

Alabama's **TREASURED Forests**

FALL 1993



STATE FORESTER'S MESSAGE

by C.W. Moody, State Forester



I come to the end of my term as State Forester with positive reflections of the past and an optimistic outlook for the future. Over the past 23 years I have worked with some of the very finest state employees that can be found. Because of the commitment of these people, we were able to make great strides in our organization and for forestry. We were first to have TREASURE Forest; first to have an R.C.F.P. Institute; fifth in the nation in number of Tree City USAs (50 percent of our population lives in a Tree City); our average size forest fire has dropped drastically; our nursery stock is much improved. . . I could go on and on. All of this has been done while state budgets were being cut continuously.

I've also worked with the most dedicated landowners that can be found in this whole country! Our landowners care about the environment, and they do a tremendous job of meeting the needs of society at the same time. I've also found out that these people will stand behind someone who is heralding their cause.

That's why I'm retiring—not because I'm tired, but because I'm just getting started! I've received great encouragement from all of you, and I am appreciative of the support you gave to me during a difficult time. I know that I will have opportunities to work with you again in my new role as a volunteer for Stewards of Family Farms, Ranches and Forests.

The primary reason I helped organize Stewards was to protect the private landowner rights of TREASURE Forest owners. To me, it makes no sense at all to regulate those who are already good stewards of the land. We reached out to family farm and ranch owners because they have similar problems and they add strength to our cause.

I don't own any land, but I have felt responsible for 22 million acres of forest in Alabama for the past two decades. I feel good leaving this land in better condition than it has been in for 50 years! There's more timber—pine and hardwood—more wildlife, and better harvesting practices along streambanks. I have seen what can be done voluntarily and I hope I can carry this philosophy all the way to Washington, D.C.! We need to teach others what we already know to be feasible.

I thank you for the opportunity that you gave me to serve the people of Alabama as a public servant. I hope you will be equally supportive of the new leadership of the Alabama Forestry Commission. There are still many opportunities that lie ahead, and I look forward to finding them!

Sincerely,

A handwritten signature in cursive script that reads "C.W. Moody". The signature is written in dark ink and is positioned above the printed name.

C.W. Moody
State Forester

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

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Alabama's TREASURED Forests

Volume XII. No. 3

Fall 1993

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COVER: Photo by Jerry L. Litton

Alabama's TREASURED Forests (ISSN 0894-9654) is published quarterly by the Alabama Forestry Commission, 513 Madison Avenue, Montgomery, AL 36130. Telephone 240-9358. Bulk rate postage paid at Montgomery, Alabama. POSTMASTER: Send address changes to: Alabama's TREASURED Forests, 513 Madison Avenue, Montgomery, Alabama 36130.

RETIREMENT BENEFITS

by TILDA MIMS, Information Specialist,
Alabama Forestry Commission, Tuscaloosa

*Pruned pines around this food plot increase
browse and visibility.*

Retirement often means rest and relaxation—no deadlines, no schedules, no hard work. But J.B. Dollar says his 1982 retirement was the time when he “really went to work.”

Retirement meant freedom to spend more time on his 950-acre TREASURE Forest in the Sterling community in Tuscaloosa County.

Dollar’s full-time commitment to multiple-use forest management received statewide acclaim when he received the 1992 Helene Mosley Memorial TREASURE Forest Award.

Since the early 1950s J.B. Dollar was an absentee landowner, using every available holiday and weekend to work with his forestland.

After retirement, however, he began to

plan a second home in Sterling so he could be a “hands-on” landowner throughout the year.

Home Construction

After selecting the site and design of a simple camphouse, Dollar considered completing the project with lumber from trees grown on his own land.

Salvage operations following a series of storms and southern pine beetle attacks provided ample logs. Doing most of the work himself, he felled the damaged trees and hauled them by wagon and log truck to nearby mills until locating a man with a portable sawmill.

The result was a comfortable and attractive home made almost entirely from salvage wood.

“All of the lumber in my house and storage sheds came from my trees. The sub-flooring, decking, everything,” he says proudly. The exterior of the house is treated with a mixture of used motor oil and red paint colorant as a preservative.

The “camphouse” he planned to build is an attractive home surrounded by massive white oaks, beautiful flowers and fruit trees. Two storage sheds housing vehicles and farm equipment feature large beams hand-hewn by Dollar. This summer he began construction of an additional bedroom and bath also from his own lumber.

Pruning Pines

In 1991 the Tuscaloosa County Forestry Planning Committee held a



J.B.'s home is built almost entirely from salvaged wood.

opened up the ground for browse.

A buffer strip of unpruned pines will provide a basis for comparison through the years. It also screens the food plot from a nearby county road to help restrict illegal hunting.

Timber Management

TREASURE Forest principles are exemplified in the rolling hills and rich bottomland owned by J.B. Dollar. Each

acre is managed for its potential in timber, recreation, aesthetics and environmental quality.

His primary objective is timber production. Pine plantations, both natural and planted, as well as mixed and hardwood stands are painstakingly evaluated for areas of improvement.

A regular program of thinnings, prescribed burns and judicious use of chemicals help to release stands for improved growth.

Timber harvests are carefully planned to accommodate site needs for replanting. He designed an excellent timber sales contract incorporating Best Management Practices as an important measure toward that goal. Water bars and seeded roads assure erosion control following the timber sale.

Approximately three miles of permanent fire breaks planted in permanent grass covers serve not only as proven wildfire control tools but as wildlife food plots.

Wildlife

His secondary objective is wildlife management. Over 30 acres of wildlife food plots containing a variety of clover and other wildlife foods dot the acreage. An additional seven acre corn field is planted annually and left unharvested for the wildlife. Sawtooth oaks have been planted in drains of regeneration areas and around many food plots.



A shooting house

forestry field day on pruning pines to enhance the overall quality of pine timber, and Dollar decided to give it a try.

He admits pruning with loping shears was very tiresome but he is pleased with the results. Pruning strictly for timber requires pruning about every fifth tree because the rest will be removed for pulpwood when you thin, but Dollar's efforts resulted in about four acres around a large food plot having limbs removed to about six feet.

"I like the looks of it," he says. "Once I started I just did them all. I pruned all the trees around a food plot, especially. The more I pruned, the more I liked the looks of it and I knew it would help the timber."

Limb removal improved visibility for the comfortable tree stands in the area and

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Editor's Understory

by TILDA MIMS, Information Specialist, Alabama Forestry Commission, Tuscaloosa

The early morning air was chilly as a young doe stepped into the edge of a clearing. Working quickly to set up video equipment and load film before sunrise, we paused quietly to watch her feed.

Soon a brilliant sun peeped through silver clouds as dawn broke over fields surrounding J.B. Dollar's home in Sterling.

As Mike Kyser captured the scene on videotape, the morning air filled with the sounds and smells of breakfast cooking.

Inside his comfortable country home, Mr. Dollar had insisted on preparing biscuits, eggs, sausage and all the fixings for the Alabama Forestry Commission employees there to help prepare his portion of the 1992 Helene Mosley Memorial TREASURE Forest Award nomination video.

A gracious host, J.B. Dollar welcomed us into the home he built from logs grown on his own forestland. Photographs of his wife Betty and their three children, Keith, Dan and Lisa are prominently displayed. A proud grandfather, he points out the photos of Ashley and Kristen, his granddaughters.

By the following summer, the large greatroom would feature the framed print he received as statewide winner of the Helene Mosley Award.

Throughout the day, we toured and filmed many aspects of this TREASURE Forest. Impressive hardwood stands and woodland streams, attractive wildlife food plots, and towering pine plantations became more than examples of excellent forest management. They came alive as our host relayed tales of his youth in the area.

An impressive longleaf pine plantation

near a food plot recalled a story about how he and his father planted the trees back in 1934, using a buggy axle to dig the holes.

More recent stories come to mind as he pointed out food plots where his son,



J.B. Dollar

Keith, and his wife have each taken white-tailed deer.

Following a long day of filming, his flower-laden front porch offered a comfortable respite from the now hot summer sun. The inviting wooden porch swing built by Dollar as a high school project rocked gently as he told of helping his father "scratch a living" from the same land we have walked and how much he enjoyed returning home after all these years.

As a young man, Dollar left home to

attend Livingston University. In November 1942, he withdrew from school to volunteer for the U.S. Air Force. After extensive pilot training, he was assigned to the 398 Heavy Bombardment Group flying B-17s. He flew 32 missions out of England over occupied Europe during World War II.

When discharged after almost four years of service, he completed an accounting degree from the University of Alabama and subsequently passed the CPA exam.

While working for the IRS in Montgomery, he attended the Jones School of Law in the evenings because he felt it would be useful in his job. After 27 years, he took early retirement from the IRS to go to work in the same capacity for the ABC Board for 10 years.

For many years, he used every available holiday and weekend to work with his forestland. Retirement had given him the freedom to really "come home" and become a full-time forest landowner.

His second home stands across the field from a tin roofed, wooden house that was home to the Dollar family

many years ago. The land farmed by the Dollar family during the Depression is now part of a 950 acre award winning TREASURE Forest.

The sun is low in the sky as we prepare to leave. He offers us home grown apples for the long journey home and encourages us to come back whenever we can. His sense of satisfaction is obvious; his joy contagious. We thank him for the hospitality and all secretly hope our retirement years bring us the same pleasure. ♣



Standing or flowing water during the growing season is one indicator of a wetland.

If asked to describe the kind of environment that we would like to pass on to our children and grandchildren, the characteristics that come to mind for many of us are those that are attributed to our nation's wetlands. These areas — where our land resources meet our water resources — vary from tidal marshes to hardwood swamps, and provide a host of important ecological and economic services. Among the important functions and values of wetlands are flood control, ground water recharge, timber production, water quality protection, and essential habitat for fish and wildlife.

The Government's Role

Section 404 of the Clean Water Act regulates discharges of fill material into all waters of the United States, and has prevented the loss of many wetlands. Section 404 gives the U.S. Army Corps of Engineers the authority to issue permits for discharges of dredge or fill and provides for the Corps to administer the pro-

DEFINING A WETLAND

by MARK LARUE, Wetlands Regulatory Section,
U.S. Environmental Protection Agency

gram on a day-to-day basis. EPA provides program oversight, comments on permits, and shares enforcement authority. Both agencies use the 1987 Corps of Engineers' Manual to define wetlands.

What Is a Wetland?

Wetlands are areas that are covered by water or have waterlogged soils for long periods during the growing season. Plants growing in wetlands are capable of living in saturated soil conditions for at least part of the growing season. Wetlands such as swamps and marshes are often obvious, but some wetlands are not easily recognized, often because they are dry during part of the year or they don't fit a landowner's perception of what a wetland

should look like. The information presented here will enable you to better determine whether you might have a wetland.

The Corps and EPA use a three parameter approach when making wetland determinations — vegetation, soil, and hydrology. Unless an area has been altered or is a rare natural situation, all three tests for characteristics must be present during some portion of the growing season for an area to be a federally regulated jurisdictional wetland.

Vegetation Indicators

Nearly 5,000 plant types in the United States occur in wetlands. These plants, known as hydrophytes, are listed in regional publications of the U. S. Fish and Wildlife Service. However, you can usually determine if wetland vegetation is present by knowing a relatively few plant types that commonly occur in your area. For example, cattails, bulrushes, bald cypress, willows, sedges, rushes, arrowheads, and water plantains usually occur

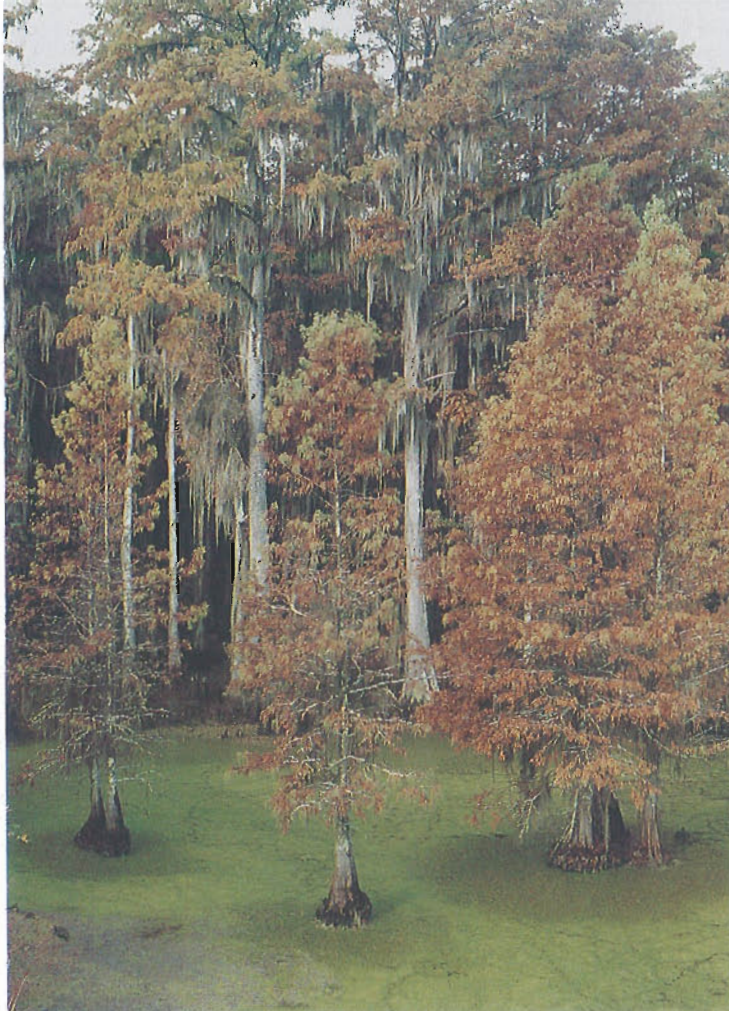
in very wet sites and if present, are strong indicators of wetland conditions. Other plant indicators of wetlands include trees with shallow root systems, swollen buttressed trunks (e.g., bald cypress, tupelo gum), or roots growing from the plant stem or trunk above the soil surface. Several Corps offices have published pictorial guides to represent wetland plant types in their area.

Soil Indicators

There are approximately 2,000 named soils in the United States that can be associated with wetlands. Such soils, called hydric soils, have characteristics that indicate they evolved in conditions where soil oxygen is limited by the presence of water for long periods during the growing season. The best source of information on the soils in your area is the USDA Soil Conservation Service (SCS). Your local SCS office may be able to provide you with a

County Soil Survey showing the location, types, and names of soils in your area or if necessary the SCS can make on-site visits to examine soils. Characteristics that determine if the soil is hydric, include the following:

- Soil consists predominantly of decomposed plant material (peats or mucks).
- Soil has a thick layer of decomposing plant material on the surface.
- Soil has a bluish gray or gray color below the surface, or the major color of the soil at this depth is dark (brownish black or black) and dull.
- Soil has the odor of rotten eggs.
- Soil is sandy and has a layer of decomposing plant material at the soil surface.
- Soil is sandy and has dark stains or dark streaks of organic material in the upper layer below the soil surface. These streaks are decomposed plant material attached to the soil particles. When soil from these



Nearly 5,000 plant types in the U.S. occur in wetlands.

streaks is rubbed between the fingers, a dark stain is left on the fingers.

One should keep in mind that the soil determination can often be the most difficult of the three wetland parameters to establish. Therefore, the advice of your local SCS office or help from a certified soil scientist is very important.

Hydrology Indicators

Wetland hydrology refers to the presence of water at or above the soil surface for a sufficient period of time to significantly influence the plant types and soils that occur in the area. Although the most reliable evidence of wetland hydrology may be provided by nearby gauging stations or ground water well data, such information is limited for most areas and, when available, requires analysis by trained individuals. Thus, most hydrologic indicators are those that can be observed during field inspections. Most indicators do not reveal either the frequency, timing, or duration of flooding or the soil saturation. However, the follow-

ing indicators provide some evidence of the periodic presence of flooding or soil saturation:

- Standing or flowing water is observed on the area during the growing season.
- Soil is waterlogged during the growing season.
- Water marks are present on trees or other erect objects. Such marks indicate that water periodically covers the area to the depth shown on the object.
- Drift lines, which are small piles of debris oriented in the direction of water movement through an area, are present. These often occur along contours and represent the approximate extent of flooding in an area.
- Thin layers of sediments are deposited on leaves or other objects. Sometimes these become consolidated with small plant parts to form discernible crusts on the soil surface.

Making the Wetland Call

The Fish and Wildlife Service has used aerial photography and satellite imagery to map general wetland areas on U. S. Geological Survey topographical maps. You can obtain National Wetland Inventory maps by calling 1-800-USA-MAPS. Ground checks should verify that one or more indicators from each of the three parameters of wetland vegetation, hydric soil, and wetland hydrology are present before an area can be considered a jurisdictional wetland. If you observe definite indicators of any of the three characteristics, you should seek assistance from either the local Corps District Office or someone who is an expert at making wetland determinations.

What to Do if Your Area Has Wetlands that You Propose to Alter

Contact the Corps District Office that has responsibility for the Section 404 permitting process in your area (address and phone numbers are listed at the end of the



The Soil Conservation Service can be helpful in determining if soils are hydric.

article). This office will assist you in defining the boundary of any wetlands on your property, and will provide instructions for applying for a Section 404 permit, if necessary.

Normal forestry, farming, and ranching are exempt from having to obtain a Section 404 permit from the Corps of Engineers if the activities meet certain conditions. In the southeast, EPA has retained authority over forestry, farming, and ranching activities as defined under Section 404. This means that the Corps can determine if wetlands are present in these areas but only EPA can make the determination if the activities comply with the conditions necessary to be exempt from permitting.

If you intend to conduct forestry in wetlands, you should contact the local Alabama Forestry Commission office for advice. EPA has worked with the AFC to ensure that your local forester is knowledgeable concerning EPA guidelines as they apply to forestry. The advice provided by your local forester can help you stay in compliance with the wetlands portion of the Clean Water Act, which carries penalties for non-compliance. Farming or ranching in wetlands should be coordinated through the local Soil Conservation Service Office.

The general guidance provided in this article should give you a good indication if you have a wetland. However, wetlands

are diverse ecosystems that are sometimes difficult even for experts to properly identify. Regardless of how they are eventually defined, these ecosystems harbor nearly one third of our nation's threatened and endangered species and are second only to rain forests for diversity of life. The recent flood events in the Midwest demonstrate that wetlands serve extremely important roles in nature and in our lives. Wise use of these ecosystems is imperative to their long-term survival and our long-term enjoyment.

Additional Information

For additional information or technical assistance contact:

U.S. Environmental Protection Agency
Wetland Regulation Section
345 Courtland Street, N. E.
Atlanta, GA 30365
(404) 347-4015

U.S. Army Corps of Engineers
Mobile District Permitting Section
(Southern 3/4th of state)
P.O. Box 2288
Mobile, AL 36628-001
(205) 694-3781

U.S. Army Corps of Engineers
Nashville District Permitting Section
(Northern 1/4 of state)
P.O. Box 1070
Nashville, TN 37202-1070
(615) 736-5181 ☎

Retirement Benefits

Continued from page 5

Most producing hardwoods represent about 25 percent of the total forested acres. White oaks are especially plentiful and have been selectively retained in regeneration areas.

Regeneration areas provide food and cover for deer and turkey, beyond providing snags for cavity dwellers. The mature mixed and hardwoods stands are arranged for maximum edge effect and diversity.

White tail deer, turkeys, quail, rabbits and other game enjoy the diversity of the forest and the ample food supply. Bluebirds are welcomed by eight nesting boxes located near the food plots.

Future Plans

Less than two months after receiving his award, the Sterling community was hit with a major winter storm featuring fierce straightline winds. Dollar estimates that almost half of his better grade pines were blown over by the damaging winds.

He has harvested all the damaged trees and is developing a new management plan to help recover from the loss. "It will take the rest of my time to get the land back the way it should be" he notes. "I believe some of it will reseed but I plan to replant some of it."

The task of recovery from the storm is great. For some landowners the investment in a project to benefit another generation would be a senseless, difficult undertaking. To J.B. Dollar, however, it is a responsibility, an opportunity and the right thing to do.

Hard work is nothing new to J.B. Dollar. He's worked hard all of his life. As a young man during the Depression, as a soldier, a college student, and later as an accountant, he knew the value of hard work.

So why does he work so hard when he doesn't have to? It may be a time worn saying, but for J.B. Dollar it truly is a labor of love.

The dress code is simple—a wide brimmed straw hat and work denims. His commute is a short stroll or truck ride among the rolling hills and towering timber. The benefits? A comfortable home, the satisfaction of restoring productive forestland and, best of all, a TREASURE to share for generations to come. ☎

BIOLOGICAL DIVERSITY IN ALABAMA FORESTS

• A HISTORICAL PERSPECTIVE •

by LOU HYMAN, Chief, Forest Resources Planning, Alabama Forestry Commission

The forests of Alabama have had a very dynamic history. Historical records indicate that today's forests are very different from those present at the time of initial European exploration and settlement. Reports from early travelers, such as William Bartram, indicate that forests covered only about 75 percent of Alabama. The rest was in prairies or fields cultivated by Indians.

Based on their descriptions, the early forests of Alabama could be described as a fire sub-climax. The dominant species on flat areas were longleaf and slash pines as well as other fire resistant trees such as dogwood. Most hardwoods were relegated to wetter sites that did not burn regularly or were not useful for cultivation. These moist sites included swamps, mountain coves and north facing slopes.

Early settlement focused on the pine areas and prairies. In the early 20th century, two new trends, the beginning of state forest fire control and the abandonment of farm lands, resulted in a major change in Alabama's landscape. With increased fire control, pine species—especially loblolly pine—quickly colonized abandoned fields and cutover areas, leading to the extensive pine forests of today. This fire control program also allowed the spread of hardwood species, resulting in the mix of forest types found in Alabama today.

Biological Diversity

Biological diversity describes the total forest ecosystem: the variety and abundance of all life forms, including their genetic make-up, biological processes and ecological niches, which occur in any specific area.

Ecologists look at bio-diversity at three basic levels: within-stand diversity, between-stand diversity, and total diversity over large geographic areas (landscape, regional or global diversity).

Increasing between-stand diversity has been a key part of wildlife management since Aldo Leopold. The more "edge" between differing plant communities, the higher the species richness for both plants and animals. Management that maximizes species richness locally often favors "generalist" animals (which like white-tailed deer use a variety of habitats) at the expense of "habitat specialists" (such as interior dwelling birds).

The key issue in Alabama is "Landscape Diversity" which is the diversity of plant communities over a county or regional area. Landscape diversity is based on the variety of forest types and age classes. Connections between stands, such as stream corridors and fence-rows, are just as important as the size of the stands.

Conversion and fragmentation of forests are major factors that affect bio-diversity in the Southeast. Historically, the major impact was the conversion of forestland to agricultural uses. The growth of urban areas, including recent development of forestland for suburban housing also affects forest ecosystems.

Bio-Diversity in Alabama Today

Alabama has the most diversity of any state in the Eastern U.S. According to a study by Roland Harper (Geological Survey of Alabama, 1942), Alabama contains at least 20 distinct forest ecosystems. Alabama has more physiographic provinces (9) than any state except California.

Acres in pine plantation have increased recently, with most of the conversion being from either open land or from natural pine lands. The notion that hardwood lands are being wholesale converted to pine plantations is not borne out by the data. The only forest type that is shrinking in area is naturally regenerated pines,

especially natural longleaf forests. In fact, hardwood acreage has increased steadily. Today, there are more acres of hardwood forest in Alabama than at any time in our history.

Another important trend is the increasing diversity of tree species within forest types. With increased fire suppression, more hardwood species have encroached into what were pure pine stands. This trend is leading to more in-stand diversity in Alabama forests.

Botanists recognize about 300 species of trees as native to Alabama. Of these, the Forest Survey shows that there are about 109 that could be considered common, with 34 species make up about 93 percent of the forest woody biomass. The most common species are loblolly pine, sweetgum, hickories, water oak, white oak, shortleaf pine, Southern red oak, longleaf pine, yellow poplar and slash pine. They make up 63 percent of the woody biomass in the state.

These trends in increasing hardwoods, increasing edge effect from increased timber harvesting, and the use of plantation management with its increased browse and cover availability, has led to a tremendous increase in "generalist" wildlife, such as deer, quail, rabbits, rodents, hawks and reptiles. Edges and open areas also have very high seasonal use by some interior forest species, such as songbirds, turkey, and squirrel.

The major areas of concern about bio-diversity in Alabama are forest fragmentation and protection of endangered species habitat. Fragmentation breaks up habitats needed by some interior dwelling birds and species such as black bear and Florida panther. A key habitat is the longleaf pine community, which is needed by the red-cockaded woodpecker, the gopher tortoise and the eastern indigo snake. Another key habitat is the stream-side management zone, which protects

aquatic species, including the red hills salamander.

Forest Ownership and Bio-diversity

Forest ownership patterns are the key to the existing ecological patterns in Alabama. In 1990, there were 21,964,500 acres of forestland in Alabama, with only 5 percent owned by the government. Forest products industries own about 20 percent, with the remainder owned by independent owners.

The average size ownership in the state is only 102.5 acres. If only individual ownerships are examined, the average ownership drops to only 73 acres.

There are over 214,000 forest landowners in Alabama. These owners all have divergent management goals. While many manage their land as an investment, with timber sale income as a major goal, many others manage their land for game wildlife or recreational use. Many landowners feel a strong sense of stewardship for the land, having inherited from their parents and wishing to make it better for their children. This mixed ownership with many diverse management objectives provides superior habitat for most wildlife, when compared to large uniform closed canopy forests.

The developed road system in Alabama is such that there are few large undivided privately owned tracts. According to the Forest Survey, only 3.5 percent of forestland in Alabama is farther than 1 mile from a road. The only large interior forests left are deep swamp areas in southwest Alabama. Small ownerships generally have fewer older growth forests. In fact, according to the 1990 Forest Survey, Alabama contains only 139,000 acres of forests over 50 years of age.

Forest Management Impacts

Current forest management practices have both negative and positive effects upon bio-diversity. These impacts are more a function of the scale, the spatial arrangement and timing of their application than of the activities themselves.

Certain practices (such as clearcutting) may reduce bio-diversity if applied over extensive areas. However, when used on a smaller scale, these same practices can maintain and enhance bio-diversity, by creating or preserving specific habitats. Present harvesting practices create and

maintain mosaics of various aged stands with a diverse regional fauna and flora.

Forest management of hardwoods in Alabama is working to improve diversity. Since 1985, the Alabama Forestry Commission has placed an emphasis on total stand management of hardwoods, with a wider use of group selection and patch clearcutting (5 to 40 acres) to ensure strong regeneration of a diversity of hardwood species. The planting of hardwood seedlings has also increased tremendously over the last several years.

An emphasis has also been put on increasing natural regeneration and mixed stand management. Uneven-aged forest management, streamside management zones, wildlife travel corridor protection, and snag and hollow tree retention are examples of other forestry practices that help conserve bio-diversity.

Another aspect of total forest management has been an increased emphasis on wildlife habitat management. This has resulted in the creation of many winter green fields and expanded edge areas. Timber harvests can be marked so as to maximize edge through use of "fingers" and meandering lines that follow topography and natural breaks. The increased interest in habitat management has been driven by market forces, as landowners respond to increased demand by hunters who are willing to pay for hunting rights to a tract.

TREASURE Forest and Bio-Diversity

Alabama has the highest bio-diversity of any state in the East. This is related to the large amount of independent private ownership of the forest. A diversity of ownership, good markets and educational programs such as TREASURE Forest has kept Alabama bio-diversity at historic high levels.

A major emphasis on public lands should be to conserve those elements of diversity which do not occur, or are unlikely to occur on private lands. A private lands bio-diversity program should emphasize sustainable forestry that protects forest health and private property rights. The biggest threat to bio-diversity is not forest management, it is land use conversion from forest land to urban or suburban development.

The AFC has always worked to encourage environmentally and economically

sound forest management on private lands, under a land ethic of stewardship, through the TREASURE Forest program. The TREASURE Forest program recognizes landowners who are good stewards of their land. These special landowners manage their forest for a combination of benefits, such as timber, recreation, wildlife, fresh air clean water, and aesthetics, not just for today but for future generations.

The key to TREASURE Forest is that it is based on helping the landowner reach his personal objectives. After nearly two decades of experience, we have found that landowners are willing to manage for other benefits, such as bio-diversity, if they can be shown how they can reach their own goals as well, whether that goal is income or recreation or aesthetics, or "feeling good." TREASURE Forest has been and will continue to be the key to enhancing bio-diversity in Alabama. ♣

CALENDAR

October 6—Auburn, Ala. "Forest Roads for Forest Landowners," a workshop sponsored by the Auburn School of Forestry, Alabama Cooperative Extension Service. Registration fee. Contact Dr. Richard Brinker, 205-844-1038.

October 7-8—Auburn, Ala. Tenth Annual Landowner and TREASURE Forest Conference. Indoor and outdoor sessions. Registration fee. Contact Betty Bozeman, 205-242-3465.

October 12-13—Auburn, Ala. "Forest Roads," an Auburn University short course. For more information contact the School of Forestry, 122 M. White Smith Hall, Auburn University, AL 36849-5418.

October 17-23—Forest Products Week.

November 1-3—Huntsville, Ala. National Shiitake Mushroom Symposium at the Huntsville Hilton. Featured topics will include shiitake production and marketing. Registration fee. Contact Cathy Sabota, Alabama A&M University, 205-851-5710 for more information.

MANAGING FORESTS FOR WILDLIFE

(PART ONE OF A TWO-PART SERIES)

by STAN STEWART, Wildlife Biologist,
Alabama Department of Conservation and Natural Resources, Game and Fish Division

A forest is a biological community dominated by trees and other woody vegetation. The term "community" in that definition is a key word to anyone who would manage a forest for wildlife. A forest community is an assemblage of plants and animals living together in a common environment. Every plant and animal is an integral member that interacts and influences the structure and functioning of that community. In the forest community, for example, trees and shrubs provide homes for birds, and birds forage on many insects that might otherwise increase to proportions that would destroy trees. A host of animals of all sizes is an indispensable part of the forest community.

Forest Communities

When describing forests we tend to categorize them into forest types, which name predominant trees. This general description is useful, but defines a forest on the basis of the trees only. To manage forests for wildlife we must consider the forest community and the inter-relationships of plants and animals with each other. A forest community is produced by interactions between forest trees, other forest organisms and the forest environment over time. Each community follows a life cycle in which it becomes established, matures, and is eventually succeeded by another community. Composition of forest communities changes as plants and animals compete for growing space or cooperate to establish a niche. Managing forests for wildlife requires an understanding of the causal relationships between plants and animals during the changing stages of forest succession.

To the forest ecosystem we must apply a principle that is true in any finite system: maximizing two or more quantities simultaneously is not possible. We may

only have a maximum of one thing. If we maximize one quantity, we will necessarily have only a minimum of others. If we are picking fruit into a five gallon bucket and choose to fill that bucket with apples, we will then have very little room for other kinds of fruit. If we manage a forest community to produce a maximum of timber, we can then produce only a minimum of wildlife or some other forest value. If we manage a forest to increase the number of one species of wildlife, we may create living conditions that decrease the numbers of other species.

Wildlife Requirements

The requirements of wildlife include the basic necessities of cover, food, water and living space. These necessities are the fundamental components of habitat (the place where an animal lives). The number of animals a given habitat will support is determined by the amount and arrangement of cover, food, water and space relative to the animals' mobility and nature. The kinds of animals a given habitat will support is determined by the kind of cover, food, water and living space available relative to an animal's functional position or niche. (Habitat is where the animal lives. Niche is what the animal does where it lives.) Wildlife species are associated with particular stages of plant succession as a result of the unique niche each occupies.

All animals must have cover in which to hide, rest, move about and reproduce to continue their existence. Cover requirements of wildlife have two aspects: shelter from adverse weather and protection from predators. Specific cover requirements vary with seasons. An important kind of wildlife cover that is often not given sufficient consideration is cover that enhances reproductive success (nesting and brood-rearing cover, denning sites and areas for raising young). If a low

wildlife population seems to never increase, it is probably related to a deficiency of habitat favoring reproduction and survival of young.

Wildlife must have food to survive. Animals with adequate food and proper nutrition grow larger, remain healthier, escape predators better and reproduce more successfully than animals that are malnourished. Food availability varies seasonally. Late winter and early spring are generally the seasons when wildlife food supplies are lowest. Food depletion during this time may not result in direct mortality of wildlife but could translate into poor reproduction. Herbivores, such as deer, that receive inadequate food usually do not die of starvation (a lack of food quantity). They are most likely to die of malnutrition (a lack of food quality). Management for these animals entails manipulating their habitat to provide highly nutritious preferred natural foods and planting quality seasonal forage. Carnivores usually do not experience problems with diet quality but may die of starvation if they cannot catch enough to eat. Their well-being depends on abundant prey populations. Some wildlife are primarily granivores (seed eaters) or insectivores (insect eaters). Others are omnivores, feeding on plant and animal matter as it is seasonally available.

Most wildlife can survive weeks without food but only days without water. Fortunately, free standing water in streams and ponds is usually adequate. Wildlife also obtain water from vegetation and dew. Because of this, some wildlife do not require free standing water. Water availability has a great impact upon wildlife indirectly in the form of rainfall because of its effect on plant growth for food and cover. Within limits, higher rainfall results in better wildlife productivity and body condition.

Each wildlife species requires a certain

amount of living space. Space requirements are behavioral responses that will limit the numbers of animals a habitat will support. Each individual has a home range over which it moves about to obtain its needs. The amount of space needed is influenced by habitat quality. Good habitat will support more animals over a smaller area. Other factors also influence space requirements. Some species display territorial behavior: the animals defend part of their home range or exhibit mutual intolerance that minimizes contact with other individuals. Every species has a certain level of tolerance for crowded conditions. The space requirement of a species is an important consideration in arrangement of habitat components. The aim of habitat management is to arrange cover, food and water requirements within the normal living space of an animal.

Specialists and Generalists

Animals live within a range of tolerance for each component of their environment. Species that have a narrow range of tolerance are called habitat specialists. Animals in danger of extinction are often specialists. The specialized environments they require are in short supply and they cannot adapt to other environments. On the other hand, because specialists are so well adapted to a particular environment, their numbers can reach great proportions given an abundance of required habitat. The buffalo, for example, is a habitat specialist that roamed the prairies in the tens of millions of animals. But, most of the prairies have been plowed under for agriculture or altered by livestock grazing and only a remnant of buffalo survive.

Many wildlife species are generalists that can live across a broad range of environmental conditions. They utilize and find all of their life requirements in a variety of habitat types as opposed to any single one. Diverse stages of plant succession benefit them. Such animals prosper and reach their greatest abundance at some optimum amount and arrangement of several habitat types. If certain habitat requirements are deficient, the species may still be present, but only in low numbers. Management for these species involves providing the correct mix of an assortment of trees and plants. As a general rule, forest and habitat diversity translate into wildlife diversity and abundance.

Effective management of any wildlife

species requires developing the right amounts of each habitat component. Since a species will flourish at some optimum amount of a given habitat component, any amount less or more than the optimal results in lesser population abundance. Extreme conditions become population limiting factors. For example, a moderate amount of fire may create habitat favoring a species, but no fire or excessive fire becomes a factor that limits the population. Because of this fact, providing excess amounts of any required habitat component will not result in greater population numbers. If a wildlife population is receiving an optimal amount of food, providing additional food will do nothing to further increase the population. Wildlife management is a matter of deciding how much of each habitat component is needed in a complex system where all environmental factors cannot be controlled. Physical factors such as climate and soils are important examples of environmental conditions usually beyond a manager's control.

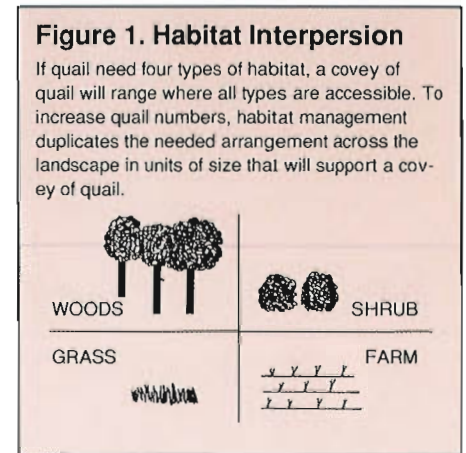
Habitat Improvement

The goal of wildlife habitat improvement is to bring all of the essentials for survival of a species into closest possible association. This reduces the land area necessary to support an individual or group and thereby increases the number of individuals the land can carry. Most frequently it is not the quantity of any one habitat component that limits wildlife numbers, but rather the spatial relationship to other requirements within an area—large quantities of potential food, cover or water may be unused by a particular animal because they are spaced too far apart from other requirements. Wild animals must have food. But they must also have cover to feel secure and escape danger. If we provide food and neglect cover needs, animals may never use the food or some that do may get eaten themselves.

A clearcut forest can provide abundant food sources for some wildlife, but much of it may never be used if sufficient forest is not present for escape cover. Forested corridors through clearcut areas are needed for security and will be used as travel routes that link disconnected cover blocks. If an animal must travel a long distance to obtain all of its life requirements, its survival is jeopardized. It is more likely to succumb to predation or

starvation along the way. Properly arranging habitat components in close proximity enhances survival. Management becomes a task of duplicating ideal habitat units across the landscape to increase wildlife numbers. The size of habitat units is relative to a species' mobility and behavior. A covey of quail may range over 25 acres. Some forest birds may need several hundred acres of unbroken habitat.

Arrangement of habitat types should consider both horizontal and vertical dimensions. Horizontal arrangement is called interspersions. Interspersions is the intermixing of different habitat types (mature forest, young forest, shrub, grassland, farm land, etc.) into a mosaic (Figure 1). Think of it as a jigsaw puzzle. All of the pieces of the puzzle must be present in proper order for the puzzle to be complete. Wildlife is usually abundant in landscapes with high interspersions. The principle of interspersions says that wherever two required habitat types for an ani-

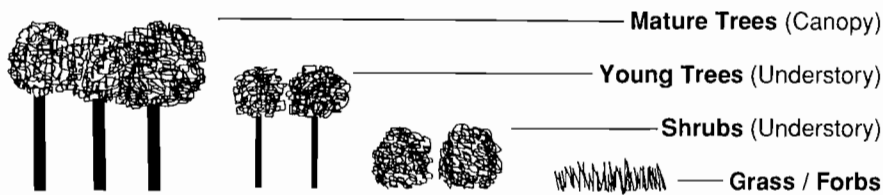


mal meet, the edge between the two will be more favorable for wildlife than either type alone. The transition between types in an important consideration. An edge where components from each habitat type gradually intermingle and intrude into each other is more beneficial than a sharp change from one to the next.

Bobwhite quail are found around cultivated land and also need woodland to fly into for escape. But, quail populations are usually low where agricultural land shifts abruptly to dense woodland. The habitat is improved vastly if cultivated ground transitions to open woodland through an intervening band of weeds, grasses and shrub patches. Large amounts of edge are not beneficial to all wildlife species. Some need unbroken areas of a certain

Figure 2. Vertical Layering

Vertical layering is an important element of forest composition to be aware of when managing forest habitats for wildlife.



successional stage as part of their habitat requirements. To attract a diversity of wildlife species persons controlling large sections of land should balance edge with unbroken forest.

Vertical layering refers to how plants grow in different layers within a forest community (Figure 2). Vertical layering or foliage height diversity is an important aspect of habitat arrangement within a forest. Think of this in terms of a high-rise apartment complex. The more canopy levels within the forest, the more habitat (homes) for wildlife. A forest composed of one distinct layer of tall trees provides fewer habitats than a forest with a variety of layers. This is especially true of forest birds. Uniform dense layering throughout the forest, however, is not ideal. Some forest birds, for example, may nest in dense shrub or midstory canopy but required open understory and groundstory areas for feeding. A "patchy" pattern of vegetation types within the forest provides a greater variety of food and cover to meet the needs of wildlife. Vertical layering is enhanced in forest with a relatively open overstory that allows space and sunlight penetration into the stand to promote growth of saplings, shrubs and herbaceous plants beneath the canopy.

Wild animals are integral parts of a forest ecosystem and any forest management activity affects their habitats. Habitat is the key to successfully managing wildlife. Timber management practices can be used in forest management for wildlife to manipulate vegetation into an arrangement that provides suitable habitat for desired species. Thinning forest stands, clear cutting, regenerating forests, prescribed burning and other practices are tools for improving wildlife habitats when applied with attention to the specific life requirements of wildlife. Opportunities for forest management can expand wildlife management alternatives.

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During Moody's retirement banquet, Sen. Ann Bedsole presented him with a resolution from the legislature which praised his achievements.

State Forester Moody Retires

After 23 years as Alabama's state forester, C.W. "Bill" Moody retired August 31, 1993. A retirement banquet attended by some 325 well-wishers was held August 24 at the Sheraton Civic Center Hotel in Birmingham.

Among the speakers was TREASURE Forest landowner Ed McCullers, who praised Moody for helping to create the TREASURE Forest program. Since Moody became state forester in 1970, a great number of forestry programs have been established to increase the beauty and productivity of Alabama's forests. The TREASURE Forest program is perhaps the most successful and recognizable of these, but under Moody's leadership all aspects of forestry have prospered.

The rural volunteer fire department program in Alabama has grown into

one of the finest in the United States. Urban forestry has also been pushed to the forefront. Alabama was one of the first states in the nation to form an Urban Forestry Council. Litter is being eradicated with the assistance of Alabama People Against a Littered State (PALS). These are just a few of the ways that Moody has advanced Alabama while serving as state forester.

Moody is leaving the Alabama Forestry Commission to become a full-time volunteer for Stewards of Family Farms, Ranches and Forests, an organization he founded. The group will promote stewardship of the land, along with environmentally responsible management and private property rights.

Assistant State Forester Tim Boyce is serving as acting state forester until the position can be filled. ♣

POLES

A PREEMINENT CROP

by ROBIN JOLLEY, Central Operations Manager, Scott Paper Company

It takes an exceptional tree to make a pole, but Alabama is blessed with the major pine species that have the potential to qualify for this valuable product. Longleaf pine was at one time the preferred species, but loblolly, slash and shortleaf are becoming a larger percentage of the business.

There were over 3 million poles produced in the United States in 1992. Approximately 2.6 million of these were for domestic usage. Southern Yellow Pine (SYP) accounted for 2.4 million (80 percent), and approximately 500,000 pieces were grown in Alabama.

Managing a stand for mixed products, including poles, is a wise investment. Historically, stumpage prices for poles have been almost twice that of other products; however, in today's market they are commanding a 20-30 percent higher value. That's still a good margin.

The first poles in the United States were comprised of durable species such as chestnut and cedar. As supplies of these species declined and with the advent of preservatives, other species were utilized in the early 1900s. However, the demand did not really take off until 1930 when Congress created the Rural Electrification Agency (R.E.A.). This agency has provided financial assistance and controls and currently has operations in over 70 percent of the United States.

As stated earlier, Alabama's pines have become the preferred species for the pole industry. This is due to several factors:

1. Supply—Alabama's and the Southeast in general have increased timberland acreage over the past 30 years and the moderate climate allows for shorter rotation ages.
2. Quality—All forest species have good form or straightness qualities.
3. Specifications—SYP has excellent strength properties.

4. Preservatives—Chemical treatments work well because of SYP's growth and fiber characteristics.

Poles are harvested from natural stands as well as plantations. To produce a pole in the 40- to 50-foot range will take approximately 45 to 50 years in natural stands and 30 to 35 years in plantations, depending on management intensity. When managing for poles in plantations, thinning is a management tool that may be used to produce larger poles in a shorter period of time. It is important that thinnings not be just made on basal area or space, but each tree is judged on its potential to make a pole. Several studies on high site index land have shown that 40 to 50 percent of a stand may produce poles.

As little as 5 utility poles per acre can be economically harvested, but 10 to 15

poles per acre are more efficient and enticing to a producer. The exception to the rule is in the larger transmission poles, where one 90-foot pole per acre is worth harvesting.

The export market is continuing to grow with recent shipments going through Mobile to Mexico, Greece and Turkey. The demand in these countries and others are for smaller poles on the 25- to 30-foot range. This opens up a very viable market for younger plantations in the Southeast. These poles are sold either kiln dried or treated depending on the customer.

All poles can make another forest product, but not all forest products can make a pole. That is the reason why it takes an exceptional or preeminent tree to be a pole. ♣

PROPER POLE TALK

As in many of the forest products industries, the pole business has developed some of its own vocabulary. Here are some definitions that are beneficial to know:

Barky poles	trees that are cut and marked for poles.
White/green poles	poles that have had the bark removed or 'peeled' from the bole.
Framed	poles that have been planed, drilled, stamped, etc. to purchaser's specifications.
Treated	the major preservatives used in poles are creosote, penta, and CCA.
Pole Classifications	poles are classed (valued) by diameter and length. For example, a 5/35 has a certain circumference at six feet from the butt and at the top and is 35 feet in length.
Utility pole	poles that are classified in the 30, 35, 40, 45 or 50 foot category.
Transmission pole	poles that are greater than 50 feet.
A.N.S.I.	the American National Standards Institute that provides guidelines for the pole industry.

LANDOWNERS

LEGISLATIVE • ALERT

NATIONAL

by BILL IMBERGAMO, Washington Office, National Association of State Foresters



“Counting critters” was a catch phrase around

Washington this summer as Congress authorized the creation of a new agency within the Department of Interior called the National Biological Survey, or NBS for short. The passage of legislation authorizing the new agency was not without controversy, however, as members of Congress sought to ensure that its employees would not violate citizen’s property rights.

The idea for the Survey came from Interior Secretary **Bruce Babbitt**, who has argued that the nation’s resource managers and landowners need to know what species are out there, what their habitat needs are, and how well they are doing in keeping their populations up. Babbitt has argued that knowing in advance where sensitive species are and what they need to survive can prevent environmental “train wrecks” such as the intractable debates over the northern spotted owl and the old growth forests of the Pacific Northwest.

With other potential conflicts brewing around the country, Babbitt has sought to find ways of striking deals with landowners and users to allow economic activities to continue while making provisions to protect threatened species and their habitats. A recent and relevant example is the agreement reached with Georgia-Pacific to protect the red-cockaded woodpecker on timberlands owned by the company. The data provided by the NBS will hopefully assist in making these arrangements further in advance, allowing for better planning and less acrimony.

The idea of the NBS is not without its critics, however. In addition to those who worry that it will infringe on private prop-

erty rights, both in the collection of data and in its ultimate results, many in Washington have questioned other aspects of the Survey. Foremost among their concerns are the huge changes that the NBS will make in various research programs in the Department of Interior.

In addition to providing for data collection and analysis, the NBS will serve as a centralized biological research department within the Department of Interior. The Department has a huge mission, ranging from running the U.S. Fish and Wildlife Service and overseeing federal relations with Indian tribes, to managing millions of acres of public lands, primarily in the West, for a number of purposes. This includes parks, and wilderness, grazing, timber and mining areas.

Many Interior Department agencies have developed their own biological and wildlife research units over the years as they have sought to comply with federal statutes protecting wildlife. In addition, the Fish and Wildlife Service provides cooperative research support to state fish and wildlife agencies to support management and conservation activities at the state level. The NBS would consolidate the biological and wildlife research staff of most of these agencies and bureaus, with the lion’s share of staff coming from the U.S. Fish and Wildlife Service.

Critics say that such a restructuring may leave the Service worse off, and may hamper its ability to provide states with information they need to manage wildlife. They also say that creation of an independent research bureau might lead to “wild blue yonder” research that does not adequately support the management of wildlife and other resources.

To allay the concerns of private property rights advocates, Secretary Babbitt assured the members of the House Mer-

chant Marine and Fisheries Committee that the employees to the NBS will respect trespass laws and wishes of the landowners as they go about their work.

Forestry May Play Part in National Action Plan on Global Warming

The Clinton Administration is preparing to release a new National Action Plan to combat global warming. They have examined a number of strategies that take advantage of one simple fact: as trees grow, they absorb carbon dioxide from the atmosphere and store it as wood fiber. This process, known as carbon sequestration, can help reduce the amount of carbon dioxide, a gas suspected of contributing to global warming, in the atmosphere.

Representatives of the National Association of State Foresters have been working with administration officials on the National Action Plan, and suggested that a number of forestry-related aspects be included. Tree planting on lands that are not currently forested is one way of sequestering more carbon; more intensively managing some forests that are not growing to their full potential is another.

Promoting the use of wood in structural and other long-term uses has a doubly positive effect on the world’s “carbon budget.” It holds sequestered carbon in the wood fiber over long periods of time, and since wood is less energy intensive to manufacture and is a better insulator than other materials, it cuts down on energy use and the need to burn additional fossil fuels and release additional carbon.

The National Action Plan could take advantage of these characteristics and existing federal programs that encourage tree planting, such as the Forestry Incentives Program and the Stewardship Incentives Program. In addition, there are some real opportunities to plant trees on lands

currently enrolled in the Conservation Reserve Program, and achieve long-term soil conservation and carbon sequestration benefits.

Another whole area of interest relating to tree planting and carbon comes from the utility and power producing industries. A provision in the 1992 National Energy Policy Act required the government to come up with a credible way for utilities to keep track of projects to "offset" or mitigate carbon emissions from their power plants. Tree planting for sequestration and urban forestry projects to reduce energy demand have figured prominently in the discussions aimed at formalizing this system. A West coast utility already has one demonstration project in which they have provided cost-share money to a private landowner to plant trees and maintain them over 75 years. The state forestry agency is providing technical assistance and oversight for the project.

Council to Explore Sustainable Development Formed

President Clinton announced the formation of an advisory council to develop domestic policy recommendations on sustainable development on June 14. The 25-member council includes leaders from business and industry, five cabinet secretaries, and leaders of major environmental groups.

The council will make recommendations to implement the provisions of "Agenda 21," one of the major agreements reached at the 1992 United Nations Conference on Environment and Development (UNCED, better known as the Earth Summit). The council's mandate will last two years, although it may be renewed for two more after that.

The president stressed the need for the council to focus on development strategies that encourage economic growth and job creation and still protect

the environment. The council began meeting in September, and has until June 1994 to identify specific actions to pursue a national sustainable development strategy.

The co-chairmen of the council, World Resources Institute President **Jonathan Lash** and Dow Chemical Co. Vice President **David T. Buzzeli**, said the council presented a unique opportunity to develop a comprehensive strategy of sustainable development based on voluntary corporate participation and move away from the current piecemeal approach that relies on specific regulations.

In some preliminary meetings, Buzzeli and Lash praised the agreement between Georgia-Pacific Corporation and the U.S. Fish and Wildlife Service to protect red-cockaded woodpeckers on its lands in the South as the sort of effort they would like to promote. G-P President and CEO **A.D. "Pete" Correll** is also on the council. ♣

ALABAMA

by FRANK SEGO, Legislative Liaison, Alabama Forestry Commission



Since last we published the Legislative Alert, the most unimaginable series of events have taken place in Alabama. Consider the following:

On April 22 the nation awoke to learn that **Guy Hunt** was to become the first chief executive to be convicted of a felony while serving in the governor's chair. At 2:30 p.m. the same day, Lt. Gov. **James E. Folsom, Jr.** became the state's 53rd governor in an emotional ceremony at the newly renovated state capitol. Folsom, who had been presiding officer of the Senate since January, 1987, told the overflow crowd that it was a trying and difficult time for the people of Alabama, but that he would launch a process to ensure an orderly transition of state government.

On May 7 former Governor Hunt returned to the Montgomery County Court House where Circuit Judge Randall Thomas ordered him to repay the \$200,000 that was declared taken from the 1987 inaugural fund and further sentenced him to spend 1,000 hours of community service, specifically in the area of helping Cullman County criminals find jobs; a \$10,000 fine; and that he make a \$1,000

contribution to the Alabama Crime Victims Compensation Fund and an estimated \$500 in court costs.

On May 17, the 1993 regular session of the legislature adjourned with one of its key senators, **Jim Bennett** of Homewood, being sworn in as Gov. Folsom's choice to become Secretary of State, replacing **Billy Joe Camp**, who accepted the new governor's appointment as director of the Alabama Development Office.

On July 26, Hunt's attorney officially filed the former governor's appeal of the felony ethics conviction. This is where the Hunt saga rested as this column faced its deadline on August 12.

Special Session Called

Ironically, the deadline for this column fell on the same day as the first special session of the legislature was called by Gov. Folsom to consider tougher standards on ethics and campaign reforms.

The stickiest thorn in the proposed ethics legislation was the power to investigate anonymous complaints. **Melvin Cooper**, executive director of the five-member Ethics Commission, had told a joint committee of the legislature that the anonymity provision in the existing law

was "extremely important because there is no protection for anyone who wishes to lodge a complaint against an official." At that time the Ethics Commission could only investigate signed complaints.

Campaign Contributions Targeted

The campaign finance bill offered by the governor would restrict contributions from political action committees to a cap of \$15,000; a limit of \$5,000 by individuals; and \$1,000 by corporations. A portion of the governor's bill would also prevent certain public officials and public employees from lobbying or contracting with public agencies for a period of two years after leaving office.

Another provision in Gov. Folsom's August 12 call included allowing the Alabama Development Office to finance projects for luring new industry into the state. Just prior to the special session, Gov. Folsom and ADO director Billy Joe Camp led a delegation of state officials to Germany in an effort to encourage Mercedes Benz to build a U.S. plant in Alabama. It was reported that Alabama was in contention with South Carolina for the facility.

(Continued from page 27)

A TREASURED Home

by RANDAL D. SMITH, Alabama Forestry Commission, Birmingham Metro District

The last place anyone might expect to find a TREASURE Forest is in the middle of a developing subdivision near Birmingham. But if you're looking for John and Martha McCrary's home and TREASURE Forest, that's exactly where you'll have to go.

Approaching the property one takes a quick left turn onto a well developed dirt road. Surprisingly, this leads to a lovely brick home surrounded by a beautiful pond and lots of woods.

The McCrary's purchased their 77-acre haven in 1960. "This was cutover timberland," John McCrary said. "This was all rocks, no roads, no access of any kind."

The tract that was once almost desolate is now a highly diversified ecosystem, with high quality timber and an abundance of wildlife.

As the couple continued to talk, one could easily see they had a love of nature, and therefore understand why they have made their forest so aesthetically pleasing.

The pond is stocked with brim and bass. A grey blue heron has successfully raised a family, and can be seen haloing above the pond. An abundance of deer also make this forest their home.

The McCrary's were introduced to the TREASURE Forest program in 1984 after requesting reforestation assistance from the Alabama Forestry Commission following a timber harvest.

After reading the guidelines, the McCrary's said they knew they would qualify for the program.

"We believed in TREASURE Forest before we knew what TREASURE Forest was," Martha said.

The McCrary's said they had been



Martha and John McCrary

good stewards using sound silvicultural practices from the time they purchased the land and now the result of their hard work can be observed.

The results on the McCrary's forest indicate that the "reclaiming pioneer spirit isn't dead," Martha said. "We took some barren land and made it productive."

John said he knows his property is not what most would consider a great deal of timberland, but it suits their needs. "When we purchased the land, I thought it was desirable to have some land for the kids, but we couldn't afford that much at the time."

After much deliberation, John said they decided to purchase the land, but the real estate agent called back to tell him they wouldn't be able to close the deal. He said it had been sold!

Martha was devastated, but John told the property owner to contact him immediately if he changed his mind. To their surprise, the property owner called to say the deal had fallen through and asked if the McCrarys would still like to purchase the property.

After purchasing the land, the McCrary's began a steady process of managing the property to suit their needs. The couple began this reconstruction process by building a road.

"The first time we built a road, we didn't build any ditches," Mr. McCrary said. "After it rained, we learned our lesson and we had to go back and do it right."

A pond was constructed in 1964, follow by the construction of a cabin in 1966.

The entire McCrary clan, including their two children, Rebecca and Dan, helped build the cabin. "We'd haul the kids down here with supplies," John said.

Eventually they decided to convert the cabin into a home. The couple used the bricks and materials from three wrecked homes to build the house.

"The grey bricks forming the chimney came from the church we were married in," Martha said. When they heard the former Fairfield Methodist Church was been torn down, they wanted to use the bricks in remembrance of their wedding.

The McCrary's TREASURE Forest has recently been recertified. All TREASURE Forest are recertified every five years to ensure management objectives are being met.

Timber is the primary objective of this TREASURE Forest and wildlife is secondary. The McCrarys have dedicated their lives to the prosperity of their TREASURE Forest.

John and Martha McCrary are special folks. They share a dream, as well as the love, dedication, and understanding needed to showcase the miracle of mother nature that surrounds them. That's what makes this couple one of Alabama's most valued TREASURES. ♣

A Recreational TREASURE

by COLEEN VANSANT, Information Specialist, Alabama Forestry Commission, Birmingham

Shut your eyes, take a deep breath and listen to the sounds around you. Wind is rustling through the pines; you can hear water as it gently rolls against earthen banks. Children's laughter floats across the water carried by a gentle breeze, and the air is full of the songs of dozens of birds. The toot and hiss of a locomotive overcomes the gentle music of a child's carousel.

You can experience all of this and more at Cullman County's own TREASURE Forest—Sportsman's Lake Park.

Owned by the citizens of Cullman County and managed for the last nine years by Bud and Nonie Moon, the 160-acre park is located in the heart of the city of Cullman. As its name implies, the 32-acre lake is the focal point for the park, which has almost everything to offer for anyone from toddlers to senior citizens.

If you're a water lover, there's definitely something for you. Along with fishing for catfish, bass and bream, you can cruise around the lake in one of the many paddle boats. A fishing permit for the day will cost you \$1.50.

For animal lovers there's a smorgasbord of critters of all shapes and sizes to watch and enjoy. On the grounds is a small zoo with bears, monkeys, goats, chickens, a donkey, and a llama, among other things. And then there are the ducks. Dozens and dozens of ducks in all shapes and sizes. Depending upon the season you might see Canadian honkers, blue-winged teals, and mallards. Special nesting areas have been fenced for protection against predators and the public. You can also see wild rabbits, squirrels and deer.

Athletic types also have something to do. There is an 18-hole mini golf course



Bud Moon gives his wife Nonie a ride on one of the most popular attractions at Sportsman's Lake Park.

and a lighted walking trail around the lake. The trail features a natural wetland area where you can see and hear a variety of wild creatures including beaver, frogs and wood ducks. Approximately 35 species of birds have been identified in the park, along with five different species of woodpeckers, including a pileate woodpecker. Many of these birds use the natural wetland area as a source of food and shelter.

According to Bud and Nonie, each of them has their favorite part of the park. Nonie's interest lies with flower and tree plantings around the park for beautification, as well as a 4-acre area dedicated to the growing and preservation of wildflowers. The Cullman County Park and Recreation Board designated that this area be used exclusively for wildflowers. Over 300 varieties of wild plants and flowers have been collected and are included in the area. The Cullman Native Plant Society has charted the area and an inventory is kept of each plant. Sacred Heart Boy Scout Troop 321 constructed bridges and an arbor in the wild garden as a project towards earning their Eagle

Scout badge.

For Bud, the little boy will always prevail. His favorite thing about the park is the miniature train which was obtained last year. Brought from Pennsylvania, the small locomotive pulls the passenger cars around the park on a little over 1.25 miles of track. It's a wonderful and exciting way to see the park.

Although the park is managed for recreation and aesthetics under the TREASURE Forest plan, education is a very important factor in the park. Both boy and girl scout groups use the park for jamborees and camp weeks, and local schools use it

also. In past years the park has been used for county forestry judging contests and practice sessions. Where better to go for knowledge of wildlife and wildflowers?

If you run out of things to do, you can ride the miniature ferris wheel and merry-go-round located on the park grounds, or have a picnic at one of 16 picnic shelters. And if that doesn't make your day you can visit the Alabama Forestry Commission's ranger office located within the boundaries of the TREASURE Forest.

One of the very best things about the park is that, other than small individual fees to participate in one of the many activities, there is no cost. It is one of very few parks in the state where there is no gate fee for admittance.

Sportsman's Lake Park. It's a magical place. The kind of hideaway each of us seeks at one time or another. There's a lot to do there. Enough to fill a day if you were very industrious. Or if you like ... you can do very little. Just sit and think. Or you can just sit. But whatever you choose you will enjoy! ♣

HARDWOOD

A Matter Of Quality

by KAREN M. KENNA, Marketing Specialist, USFS, Atlanta

Product quality is all important to the management and sale of hardwood timber. In virtually every case the forest landowner should strive to manage his or her timberland for the highest quality material. Obviously, at the time of timber sale, a high quality product will bring a better price than a low quality. Beyond this, though, high grade trees tend to be healthier trees, better able to heal wounds, withstand insect and disease attacks, and the force of strong winds. During times of extreme climatic conditions, a tree's good health can help it survive stress. Possibly the only instance a low quality tree will be favored is in the wildlife management practice of providing hollow trees as dens for small game.

Unless the wood is truly rotted and dotey, all hardwoods have value. This value, however, will vary depending on species, diameter at breast height, clearness of the bole surface, straightness of the bole, and soundness of the material. The low end value has been traditionally defined as firewood or pulpwood and the high end as veneer. The middle ground is material described generally as sawlogs. Note that this is how the marketplace values these products under normal market conditions. There may be times when a normally low-value product will bring a higher dollar than a normally high value product. An example of this would be if the demand for pulpwood drove pulpwood values to exceed those of sawlogs. These situations, when they do occur, are usually a local phenomena and short lived. A forest landowner should thoroughly research local market conditions before making a timber sale. The landowner has a lot invested in the timber and should receive the highest return possible. To begin, obtain an accurate stand inventory of volume by species and product: pulpwood, sawlogs by grade, specialty products and

veneer. With this information in hand, along with market price information, a landowner can get an idea of the worth of the standing timber.

There are numerous publications available to help identify trees by species and measure the tree volume in board feet. There are also commercial publications reporting on current price levels of stumpage. The more difficult task is to identify the product to which the tree is best suited. A major objective of log classification is to separate from woods-run logs those that are suitable for the manufacture of a given product or class of products.

It is not the intent here to detail explicitly all hardwood product grading systems. Such a task could cover volumes in itself. Since over half of all hardwood log production is destined for factory lumber, we will concentrate on describing a system of grading for this product alone. This type of log is adapted to the production of boards that later can be remanufactured to remove defects and yield smaller strips of clear wood. An examination of almost any piece of solid hardwood furniture will demonstrate how these strips have been further utilized by edge-gluing to produce drawer fronts, table tops, chair seats and bed rails. It is important to note that any log suitable for sawing into factory lumber may also be suitable for firewood, pulpwood, veneer, or specialty products. It cannot be emphasized enough that a thorough investigation of local market conditions is necessary in order to know which log classification will generate the highest income and return on investment.

Some people judge the usefulness of a grading system by simplicity or ease of application. This is not a sound approach. Whether grades are suitable for a given objective depends not upon how easy they are to use, but how well they meet stated performance standards. The USDA-Forest

Service developed a log-grading system which, by grade, predicts the quality of lumber that can be sawn from the log. The grades of lumber cut from such logs are determined by specifications of the National Hardwood Lumber Association (NHLA) grading rules for standard lumber. These lumber grades specify the minimum yield of defect-free material obtainable from boards in each grade. High grade boards are those boards relatively free of defect. A defect is defined as any irregularity occurring in or on wood that may lower some of its strength, durability, or utility. Defects in boards include irregularities such as knots, holes, deep surface checks, splits and stain.

Grades of Hardwood Factory Lumber

There are six established standard grades of hardwood factory lumber. They are as follows: FAS, Selects, No. 1 Common, No. 2 Common, No. 3A Common, and No. 3B Common. FAS boards yield the most defect-free wood. For a board to qualify as FAS, its surface must be at least 83-1/3% clear. A Select board, which is a cross between an FAS and No. 1 Common board, must also yield 83-1/3%. A No. 1 Common board must be 66-2/3% free of defects. A No. 2 Common 50%; a No. 3A Common 33-1/3%; and a No. 3B Common 25% clear. The comparative value of these grades of lumber reflects the fact that the clearer the board the more it is worth.

The USDA-Forest Service's standard grades for hardwood factory lumber logs predicts that as a rule of thumb, a grade No. 1 log will yield 60+% 1 Common and better lumber. This means that at least 60% of the volume of the lumber produced from that log will be in grades FAS, Select, and 1 Common. A grade No. 2 log will yield between 40-60% 1 Common and better lumber; and grade No. 3 logs

Table 1.

Grading Factors		Log Grades							
		F1			F2				F3
Position in tree		Butts only	Butts & uppers		Butts & uppers				Butts & uppers
Diameter, scaling		¹ 13"-15"	16"-19"	20" +	² 11"	12" +			8" +
Length without trim		10' +			10'+	8-9'	10-11'	12' +	8' +
Clear cuttings ³ on each 3 best faces	Length, min.,	7'	5'	3'	3'	3'	3'	3'	2'
	Number, maximum	2	2	2	2	2	2	3	No limit
	Fraction of log length required in clear cutting ⁴	5/6	5/6	5/6	2/3	3/4	2/3	2/3	1/2
Sweep and crook allowance (maximum) in percent gross volume	For logs with less than 1/4 of end in sound defects	15%			30%				50%
	For logs with more than 1/4 of end in sound defects	10%			20%				35%
Total scaling deduction including sweep and crook		⁵ 40%			⁶ 50%				50%
End defects:		See instructions							

¹ Ash and basswood butts can be 12 inches if they meet all other No. 1 requirements. ² Ten-inch logs of all species can be No. 2 if they meet all other No. 1 requirements. ³ A clear cutting is a portion of a face free of defects, extending the width of the face. ⁴ See Table No. 1. ⁵ Otherwise No. 1 logs with 41-60% deductions can be No. 2. ⁶ Otherwise No. 2 logs with 51-60% deductions can be No. 3.

yield 20-40% 1 Common and better lumber. Any log that does not meet the specifications for a factory grade No. 3 log is termed "below grade." Again, this designation does not mean that the log does not have value. It means that it would be uneconomical for a sawmill to saw this log, as not enough grade lumber would be produced to pay its way through the mill. It may, however, have value as a tie or timber, firewood, pulpwood, or for local use such as in secondary farm buildings.

As the log grading system is intended to predict lumber quality, hardwood logs are graded in much the same way hardwood lumber is graded, and the specifications between log and lumber grades are closely correlated; i.e., log grades are based on the percentage of clear area on the surface of the log. And since log quality is intended to predict lumber quality, the percentage of clear area required is the same.

Log Grading

The major factors that affect the quality of factory lumber logs are: (1) position of the log in the tree (butt or upper); (2) size of log, especially diameter; (3) straightness; (4) amount and distribution of scalable defects; and (5) defects in the usable wood outside the heart center. *Table 1* describes the specifications for the three grades.

Table 2.

Log Length (feet)	Log Grade					
	1 (5/6 yield)		2 (4/6 yield)		3 (1/2 yield)	
	Clear	Lose	Clear	Lose	Clear	Lose
10	8'4"	1'8"	6'8"	3'4"	5'	5'
12	10'	2'	8'	4'	6'	6'
14	11'8"	2'4"	9'4"	4'8"	7'	7'
16	13'4"	2'8"	10'8"	5'4"	8'	8'

For No. 1 - Length times 2 gives inches can lose.
For No. 2 - Length times 4 gives inches can lose.

There are four basic steps in grading hardwood factory logs for standard lumber: (1) Scale the log; (2) Establish the grading face; (3) Identify the clear cuttings on the grading face; and (4) Examine the log ends.

1. Scale the Log—Scaling a log is the first step in grading. It not only gives an estimate of the content, but also gives some data needed to apply grade specifications. Average diameter inside the bark on the small end of the log is used in scaling and grading. The length for figuring the necessary clear cuttings is dropped to the full foot, but cuttings are allowed to include the overlength. Scaling a log includes the practice of making deductions in instances where an irregularity in the log reduces its useable volume.

2. Establish The Grading Face—After measuring the log, the next step is to

visually square the log full length into four faces so oriented as to give the largest possible number of good faces. Confine any given defect to one face wherever possible instead of permitting it to extend over two faces unnecessarily. The grade of the log will be established by the poorest face of the best three faces.

In other words, disregard the poorest face on the log, and grade the poorest of the remaining three faces. This is the grade of the log.

3. Identify the Clear Cuttings on the Grading Face—The grade of a face is established on the basis of clear cutting requirements. Clear cuttings are portions of the length of the face that lie between defects or between the ends of the logs and defects, and extend the full width of the face.

The challenge in grading factory-lumber logs is to locate clear cuttings. This requires the proper evaluation of surface indicators of defects. Branch stubs and knot overgrowths are clearly evident, so they present no problem. But the grader usually needs some training and experience to detect and evaluate accurately other less obvious indicators.

Note from *Table 1* that a log grade No. 1 must yield 5/6 or 83-1/3% of the length of the grading face clear. Log grade No. 2 must yield 2/3 of the length of the face clear and log grade No. 3 must be 1/2 clear. *Table 2* helps you to determine what 5/6, 2/3, and 1/2 is of various log lengths. For example, 10 feet is 5/6 of a 12-foot long log; 9 feet 4 inches is 2/3 of a 14 foot log; and 5 feet is 1/2 of a 10-foot log. The amount permissible to lose can also be used and is listed in the table.

4. Examine Log Ends—Once the faces have been graded, the log ends must be examined for grade defect indicators

Table 3: Hardwood Tree Grades for Factory Lumber

Grade Factor	Tree Grade 1		Tree Grade 2		Tree Grade 3
Length of grading zone (feet)	Butt 16		Butt 16		Butt 16
Length of grading zone ^a (feet)	Best 12		Best 12		Best 12
Dbh, minimum (inches)	16 ^b		13		10
Diameter, minimum inside bark at top of grading section (inches)	13 ^b	16 20	11 ^c	12	8
Clear cuttings (on best 3 faces): ^d					
Length, minimum (feet)	7	5 3	3	3	2
Number on face (maximum)	2		2 3		(e)
Yield in face length (minimum)	5/6		4/6		3/6
Cull deduction, including crook and sweep but excluding shake, maximum within grading section (percent)	9		9 ^f		50

- a Whenever a 14- or 16-foot section of the butt 16-foot log is better than the best 12-foot section, the grade of the longer section will become the grade of the tree. This longer section, when used, is the basis for determining the grading factors such as diameter and cull deduction.
- b In basswood and ash, dib at top of grading section must be 12 inches and dbh must be 15 inches.
- c Grade 2 trees can be 10 inches ib at top of the grading section if otherwise meeting surface requirements for small grade 1s.
- d A clear cutting is a portion of a face free of defects, extending the width of the face. A face is one-fourth of the surface of the grading section as divided lengthwise.
- e Unlimited.
- f Fifteen percent crook and sweep or 40 percent total cull deduction are permitted in grade 2 if size and surface of grading section qualify as grade 1. If rot shortens the required clear cuttings to the extent of dropping the butt log to grade 2, do not drop the tree's grade to 3 unless the cull deduction for rot is greater than 40 percent.

that may not show on the log surface. All abnormalities, regardless of type, can be disregarded when they are confined to the heart center. Heart center is considered to be a core in the center of the log with a radius equal to one-fifth of diameter. Only when the abnormality enters the quality zone, that portion of the log from which grade lumber is produced, does it become a problem. The quality zone of a log is that portion of the log outside the heart center. It is further divided into the inner quality zone and the outer quality zone, each having a radius equal to 15% of the diameter of the log. If an abnormality is confined to one quality zone in a quadrant of the log end, it can be disregarded as a defect. However, if the defect is found in both the inner and outer quality zone, it must be considered a defect in the quarter and face involved. If it is determined that the defect extends the full length of the log, no clear cutting can be taken on the face overlying the defect.

Tree Grades

The USDA Forest Service Hardwood Tree Grades for Factory Lumber were developed for use on standing sawtimber. Those already familiar with the log grades will immediately see a great similarity between the two grading systems. *Table 3* contains the specifications of the tree grading system.

These specifications are applied in much

the same way logs are graded. First the tree's size is determined by measuring the dbh to the nearest inch. The grader then walks around the tree to identify the location of all defect indicators on the surface of the butt 16-foot log. As in log grading, as many defects as possible are grouped into one face since the worst face can be disregarded. The next to the worst face is then identified and graded. The grade of this face is the grade assigned to the tree.

In grading the next to the worst face of the butt 16-foot log, the grader must grade at least 12 feet, known as a "sliding 12 foot section." For example, suppose the grader noticed defect indicators clustered at the top of the 16-foot log, she/he could then choose to grade the bottom 12 feet. In another instance, rot may be noticed at the base of the tree. The grader then has the option of grading the upper 12 feet.

The flexibility to slide the 12-foot grading section on the grading face accounts for the one big difference in specifications between log and tree grades; i.e., scalable defect limitations. Grade 1 logs may contain up to 40% defect while the grading section of grade-1 trees is limited to 9%. The reason for this is that the influence of a large defect in a tree may be eliminated by grading the best 12-foot section while the log grader is required to grade the log in its entirety.

Table 4 compares the value of the lumber sawn from two trees of the same size but different tree grades. Using Hardwood

Table 4: Comparison of the value of the lumber sawn from a USFS Grade 1 and Grade 3 tree. Size: 20", 2 1/2 logs. Species: Northern Red Oak.

Grade 1 Tree					
Lumber Grade	\$/BF	X	BF	=	Lumber Value
FAS	.815	X	63	=	\$51.35
IF-SEL	.805	X	47	=	37.84
#1 COM	.730	X	97	=	70.81
#2 COM	.485	X	98	=	47.53
#3A COM	.425	X	40	=	17.00
#3B COM	.350	X	11	=	3.85
				356	\$228.38
Grade 3 Tree					
Lumber Grade	\$/BF	X	BF	=	Lumber Value
FAS	.815	X	9	=	\$7.34
IF-SEL	.805	X	17	=	13.69
#1 COM	.730	X	64	=	46.72
#2 COM	.485	X	81	=	39.29
#3A COM	.425	X	71	=	30.17
#3B COM	.350	X	63	=	22.05
				305	\$159.26

The difference in the value of the lumber sawn from two trees of the same size is \$69.12.

Market Report prices for July 1993 and lumber yields from the publication "Hardwood Tree Grades for Factory Lumber" we find that the difference in the value of lumber sawn from these two trees is over \$69.

References

- Interpretation of defect indicators and application of hardwood log and tree grades requires study and practice. Short courses in log and tree grading are often hosted by state forestry agencies and universities. Attendance at one of these sessions will help to clarify the points made in this article. In addition, the following are useful references:
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The Endangered Species Act and The Private Landowner

by WENDELL NEAL, USDI Fish and Wildlife Service

The Endangered Species Act (ESA) was enacted by Congress in 1973 to preserve species at risk of extinction. As a basic part of this protection, the ESA prohibits killing, harming or otherwise "taking" endangered or threatened species of wildlife or fish. Taking has been interpreted to include alteration of habitat on which listed species depend. In practice, enforcement of the prohibition against habitat alteration has met with varying degrees of success.

Regulations which implement the "taking" prohibitions of the ESA define "harm" as including significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. This form of "taking" need not be intentional to constitute a violation.

Plants do not have the same protection under the Section 9 "taking" prohibition as do listed fish or wildlife species. Prior to 1988, the protection extended to endangered plant species prohibited only the sale, interstate transport or removal from federal lands. The 1988 ESA amendments expanded the removal prohibition most relevant to private developers to make it unlawful to "remove and reduce to possession any such (endangered plant) species from areas under federal jurisdiction; maliciously damage or destroy any such species on any other area in knowing violation of any state law or regulation, including state criminal trespass law."

Do Section 9 taking prohibitions apply to the private landowner?

Yes! The statutory language of the ESA indicates that the taking prohibition, in the case of animals, applies to private and governmental entities alike. Given the broad interpretations of the regulations implementing Section 9 of the ESA, the Fish and Wildlife Service's own solicitor's opinions, and several judicial deci-

sions involving takings by state and federal entities, it is also clear that take is sometimes broadly interpreted to include adverse modification of habitat occupied by listed wildlife and fish. The prohibition against taking of listed fish or wildlife (which may be interpreted to mean adverse modification of habitat) has sometimes produced conflicts with private landowners developing or managing their lands.

What are a forestry consultant's responsibilities when working for the private sector?

The consultant should be aware of what listed species may be present and how they may be affected by recommendations made to the landowner. Should federally listed species be present, the consultant should determine if land use plans may adversely affect the species. If such a possible effect exists, the consultant should advise the landowner of the act's requirements under Section 9 and options available to insure compliance. The Service may be contacted for technical assistance, and there is a developing body of expertise on endangered species surveys, assessments and management planning by wildlife consultants.

Is a private forestry consultant liable under the act when providing advice or recommendations to a landowner?

I don't know, but sometime ago, I had my income tax prepared by a tax consultant and later, when audited by the IRS and found to be "owing," there was little doubt as to who had to pay. I know of one Section 9 conflict involving a forestry consultant, but the case involved more than providing routine advice and planning assistance.

How is Section 9 enforced?

The Service may seek civil penalties, ranging from a maximum of \$500 per violation for an unknowing taking to a

maximum of \$25,000 per violation for a "knowing" taking. The civil penalties are assessed administratively, with an opportunity for a hearing and later judicial review. The federal government may bring a criminal action in district court against "any person who knowingly violates" ESA taking prohibitions. The maximum criminal penalties are a \$50,000 fine and one year's imprisonment for each taking of endangered wildlife. Also, any person (e.g., an environmental group) may bring a citizen suit against any other person (e.g., private landowner) to enjoin an ESA taking. The citizen suit must be preceded by 60 days written notice of intent to sue. Litigation costs (including attorney fees) are available for a successful suit.

Has a taking case based on habitat modification on private lands been brought either by the federal government or environmental groups?

The Justice Department reports that a guilty plea was announced in an action it brought against a defendant for destroying habitat of the endangered salt marsh harvest mouse in California, and it was noted that this was the first California prosecution of a taking violation based on significant habitat modification. There have been numerous conflicts settled in a way that did not involve legal proceedings. Had these not been satisfactorily resolved, legal actions may have been instituted. The ESA specifically provides a means of reconciling such conflicts through habitat conservation planning and issuance of incidental take permits (this will be discussed in further detail later).

Is the imposition of Section 9 requirements on private landowners a "taking" of private property rights?

Many believe this to be true and in strong need of resolution. It is my understanding that there are several attempts underway by Congress to devise a means

Threatened and Endangered Species in Alabama

Alabama has one of the most biologically diverse landscapes in the nation. We also have the fifth highest number of endangered species, after California, Texas, Hawaii and Florida. These two facts are related. Alabama's extensive river systems, many natural caves, varying topography (from mountain to shoreline) has created many small niches which nature has filled with unique creatures. Many of these animals live in very small sites and have always been rare.

The following table is part of the U.S. Department of Interior Fish and Wildlife Service's federal list of threatened and endangered species that occur in Alabama as identified by the Alabama Natural Heritage Program.

Marine

Alabama beach mouse
Perdido Key beach mouse
West Indian manatee
Piping plover
Green sea turtle
Hawksbill sea turtle
Kemp's Ridley sea turtle
Leatherback sea turtle
Loggerhead sea turtle

Southern pigtoe mussel
Stirrup shell mussel
Triangular kidneyshell mussel
Turgid-blossum pearly mussel*
Upland combshell mussel
White wartyback pearly mussel
Yellow-blossom pearly mussel*

Aquatic

American alligator
Alabama red-bellied turtle
Flattened musk turtle
Boulder darter
Goldline darter
Slackwater darter
Snail darter
Watercress darter
Gulf sturgeon
Blue shiner
Cahaba shiner
Palezone shiner
Pygmy sculpin
Alabama lamp pearly mussel
Alabama moccasinshell mussel
Cat's paw pearly mussel
Coosa moccasinshell mussel
Cracking pearly mussel
Dark pigtoe mussel
Fanshell mussel
Fine-lined pocketbook mussel
Fine-rayed pigtoe mussel
Inflated heelsplitter mussel
Judge Tait's mussel
Little wing pearly mussel
Marshall's mussel
Orange-nacre mucket
Orange-footed pearly mussel
Ovate clubshell mussel
Pale lilliput pearly mussel
Penitent mussel
Pink mucket pearly mussel
Ring pink pearly mussel*
Rough pigtoe mussel
Shiney pigtoe mussel
Southern acornshell mussel
Southern clubshell mussel

Caves

Alabama cavefish
Alabama cave shrimp
Indiana bat
Gray bat

Terrestrial Animals

Florida panther*
Bald eagle
Red-cockaded woodpecker
Ivory-billed woodpecker*
American peregrine falcon*
Arctic peregrine falcon*
Mississippi sandhill crane
Bachman's warbler
Wood stork
Gopher tortoise (west of Tombigbee River)
Eastern Indigo snake
Red hills salamander
Alabama livebearing snail
American burying beetle*

Plants

Alabama canebrake pitcher plant
Alabama leather flower
Alabama streak-sorus fern
American hart's-tongue fern
Green pitcher plant
Harperella
Kral's water plantain
Leafy prairie clover
Little amphianthus
Lyrate bladderpod
Mohr's Barbara's buttons
Morefield's leather flower
Pondberry
Price's potato bean
Relict trillium
Tennessee yellow-eyed grass

of landowner compensation where appropriate. Certainly, if this happens, the act will be much better received by the private sector. Endangered species conservation can, and often does, coexist with other land uses. Since here in the South most land is privately owned, such compensation would certainly enhance conservation opportunities.

Do other parts of the ESA apply to private lands?

Yes, indirectly. Section 7 of the ESA prohibits "federal agency actions" which would either jeopardize the continued existence of listed species or adversely modify habitat which has been officially designated as critical. However, unless the activities on private land require some form of Federal authorization (permit, funding, cost-sharing, etc.), the use of private land requires no compliance with Section 7.

What if a private landowner is developing or managing land in such a way that a "taking" of a federally listed species is occurring?

The ESA defines such taking as incidental taking, in that the taking is a by-product of an otherwise lawful activity. For example, if a landowner is cutting timber, the purpose of the activity would be not to "take" a federally listed species, but to harvest timber; if a "taking" occurs, it is "incidental." Such a "taking" of federally listed fish and wildlife is unlawful except under terms of a permit which can in some instances be issued by the Service.

Should a landowner find himself in this position, it would be best to seek advice from a Service biologist to determine if in fact there is a need to work around the needs of a federally listed species. If there is such a need, the biologist will work with the landowner toward a satisfactory solution. There may be instances where there is no satisfactory solution (for example, one landowner wanted to cut down a cypress tree with an eagle nest and two chicks). However, in the vast majority of cases, there is a solution allowing the landowners to meet their objectives while preserving a threatened or endangered species at the same time. These accomplishments are possible with early land use planning. To proceed with activities that result in exposure to liability

* Questionable as to whether they occur in Alabama.



This moist, cool slope beneath a stand of mixed hardwoods and spruce pine is prime habitat for red hills salamander in Butler County.

ties under Section 9, without giving due consideration to the possibility of compatible solutions, is poor risk management in view of today's litigation-prone community.

In some situations there is not a means of accomplishing landowner objectives without significant risk of incidental "taking" of listed species. In such situations, the Service may offer to provide the landowner with an incidental take permit. This permit is just what it says it is. It is a permit issued by the Service to a landowner or entity, which permits the landowner or entity to incidentally take federally listed species. Increasingly, large industrial forestland owners are choosing this means of minimizing their exposure under Section 9 in carrying out forest management operations.

The incidental take permit process is expectedly bureaucratic and involves some red tape. Briefly, the Service requires the incidental take permit applicant to produce a habitat conservation plan (HCP). An HCP minimizes the detrimental effects of the incidental taking by producing other beneficial effects, so that the overall plan mitigates the adverse effects. The Service works closely with the landowner to insure that the HCP meets the mutual objectives of the Service and the landowner. The Service takes the HCP through an internal review process to insure that the action will not jeopardize

the continued existence of the species, while insuring National Environmental Policy Act (NEPA) compliance. In this instance, the contents of the HCP are published in the Federal Register for public review and comment. Some landowners have expressed a sensitivity to having their plans made public. However, regardless of any public input, the final decision on issuance of the permit remains with the Service. This process can easily take six months or longer, depending on the nature of the action.

The HCP/incidental take permit process is not appropriate for every situation. Each situation must be examined individually. Many conflicts can be easily resolved by simple land use planning. Presently, the Service's Jackson, Mississippi field station is working with several major landowners on HCPs involving the red hills salamander in Alabama, gopher tortoise in Mississippi, and red-cockaded woodpecker in Arkansas and Mississippi. These landowners are providing leadership in demonstrating that endangered species conservation and forest management are not necessarily incompatible. Sometimes, when land uses appear to be incompatible, it may be only a matter of finding creative solutions.

Unfortunately, some landowners continue to manage lands in ways adverse to federally listed species, while hoping that these activities don't come to the attention

of the Service. Perhaps, because of the reactionary nature of some media, and the volumes of misinformation about endangered species conflicts, there is a tendency for private landowners to be reluctant to address these issues. Whatever the final decision made by the non-federal entity on any individual endangered species issue, it is always best to base the decision on factual information. Remember that most potential conflicts can be resolved by simple early land use planning and coordination with the Service.

This article reflects the author's personal opinions and should not be interpreted as representing official positions of the U. S. Fish and Wildlife Service.

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Landowner-Hunter Relations

by THAGARD R. COLVIN, Area Manager, Blue Springs Wildlife Management Area

“Doves! They look like a drove of blackbirds swarming that field. There must be 500 birds in one flock! Do you suppose that farmer would let us have a dove shoot one afternoon?”

“I’ll call him, but don’t expect too much. Some guys shot his field the first season. They didn’t ask permission, much less thank him.”

My cousin and I spent the rest of the season watching tremendous droves of dove pour into the off limits field. The landowner did not allow anyone on his field to hunt because of the bad experience he had with unethical hunters.

More Woodlands Closed

Each year more field and woodlands are closed to hunters and invitations to hunt become fewer and farther between. On top of that, more and more lands are being leased to closed groups.

Now, it doesn’t take a wise owl long to see that problems exist between hunters and landowners. Undoubtedly, part of the problem is the distorted image landowners attribute to all hunters, because of the undesirable actions of some unethical hunters. Like it or not, a group generally is judged by the actions of its worst members. As long as we have some unethical hunters, and true sportsmen tolerate their actions, all hunters are going to suffer the consequences.

What are some of the major problems landowners encounter, and how can sportsmen hunters help those who provide habitat for our cherished wildlife? How about landowner abuse? What can be more disgusting to a landowner, who has spent years managing wildlife on his land, than to have unethical hunters destroy and ruin his accomplishments. Unethical hunters (to consider or call them sportsmen would be an insult to true sportsmen

hunters) abuse the property and rights of landowners in many ways. Unethical hunters exceed game bag limits, hunt over bait and disregard other laws and regulations. They discard cans, bottles, trash and other litter in fields and woods. They hunt after dark; drive their vehicles across fields, terraces and wildlife openings, and

Undoubtedly, part of the problem is the distorted image landowners attribute to all hunters, because of the undesirable actions of some unethical hunters.

shoot at signs, livestock and buildings.

The unethical hunter runs “roughshod” over property owners by hunting without permission from adjacent roads and by releasing dogs on small blocks of land, knowing they can’t be controlled or caught before they cross onto “posted” property. Fences are torn down, gates are left open or closed contrary to the owner’s desires.

How Can Abuses Be Stopped?

How can these abuses be stopped? First, each sportsman hunter must assess his own hunting habits to make certain that he is not, unintentionally or other-

wise, violating good hunter ethics. Each sportsman must learn to hunt according to state game and fish laws and regulations.

The Golden Rule should be the foundation in our dealings with others, whether it be a landowner or the person in a dove blind down the fence row. Treat each individual as you would like to be treated yourself.

Getting rid of the unethical hunter is merely a logical development. One way to do this is by peer pressure. Let the unethical person know that his behavior is not acceptable nor will it be tolerated by you, your hunting group or club. The sportsman hunter should not equivocate regarding abusive hunting practices. Nor should he provide an audience for the unethical hunter’s exploits at the local coffee shop. If listeners air their disapproval and disgust for such unethical hunting of wildlife, the unsatisfied craving for attention and acceptance would become meaningless. The unethical hunter would no longer have reasons to continue his unacceptable conduct.

Prompt Reporting Will Help

Promptly reporting violations of game and fish laws and regulations will also deter the unethical hunter. Hunters must realize that the chronic, intentional game law violator is a thief and should be treated as such. He not only steals game, he threatens the future of hunting itself and should be dealt with accordingly.

Landowners are also tired of being taken for granted by consumers of wildlife. Such an attitude creates another problem.

During eight months of each year there is a tendency to push wildlife and hunting into the background as attention is diverted to rivers, lakes and other warm weather activities. But during the other part of the year the quail are nesting in field borders and turkey hens are having their poults and bugging for insects in a pasture

or forest opening. Corn, peanuts, millet and other future dove feeding fields are being planted, cultivated and harvested during the "off season."

What impression does a farmer or timber owner have of a hunter who visits him only in November, December, March or April, or two weeks before the season begins? Could the landowner possibly be thinking, "Where were you when I was providing food and cover for wildlife on my property and keeping poachers from stealing it?"

I am sure sportsmen hunters would be welcomed by "Mr. Landowner" if they visited and offered a helping hand earlier in the year. There's always a lot of work to be done and an extra helping hand generally is greatly appreciated.

Maybe your hunting party can pitch in on a couple of Saturdays to help clear and plant wildlife openings for deer and turkey. Most wildlife managers can use some help in purchasing planting supplies. Materials such as chufas, millet seed and fertilizer are expensive.

More Ways to Help

The installation, maintenance and repair of fences, gates, boundary signs, wood duck nest boxes, bird houses and assisting with prescribed burning or picking up litter are some additional ways in which sportsmen can assist in wildlife management and improve their relationship with landowners. Conscientious efforts to really help landowners will certainly impact on the future of hunting as we have known it.

Ethical hunters, surely, are concerned regarding their relationship with the individual who ultimately provides their hunting opportunity—the landowner. Concern, hopefully, will be converted into action.

Hunters must police their own ranks to eliminate the unethical hunter. Ethical hunters must support and insist that conservation laws and property rights be respected and upheld. Finally, sportsmen must assist with wildlife management practices, be it financial help or "hands-on" ground management assistance. Our lands will supply more hunting opportunities when true hunters have taken these courses of action. ♣

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MEMORIAL



TREASURE
Forest landowner Sim T. Wright, Jr., 71, of Fayette County passed away August 5, 1993.

In recent years, Mr. Wright received many honors in recognition of his lifelong commitment to good forest management.

The citizens of Fayette County honored his educational contributions by presenting him the annual Farm-City Forestry Award in 1982. The award is given to a landowner who practices good forest management and is a true steward of the land.

Mr. Wright was certified as a TREASURE Forest landowner in 1983 and was a district winner of the Helene Mosley Award in 1989. In 1990 he was District III winner of the Distinguished Conservation Cooperator Award presented by the Soil Conservation Service.

Survivors include his wife, Sara Kate Branyon Wright; a daughter, Susan Wright; and a son, Sim Wright III, all of Fayette.

Among his pallbearers were Alabama Forestry Commission Fayette County associates George Lowrey, Jerry Fulmer and Randall Aldridge.

Landowner Legislative Alert

Continued from page 17

Amend Forestry Laws

Forestry legislation also moved on stage during the August special session with a bill to provide certain alternative measures for computing privilege and severance taxes based on the weights of the forest product. Under existing law, forest products privilege and severance taxes are levied based on the volumetric units of the individual product.

The amendment to the Code provided that records required to be maintained by those who contract to buy, or otherwise acquire unmanufactured or semi-manufactured forest products, should keep a written record of every purchase.

The bill also provided that the records shall contain the name of the county from which the product was severed and an increase in fines for failure to maintain such records.

The current law requires a reporting of the range, section and township from which such products are severed.

A Personal Note

For 19 regular legislative sessions and numerous special sessions, this writer was privileged to work in tandem with former State Forester **Bill Moody**. During those 19 years we walked many miles of hallways and lobbies for the benefit of forestry in Alabama. Bill Moody's influence has left an indelible impact on the people of Alabama and especially on this writer. We'll miss you, Bill! 'Til next we meet... ♣

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DOGWOOD ANTHRACNOSE

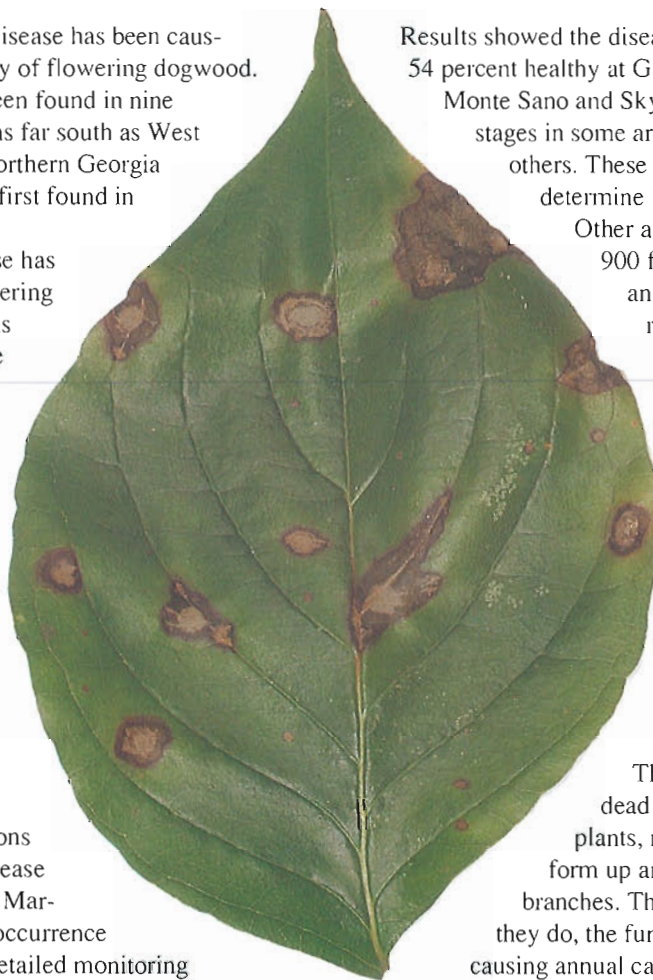
PREVENTION AND CONTROL

by JAMES R. HYLAND, Chief, Forest Health Section, Alabama Forestry Commission, Montgomery
and NOLAN HESS, U.S. Forest Service, Pineville, Louisiana

Since the late 1970s, a new disease has been causing the widespread mortality of flowering dogwood. By 1986, the disease had been found in nine northeastern states and had moved as far south as West Virginia. In 1987, it was found in northern Georgia and western North Carolina. It was first found in Alabama in 1989.

In Alabama, dogwood anthracnose has been found to be a problem on flowering dogwoods in higher altitudes. This is generally the northeast corner of the state at elevations of 800 feet and higher. Dogwood anthracnose was first reported in 1989 in Lauderdale, Lawrence, and Winston counties. Distribution survey plots were established in the northern tier counties of Alabama in 1990. Revisiting these plots in 1991 showed no anthracnose occurrence in these areas.

The occurrence of dogwood anthracnose in other southern states seemed to be related to elevation. An occurrence survey in the winter of 1991 in the higher elevations of Northeast Alabama found the disease in five counties (Jackson, Madison, Marshall, DeKalb, and Cleburne). The occurrence was at elevations above 900 feet. Detailed monitoring plots were installed in the summer of 1992. The objectives of these plots were (1) to monitor disease intensity; (2) to determine if the disease is expanding; and (3) to relate disease intensity and spread to site conditions. Plots were established in the following locations: Monte Sano State Park, Skyline Wildlife Management Area, DeSoto State Park, Lake Guntersville State Park, and Shoal Creek Ranger District (U.S. Forest Service).



Typical leaf symptoms of dogwood anthracnose.

Results showed the disease intensity varied by location from 54 percent healthy at Guntersville to 0 percent healthy at Monte Sano and Skyline. The disease is in advanced stages in some areas and just getting established in others. These plots will be revisited annually to determine intensity and spread of the disease.

Other areas of the state above elevations of 900 feet will be surveyed each winter for anthracnose occurrence. The symptoms range from leaf spots to mortality.

The disease is caused by a newly identified fungus (*Discula sp.*). Initial symptoms are small, purple-rimmed leaf spots or larger tan blotches that may enlarge to kill the entire leaf. Infected leaves often cling to stems after normal leaf fall. The fungus also can infect twigs, killing them back several inches, and in some cases to the main stem. The dead portions of twigs are tan and may be covered with orange *Discula* spores.

There may be a purple border between dead and healthy twig tissues. In infected plants, numerous epicormic shoots often form up and down the main stem and on major branches. These become infected and die. When they do, the fungus often grows into the main stem, causing annual cankers. Trees are usually killed two to three years after the first attack. The disease kills trees of all sizes, and is more serious in forest grown dogwoods.

Prevention and Control

The ability to control dogwood anthracnose in the forest environment is very limited. Continued surveillance, monitoring impact plots and restricting movement of dogwoods (seeds,

seedlings, and flowers) from infected areas are the best tools available. In landscape plantings, integrated pest management techniques should be used to minimize the adverse affects of the disease.

In recreation areas and other high value sites, maintaining healthy dogwood trees can best be achieved through avoiding mechanical or chemical injury and utilizing proper culture techniques. These methods include maintaining the health and vigor of dogwood trees.

A combination of cultural treatments and fungicide treatments will reduce disease symptoms and severity. The effective applications of cultural and fungicidal treatment will be dependant on a number of factors such as weather, timing of application, economic feasibility, and available labor force.

Ten Essential Steps for Maintaining Healthy Dogwoods

1. Know the disease and other problems commonly affecting dogwood.
2. Select healthy trees to plant. Avoid purchasing or moving diseased plants from one area to another. Purchase trees from a reputable, inspected nursery. Avoid transplanting trees from the "wild," especially from mountainous areas.
3. Select good planting sites to promote vigor and rapid drying of foliage. Avoid sites where prolonged high moisture situations prevail: streams, lakes, ponds, water-courses, etc.
4. Use proper planting techniques, replanting at the same soil level and preparing a large planting basin. "Plant a \$10 tree in a \$100 hole."
5. Use a maximum of 3-4 inch-deep mulch in an approximate (3 ft.) radius around established trees, ensuring that mulch does not contact the trunk. Avoid using dogwood chips and leaves as mulch, since they may harbor disease organism.
6. Prune and completely remove or destroy dead wood and leaves yearly. Avoid flush cuts! Prune epicormic growth (trunk or water sprouts) in late summer.
7. Water weekly in the morning during periods of drought. Caution: do not wet foliage.
8. Fertilize according to need based on soil

analysis. Nutritional regimens that affect disease development are now being evaluated.

9. Fungicides can play a role in suppressing disease for a limited period and allow a tree to recover from previous damage. Fungicide applications should be applied at label rates according to label directions. The most effective fungicides for management of dogwood anthracnose are:

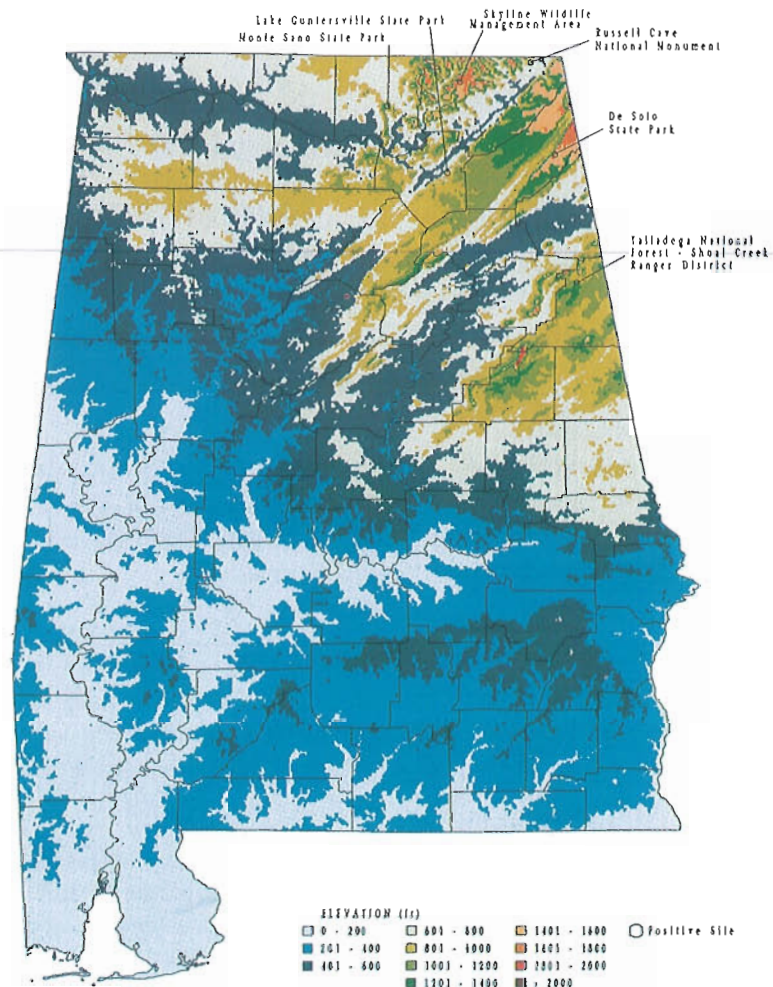
- (a) Benomyl (Benlate)
- (b) Daconil 2787
(= Bravo = chlorothalonil), or
- (c) Banner (propiconazole) or
- (d) Cleary 3336 (= thiophanate methyl) + mancozeb
(= Manzate 200 = Dithane M45 = Fore).

Fungicides should be applied at budswell (budbreak) and twice after at two-week intervals as the leaves are expanding. Some Dawn liquid soap enhances wetting properties.

- (10) Avoid mechanical and chemical injuries to trees, especially lawnmower and stringtrimmer wounds at the tree base.

There are several other minor leaf spots that damage dogwood leaves. In general, if the affected dogwood is located at a lower elevation it is not dogwood anthracnose. The fungicides and other essential steps will control/prevent other leaf spots. If you still feel you have dogwood anthracnose, contact your county Alabama Forestry Commission office and they will take a sample for laboratory diagnoses. 🏠

Dogwood Anthracnose Surveyed Areas State and Federal Lands - March 1992



Map produced by USDA Forest Service, April 1992

Proposed RCW Guidelines for Private Landowners

by JOE MCGLINCY, International Paper Company

The Spotted Owl of the South¹ is what the red-cockaded woodpecker (RCW) has been referred to by some. This comparison results from the possible impact of the Endangered Species Act (ESA) on landowners — especially forest landowners.

Unless you have lived in a cave for the last couple of years, you are aware of the controversy that has arisen over the northern spotted owl listed as a threatened species on June 26, 1990. The listing has resulted in restrictions on forestry operations in the Pacific Northwest on both public and private forest lands. Timber harvest levels have been reduced, jobs lost and local economies depressed.

But we are not in the Pacific Northwest. We are in the Southeast. Several similarities between the spotted owl and RCW, however, create concerns for private landowners:

- There are still many unanswered questions about both species.
- Foraging habitat and its management are critical for both species.
- The nesting site is the point from which management plans are developed.
- Both species are somewhat dependent on older trees. The RCW, because of its requirements for nesting cavities in live pine trees, is probably more dependent than the owl.

The northern spotted owl listing created an increased awareness of the Endangered Species Act. Landowners, many of whom were unaware of the act and how it affected their land management operations, are now concerned about the potential impact of this act. They have been on a steep learning curve over the past couple of years. This is equally true with Southern landowners and the RCW. They too have recently become aware of potential impacts on their land.

How does the Endangered Species Act affect private landowners? ESA, Section 9, makes it unlawful for “any person” to “take” an endangered fish or wildlife species. Regulations apply the same prohibition on “taking” to threatened fish or wildlife species. “Take” is defined to mean “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”

Many unofficial observers believe impacts on the private landowner will be lessened under the “new” guidelines.

ESA, Section 7, prohibits a federal agency from authorizing, funding or carrying out any action unless it can ensure that the action “is not likely to jeopardize the continued existence of any” listed species and is not likely to “result in the destruction or adverse modification of” designated critical habitat for such species. In simpler terms, the federal government is responsible for habitat management and recovery of threatened and endangered species, which differs from other (public and private) obligations not to “take” a listed species. Court rulings in Hawaii and Texas identified habitat modification as a “taking” and thereby increased the risk of enforcement to private landowners for their habitat modification.

This has created a situation that is not compatible with many landowners’ objectives. Recovery plans and resulting man-

agement recommendations developed for listed species on public lands are usually designed to recover listed species, not to prevent a taking. Accordingly, these guidelines are usually overly restrictive on private forest land management.

This is especially true concerning the RCW. *The RCW Recovery Plan*, the *USDA Forest Service’s RCW Handbook* and *The Guidelines for Preparation of Biological Assessments and Evaluations for the Red-cockaded Woodpecker* have become the standards for RCW management on private lands. Because these guidelines were developed for public lands and recovery efforts, it was never very clear to what extent they were to be implemented on private lands; however, statements such as:

“The type of biological assessment or evaluation addressed in these guidelines can also be applied in Section 9 investigations to determine the likelihood of take. Recommendations can be made to the landowner or other involved party regarding the amount and type of habitat necessary to maintain a clan... If this recommendation is ignored, colony abandonment following habitat alteration would be strong evidence of a take violation.”

Thus, the biological assessment guidelines are used as the standards for private lands even though our obligation is to prevent “take,” not the recover the species.

In an attempt to correct this problem, the U.S. Department of Interior Fish and Wildlife Service is developing a “Red-cockaded Woodpecker Procedures Manual for Private Woodlands.” This publication, if adopted, would significantly reduce the standards set forth in the Biological Assessment manual.

For example, the minimum acreage of habitat required around an RCW cluster (group of cavity trees) has been reduced

from 125 acres to 60 acres depending on site and forest conditions. The minimum basal area (BA) requirements dropped from 8,490 square feet to 3,000 square feet and now apply only to trees more than 10 inches diameter breast height (dbh). The minimum count of pine stems more than 20 inches dbh also dropped from 6,350 to between 2,000 and 5,000. Likewise, the minimum age to qualify as suitable foraging habitat has been reduced from 30 to 25 years. Tables 1, 2, and 3 are side-by-side comparisons of the Biological Assessment Guidelines (current management policy) and the Manual for Private Lands (proposed management policy).

These proposed guidelines provide the landowner greater management flexibility than the earlier Biological Assessment Manual. Some areas, however, could use clarification, such as what constitutes a potential cavity tree, herbicide use around clusters, and multiple ownership situations.

It is important to note that this is only one segment of a larger manual. Key incentives for RCW management and private landowner compensation may be addressed in other sections. The full manual has yet to be officially released for public view and comment. Landowners and managers should watch for it, read it, and comment on it at that time.

Will private forest landowners having RCW clusters retain the ability to harvest timber from their properties? It depends on acreage owned, number of clusters, timber volume, adjacency with other landowners and other issues. Impacts will be determined on a case by case basis.

Many unofficial observers, however, believe impacts on the private landowner will be lessened under the "new" guidelines. It is important, therefore, to recognize the positive effort put forth by the U. S. Fish and Wildlife Service and to work with RCW biologists to make management for this endangered species as compatible as possible with other interests of the private landowner.

Will these new guidelines work? With some modification, they probably will. As with any guidelines that are issued, everyone will not be pleased with their impacts. Nevertheless, with commitment to finding a workable solution on both sides, landowners and regulators can move positively towards protecting and managing

for this endangered species. Many issues will need to be resolved, including the question of compensation to landowners for "public takings" necessary to obtain "suitable" RCW habitat.

Clearly, ownership patterns in the South necessitate private landowner participation in endangered species protec-

tion. Public and private landowners are in this together. By working cooperatively to develop and successfully implement these guidelines we can help assure that our children will be able to enjoy seeing red-cockaded woodpeckers and the many other species that inhabit our woodlands, just as we have. ♣

Table 1. Colony Site or Cluster

Current Management Policy

1. The aggregate of cavity trees (active & inactive) within a colony, plus at least a 200' buffer.
2. Maintain spacing of 20-25 ft. between trees within colony sites.
3. No removal of any active cavity tree.

Proposed Management Policy

1. No change.
2. If stocking is greater than 50 ft.² BA, the cluster can be thinned to 50 ft.² BA while favoring saw timber sized stems as leave trees.
3. No change.

Table 2. Foraging Habitat: Suitable and Available

Current Management Policy

1. Pine and Pine-hardwood stands over 30 years old contiguous to and within 0.5 miles of colony site.
2. Colony site included as foraging habitat.

Proposed Management Policy

1. Pine and Pine-hardwood stands containing 10-80 ft.² BA in 20 inch dbh or larger pine trees and 25 years old or older
2. No change.

Table 3. Foraging Habitat: Quantity and Quality

Current Management Policy

1. 8,490 ft.² of pine BA and 6,350 pine stems 10 in. or larger dbh within 1/2 mile. (Well-stocked stands, 70 ft.² or more per acre BA, with 24 or more pines per acre over 10 in. dbh will normally provide these requirements on 125 acres if 50 of the 125 acres 60 years of age or older.

Proposed Management Policy

1. A minimum of 3,000 ft.² of pine (20 in dbh or larger) BA must be provided, on however many acres the landowner chooses between 60 and 300.
2. A range of 60-300 acres can be designated as foraging for each active cluster.
3. The BA per acre may range from 10 to 80 ft.²
4. Minimum number of stems 10" or larger vary from 2,000 to 5,000 depending on average dbh of stand.
5. Stands cannot be considered suitable as foraging acres unless they have the "open" characteristics associated with preferred foraging habitat.
6. The separation of the cluster from the nearest foraging stand cannot exceed 300 feet.



PERSIMMON

Diospyros virginiana

by TOM CAMBRE, Hardwood Specialist, Alabama Forestry Commission

The persimmon tree occurs throughout Alabama in a tremendous range of conditions from very dry, sterile, sandy woodlands, to rocky hillsides, to river bottoms. This tree grows the best in river bottoms.

The wood of the persimmon is close grained and sometimes used for special products such as golf club heads and shuttles which require hardness and strength. The wood also commands a high price, which many landowners may not be aware of. Persimmon is much better known for its fruit, though, which is enjoyed by people and animals.

The common persimmon's optimum fruit bearing age is generally from 25 to 30 years, but 10-year-old trees sometimes bear fruit also. Good seed is disseminated by birds and animals that feed on the fruit. The seed is coated with a substance which acts as a laxative, thus preventing the seed from being digested or destroyed. The seeds remain dormant dur-

ing the winter and germinate in April or May after a month of soil temperatures above 60 degrees Fahrenheit. Persimmon is easily raised from seed, and landowners can easily establish permanent wildlife plots by producing groves of this tree.



There are several steps needed to prepare the seed for planting. First, gather the fruit and separate the seed. Clean and spread out the seed for drying a couple of

days and then stratify it under moist conditions for two to three months at 33 to 40 degrees Fahrenheit. Soak the seeds for two to three days before planting. The seeds should be planted in the spring in light soils with plenty of humus at a depth of one-half inch. During the first year the seedling develops a strong tap root and is usually 8 to 14 inches tall. Persimmon responds well to fertilizer.

Planting of seedlings or transplanting stock one or two years old may be done, but only in moist, deep soil because of the deep root system this species has.

The persimmon tree is valued as an ornamental because of its hardiness, adaptability to a wide range of soils and climates, lustrous leaves, abundant crop of fruit and immunity to insects and diseases. It is also adaptable to many sites.

In addition to its versatility, the persimmon has a high commercial value as well, making it an attractive species to many landowners. ♣



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