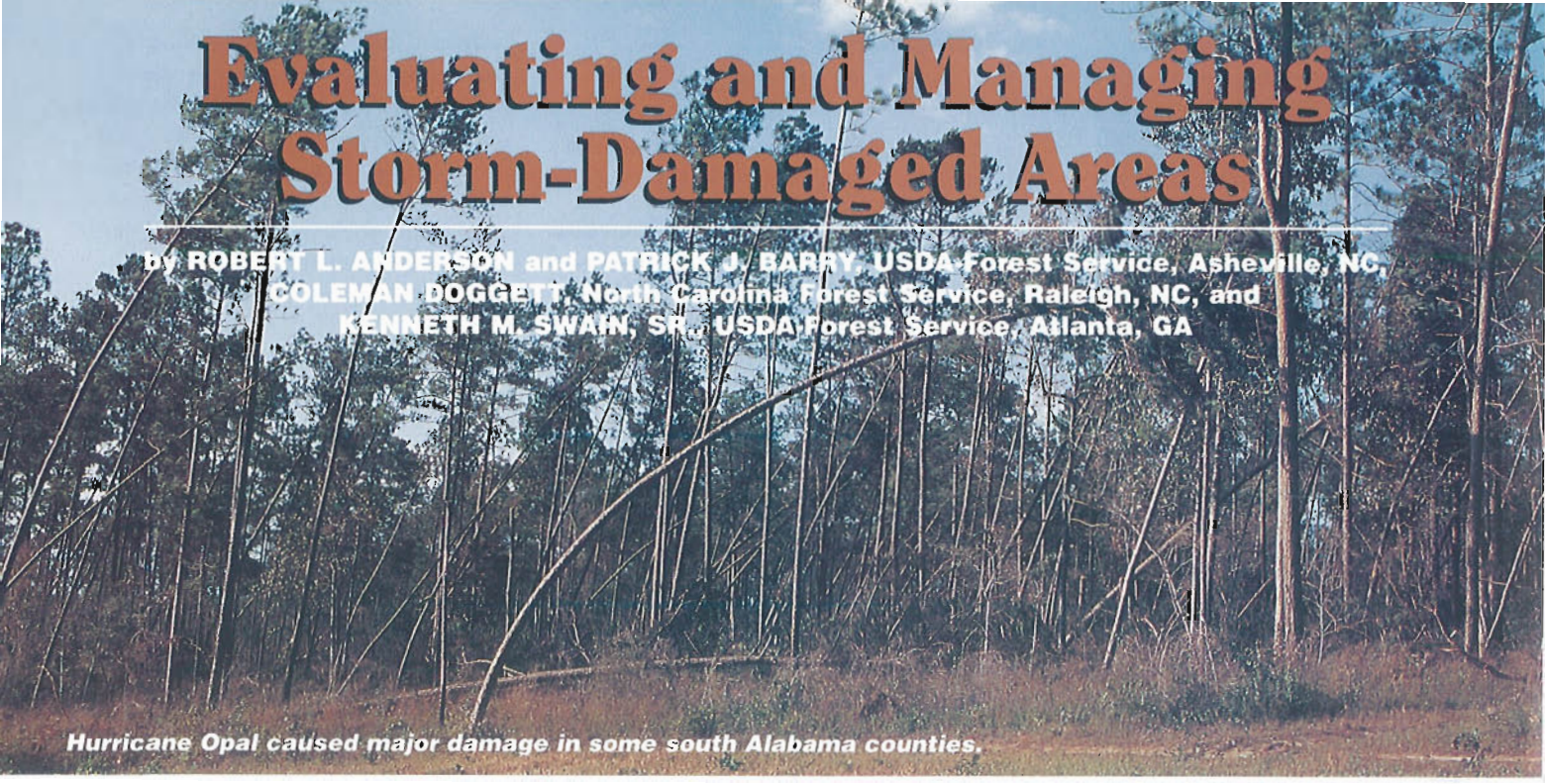


Hurricane Opal caused major damage in some south Alabama counties.

Hurricanes, tornadoes, and ice storms strike somewhere in the South almost every year. Just in the past two years Alabama has been hit by an ice storm, tropical storm Alberto, and most recently, Hurricane Opal. Tornado season in Alabama usually brings several severe storms. All of these types of storms can cause extensive forest damage by uprooting, wounding, bending and breaking trees. Standing water, which often accompanies hurricanes, can cause additional stress and mortality. When one of these natural disasters occurs, it is important to have a plan for managing damaged timber.

Development of a storm damage management plan involves several systematic steps. As soon as possible, the area should be sketch mapped or aerial photographed. The next step is to ground check the damage to determine the need for salvage. Priorities for salvage will depend on location, amount and type of damage, and management objectives. This article contains some methods for managing storm-damaged trees to reduce growth loss, product degrade and mortality. In the process, other factors such as threatened and endangered species must be considered.

Survey the Damage

Two types of surveys, general and intensive, are needed to determine the extent of forest damage from a storm.

General surveys are designed to determine a geographical area affected by the storm. These surveys are very quickly and easily done from the air. Using aerial survey techniques, damaged areas may be sketched on pre-existing maps or photographs, or damaged areas may be aerially photographed. A planimeter or other device is then used to determine areas affected.

A survey of storm damage will help determine priorities for salvage.

Intensive surveys are designed to collect information on volumes of timber damaged and on conditions of surviving trees. Volumes of storm-damaged timber are difficult to estimate with aerial survey techniques because damaged trees are broken and twisted together. It is also difficult to determine tree condition from the air. Consequently, intensive surveys usually require ground-based plots for acceptable accuracy.

Tornado damage surveys are unique because the storm tracks are usually long and narrow with few surviving trees. Volumes of tornado damaged timber may be estimated by taking systematic plots on a transect parallel to the storm track but just inside the damage area.

Breakage

Breakage is the most common type of storm damage. Its impact depends on the degree and pattern of damage as well as the tree species involved.

Breakage inevitably lowers timber values. Breaks are uneven by their nature and occur randomly along the tree bole. The random pattern lowers value since products are normally cut in specified lengths. Breakage also lowers value because difficulty in logging in broken timber slows productivity. Patterns are important when assessing breakage impact. When ice or

strong gale-force winds break trees, break patterns are simple and limited to the area adjacent to the breakpoint.

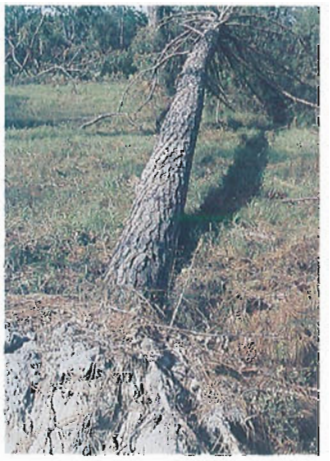
Hardwood trees are seldom killed by breakage. Even when tops are completely gone, new branches will sprout and the tree will recover. In hardwoods, the major problem is that breaks in the trunk or large branches over 3 inches in diameter permit entry of stain and decay fungi. Stain will move vertically from the injury rate of 6 to 18 inches per year, and decay will follow the stain in 8 to 10 months.

Most species of pine will die if tops are completely broken and no live limbs remain. If three or more live limbs are left in the tops of loblolly or slash pines, the chance of survival is excellent (above 75 percent). One of the lateral branches in these trees will become the terminal, and in 8 to 10 years the only sign of breakage will be a sharp crook in the bole at the point where the break occurred. These trees will experience growth losses, however.

Recommendations: For hardwoods, trees with broken tops or branches over 3 inches in diameter should be salvaged during the next scheduled harvest. High-value trees such as those in recreation areas and in yards should be properly pruned to promote rapid healing.

For pines, if three live limbs or less remain, the trees should be harvested as quickly as practical.

Breakage is the most common type of storm damage.



Trees with major root damage should be salvaged as soon as possible.

Root Damage

If they are not salvaged promptly, uprooted trees probably will be degraded quickly by stains, decays, and secondary insects, such as Ips bark beetles, borers, powderpost beetles, and ambrosia beetles. The longer salvage is delayed, the greater the amount of degrade and weight loss from rapid drying. Degrade translates into a stumpage value loss. The amount of degrade that is acceptable to industry depends on the tree species and local markets.

Root-sprung trees will not die immediately, but will show decline symptoms over a period of several years. These trees may be invaded by root rot organisms and subjected to drought stress and insect attack. Root-sprung pines may be invaded by bark beetles and blue stain fungi. These pines can serve as prime habitat for the southern pine beetle and, if conditions become favorable, an outbreak could occur. They can also harbor high populations of turpentine beetles.

Recommendations: Trees with major root damage should be salvaged as soon as possible to avoid growth loss, product degrade, bark beetle attacks and mortality.

Bent Trees

Bent hardwoods are not usually attacked by insects or diseases because they are not in a stressed condition. Pine trees that are bent to the extent that cracks and resin flow occur may be invaded by bark beetles and disease-causing organisms.

Recommendations: Trees under 15 feet in height usually straighten even after severe bending. Taller severely bent hardwoods should be removed during the salvage operation or the next scheduled harvest. Be sure to inspect large pine timber for pitch flow. Many large, green, standing trees may not be usable for veneer, poles, or lumber because of internal ring shake, splintering, and separation of the wood fibers. Often, the only external evidence of such damage is pitch or sap flow where the injury has broken the bark. These characteristics are often overlooked, and considerable losses are incurred during a later harvest.

Managing to Reduce Pest-caused Losses

Storm damage often increases the risk of pest outbreak by weakening the defenses of host trees. Pest infestations will not develop unless suitable host trees are available, so every effort should be made to remove concentrations of susceptible host trees. A well-planned and executed salvage operation can greatly increase a stand's resistance to pest attacks. To ensure effective salvage, we recommend the following approach:

1. Act quickly. Prompt salvage will help avoid losses from degrade and subsequent pest-caused mortality.
2. Measure carefully the extent of the damage before deciding on a salvage operation. A number of factors such as stand age, species, stocking, and management objectives will need to be considered.
3. Salvage the most severely damaged timber first. Concentrate on the pine stands, because they are more susceptible than hardwoods to pest outbreaks. On deep, sandy soils where a stand will be left, the stumps should be treated for annosus root rot control. During salvage avoid damage to residual trees.
4. Complete salvage promptly and in one continuous operation. Bark beetle populations are more likely to build up in the slash and move into healthy trees if logging operations are prolonged or interrupted for periods of a month or more.
5. Follow the practices listed below to ensure that the residual material (slash) will dry quickly. Bark beetle infestations will not build up in dry material.
   - Cut all logs from seriously damaged trees to the minimum merchantable size and remove them from the area.
   - Lop and scatter all harvesting slash and tops into open areas when possible.
   - Scatter large accumulations of slash away from the bases of residual trees, and into direct sunlight if possible.
   - Sever downed trees from roots that could keep them alive.

6. Inspect large pines for pitch flow. Many large, green, standing pines may be unusable for veneer, poles or lumber because of internal splintering and separation of the wood fibers. Often, the only external evidence of such damage is pitch flow where the bark has been broken.
7. Follow the ratings of species resistance to insects and diseases in Table 1 when planning the salvage of timber, especially hardwoods.
8. Consider deducting storm-damage losses on income tax returns. Landowners can secure advice from local foresters, accountants, attorneys, or Internal Revenue Service agents concerning deductible losses.
9. Check for pest activity after salvage operations are finished. Make periodic surveys, either aerial or ground, of the residual stands to check for pest activity. These surveys may be required for up to two years. Trees that are turning yellow, have pitch tubes on the bark, or red boring dust around the base, are probably affected by insects, diseases or both. These trees should be considered for control activities.

Manage to Reduce Hurricane Damage

Tree species vary in their ability to withstand hurricane winds and salt damage. Wind resistance depends on the interaction of five factors: strength of the wood, shape and size of the crown, extent and depth of the root system, previous moisture conditions, and shape of the bole.

No tree species has perfect wind resistance, but live oak, palm, pondcypress, and baldcypress are among the best, as shown in Table 1. These trees combine deep root systems with buttressed trunks (low center of gravity). The wood of live oak is exceedingly strong and resilient. The crown is usually widespread, but this does not seem to negate its strong points. Cypress has relatively weak wood, but its crown is so sparse and its foliage so limber that it is also extremely windfirm.

Shallow-rooted trees are easily uprooted, especially after the soil is saturated by heavy rains. Common shallow-rooted trees along the coast are dogwood, water oak, pecan, sweetbay, and red maple. Common deep-rooted trees are live oak, longleaf pine, and pondcypress and baldcypress.

Trees growing in sandy soils are more deeply rooted than trees growing in soils with an inhibiting clay layer or a high water table. Although rooting habits vary according to the soil profile, each species has a characteristic pattern. Another factor to be considered is the height of the tree. The taller the tree, the greater its chance of breaking, especially if the bole has little taper. For this reason, tall, slim longleaf and slash pines are extremely vulnerable.

Table 1

Resistance of Tree Species to Hurricane-related Damage

(In descending order of resistance)

Flood Tolerant	Breakage	Uprooting	Salt	Deterioration by Insect and Disease
baldcypress	live oak	live oak	live oak	live oak
pondcypress	palm	palm	palm	palm
tupelo-gum	baldcypress	baldcypress	slash pine	sweetgum
sweetbay	pondcypress	pondcypress	longleaf pine	water oak
willow	sweetgum	tupelo-gum	pondcypress	sycamore
sweetgum	tupelo-gum	redcedar	loblolly pine	baldcypress
sycamore	mimosa	sweetgum	redcedar	pondcypress
river birch	dogwood	sycamore	tupelo-gum	southern red oak
cottonwood	magnolia	longleaf pine	baldcypress	magnolia
green ash	sweetbay	mimosa	sweetgum	tupelo-gum
red maple	southern red oak	southern red oak	water oak	sweetbay
pecan	water oak	magnolia	sycamore	hickory
mulberry	sycamore	slash pine	sweetbay	pecan
American elm	longleaf pine	loblolly pine	southern red oak	redcedar
persimmon	slash pine	sweetbay	hickory	red maple
silver maple	loblolly pine	water oak	mimosa	mimosa
water oak	redcedar	red maple	pecan	dogwood
swamp chestnut oak	hickory	dogwood	magnolia	longleaf pine
magnolia	red maple	hickory	red maple	slash pine
hickory	pecan	pecan	dogwood	loblolly pine

Shallow-rooted trees can be easily uprooted by high winds, especially if the soil is saturated from heavy rains.

Open-crowned and lacy-foliaged trees, such as cypress and mimosa, offer less resistance to the wind, and thus are better able to survive. On the other hand, magnolia trees with their heavy, wind-catching foliage are windthrown more than their root system and bole structure would indicate. Palm trees offer little surface to the wind because they have almost no laterally extended crown and branches. This characteristic makes them fairly windfirm, despite their limited root systems.

Based on these observations, the following preventive measures are recommended to forest managers in hurricane-risk areas:

1. Keep a balanced mixture of size and age classes to prevent a complete loss. Young trees are rarely damaged, because they tend to bend with the wind; old trees tend to break or uproot.
2. Where feasible, stagger thinnings to limit exposure of the recently thinned areas.
3. Manage for well-spaced, thrifty trees and, as much as possible, develop a spread of age classes to distribute the risk of wind damage.
4. Consider planting longleaf pine in deep sandy soils, because longleaf has a deep taproot.
5. When planting slash and loblolly, use an 8- by 8-foot or wider spacing.

Summary

No one knows when the next natural disaster may occur, but the tips in this article should help you be more prepared if your forestland is affected. For more information, contact your local office of the Alabama Forestry Commission.

This article was taken from Management Bulletin R8-MB 63, ***How to Evaluate and Manage Storm-damaged Forest Areas,*** *published by the USDA-Forest Service Southern Region.*

Forestry Tag Contest Underway

A contest to design an "Alabama Forests" automobile tag to promote one of our greatest natural resources—trees—is now underway. As many as three winners may be selected to receive a cash prize: first place—$1,000; second place—$500; and third place—$250.

After the tag is designed and produced, it will be available to all citizens of Alabama. Proceeds from the sale of the tag will be deposited in a trust fund for the purpose of accomplishing two things:

- To promote the professional management of our trees and other related resources.
- To educate the general public on the contributions trees and other forest resources make to our economy and the environmental quality of our state.

This method of promoting forest education was made possible when the Alabama Legislature passed a bill during the last legislative session which provided for the distinctive "Alabama Forests" tag, the establishment of a Forest Stewardship Education Fund, and for the establishment of the Alabama Forest Stewardship Education Committee.

All citizens of Alabama, as well as adjoining states, are encouraged to participate in this contest. **The deadline for entries is 5 p.m. February 15, 1996.**

Official contest rules may be obtained by calling or writing Glenda Hughes, Alabama Forestry Commission, P.O. Box 302550, Montgomery, AL 36130-2550; 334-240-9305.

Understanding Your Timber

Continued from page 24

necessary to make future management decisions concerning such things as reforestation, taxes, inheritance, or scheduling more timber sales. Simply, the landowner should know as much as possible about his or her land and timber and how it compares to other land and timber in the area.

Other Points to Consider (Dressing Up the Sale)

Appearance is everything. If you try to sell your house and the beds are unmade and the kitchen is dirty, the house does not show as well as when it is clean. The same holds true for timberland. If you expect a buyer to give your tract a good honest look, fix that big mud hole on the road so he doesn't get his truck stuck. In some cases the landowner might even want to put in a road if access is difficult. It is also advisable to mark the sale boundaries and streamside management zones clearly with both paint and flagging. Don't worry about using too much paint. Well marked trees and boundaries are easier to locate, will make the buyer's job cruising the tract easier, and will drastically reduce logging mistakes. Prescribed fire is another useful tool in pine stands that must be considered early in the planning process. Burning is not only good for forest management, but it also knocks back the underbrush and vines that make assessing a tract difficult.

Timing is also an important factor in getting good prices for timber. In Alabama, we usually have a seasonal adjustment in price with our premiums coming in the late fall and winter. Prices tend to drop off somewhat in the summer. However, if your tract is flooded most of the time, attempting to sell in the winter is not likely to bring you the best price. Knowing your tract's limitations is as important as timing the right season.

Sale Types

There are really only two ways landowners can sell their timber. They can auction it off to the highest bidder or they can negotiate with an individual buyer. Each has its merits and its weaknesses.

Negotiated Sales: There can be several variations on negotiated sales but the central idea is the same. Either a buyer approaches a landowner with an offer and a contract, or the landowner calls several buyers and asks them for a price. If landowners use this approach, it is very important that they know what they own and how it compares to other timber tracts in the area. It is more difficult to answer the question, "Is this a fair price?"

Sealed Bid: The sealed bid is in essence an auction and is the best way landowners can be assured they are getting the best price for their timber on a certain tract of land, on a certain day. However, there has to be a good demand for the timber with several buyers in the area. To the buyer, this is the least desirable type of sale because he has to invest time and money in cruising the timber and preparing a bid that he may or may not win. For that reason this type of sale does not work in all situations. This point holds true particularly if your tract is not in a good location or is in poor condition.

Get Help

Timber is a commodity. It has a market with buyers and sellers. It is a market that is difficult to understand because the buyers are buying the timber and setting prices often for very different reasons. For example, one buyer's mill is about to run out of wood. This buyer may pay more because he knows it will cost him more to shut his mill down than to pay a little extra for your timber and keep the mill open. Another buyer just purchased a tract of timber right up the road from you that will keep him busy harvesting for the next six months. He will be less willing to pay top dollar for your tract.

It is nearly impossible to know all the reasons why buyers pay what they do for a specific tract of timber on any given day. It becomes even more difficult for landowners who only participate in the market a few times in their life.

Level the playing field. Understand how you fit into the larger market. Ask your neighbors about their experiences. Make sure your buyer is from a well-known and reputable company. Ask for references. Go look at other tracts he has harvested. Ask your local Forestry Commission office or county agent for advice. Get help from a professional forester. Call your local consultant. Work at becoming a knowledgeable seller.

THREATENED & ENDANGERED SPECIES

American Hart's-Tongue Fern

by TIM L. GOTHARD, Alabama Forestry Commission

American hart's-tongue fern (*Asplenium scolopendrium L. var. americanum*) is a threatened evergreen fern found in only 21 locations in the United States. Two sites are here in Alabama, one in Tennessee, six in Michigan, and 12 in New York.

The leaves or fronds of American hart's-tongue fern are long (5-17 inches in length), strap-shaped, and arise from a rhizome covered with cinnamon colored scales. The bases of the leaves are lobed. Leaf stems or petioles range from 1-5 inches in length, are green in color, and are also covered by cinnamon-colored scales. Linear groups of spore-producing reproductive structures (sori) are found on the underside of the leaves. The habitat where American hart's-tongue fern is found is characterized by deep shade, continuously high humidity, and moist soil.

The life cycle of American hart's tongue fern is interesting. The species only reproduces through spores and requires cool, moist, calcareous environments in order to develop. Mosses appear to play an important role in the early survival and development of sporelings. Moss beds appear to provide favorable sites for regeneration and development while also providing protection from moisture and temperature extremes. Once established, the sporelings tend to overtake the mosses as they mature.

In all 21 locations, American hart's-tongue fern is found growing in close association with limestone that is high in magnesium (dolomitic limestone). In the northern states all locations supporting the fern are either on or in close proximity to limestone outcroppings. All southern sites are associated with limestone pits or caves. One Alabama site was discovered in 1979 and supported 20 plants. This site supported only nine plants in 1981 and only two plants in 1993. The second Alabama site supported 97 plants in 1981 and only 39 plants in 1990. Reasons for the steady declines are not fully understood, but scientists are continuing to monitor this plant.

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