

ALABAMA'S

TREASURED

FORESTS

WINTER 2003

A Publication of the Alabama Forestry Commission

- INTEGRATING WILDLIFE AND TIMBER
- INVASIVE EXOTICS IN ALABAMA
- PLANNING A HARVEST
- TAX TIPS FOR LANDOWNERS
- SILVOPASTURAL SYSTEMS

A MESSAGE FROM . . .



BOB RILEY
Governor, State of Alabama



TIMOTHY C. BOYCE
State Forester

Alabama is blessed with natural resources. From our pristine forests, to fertile farmland, abundant wildlife, and cool clear rivers and streams, very few states have the natural beauty of Alabama. But our natural resources are not our only asset. One of the most important assets is a group of people that provide a service of protecting our families and our homes - the Volunteer Fire Departments.

There are 992 rural volunteer fire departments in Alabama, providing fire protection to approximately 80 percent of the state's land base. These departments are made up of thousands of men and women who have unselfishly devoted themselves to their community by helping provide one of the most vital needs - fire protection. These people spend hundreds of hours serving and training in the department, as well as their financial resources. As one of the original members of the Ashland Volunteer Fire Department in Clay County, I have a first hand knowledge of the dedication and commitment it takes to be a volunteer firefighter.

In the 2002 fiscal year, our state's volunteer firefighters assisted the Alabama Forestry Commission in saving 1,255 homes and 417 other structures. Aside from fire protection and suppression they prevent fires by educating the public on fire safety. For decades the Alabama Forestry Commission has been one of the major supporters of the rural fire system not only by helping form new departments but also by providing equipment, technical assistance, and financial resources.

In many neighborhoods, the volunteer fire department serves as the heartbeat of the community. I would like to commend each individual and each department for the outstanding job done by Alabama's rural volunteer departments and encourage each citizen to join together in supporting these local heroes. 🙏

When you drive around the state and look at the vastness and abundance of "our" forest, do you ever wonder who owns it? Does forest industry own it? If not, then maybe the government does? Actually, 78 percent of Alabama's forestland is owned by private non-industrial landowners - people like you and your neighbor. This same land helps to make Alabama's forest the second largest commercial forest in the nation, and supports our state's largest manufacturing industry, the forest products industry.

Although privately owned, this natural resource is important to all of the people of Alabama. It provides wood products, jobs, recreational opportunities, clean air and water, and abundant wildlife. Because private landowners play such an important role in maintaining and enhancing our state's forestland, it is extremely important that they are supported in carrying out proper land management while at the same time meeting their objectives.

The Forest Land Enhancement Program (FLEP) is a new program that will assist private non-industrial landowners by providing financial, technical, and educational assistance. This program was established to help state foresters further support and encourage the long-term sustainability of non-industrial private forestlands.

The federal objectives of this program are to invest in practices to establish, restore, protect, manage, maintain and enhance the health and productivity of the non-industrial forestlands in the United States for timber, plant habitat, soil, water, air quality, wetlands and riparian buffers.

The Alabama State Stewardship Advisory Committee has set three priority areas for the funds to be spent: technical assistance, landowner education, and cost-share assistance.

In Alabama, the program will be administered by the Alabama Forestry Commission.

This program is an important step in helping our state's non-industrial private landowners manage their land so that it will not only meet the needs of this generation of Alabamians but for generations in the future. 🙏

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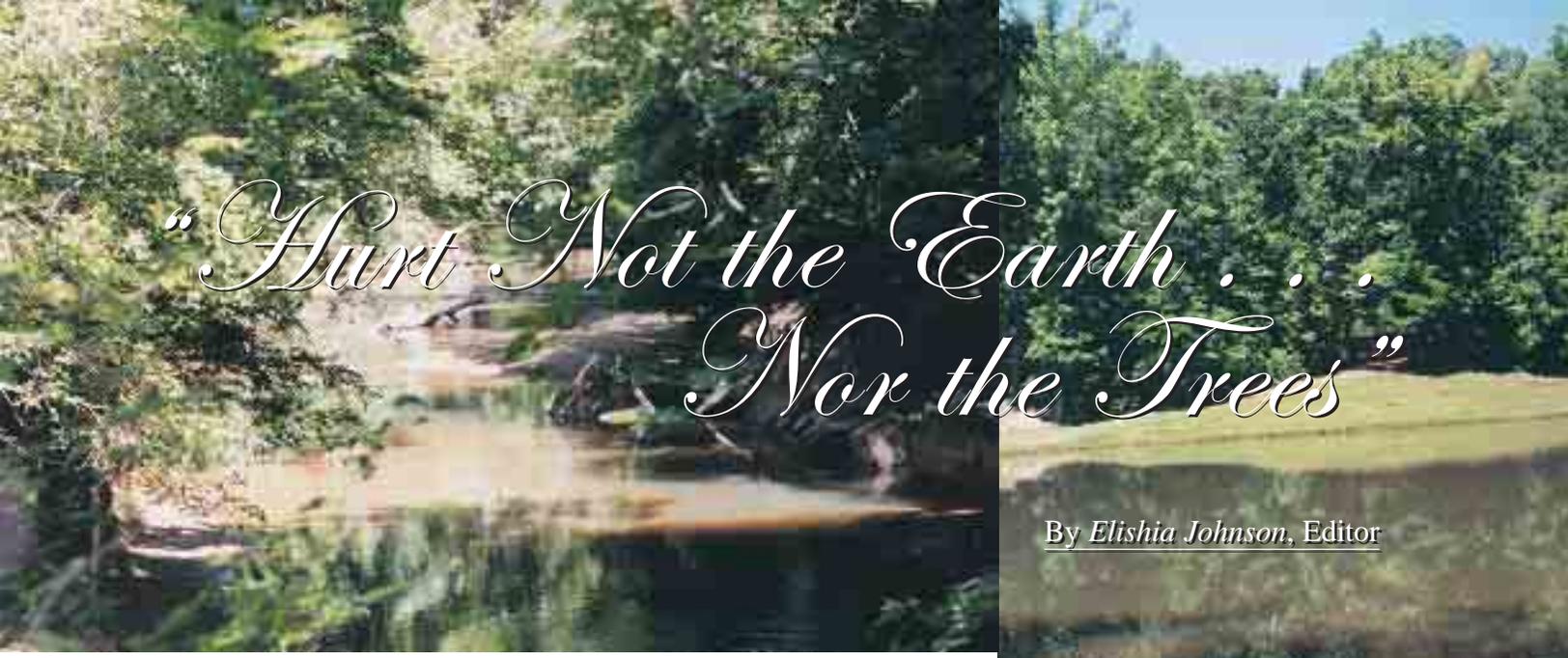
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COVER: Even in the bleakness of winter, one can find beauty in the stillness of nature. *Photo by Coleen Vansant*

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“Hurt Not the Earth . . . Nor the Trees”

By Elishia Johnson, Editor



Photos by Elishia Johnson

It's a little-known phrase from a verse in the Bible, found in Revelations 7:3: "... Hurt not the earth, neither the sea, nor the trees..." It's also the philosophy of Danny and Mildred Baker, owners of JDB Farms in Tallapoosa County and winners of the 2002 Helene Mosley award for the Northeast Region.

According to Milly (as she's known by family and friends), this philosophy goes hand in hand with the TREASURE Forest Association stewardship creed which states, "We do not inherit our land from our ancestors, we borrow it from our children." Certified as a TREASURE Forest in 1999, Danny says he firmly believes in the creed. He feels that it applies to him personally because he DID attain the majority of his land through inheritance.

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Danny proudly traces his ancestry back to his great-great-great grandfather Archibald Baker, who fought in both the American Revolution and the War of 1812. Later, in the early 1880s, brothers Neil Henry Baker and Daniel Baker (Danny's great grandfather) settled in Hackneyville, Alabama. There they opened Bakers' Store, a general merchandise establishment where local farmers traded for supplies such as kegs of coffee, sugar, and meal, shot, powder, even lumber for coffins. Danny states that the store's ledgers go back to 1883 and apparently, it wasn't unusual for farmers to buy enough supplies to last an entire year, trading when their crops came in.

Although the store building no longer exists, the Bakers own the property where it stood in "downtown" Hackneyville. Along with a couple of wonderful

weathered barns, this parcel also includes the "Doctor's Shop" from the early 1900s where Dr. Carey Harlan practiced. One of Danny's goals is to restore this area to be a Pioneer Village of sorts.

Just down the road, Danny and Milly built their home on land his mother deeded to them in 1973, upon his return from the Navy. His parents acquired these 116 acres in the late 1940s and his father planted pines on its barren fields. Although he died soon thereafter, Danny

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Far left: Little Hillabee Creek meanders peacefully alongside the Baker property.
 Left: Ponds were built primarily for wildlife but are now stocked with bream and bass. This large pond is spring fed from the hillside where Danny found remains of an old whisky still!

Right: A tall pine looms over younger naturally regenerated pines that were prescribe-burned a few months earlier. This loblolly is one of the 12 trees per acre left for seed when the land was clear-cut in 1982.



Below: Milly and Danny Baker with son Jamison, a high school senior, accompanied by family pets, Duke and Levi.



Danny built the "privy" down by the gazebo and pond in preparation for a visit by several children from Belarus in 1999 .

believes his father must have had the foresight to know that producing timber would be good business. Danny states that it was obvious at a young age that he too had inherited a strong appreciation of and interest in trees. He recalls as a youngster he and his mother planting 2000 pine seedlings they received from the 4-H program. The plantation's "dividends" paid off more than once as he and Mildred used proceeds from one thinning



to begin building their house, and then several years later they were able to pay off their mortgage from a second "mature" timber sale. However, a few of those 50-year old pines are still standing. Today, approximately 50 percent of this property is in hardwoods.

A few miles away is the Simpson Farm inherited from his mother's family where Danny concentrates his energy on his favorite tree - the longleaf pine. Although this property is currently a nice mix of hardwood and pine, his goal is to eventually have it totally replanted in longleaf. Intrigued with both its history

and hopeful return to glory, he stated, "Longleaf seems to blossom out after burning. They were here in the south in abundance centuries before we were. Lightning caused fires and the Indians even used fire to clean the woods for hunting purposes . . . longleafs thrived at that time. People just don't burn like they used to."

According to Danny, not only is longleaf less susceptible to insects, but it also matures as a better quality wood. Additionally, it draws the highest dollar returns when harvested for power poles and pilings. Besides, there are those potential "bonus" benefits he's looking forward to . . . longleaf pine straw is the prettiest and most durable, and there's not a big supply of it. He hopes to one day rake and sell the straw himself or lease the land to someone who would market it.

Another parcel Danny inherited is the Osborne property he calls the "Cabin Farm." In 1982 when harvesting this 120 acres by clear-cut method, he left 12 seed trees per acre to allow for natural regeneration. Now, roughly 75 percent of the parcel is covered in loblolly pine. In these idyllic woods beside Little Hillabee Creek, Danny built himself a rustic cabin. No telephone, no power, and no neighbors . . . it's the perfect "escape" for Danny to relax and read.

(Continued on page 6)

As much as he enjoys the privacy, he also enjoys sharing this “hidden treasure” with different church, civic, and school groups. Once or twice each year the Boy Scouts camp out here to look for arrowheads and work on merit badges. After they leave, Danny says he enjoys following their trails through the woods and to the creek bank, imagining that the beaten paths they leave behind are similar to the ones left by the Creek Indians who once lived here, hunting and fishing this exact spot.

The Bakers always enjoy having people visit their property. Tours give Danny the opportunity to show off his accomplishments and share his theories on conserving resources. He eagerly discusses the merits of reforestation, windrows, culverts, turnout ditches, fire lanes, and prescribed burns with other landowners – hoping they will get ideas for their own property as well as learn from his mistakes so that they won’t make the same ones. He says just think how great the state would look if all the landowners competed and tried to “out-do” each other with their stewardship efforts!

Danny pointed out that these tours that allow landowners to learn from others’ successes and failures are one of the benefits of belonging to the *TREASURED Forests* Association and the Longleaf Alliance. This is in addition to the valuable information obtained from the educational programs these groups provide. Danny says he has done 99.9 percent of the actual work on his property, but he noted the assistance he has received over the years from the Alabama Forestry Commission, as well as other state and county agencies. (He recalled that it was after receiving his first issue of Alabama’s *TREASURE Forest* magazine several years ago that he was “set on fire” to become a *TREASURE Forest* landowner!)

By now it’s obvious that timber is their primary objective. However, wildlife is viewed by Danny and Milly as being equally important. To this end he has planted about 500 saw tooth oaks and he maintains 10-12 acres in food plots, usually with a deer mix of wheat, oats, rye, and clover. Deer and turkeys are abundant, and the Bakers are pleased to share their property with the Hillabee Hunting Club. They’ve participated in a deer management program for over 18 years. One of Danny’s hobbies is building birdhouses (and benches) from old barn wood. In addition to wood duck boxes, he has also put up houses for woodpeckers, owls, and other birds. The blue bird boxes he constructs have openings protected with copper. According to Danny, this not only keeps the squirrels out, but also looks pretty after weathering.

Milly believes it is vital to give all the creatures a place to live. She hates to see anything happen to trees or animals . . . she wants to help - and preserve - all “wild treasures” – especially the ones within her reach. “So many animals are forced out of their homes by new houses, shopping centers, and the like in the name of ‘progress.’ They need extra care.”

Education being another of their *TREASURE Forest* objectives, each year the Bakers welcome 250-300 fifth graders to their property as part of the “Classroom in the Forest” program. A couple years ago, they invited the FFA Forestry Judging team.

One of the most memorable highlights of sharing their blessings with others occurred in 1999 when the Bakers hosted seven special visitors from Belarus and their host families from the First United Methodist Church of Alexander City. These children were victims of the 1986 Chernobyl nuclear disaster.



Photos by Elishia Johnson

Top: Danny and AFC County Manager Guy Slayden “talk trees” around the fire ring at the Cabin Farm.

Bottom left: Raised on a farm on Sand Mountain, Milly is an animal lover who says she is “more country” than Danny.

Bottom right: Planted near a food plot, netting protects the 500 young saw tooth oaks from birds and squirrels.

Neighbors and family helped entertain them with a hamburger cookout and picnic at the gazebo and a hayride. The children spent the day running in the woods, riding four wheelers, and paddling on the pond with several local children. Although they didn’t speak the same language, Milly said it was wonderful to watch them playing together. Both she and Danny said their hearts were truly touched – this experience made them realize how fortunate they and their own children were.

Danny and Milly have high expectations that their sons Jonathon and Jamison will develop a similar love and deep appreciation of the land. The boys have always enjoyed wildlife and hunting, and the parents noted with pride that both sons have attained Eagle Scout status, an accomplishment that earned Jonathon one rank higher when he joined the Air Force last year.

The Bakers are very appreciative of their inheritance, but more importantly, they hope to leave the earth and the trees a better place for their heirs, as well as pass along their commitment to stewardship. 🌱

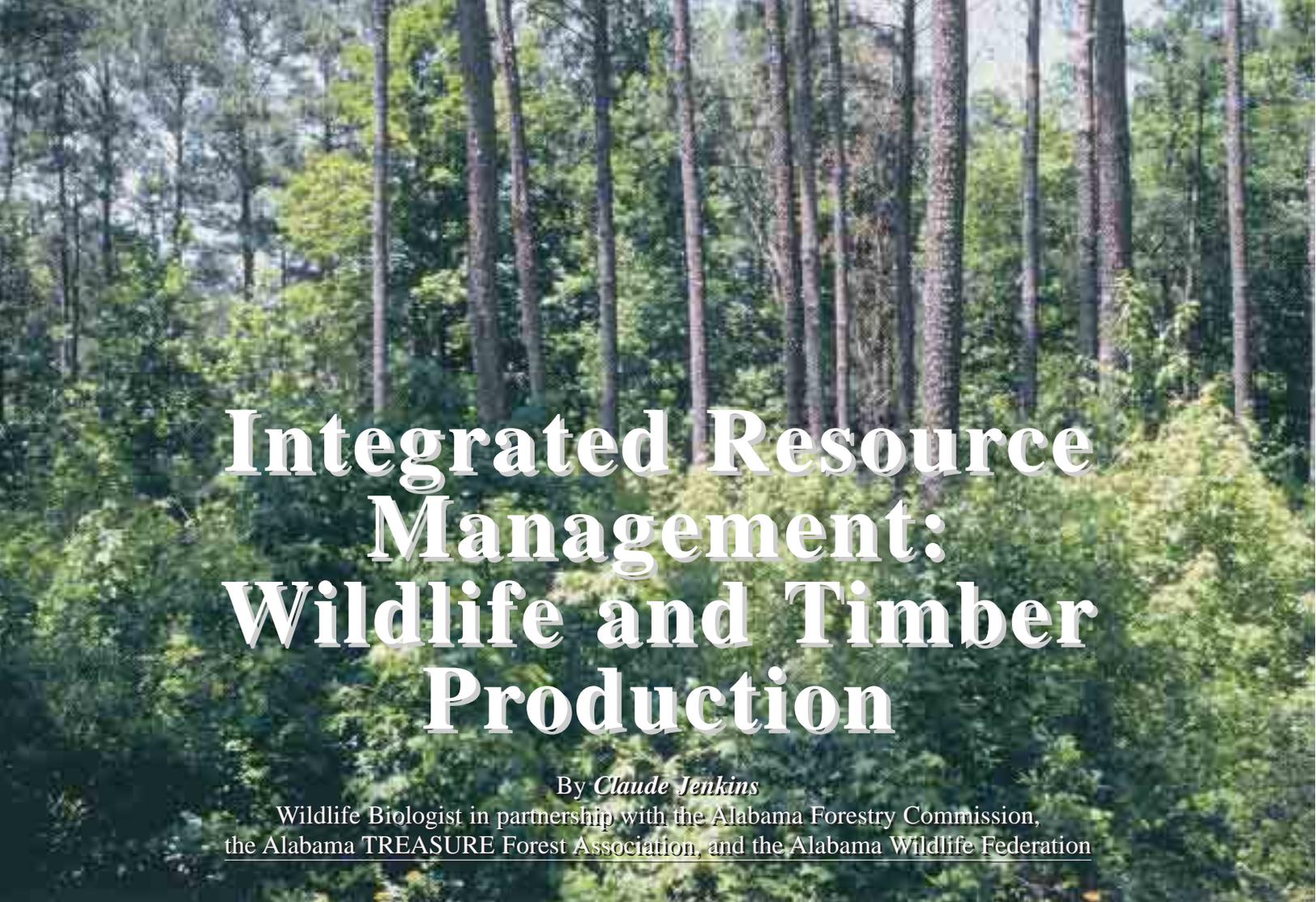


New TREASURE Forest Certifications

Congratulations to the 26 landowners who were awarded TREASURE Forest certification at the January meeting of the TREASURE Forest sub-committee for the year 2003. With these landowners, 25,363 acres were added to the TREASURE Forest program in Alabama. At this same meeting, 74 landowners received re-certification.

This brings Alabama to 1,830 certified TREASURE Forests with a total of 1,783,507 acres of forestland being managed under the guidelines of the TREASURE Forest program.

Landowner	Location of Property	Region	Landowner	Location of Property	Region
Charles G. Bowden	Geneva	SE	<i>JRL Limited Partnership</i>		
William R. Carter	Washington	SW	Lynn & Jesnah R. Looney	Choctaw	SW
Willie & Rebecca Cottle	Covington	SE	William A. Morrison	Randolph	NE
"Crooked Oak"			Mountain Shadows	Blount	NE
Coach Pat Dye	Macon	SE	Maylon Murphy	Pike	SE
A. D. & Miriam Ryals Folmar	Pike	SE	Joe Nicholas	Monroe	SW
<i>Joe Sowell III & Dick Fountain Property</i>			Oasis	Marion	NW
Ted Fountain	Escambia	SW	<i>Ropar LTD</i>		
John Allen & Rosemary Gantt	Covington	SE	Dan Roberts	Coosa	NE
W. Daniel & Paulina S. Gilliland	Tallapoosa	NE	Michael & Sharon Short	Covington	SE
Michael Jones	Covington	SE	Donald Springer	Tuscaloosa	NW
C. Pat Jones	Lauderdale	NW	Tanyard Properties, Inc.	Bullock, Macon	SE
Lillian Lake, LLC	Jefferson	NW	Bruno & Joanne Tropeano	Jefferson	NW
Martha H. Lang	Pickens	NW	Lionel Weil Trust	Elmore	SE
Frank & Brenda Lassiter	Covington, Escambia	SE	Margaret Weil Trust	Elmore	SE
			Harry L. Wyckoff	Tallapoosa, Clay	NE



Integrated Resource Management: Wildlife and Timber Production

By *Claude Jenkins*

Wildlife Biologist in partnership with the Alabama Forestry Commission, the Alabama TREASURE Forest Association, and the Alabama Wildlife Federation

A dense sweetgum understory reduces plant species diversity and leaves few places for wildlife to exist and thrive.

The viability of wildlife populations in Alabama is largely determined by land management decisions of private landowners. According to the 2000 Forest Inventory and Analysis Survey (FIA), conducted by the U.S. Department of Agriculture, Forest Service, 71 percent of Alabama is covered in forests. Of this forestland, 78 percent is owned by private non-industrial landowners. Forest industry owns 16 percent and the remaining 6 percent is public forests. These privately owned forests produce fiber to meet local, state, and global markets, but they also provide habitats for hundreds of wildlife species. So, again, if we are going to impact wildlife populations on a statewide scale, it will be accomplished on private lands.

Roadside Management for Wildlife

After site preparation and two to three years after reforestation, habitat is gener-

ally characterized by an abundance of forbs, legumes, and grasses that provide food and cover for wildlife adapted to early successional forest communities. Rabbits, deer, turkeys, bobwhites, and many non-game birds will utilize such areas. Additionally, raptors, bobcats, and other predators will find small mammals and other food abundant. As pine seedlings grow, however, their expanding crowns shade out plants beneficial to wildlife adapted to these areas. Also, the rapidly growing seedlings out-compete herbaceous plants for water, nutrients, and space. These “pine thickets” consist of dense pine trees, blackberry vines, and shrubs that provide excellent protective cover for deer and songbirds that prefer thick habitat, such as rufous-sided towhees and indigo buntings. Eventually, the pine canopy will completely close and stand-interior habitat will be lost. These conditions are often described as “biological deserts.”

Landowners can maintain wildlife habitat throughout the rotation of a pine stand by implementing a roadside management program. Trees and brush should be removed on both sides of roads (if possible) approximately 30 to 60 feet. Initial clearing of roadsides can be done during a scheduled timber harvest. Once roadsides have been cleared, mow or disk roadside habitat every two to three years to maintain a diversity of weeds, grasses, and vines beneficial to wildlife. According to radio-telemetry studies in Mississippi, turkey use of pine plantations was greatly influenced by the presence of roads. Turkeys tended to utilize plantations if roads were present. The roadsides provided essential brood habitat and food for all age classes of turkeys. Turkeys utilize roads and roadsides as travel lanes to go from one habitat to another. Turkeys can avoid unsuitable habitat by walking on roads that link better habitat.

Roads can be bad for wildlife if access is not controlled. Studies in North Carolina indicate that human disturbance on roads must be limited to benefit turkeys. In areas with excessive traffic, turkey use of roads was minimal. In Virginia, road access was determined to be a key factor in the number of turkeys killed and an increase in crippling losses. As wildlife becomes more visible, people management becomes essential. People can be managed by installing gates on roads to prevent road hunting, poaching, and illegal dumping. Under a roadside management program, a gate will be the most important wildlife management tool.

Understory Management in Production Forests

Commonly, following a thinning operation, sweetgum (and other hardwoods) quickly colonize the understory. Sweetgum is a highly prolific species that out-competes understory plants for water, nutrients, space, and sunlight. Consequently, a dense stand of sweetgum develops, reducing plant species diversity and leaving few places for wildlife to exist and thrive. However, with deliberate management, an understory dominated with sweetgum and other hardwood competition can be shifted to an understory comprised of herbaceous plants beneficial to wildlife. Prescribed fire can be used to kill sweetgums and release plants that provide for-



SMZs provide critical habitats for many wildlife species and contribute to the biological diversity in pine production systems.

age for deer, food and cover for rabbits, and flowering plants that attract a multitude of insects, butterflies, and songbirds. Also, a fire-maintained understory could provide essential nesting and brood-rearing habitats for bobwhite quail and wild turkeys. It will be important that landowners and forest managers implement a prescribed burning program as soon as possible to control hardwood competition. A passive approach to managing forest understories may not be adequate to manage habitats for a partic-

ular wildlife species and accomplish landowner goals. Frequency and timing of burns are important considerations when preparing prescribed burn plans.

With advanced hardwood succession, fire alone may not adequately reduce hardwood competition. Herbicide treatment may be needed to kill hardwoods and set back plant succession. Following herbicide treatment, a prescribed burning program can be implemented to control hardwoods and maintain a desirable understory. Research scientists in the Department of Wildlife and Fisheries at Mississippi State University are in the fourth year of a ten-year study to measure the effects of pine forest management practices on songbird communities. The researchers are monitoring bird response to three competition-control practices in loblolly pine stands: prescribed burning, herbicide treatment, and a combination of prescribed burning and herbicide. All treatments altered the plant community and initial results indicated a reduction in total bird abundance and species richness (i.e. number of species). However, while some species were reduced during the first year of the study, on herbicide-treated plots some species increased including morning dove, eastern wood-pewee, hairy wood-



Prescribed fire can be used to kill sweetgum and other hardwood competition and increase the number of plant species beneficial to wildlife.

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Integrated Resource Management: Wildlife and Timber Production

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pecker, indigo bunting, and great crested flycatcher. The researchers found that a combination of herbicide and prescribed burning had conservation benefits by improving habitat for some species. The appropriate treatment for an area will depend on the species of birds landowners want to manage.

Streamside Management Zones

Streamside management zones (SMZs) are buffer strips of vegetation adjacent to permanent or intermittent streams or other water bodies (sloughs, lakes, etc.) generally composed of hardwoods or mixed pine-hardwoods. SMZs are critical areas because of their ecological significance and the environmental benefits they provide. They help maintain the biological integrity of aquatic environments by stabilizing stream banks and reducing sedimentation, which improves light penetration and productivity of aquatic systems. Woody debris that has fallen into the streams stabilizes

the stream channel and provides a substrate for aquatic invertebrates and cover for fishes.

SMZs provide critical habitats for many wildlife species. They provide seasonal habitats for upland wildlife such as wild turkeys and white-tailed deer. Migratory wildlife such as waterfowl and songbirds depend on these areas for food and cover. SMZs that contain a complex vegetation structure (multiple canopy layers, shrubs, vines, etc.) will provide more available resources for birds with different reproductive and foraging strategies. Trees with cavities provide dens for squirrels and raccoons as well as nests for owls and wood ducks. SMZs serve as travel corridors, linking isolated populations of a particular wildlife species. SMZs with closed canopies, fallen trees, seasonal pools, etc., will provide adequate habitat and protection for many reptiles and amphibians.

A landowner's management goals, site conditions (soil type, slope, ground cover), and other factors will determine the width of SMZs. Although SMZs do

not meet all requirements for every wildlife species, wide SMZs that enhance habitat diversity generally will support a more diverse wildlife community. Landowners interested in protecting the ecological value of SMZs and contributing to the biological diversity in pine production systems should protect these highly critical areas.

Conclusion

Often forest management activities are primarily driven by economic considerations. However, successful integrated resource management requires a more deliberate and pre-meditated approach. Deliberately managing forestland can increase revenue from the timber resource, increase recreational opportunities for consumptive and non-consumptive users, improve environmental quality, and sustain quality wildlife habitat. Because landowners plan for these benefits, they are able to take advantage of the opportunities they provide and ensure a healthy forest environment for future generations. 🌲



Landowners can maintain wildlife habitat throughout the rotation of a pine stand by establishing roadside habitat. These areas can be established during a scheduled timber harvest.



Old Man Winter In The South:

PREVENTING AND TREATING COLD-RELATED INJURIES

By *Coleen Vansant*

Information Manager, Alabama Forestry Commission

Whether you are a landowner, work outside, or just enjoy the great outdoors in wintertime, you could be the victim of hypothermia or another cold-related injury. Hypothermia, although usually associated with cold climates, can set in even here in the warm climate of Alabama. If you spend enough time outdoors you can be susceptible to cold injuries such as hypothermia, frostbite, or immersion foot.

HYPOTHERMIA

Hypothermia happens when your core body temperature falls below normal (usually around 95 degrees F). This can easily happen when you are exposed to cold winds or wetness (especially in water) – even in our Southern climate. Your body automatically begins to shiver to re-warm itself. As your energy is used up to keep warm, you may reach a point where your body will be unable to re-warm itself. If left untreated, your body will gradually shut down and you can die. Humans are warm-blooded animals who maintain a relatively constant internal temperature regardless of the environmental temperature. We do this by producing heat internally by metabolizing food and by adjusting the amount of heat we lose to the environment.

Human cells, tissues, and organs operate efficiently only within narrow temperature limits. If our temperature rises two degrees F above the normal of 98.6, we become ill. If it rises seven

degrees F, we become critically ill. If your temperature decreases two degrees F, we feel cold. A seven-degree F decrease puts our life in jeopardy. The primary way a body can lose heat is through the skin.

The very young, old, and sick have a greater chance of being a victim of hypothermia. The National Institute of Aging estimates that of the 28,000 people hypothermia kills every year, the largest percentage are older people. Some medications, problems with circulation, and certain illnesses reduce the older person's ability to resist hypothermia.

SYMPTOMS

Some of the symptoms of hypothermia to look for include:

- * **Shivering** — an early sign of hypothermia, shivering starts mildly, but can become more severe and finally convulsive before ceasing.
- * **Slurred speech.**
- * **Loss of coordination** — this might begin as difficulty in doing simple tasks such as tying shoes or buttoning a shirt. It can also include stumbling or falling.
- * **Confusion** or decrease in decision-making ability.
- * **Apathy** (the victim not caring about his or her own needs, etc.) and lethargy.
- * **Irrational behavior.**

TREATMENT

If you suspect someone may be a victim of hypothermia the best thing to do is seek medical help **immediately**. This is especially true if the victim is unconscious. If the victim *is* conscious you can do the following things after medical help has been requested.

- * Gently move the victim to shelter. Their hearts are fragile and sensitive to jarring.
- * Remove wet clothes and replace them with warm dry ones, including head and foot coverings.
- * If the victim is alert enough to hold a cup, give warm (not hot) liquids to drink. Sugary drinks, such as warm Tang or Jell-O, are especially helpful. Never give food or drink to an unconscious victim – they may choke.
- * If the victim is conscious and able, help them to walk. Moderate exercise will help to generate heat.
- * If the victim is unable to exercise or is unconscious, place the victim in a sleeping bag or warm blankets to help speed re-warming. Insulate the sleeping bag or blankets with a sheet of plastic above and below. Getting in the sleeping bag or blanket with the victim will help.

(Continued on page 15)



“Pest Plants:” Invasive Exotics in Alabama

By *Fred Nation*
Educator/Naturalist, Baldwin County

Tropical soda apple, left and below, has the potential to become one of the most destructive plants in Alabama. Infestations are usually associated with cattle.

Exotic plants are generally defined as plant species that originated outside of North America, and have been introduced in historic times through human activities. Plants are by no means objectionable simply because they are exotic. Most of our commercial crops such as citrus, potatoes, soybeans, cotton, and the cereal grains came to us from other parts of the world. A few imported plant species have been able to naturalize or become established outside of cultivation. When their numbers increase to the point that they interfere with human activities or cause damage to natural habitats, they become invasive exotic plant species. By developing a general understanding of invasive exotics — what they are and how they behave — landowners and managers may be able to deal more effectively with established infestations or new populations as they appear.

Most noxious invasive exotic plants are well-known to Alabama landowners. This short list also includes a couple of new threats, which should be of great concern to timber and agricultural interests and to those involved in protecting our natural resources.

Invasive Exotic Species of Major Concern in Alabama

Chinese privet, *Ligustrum sinense*. Olive family. Introduced in the 1850’s as a hedge plant. Opposite leaves and masses of small black, oblong fruits are used

for identification. If not controlled, will form dense, pure stands. Related and similar Japanese privet, *L. japonicum*, and European privet, *L. vulgare*, are also invasive in some areas.

Cogongrass, *Imperata cylindrica*. Introduced in 1911 into

Mobile County, Alabama as packing material for plants from the Orient. Showy white spring blooms, dense rhizome mat, and off-center leaf mid-veins are used to identify cogongrass. Infestations burn with extremely hot fires, particularly in winter, that can



Air potato forms massive infestations, similar to kudzu (above left), but more shade-tolerant. The round, potato-like bulbils will sprout (above right), to form new plants.



Above: Flowering cogongrass in April in a Baldwin County pine forest. The off-center midvein (inset) is a good field mark for identification of cogongrass.

damage pine trees and other native vegetation. Incredibly, red forms are sold as ornamental grasses.

Japanese climbing fern, *Lygodium japonicum*. A true fern. Introduced in 1932 as an ornamental from Japan. Leaves (fronds) are to 50 feet or more. Overwhelms small trees and shrubs; alters natural fire regimes by bringing hot fires high into trees.



Below: Very few plants can compete successfully with kudzu. Many people have never seen its pretty late-summer flowers (inset).

Above: Popcorn tree is still planted as an ornamental for fall foliage color. The ripe fruits do resemble popcorn. Below: Japanese climbing fern overwhelms and shades out small trees and shrubs.



Kudzu, *Pueraria montana* (formerly called *Pueraria lobata*). Pea family. Introduced in 1876 as an ornamental. Massive infestations are unequalled by anything in our native flora.

Popcorn tree, *Sapium sebiferum* (also seen as *Triadica sebifera*). Spurge family. Introduced in the 18th century as an oilseed or as an ornamental. Still available and planted as an ornamental. Highly aggressive in some managed pinelands; shades out and out-competes native vegetation in natural areas, particularly wetlands.

Two Recent Introductions of Significant Concern

Air potato, *Dioscorea bulbifera*. True yam family. Introduced in 1905 into south Florida as an ornamental vine. Identification is by alternate, heart-

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"Pest Plants" Invasive Exotics in Alabama

(Continued from page 13)

shaped leaves to 8 inches long, and by numerous nearly spherical potato-like "bulbils" which form along the stems in late summer-fall. Also potentially invasive: winged yam, *D. alata*, is similar with opposite leaves, winged stems, and elongate bulbils, usually in pairs. Both species are planted as ornamental vines. Large, aggressive infestations of *D. bulbifera* have become established in recent years in coastal Alabama. The eventual northern cold limit is not known. ***Air potato should not be planted as an ornamental and existing plants should be uprooted and destroyed. Plants and bulbils should be burned and not placed in compost piles.***

Tropical soda apple, *Solanum viarum*. Nightshade family. First found in south Florida in 1988. An herbaceous shrub, to 3 or 4 feet tall. Leaves have a velvety sheen to about 8 inches long, 6 inches wide, with angular lobes. Leaves, stems, and flower bases are covered with sharp, white or yellowish prickles. Flowers are white, similar to tomato flowers. Developing fruits are greenish, striped, to about 2 inches across. Mature fruits are yellow. Not yet widely established in Alabama. Sporadic infestations are often associated with cattle, manure, or hay imported from other states. ***An eradication program is underway in Alabama. If a suspected infestation of tropical soda apple is found, call your local Agricultural Extension System Office immediately.*** This species has the potential to severely damage natural habitats, and it can reduce the carrying capacity of pastureland by up to 90 percent.

Invasive exotic plants — as a group — share a number of characteristics in common. For example, as the above list makes clear, many were introduced intentionally as ornamentals. Kudzu, to cite one, created a lot of interest when it was introduced during the Centennial Exposition in Philadelphia in 1876 as an ornamental "porch vine." It soon escaped cultivation to become what it is today: a destructive, highly invasive exotic species that has changed the look of the south.

Some Shared Characteristics of Invasive Exotics

Generalists - Able to invade and populate a variety of habitats: wet, dry, salty, fresh, sunny, shady.

Superior reproductivity - Produce copious seeds or spores; many also readily reproduce vegetatively, via rhizomes or other plant parts.

Superior dispersal - Very effective seed/spore transport strategies.

Most undergo a "lag phase" after introduction before absolute numbers begin to explode. Popcorn tree, for example, was here for decades before it was fully recognized as an invasive species. It apparently lurked in the background in timberland and other natural habitats until around 1940 when populations began to increase and spread dramatically.

Human activities encourage the spread of weeds, including invasive exotic species. Drained wetlands, agricultural fields, timber management areas, roadways, lawns, and flower beds all create openings for pest plants. Recently altered areas should be closely monitored for invasive exotics.

Invasive exotic plant species often have no significant predators. When invasive exotics enter a new area, they typically do not bring their predators with them: diseases, insects, etc. In natural areas, invasive exotics — without predators — do not exist within natural ecosystems. Their numbers explode as they overwhelm native plant communities, causing catastrophic reductions in diversity. *This characteristic sets invasive exotic plant species apart, from even our worst native weeds.*

A number of weapons and defense strategies have been developed to control invasive exotics. None is effective in all situations. Two or more control methods are often combined, such as mechanical or hand-clearing, followed by chemical herbicides.

Weapons in Our Arsenal to Control Invasive Exotic Plant Species

Hand clearing. Usually practical only for small infestations.

Mechanical clearing and cultivation. Often used in combination with chemical treatments. Heavy equipment should be used carefully to minimize damage to the land. Frequent tillage can be effective against cogongrass, but guard against plant parts on equipment which can infest new areas.

Fire. Ineffective or counter-productive when used alone, fire can enhance the effectiveness of chemical treatments.

Chemical herbicides. Often the only effective option. Expensive; usually multiple applications are required. Some herbicides require a license, and some can cause collateral damage. Applications can and should be tailored to the individual situation. ***Labels should be read and carefully adhered to.***

Natural/biological controls. Research is underway — may eventually provide the best long-term solutions.

Careful agricultural practices. Agricultural and mowing equipment and the movement of soil can contribute to the spread of invasive exotic species.

Prevention. Monitor the land; learn to recognize invasive exotics when they appear; and deal with them early before they become major infestations. This is probably our best defense.

For major infestations, assistance should be considered from a qualified expert in the control of pest plants. In any case, the site should be carefully assessed. A control prescription should be developed which takes into account such things as the species to be controlled, how the land is used, proximity to animal and human habitation, slope, and hydrology.

Identification and control of invasive exotic plants is a large, complex topic. The Alabama Cooperative Extension System has several excellent publications that delve much more deeply into this important subject. One especially informative and comprehensive reference is "Exotic Pest Plants of Southeastern Forests" by Dr. James Miller of the USDA Forest Service, Southern Research Station, Auburn. This publication is also available on-line at www.invasive.org/weeds/usfsr8/. ☞

Old Man Winter In The South

PREVENTING AND TREATING COLD-RELATED INJURIES

(Continued from page 11)

AVOIDING HYPOTHERMIA

Preventing hypothermia is a lot easier than treating it. There are things you can do to avoid hypothermia. It is very important to guard against dehydration, fatigue, cold winds, and wet clothes.

- * Dress warmly and in layers. Be sure to wear a hat with ear protection, gloves, and warm socks.
- * Stay dry.
- * Protect yourself from wind, rain, and snow. You can do this by wearing clothes that block wind and moisture.
- * Eat high-energy snacks and drink plenty of water.
- * Do not over-exert.

FROSTBITE

Frostbite occurs when tissue is frozen. It acts locally on areas such as fingers, toes, and ears. It is not life threatening, but tissue damage from frostbite can result in loss of function or, in serious cases, gangrene and amputation. Low temperatures, contact with moisture, and wind chill accelerate heat loss and increase the likelihood of frostbite. Some of the causes of frostbite include: cold stress, low temperatures, wind chill, moisture, poor insulation, contact with super-cooled metal or petroleum products, interference with circulation of blood (wristwatches, tight fitting or laced boots), tight clothing, sitting in a cramped position for an extended period of time, and dehydration.

DEGREES OF FROSTBITE

- * First degree: ice crystals form on the skin.
- * Second degree: skin begins to feel warm, even though it is not yet defrosted.
- * Third degree: the affected skin turns red, pale, or white.
- * Fourth degree: pain lasts for more than a few hours, and you may see dark blue or black areas under the skin.

Treatment for frostbite is best done in a hospital. If you suspect you have frostbite, go to your local emergency room for treatment.

IMMERSION FOOT

Immersion foot is a local, non-freezing cold injury that occurs in cold, wet conditions, usually in temperatures of 30 – 40 degrees F. At least 12 hours exposure to cold wet conditions is necessary to produce the injury. People have contracted immersion foot in hip waders and vapor barrier boots. Dry socks and feet provide total protection from this cold injury.

This injury causes a numb or “pins and needles” feeling in the extremity. The skin will feel cold and mottled. When re-warmed the foot becomes red, dry, and painful. An immersion foot should be re-warmed slowly at room temperature. Elevate the feet to reduce the swelling and avoid walking.

COLD-RELATED INJURIES TO ANIMALS

As with humans, animals are also susceptible to hypothermia and other cold-related injuries.

Hypothermia is most likely to affect animals that lose body temperature quickly, especially puppies, cats, small breeds of dogs; shorthaired, older, or injured animals; or any animal that has not been properly acclimated to cold temperatures.

Treatment for hypothermia in animals is the same as that in humans, by warm-

ing the body. For mild cases, this can be done by external means such as hot water bottles or heating pads (not applied directly to the skin). A hair dryer can be directed toward the victim for passive warming. For severe cases or if the animal is unconscious, seek veterinary assistance immediately.

Animals can also be victims of frostbite: usually the pads, toes, tail, scrotum, and ear tips. A short-eared dog is more susceptible to frostbite than a long eared dog. Frostbite tissue on animals appears leathery and the hair may appear white. These areas should be handled gently. The extent of the damage may not be obvious for several days. If any tissue does not start to improve three to four days after re-warming, you should contact your veterinarian. This tissue may have to be amputated to prevent gangrene.

As with humans, preventing cold-related injuries in animals is easier than treatment. A healthy adult dog can become acclimated to cold weather so that it may withstand below-zero outdoor temperatures, if kept in a **well-insulated house**. In cold, windy, wet weather the best thing to do for your outdoor animals is bring them inside a protected, heated, dry area.

Hunting dogs that have adapted to cold temperatures over time can hunt for hours without being adversely affected by the cold, especially if they keep moving and are not allowed to rest on the frozen ground for an extended period of time. 🐾

RESOURCES:

<http://www.crh.noaa.gov/riw/frostbit.htm>

<http://www.nols.edu/Publications/FirstAid/ColdInjury.html>

<http://outdoors.org/activities/hiking/hiking-hypothermia.html>

<http://www.discounts4pets.com>

<http://www.espomagazine.com/vet/jan97.htm>

<http://www.lynseck9.co.uk/Hypothermia.html>



Planning A Harvest

By *Ashley Parkman Smith*
Public Affairs Forester, MeadWestvaco

You don't begin building a house by cutting a bunch of 2 x 4's. You start with a design – a plan that shows what the exterior will look like, the location and size of each room, where the plumbing and wiring will go, and how all the pieces will come together to make a home.

The same is true with timber harvesting. You don't begin by felling a bunch of trees; you begin with a plan. What are the landowner's objectives? What is the

age and health of the stand? What about the topography, soils, streams, and roads on the site? What wildlife and aesthetic considerations exist?

The main goal of harvest planning is to ensure that the landowner's needs are met. A carefully crafted harvesting plan defines the landowner's objectives, and provides a road map for forester and logger as they begin harvesting operations. So what exactly do foresters need to consider when laying out a timber sale?

A key element of any harvest plan is the protection of water quality and maintenance of soil productivity. The two are closely linked, since water quality can be adversely affected by soil erosion during forestry operations. The forester's best line of defense against soil movement is the use of Best Management Practices (BMPs). BMPs are state guidelines, sometimes regulatory and sometimes non-regulatory, that provide important guidance during harvesting operations.

Using BMPs when planning a harvest helps to maintain water quality, promote soil productivity, and prevent erosion.

To protect water quality, foresters begin by identifying any streams on the property and delineating Streamside Management Zones (SMZs). SMZs are defined on tract maps and marked in the woods with paint or flagging. The establishment of SMZs helps protect waterways by providing a buffer between the harvest operation and the water. SMZs also provide habitat for wildlife alongside the stream.

Sometimes it is necessary for heavy logging equipment to cross a stream during the harvest. If that is the case, the forester must pick a location that will prevent sediment from entering the waterway. Good design, construction, and maintenance of forest roads protect both water quality and the initial investment in the road. During harvest planning, decisions will be made on who will handle road responsibilities. In some cases, the logger can maintain the road; in other cases, a road contractor may be requested.

After water quality is planned for, weather must be taken into consideration. Certain soil types should only be harvested during dry weather. If harvesting will occur during a wetter period, foresters will require certain techniques to make sure the soil is not compacted or disturbed. For example, the logger can distribute the limbs and branches of the trees on the ground to cushion the impact of equipment and reduce the risk of rutting. In clearcut or final harvest situations, the soil type should be evaluated to make sure the next forest has the best possible scenario for regeneration.

For many landowners, increasing the amount of habitat for wildlife is a major goal. Harvest practices that benefit wildlife can be factored into the plan. These items may include creating openings for food plots, altering clearcut size and shape to improve habitat, incorporating wildlife corridors, and widening or lengthening SMZs. A landowner might also choose to retain “snags” or dead trees which can serve as perches for birds or den trees for mammals. In order to maximize the wildlife enhancement possibilities, these actions should be a part of the harvest plan and not merely done as an afterthought.



Before beginning any tree harvest, landowners should consult a professional to ensure not only that their objectives are met, but also that sound stewardship principles are followed.

Harvest planning is also the time to survey the land for the presence of any threatened or endangered species. An “endangered” species is one that is in danger of extinction throughout all or a significant portion of its range. A “threatened” species is one that is likely to become endangered in the foreseeable future. If an endangered or threatened species does exist on the tract, precautions must be taken to ensure that its habitat is not disturbed.

Finally, the overall look of the job should be taken into account. Along well-traveled roadways, alternatives to clearcutting may be considered. Using SMZs and other natural features such as aesthetic buffers can also reduce the visual impact. Other ways to make a harvest site more attractive are to create small and irregularly shaped harvest areas, and to leave any trees that are special or that add beauty or charm to the site.

Once all of the tract considerations have been made, the forester must coordinate the harvest operation with the appropriate logger. The type of equipment that the logger owns determines the type of operation for which he will be best suited. For example, if a tract of timber were being thinned, a logger with smaller equipment would be the obvious

choice so that the residual trees would not be damaged. For a clearcut operation, a crew with more efficient equipment might be the choice. Timing issues also become a part of the planning process since each harvest operation takes a different amount of time to complete, and weather dictates the decision of whether or not to harvest on certain tracts. After all pieces of the harvest planning process have been determined and a logger has been selected, the logger is given a copy of the harvest map and a list of any special considerations. A meeting with the logger, forester, and the landowner prior to harvest eliminates misunderstanding.

Landowners are the best judges of their own land. They know its resources and what they wish to protect, and they are committed to sound stewardship principles like the protections of soil and water, the enhancement of wildlife habitat, and the aesthetic quality of their property. Incorporating these stewardship principles into harvest planning is the responsibility of the landowner and the forester working together. Their partnership in planning the future of the forest is a large part of ensuring that the forest will remain sustainable for many years to come. ♣

Tax Tips for Forest Landowners for the 2002 Tax Year

By *Larry M. Bishop*

Forest Management and Taxation Specialist, USDA Forest Service

Here is some information to keep in mind when you prepare your Federal income tax return for the 2002 tax year. This discussion is necessarily brief, and you should consult other sources for a more comprehensive treatment of the issues. This information is current as of December 1, 2002.

Basis and Tax Records

Part of the price you receive from a timber sale is taxable income, but part is also your investment (i.e., basis) in the timber sold. Allocate your total costs of acquiring purchased forestland—or the value of inherited forestland—among land, timber, and other capital accounts as soon as possible. Adjust this basis up for new purchases or investments and down for sales or other disposals. When you sell your timber, you can take a depletion deduction equal to [(Adjusted basis divided by Total timber volume just before the sale) times (Timber volume sold)]. Good records include a written management plan and a map of your forestland. Keep records that support current deductions six years beyond the date the return is due. Keep records that support your basis six years beyond your period of ownership. Report basis and timber depletion on IRS Form T (Timber), Schedule B.

Passive Loss Rules

The passive loss rules are too complex to cover in detail here, but what follows is a very brief summary. Under the passive loss rules, you can be classified in one of three categories: (1) investor, (2) passive participant in a trade or business, or (3) active participant (materially participating) in a trade or business.

The law's intent is that you are "materially participating" if your involvement is regular, continuous, and substantial; however, a low level of activity is adequate if that level is all that is required to sustain the trade or business. This means that record keeping is very important! To

show material participation, landowners will need to keep records of all business transactions related to managing their timber stands. Likewise, it would be a good idea to keep records of other business-related activities such as landowner meetings attended, odometer readings to and from meetings, cancelled checks for registration fees, and copies of meeting agendas.

Generally, you will get the best tax advantage if you are "materially participating" in a timber business because all management expenses, property taxes, and interest on indebtedness are fully deductible against income from any source. However, if you are "materially participating," you must dispose of your timber under the provisions of Section 631 to qualify for capital gains. (This means that you must sell your timber on a "pay-as-cut" or "cut and convert" basis, rather than lump sum.) If you have considerable passive income (such as annual rental payments), it may be to your advantage to be considered "passive." Most of the discussion that follows applies to forest landowners who are "materially participating."

Reforestation Tax Credit and Amortization

The reforestation tax credit and seven-year amortization is one of the best tax advantages for forest landowners. If you reforested during 2002, you can claim a 10 percent investment tax credit for the first \$10,000 you spent for reforestation during the tax year. In addition, you can amortize (deduct) all of your 2002 reforestation costs (up to \$10,000), minus half the tax credit taken, over the next seven years (actually eight tax years). The election to amortize must be made on a timely tax return for the year in which the reforestation expenses were incurred. Elect to amortize reforestation expenses on Form 4562. (Passive owners may or

may not be eligible for the amortization and credit).

Here's how it works. Assume you spent \$4,000 to reforest a cutover tract in 2002. You claim a \$400 tax credit (10 percent of \$4,000) for 2002. You can also deduct 95 percent of these reforestation costs over the next eight tax years. Due to a half-year convention you can only claim one-half of the annual amortizable portion for 2002. This means that on your 2002 tax return you can deduct one-half of $(0.95 \times \$4,000 \div 7)$ or \$271. For the next six tax years you can deduct $(0.95 \times \$4,000 \div 7)$ or \$543, and the remaining \$271 can be deducted the eighth tax year.

The annual reforestation amortization is claimed on Form 1040 on the line for adjustments rather than being claimed on Schedule A under miscellaneous deductions. (If you use Schedule A for this purpose, you can claim only aggregated miscellaneous deductions that exceed 2 percent of adjusted gross income). Use Form 3468 to claim the investment tax credit.

Any reforestation costs exceeding the \$10,000 annual limit should be capitalized (entered into your timber account). You can recover (deduct) these costs when you sell your timber.

A final word of caution: the tax credit and seven-year amortization deductions are subject to recapture if you dispose of your trees — within five years of planting for the credit and within ten years of planting for the amortization.

Capital Gains and Self-employment Taxes

If you report your timber sale income as ordinary income, you could pay significantly more in taxes than you would if you report it as a capital gain. Also, capital gains are not subject to the self-employment tax, as is ordinary income. The net self-employment tax rate for 2002 is 15.3 percent for self-employment income of \$400 or more. The rate consists

of a 12.4 percent component for old age, survivors, and disability insurance (OASDI) and a 2.9 percent component for hospital insurance (Medicare). The maximum income subject to the OASDI component of the tax rate is \$84,900, while the Medicare component is unlimited. However, if wages subject to Social Security or Railroad Retirement tax are received during the tax year, the maximum is reduced by the amount of wages on which these taxes were paid. To qualify for long-term capital gains treatment, timber sold after December 31, 1997 must have been held longer than 12 months. The maximum long-term capital gains rate for timber sold in 2002 is 20%. (For taxpayers in the lowest income bracket, the maximum rate is 10%).

Cost-Share Payments

If you received cost-share assistance under one or more of the Federal or State cost-share programs during 2002, you may have to report some or all of it as ordinary income. You have two options. You have the option to include it as income and then recover the part that you pay plus the cost-share payment through the amortization and reforestation tax credit already described. You also have the option to exclude the "excludable portion" from income if certain conditions are met. These conditions are (1) the cost-share program has to be approved for exclusion by the IRS and (2) the maximum amount excludable per acre is the greater of: (a) the present value of \$2.50 per acre or (b) the present value of 10 percent of the average income per acre for the past three tax years. This second requirement gets rather complicated because you have to determine an appropriate interest rate to compute the present values. Programs approved for exclusion by the IRS include the Forestry Incentives Program (FIP), the Forest Stewardship Incentive Program (SIP), the Wetlands Reserve Program (WRP), the Environmental Quality Incentives Program (EQIP), and the Wildlife Habitat Incentive Program (WHIP), plus several state programs (check with your local county office of the Alabama Forestry Commission for approved programs). Generally, if you harvested the tract within the last three years, probably all of the cost-shares received can be excluded from income. In

some cases, taxpayers may be better off to exclude cost-share payments. Other taxpayers may be better off not to exclude cost-share payments. Instead, they may be better off to claim the cost-share payments as part of the reforestation tax credit/seven-year amortization. The important point here is: You must report cost-share payments. If you decide to exclude, attach a statement to your return that states specifically what cost-share payments you received, that you choose to exclude some or all of them, and how you determined the excludable amount.

Conservation Reserve Program

If you planted trees during 2002 under the Conservation Reserve Program (CRP), you must report your annual payment as ordinary income. If you received CRP cost-share assistance funds for planting your trees, you must also report these as ordinary income. CRP cost-share payments used to establish trees can be claimed as part of the reforestation expenses reported for the reforestation tax credit/seven-year amortization. Farmers may treat expenditures for soil and water conservation on farmland as expenses in the year incurred, rather than capitalizing them (CRP expenditures qualify). However, the amount deductible in any year shall not exceed 25 percent of the gross income from farming.

Casualty Losses

A casualty loss must result from some event that is (1) identifiable, (2) damaging to property, and (3) sudden and unexpected or unusual in nature. Examples include wildfire and storms. A 1999 Revenue Ruling identified the depletion block — the unit you use to keep track of the adjusted basis of the affected timber — as the appropriate measure of the "single identifiable property damaged or destroyed" in calculating a casualty loss deduction.

The IRS has issued Revenue Rulings on southern pine beetle losses in timber stands, drought losses of planted seedlings, and casualty loss deductions. It ruled that beetle and drought losses generally do not qualify for a casualty loss deduction because they are not sudden. They may, however, qualify for a business- or investment-loss deduction.

Management and Maintenance Expenses

Generally, your annual expenses for the management and maintenance of an existing stand of timber can be expensed or capitalized. In most cases, you are better off to expense those costs during the tax year they are incurred, rather than capitalizing them. If it is not to your advantage to itemize deductions for 2002, you should capitalize these expenses. If you choose to itemize deductions, you can deduct these expenses, but the passive loss rules apply.

Conclusion

Congress provided these favorable tax advantages to stimulate increased productivity from the nation's privately owned forestlands. When you take advantage of these favorable provisions you avoid paying unnecessary income taxes, and you earn more income from your woodland operations. ♣

REFERENCE

Haney, H. L., Jr.; Hoover, W. L.; Siegel, W. C.; and Greene, John L. 2001. Forest Landowners Guide to the Federal Income Tax. Agric. Handb. 718. Washington, DC: U.S., Department of Agriculture. 157 pp.

(This handbook is available for sale from the U. S. Government Bookstore at 404-347-1900. The price is \$20.00 per copy. Major credit cards are accepted.)

TAX INFORMATION ON THE INTERNET

USDA Forest Service publications are available at: www.fs.fed.us/spf/coop and www.southernregion.fs.fed.us/spf/coop/taxation

IRS publications and forms are available at: www.irs.gov

National Timber Tax Site is located at: www.timbertax.org

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Silvopastural Systems: A New Idea in Multiple-Use Management

Photo by Dana McReynolds

By Dana McReynolds

Outreach Forester, Alabama Forestry Commission, Northeast Region

Perhaps the emphasis of multiple-use management is redundant. We keep hearing the importance of diversifying land management activities for the benefit of both the landowners and the environment. The Alabama Forestry Commission and the

Alabama TREASURE Forest Association encourage forest landowners to diversify their land management practices. There is even an award, the Helene Mosley Memorial TREASURE Forest Award that is recognized statewide for outstanding landowners that continually

manage their land through these practices. Other agencies and universities are also stressing the same concept but to a broader range of landowners.

For the landowners that own pastureland or cropland, the multiple-use management regime for this type is “agroforestry.” Agroforestry encompasses a broad range of land development practices. It is the general idea of diversifying land management activities on the same acreage simultaneously to increase economic return while meeting environmental goals. This practice can incorporate timber management with cropland or pastureland. To be more specific, however, there is a particular agroforestry system that entails the management of timber production with pastureland only and that is “silvopasture.” Silvopasture integrates trees with livestock grazing and forage production. It is currently the most rapidly growing and most common form of agroforestry in the South.

The silvopastural system can be developed from a pasture with the incorporation of trees or from a forest with the incorporation of forage. Why is there such an emphasis for landowners to incorporate a silvopastural system? As mentioned earlier, there are many benefits both economically and environmentally for landowners to diversify their management activities.



Photo by Dana McReynolds

Elliott Salter's goats happily greet him at their trough as he prepares to treat them with supplemental feed.

Economically, the landowner increases the potential of receiving a return not only periodically but annually as well. Especially for landowners that own small acreages, livestock management can enhance annual cash flow that may be limited in timber production. Another important reason to diversify management activity is to provide financial stability in an unstable economy. Livestock and timber prices constantly fluctuate, but not necessarily in the same direction at the same time. There may be an economic period where timber prices are low while livestock prices are high or vice versa. Management diversity will compensate for these fluctuations.

Environmentally, a silvopastoral system may reduce excessive erosion and understory vegetation. If understory vegetation is reduced, there will be little need for prescribed burns and herbicide treatments. In an improved pasture where fertilizer is applied, not only will the forage benefit from this practice, so will the trees. Both the trees and the forage will experience accelerated growth. Eventually, this repetitive management activity will provide high-quality forage yields and timber products.

Under certain management regimes, a silvopastoral system and a wildlife habitat can co-exist in a healthy environment. Even though livestock and wildlife management seem to overlap and compete



Photo by Dana McReynolds

Great Pyrenees dogs guard the goats for Rosalind Peoples at her Fayette County farm.

with one another, in certain systems wildlife management is enhanced. With large edges and many openings that are characteristic of most silvopastoral systems, the land may actually be more conducive to wildlife than the traditional forest or pasture.

In a silvopastoral system, livestock can include horses, goats, cattle, or sheep; but in the south, cattle - along with southern pines - is the most common. However, with the new emergence of immigrants and the increased demand for goat products, many southern landowners are converting their silvopas-

tural system from cattle and pine to goat and timber. Three landowners from different areas in Alabama at different stages of management give their personal account about their goat and timber silvopastoral system.

The Peoples

Grady and Rosalind Peoples of Fayette County had forestland predominantly, but recently decided to convert it into a silvopastoral system. In July of

(Continued on page 22)



Photos by Dana McReynolds



Left: Doris Smith with her prize-winning Billy, a purebred Boer, at "Lower Forty Farms." Right: The play area Mrs. Smith set up for her goats with the natural upland hardwood forest in the background.

Silvopastoral Systems: A New Idea in Multiple-Use Management

(Continued from page 21)

2001, they integrated goats with timber. They cleared approximately 12 acres of underbrush and established both permanent and electrical fencing; however, there is still a variety of understory vegetation and kudzu on their land.

Mr. and Mrs. Peoples purchased several purebred and mixed-bred Boer goats and placed them on their property. Immediately, the goats began to clean up the brush by browsing on the forage and the kudzu. Rosalind Peoples stated, "The goats absolutely love the kudzu and it's high in protein. Since the goats are eating the underbrush and the kudzu, herbicides are not needed to control such unwanted species." Also, expenses are decreased since money is not spent for herbaceous spraying or prescribed burns.

Although still in the early stages of managing their silvopastoral system, the Peoples are already receiving income from their practices. They receive income from selling Great Pyrenees guard dogs (used as shepherd dogs for flocks) as well as from selling their Boer goats. Even though they have been managing their land for over a year, Mrs. Peoples said that they are still making improvements on their property. They plan to develop an old spring providing better water access for the goats and to enclose 20 more acres of land. With persistence, soon the Peoples will have a well-accomplished silvopastoral system.

The Salters

Elliott Salter from Crenshaw County is currently establishing a silvopastoral system from his forestland. He definitely believes in management diversity since he is a prospective TREASURE Forest landowner. Mr. Salter's property consists of several pine plantations, some planted under the Conservation Reserve Program (CRP) and some planted under the Forestry Incentive Program (FIP), commonly known as the "Cost Share" program. He has applied to be a participant in another program, the "Silvopasture

Study" sponsored by Alabama A&M University.

Already having five acres enclosed with electrical and permanent fencing, he plans to enclose three more acres. Mr. Salter has started establishing his silvopastoral system by purchasing a few goats and he plans to continue his progress by purchasing more purebred goats. The goats can graze in the pasture



Photo by Dena McReynolds

or in his natural stand, but not in the CRP or FIP pine plantations. He does not want the goats to consume any vegetation that was treated with herbicides. The goats can "clean up" the underbrush in the forest to the point where burning and herbicides will not be needed.

The Smiths

Landowner Doris Smith of Marengo County has established her silvopastoral system quite differently. The Smiths own pastureland with native trees. They converted their livestock management

approximately seven years ago when they sold their cattle and purchased five goats. Mrs. Smith was the first landowner in her area to manage a goat and timber silvopastoral system. She has been an innovator and an advocate for this type of management practice.

Mrs. Smith admitted that she knows more about raising goats than she does about timber management, and most of this knowledge comes from personal experience. Even though there is little timber management being done, there does exist a beautiful stand of natural upland hardwoods. The goats graze in the pasture near the house and on the forage in the forest. The goats really prefer to graze "up" as opposed to grazing in the pasture because they are really browsers. She stated that the goats really love the honeysuckle and the acorns that exist in the forest. With the upland hardwoods being such a great habitat for wildlife, do the goats compete with the wildlife for food? "Not at all," said Mrs. Smith, "there is enough forage for both the goats and the wildlife." Besides, the goats have two other food sources, one from the pasture and another from the feed. Competing for space is not a problem either. Few confrontations occur between the domesticated goats and the existing wildlife since the guard dogs are there to ward off any potential predators.

Doris Smith absolutely loves her work and it is reflected in her accomplishments. Not only is she persistently working, she is also informing and educating other landowners about the goat and timber silvopastoral system. As an innovator in this field, she wants to continue teaching others about raising goats and has done so through her presentations at several goat workshops. With her experience, knowledge, and direction, other landowners will establish and eventually accomplish a silvopastoral system as successful as hers. ♪

Measuring Direction: *Azimuth & Bearing*

By *Douglas A. Smith*

Fire Operations Officer, Alabama Forestry Commission

In a previous article, we discussed “North” in relation to using a compass. The next step in the process of proper use of a compass is the understanding of direction and how to measure it. The process includes some simple math but may seem difficult when learning from a narrative. Follow step by step, like assembling a child’s swing set (the difference being, the end product will not have left over parts!).

DIRECTION is the measurement of an angle on a horizontal plane from a base direction. It may be expressed in the form of an azimuth or a bearing. Each is described in detail. In either case there are four Cardinal Directions:

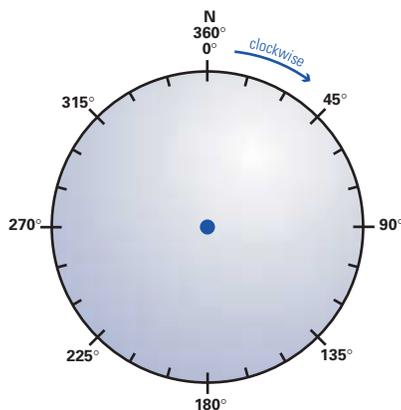


Figure 1
Winter 2003

North, East, South, and West. They may always be expressed as Due North, Due East, Due South, and Due West. They correspond to 0° , 90° , 180° , and 270° . The best tool for practicing the mathematics of angular direction is an inexpensive compass. Favor one with a full 360-degree circle. They are inexpensive and available in the school supply section of your local store.

Azimuth

Direction expressed as an azimuth is measured starting at North, in a clockwise direction through a full 360° circle. It assumes that you, or the point you are measuring from on the map, are at the center of the circle. See Figure 1.

In Figure 2, “A” is an azimuth of 45° . That means that you are at the center of the circle, you hold your compass level (on a horizontal plane), point your North arrow at North and read clockwise, from the base direction (North), 45° . If you traveled along that line, you would be traveling on an azimuth of 45° . A measurement to line “B” produces

an angle or azimuth of 90° . “C” is 225° and “D” is 315° . Take your compass or protractor and practice.

Bearing

It is fairly common to hear someone say, “Let me get my bearings.” They simply mean that they need a moment to gather their thoughts and organize the direction of their next action.

The formal measurement of bearings is also associated with the measurement

(Continued on page 26)

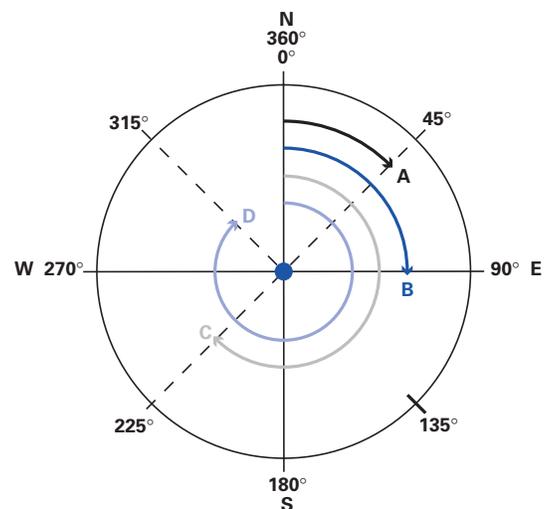


Figure 2



Managing for Cottontail Rabbits

By *Sammy L. King* and *H. Lee Stribling*
Zoology & Wildlife Science Department, Auburn University

For many hunters, the sight of a cottontail rabbit brings back memories of their first hunt. Whether hunted alone from brush pile to brush pile or with a pack of beagles, cottontails evoke memories of “the good old days.”

Historically, cottontail populations increased significantly with clearing of forests by settlers and early farming practices. Woody fence rows and “patchwork” planting of a variety of crops pro-

vided substantial food and cover for cottontails. However, as farming intensified, woody fence rows were eliminated and large tracts of land were planted with single crops. Small farms dropped out of production, allowing fallow fields to develop into mature forests. As a result, cottontail food and cover were greatly reduced and their population declined.

As late as the 1960s, there were almost 120,000 cottontail rabbit hunters in Alabama, but by 1989 the number

declined sharply to around 33,000. Recognizing the dramatic downturn in cottontail hunters, the Alabama Conservation Department’s Game and Fish Division (now the Alabama Division of Wildlife and Freshwater Fisheries) and Auburn University’s Cooperative Fish & Wildlife Unit provided funds for a cottontail research program at the Alabama Agricultural Experiment Station’s Piedmont Substation in Tallapoosa County. One of

the primary purposes of the study was to evaluate cottontail rabbit management practices that could be implemented by small landowners at relatively low cost. Manmade brush piles and prescribed burning were the methods chosen for investigation because of their relatively small expense and their effectiveness in many game management programs. Although construction of brush piles has been well documented as an effective cottontail management practice, prescribed burning had not yet been evaluated.

Fire is one of the most effective tools for wildlife managers. Fire has always been a strong force in the natural formation and maintenance of plant and animal communities. Wildlife managers have known the beneficial effects of regular, well-planned burning programs for years, but because of public misconceptions about fire, limits are often placed on its use for public lands. Nevertheless, fire can be used to manage numerous game species and to maintain certain plant communities.

Cottontail rabbits are believed to benefit from winter burning programs because of fire's effect on the vegetation that rabbits use for food and cover. Abundance of legumes such as partridge peas or beggar lice and other food plants increases after regular winter burns. Previous research indicated that increases in desirable plant species may increase cottontail reproduction. Thus fire can be beneficial to cottontail food supply and therefore could be a factor in increasing the number of rabbits. However, it was not known whether lack of sufficient cover following a burn would lead to increased predation by hawks, owls, foxes, stray pets, and other predators, or if cottontails would be directly injured by fire.

After prescribed burns in late winter (late February to March) a large percentage of cover is temporarily removed, so

brush piles of trees, limbs, and baling wire constructed immediately after a fire can provide additional cover that may increase cottontail survival. After two years of intensive study, researchers observed only one rabbit injured by fire, and this instance was considered minor since the injury was not fatal. Most cottontails remained relatively calm during the burns, and several were observed moving slowly along the edge of the fire. Other cottontails were observed moving calmly along firebreaks within easy spotting distance of the persons implementing the prescribed burn.

Use of brush piles by rabbits after the burns was substantial. Brush piles, stump holes, burrows, and unburned patches of vegetation were used heavily



U.S. Fish & Wildlife Service

for several weeks following the burn. Brush piles were also important for cottontails throughout the winter and provided cover for songbirds, other small mammals, snakes, and even wild turkeys. In addition to increasing cottontail abundance, management programs using prescribed fire are also effective in reducing fuel build-up thus helping prevent unwanted and dangerous wildfires. Prescribed fires can also be used for timber management.

Although fire is a very beneficial tool of wildlife management, it can be dangerous when used by untrained persons. Several factors should be considered before implementing a prescribed burn program. February and March are the best times to burn for the benefit of

wildlife. Burns should be conducted on a one- to five-year cycle depending on the landowner's wildlife management objectives. Adequate firebreaks must be constructed, and the topography and general condition of the land need to be evaluated to determine estimated behavior of fire and possible effects of smoke on nearby highways or residential areas.

Construction of brush piles is quite simple. The most effective method is to cut halfway through several tree saplings and push them over in a pile so that they remain connected to the tree. Although hardwoods provide a strong base on which small pines and baling wire can be added, take care not to remove plants that produce mast (fruits and nuts

wildlife used for food). Flowering dogwood and various species of oak trees that produce mast should not be cut for brush. Sweetgum is less valuable for wildlife and works well as brush. Actual species used will depend on the landowner's management objectives.

Brush pile size is not critical, but a good size is from 10 to 20 feet wide and 3 to 5 feet high. Brush piles should be composed of loosely piled limbs and tops. Put large limbs on

the bottom and cover them with smaller ones. Try to provide one brush pile for every one or two acres. Expose a strip of bare earth around each pile by raking or disking before prescribed burns. After construction, brush piles can be fertilized to enhance growth of desirable plants for food and additional cover. Apply two to four pounds of 13-13-13 to each brush pile in April. Brush piles can be maintained by adding brush each year.

Immediate response of cottontail rabbits to prescribed fire treatment may be obvious. Significant changes in cottontail populations may take several years. Research continues to determine management practices that produce greatest cottontail abundance. ♣

Measuring Direction: Azimuth & Bearing

(Continued from page 23)

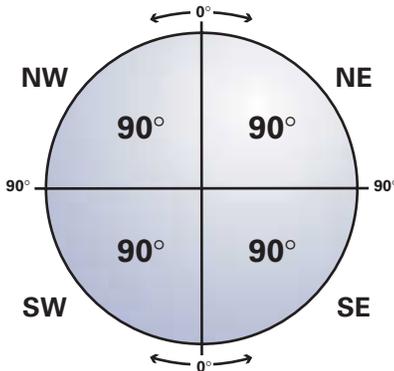


Figure 3

of angles. However, bearing is not associated with the expression of 360 degrees in a circle. It is associated with the four quadrants of a circle (NE, SE, SW, NW) and uses a base direction of either North or South. Measurements may not exceed 90 degrees since there are only 90 degrees per quadrant. See Figure 3.

Look at Figure 4. Bearing is measured from North to East or North to West. It is also measured from South to East and from South to West. Any one of the four measurements may range from 1 to 89 degrees, excluding cardinal directions.

Line “A” is expressed as North 45° West. This means that by positioning your compass pointing North, you hold it on a horizontal (level) plane, and measure the angle from the base direction of North. Line “B” is expressed as North 60° East. This may be abbreviated as N60° E. Lines “C” and “D” are measured from the baseline pointing South and are expressed as S15°E and S75°W. Practice with your protractor.

Which Terminology Should I Use?

When should you express direction in azimuth and when should you use bearing? Either expression is technically correct. However, each is commonly associated with certain activities. If you are expressing a direction of travel, it is more likely to be understood if you use azimuth since everyone who had high

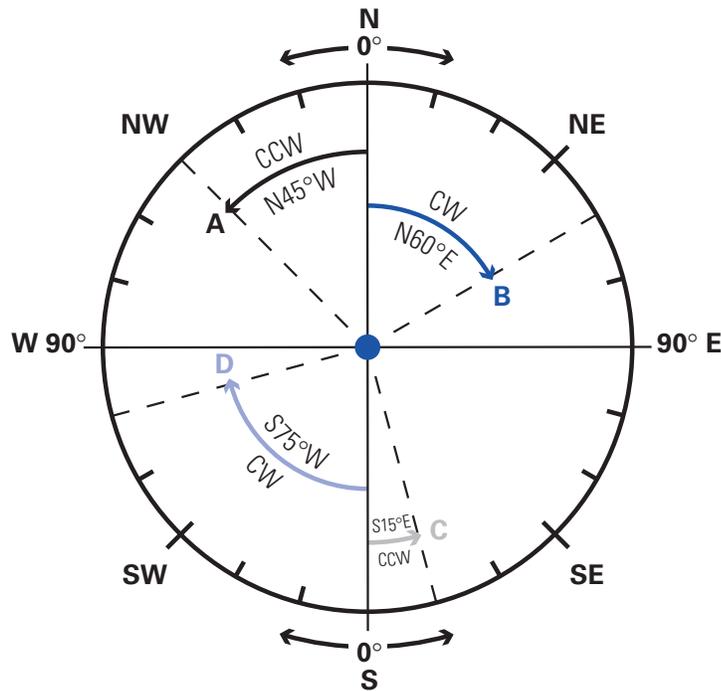


Figure 4

school geometry knows the 360 degrees of a circle. When fire towers report the direction of smoke, it is associated with the azimuth angle of measurement. So what about bearing? Look at the deed to your property. You will most likely see the description associated with the angular measurements of bearing. It will also have a reference point known to surveyors and associated with the Public Land or rectangular survey system (i.e., from known point “A” go N35°E for a described distance; from there go S75°E

for a described distance; continue N15°W and ultimately to the property line directions and distances around your property.) See Figure 5. There is another system of property location called “metes and bounds” but it will not be discussed in this article.

If azimuths and bearings are measurements of angles, any given angle may be expressed with either terminology. Consider this comparison in Figure 6. An azimuth of 45° equals a bearing of N45°E. An azimuth of 220° equals a bearing of S40°W, and an azimuth of 315° equals a bearing of N45°W. Try some examples of your own.

Reverse Direction

There is one more concept needed to effectively use direction of travel. It is *back bearing* or *back azimuth*. If you wanted to trace your path back to where you came from, you would use the oppo-

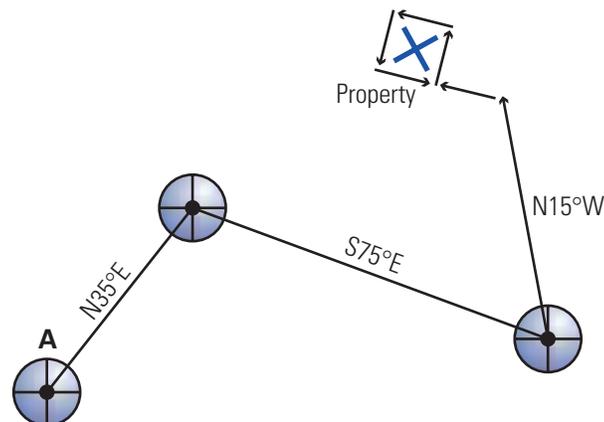


Figure 5

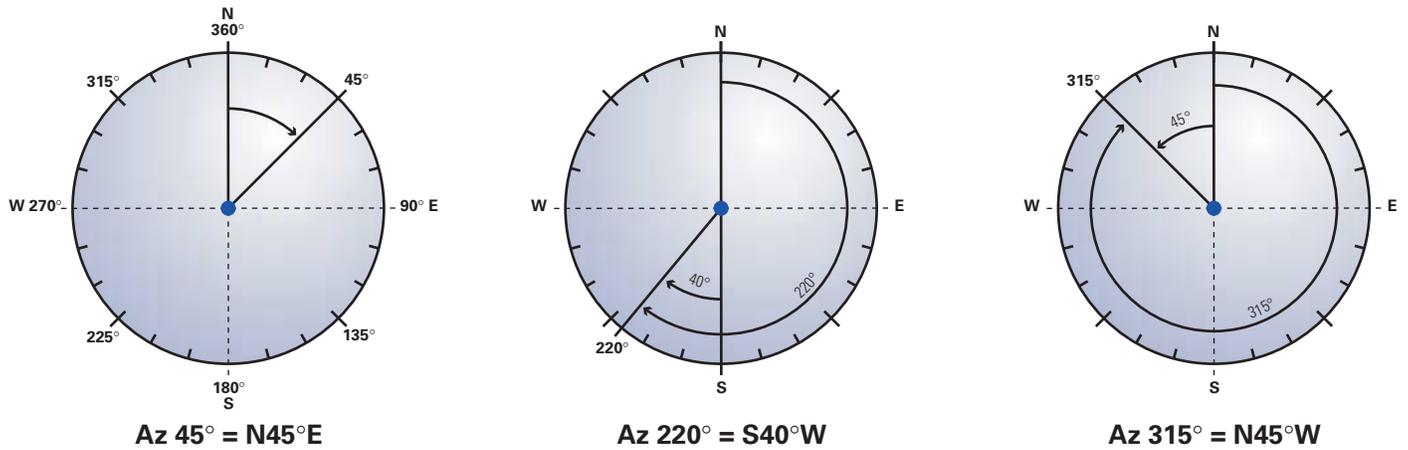


Figure 6

site of your direction of travel or a difference of 180 degrees. The computation of your back azimuth or back bearing will be important in a future article describing how to locate positions on a map.

The opposite direction of any straight-line travel is 180°. Therefore, modify your direction of travel by 180° and it will produce your “back” direction. For azimuth (Az.) angles of 180° or less, add 180 to your direction. For Az. angles of 180° or more, subtract 180 from your direction of travel. See Figure 7.

Example: If you are traveling in a direction of Az. 40°, add 180 and the opposite (or back Az.) direction is 220°. The back Az. of 285° is 285 minus 180 equals 105°.

Computing the opposite direction of a bearing requires no math, only a juxtaposition of letters: N45°E equals S45°W and S30°E equals N30°W. Look at the examples in Figure 8 and then try some of your own.

Another article in this series will explain how to use direction -- which you now know as an angle of measurement -- to locate positions such as smoke from a fire or your own location. All it takes is a compass, a map, and the knowledge you acquired from this article. 🗺️

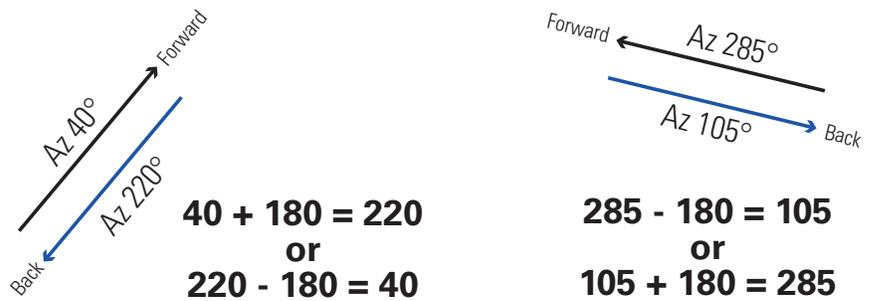


Figure 7

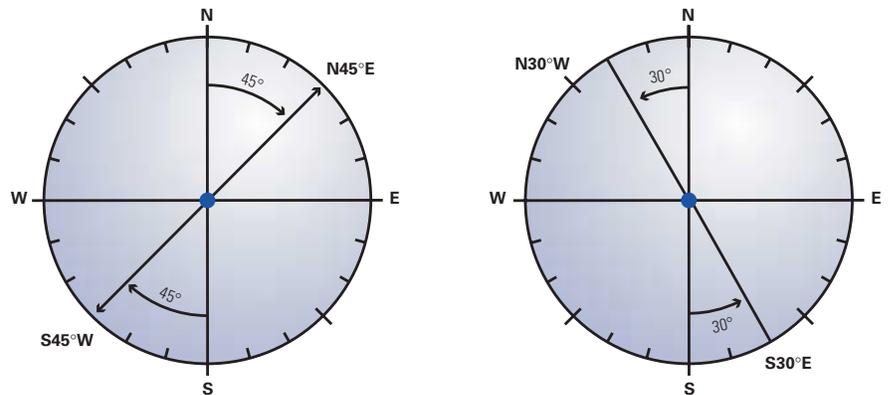


Figure 8

**Visit the AFC Web Site:
www.forestry.state.al.us**

Giant Orchid

By Alfred R. Schotz

Botanist/Ecologist, Alabama Natural Heritage Programs

Of all flowering plants, orchids are surely to be counted among the most beautiful, for since their introduction into cultivation they have become a symbol of all that is exotic and extravagant. Like lilies, to which they are related, orchids have acquired an air of fantasy and an association with a sophisticated world of glamour and wealth. Beginning with Chinese merchants, collectors have risked their lives to retrieve them from far-off corners of the world, braving the unspeakable horrors of tropical swamps so that these exquisite flowers may adorn the lavish lifestyles of European aristocracy.

The Orchidaceae is the largest of all families of flowering plants, with around 800 genera represented by 30,000 species. To the unimpressed, this means that nearly one in every 15 flowering plants is an orchid. The general perception of orchids evokes images of the mystical and distant lands of the equator, and rightly so, for orchids are most commonly encountered in tropical regions. However, people are astonished to learn that several species are distributed across the cooler regions of the Northern Hemisphere, including more than 200 species in North America.



Photo courtesy of Alfred Schotz

As for Alabama with its rich soil, ample rainfall, and temperate climate, it is prime orchid country producing a striking diversity of colors and shapes. In fact, a number of orchids – 56 species in

all – embellish the Heart of Dixie. Truly, one of the state's rarest and most cherished wildflowers is the giant orchid (*Pteroglossaspis ecristata*), a globally imperiled species restricted to the open pinelands of the southeastern Coastal Plain and western Cuba. With the approach of late summer the plant reveals its true glory, a closely applied series of yellowish-green and dark purple flowers arranged on a stem three to four feet in height.

The giant orchid was first brought to the attention of the scientific world from a series of collections made by Ferdinand Rugel along the banks of the St. Johns River near Jacksonville, Florida in 1842. During the time of its discovery, *Pteroglossaspis ecristata* likely attained some prominence in the vast longleaf pine ecosystem that once characterized the Southeast. However, as the majestic woodlands of the longleaf monarchy began to dwindle, so did the giant orchid, to such low levels prompting the U.S. Fish and Wildlife Service to classify the species as special concern and one in need of urgent attention. Historical accounts fur-

(Continued on page 29)

Giant Orchid

(Continued from page 28)

nished by early plantmen such as Rugel offered preliminary but essential information regarding the ecology of this and a panoply of other species endemic to the southeastern coastal pinelands.

Then, as now, fire caused by lightning strikes associated with spring and summer thunderstorms was the most pervasive driving force maintaining this system. These naturally occurring fires were essential for retarding the growth of trees and shrubs that would otherwise invade and eliminate the unique concentration of plant life that has come to make these areas special. In fact, many of the plants found here are dependent upon periodic fire to stimulate growth and reproduction.

Efforts are currently underway between the Alabama Natural Heritage Program and various federal agencies to acquire a greater understanding of population dynamics and the rangewide status of this species. So far, preliminary studies have shown that the giant orchid responds most favorably following early season burns, specifically during periods associated with abundant rainfall. This research also involves measuring the long-term effects of livestock grazing and other human-derived disturbances as they relate to species viability. It is suspected that the presence of grazing has been instrumental in providing needed disturbance for the giant orchid by keeping some sites open from competing vegetation and to promote germination. Only in time will we be able to piece together enough information to begin understanding the delicate relationship between this species and the natural system of which it is a part. If we are to preserve this species, a devoted commitment toward research and conservation will be our only hope of ensuring that this emblem of the state's natural heritage is there for future generations to know.

Further information can be obtained by contacting the Alabama Natural Heritage Program, Huntingdon College, Massey Hall, 1500 East Fairview Avenue, Montgomery, AL 36106. ☛

Alabama Forestry Camp 2003

By *James Jennings*

Outreach Forester, Alabama Forestry Commission, NW Region

The 2003 session of Alabama Forestry Camp, in its seventh year, will take place from Sunday, June 1, through Thursday, June 5. The camp will be held at the Federation of Southern Cooperatives facility near Epes, Alabama in Sumter County.

Alabama Forestry Camp is a five-day experience for high school students interested in forestry, conservation, and/or natural resources. It is designed to introduce basic forestry concepts through classroom instructions and outdoor activities. At this year's camp, students will participate in classes covering tree identification, forest management, forest products, wildlife, water quality, urban forestry, and forest history. In addition, there will be off-campus visits to Gulf States Corporation's Westervelt Lodge and sawmill. However, Forestry Camp is not "all work and no play." There are also recreational and evening activities. A visit to Moundville Archeological Park is planned as well as a fun day of fishing at the Charles A. Farquhar State Cattle Ranch. During Career Night, students will have the opportunity to talk to college recruiters about careers in forestry and natural resources.

The purpose of the camp is to provide a positive learning experience. The final day of the camp includes a graduation ceremony and a luncheon for the students and family members with the instructors and counselors. All students will receive a certificate of completion of the camp.

Alabama Forestry Camp is open to any boy or girl aged 15-18 who has completed the ninth grade but not yet graduated from high school. There is **no cost to the student** to attend camp; however, each student is responsible for providing his or her own transportation to and from camp. All other transportation, meals, and snacks will be provided. Students will be housed in dormitories with 24-hour adult supervision.

Space is limited. An application must be completed and signed by both student and parent or guardian. **All applications must be postmarked by April 11, 2003.**

If you know of someone interested in attending the Alabama Forestry Camp, have him or her call any county office of the Alabama Forestry Commission for an application or for more information. ☛



Attendees of the 2002 Class at Alabama Forestry Camp.



Historical Photo

The photo above, taken during the early 1900s, was submitted by Mrs. Lois Hughey Ullery of Sprott, Alabama. She found it in the files of her grandfather who worked for Jackson Lumber Company for many years while they harvested timber in the Perry County area. Much of this land is now part of the Talladega National Forest.

Although her grandfather is not pictured in this particular photo, Mrs. Ullery also possesses a photo of several men (including her grandfather) - wearing dress suits and derby hats - standing around a train that had

wrecked. This narrow gauge train was used in the hawling of logs to Riderville, Alabama. (Unfortunately, the photo is too faded to reproduce in the magazine.)

Mrs. Ullery's grandfather used horse and cart to make the trip to Riderville, approximately 30 miles from his home. He would often bring some of the other lumber company employees home with him for the weekend. She recalled how as a child she heard many tales about those olden days. 🙏

Landowner's Application for Wildlife Management Assistance

If you own 10 or more acres of forestland, you are eligible to receive professional advice from a wildlife biologist on how to meet your wildlife management goals. Write or call the wildlife biologist (listed below) located nearest your property. Please provide the following information and you will be contacted as soon as possible to schedule a consultation.

Name: _____

Address: _____

City: _____

State: _____ Zip Code: _____

Telephone: (day) _____ (evening): _____

Email: _____

County where property is located: _____ Total acres: _____

Central Alabama

Claude Jenkins

3050 Lanark Road
P.O. Box 1339
Millbrook, AL 36054
Tele: 334.285.4550
334.285.4959
Email: ejenkins@alabamawildlife.org

South Alabama

John Dickson

Solon Dixon Forestry Education Ctr.
Route. 7 Box 131
Andalusia, AL 36420
Tele: 334.427.1029
Email: dicksonj@forestry.state.al.us

North Alabama

Ryan Prince

USDA Forest Service
2309 Highway 46
Heflin, AL 36264
Tele: 256.463.2272
Email: princer@forestry.state.al.us

This program is sponsored jointly by the Alabama Forestry Commission, the Alabama TREASURE Forest Association, the Alabama Wildlife Federation, The Longleaf Alliance, and the U.S. Forest Service

For current information on the Southern Pine Beetle situation in Alabama, visit the Alabama Forestry Commission web page at: www.forestry.state.al.us

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Mountain Laurel

(*Kalmia latifolia* L.)

By *Coleen Vansant*

Information Manager, Alabama Forestry Commission

Alabama's abundant forests are filled with many beautiful flowering plants, shrubs and trees, but few have the grace and beauty of our native mountain laurel (*Kalmia latifolia* L.). Also called Calico Bush or Spoonwood, the mountain laurel not only paints a striking and delicate spring picture with its large pink or white flower clusters, but as an evergreen it also adds color and contrast to the barren backdrop of winter.

Mountain laurel is a many-stemmed evergreen that normally grows as a thicket-forming shrub but occasionally reaches heights of 30 feet. It has a short crooked trunk as a shrub, around 6 inches in diameter, but grows up to 15 inches as a tree. Its stout spreading helps to form a compact rounded crown.

The leaves are elliptic, pointed, thick, and leathery. They have a lustrous dark brown color above with a paler green below and they droop. Bark is thin, dark reddish brown and divides into long, narrow scales.



Photos by Coleen Vansant

The flowers are waxy pinkish or white, cupped up, five-lobed, and one inch broad in terminal clusters. The mountain laurel is especially adapted for insect pollination by the stamens being fastened to the petals so that as an insect

lands upon it, the anther springs up, releasing the webby-threaded pollen which clings to the insect. The buds are pure pink, cone-shaped, and corrugated.

The capsule is dull red, five-lobed, and about 1/4 inch in diameter.

Mountain laurel grows best in dry or moist acid soils in understory of mixed forests on upland mountain slopes and in valleys. It also grows in shrub thickets called "heath balds" or "laurel slicks." Its range is from Southeast Maine to North Florida, west to Louisiana and north to Indiana. In the south it will grow in elevations to 4,000 feet.

Historically, the wood was used for tool handles and turnery. The burls (hard knot-like growths on the trunk) were used for briar tobacco pipes. Today it is used as an ornamental.

The leaves of the mountain laurel contain amounts of andromedotoxin, a substance particularly poisonous to sheep. Cattle, horses, and goats are also susceptible. Deer and other wild animals have been known to browse on the foliage without being seriously affected. Honey from the flowers is believed to be poisonous. ☞



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